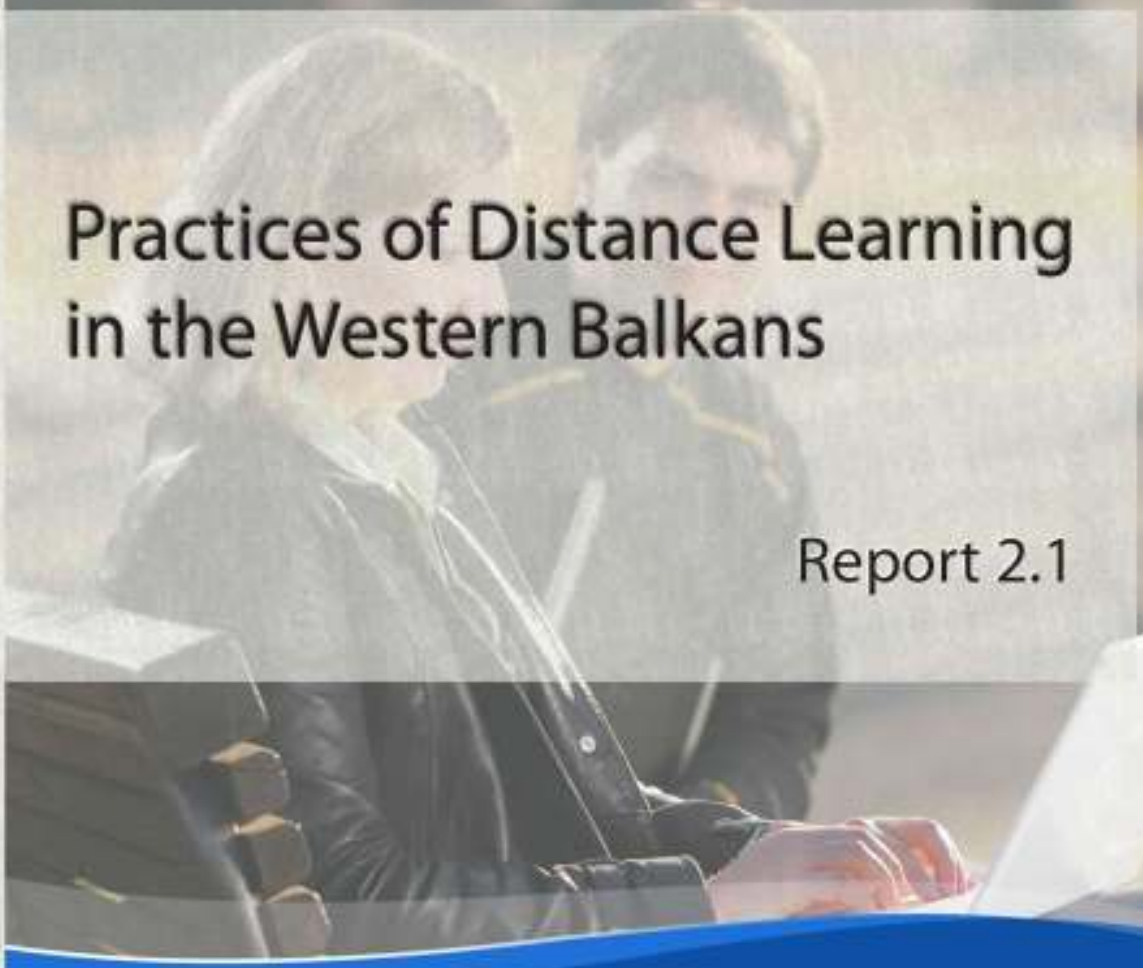
Practices of Distance Learning in the Western Balkans

Report 2.1



DL@WeB

TEMPUS

Tempus project
University of Kragujevac

ENHANCING THE QUALITY OF DISTANCE LEARNING AT WESTERN BALKAN HIGHER INSTITUTIONS

www.dlweb.kg.ac.rs

Practices of Distance Learning in the Western Balkans

(Report 2.1)

Vladan Devedžić, University of Belgrade, Serbia
Božo Krstajić, University of Montenegro, Montenegro
Aleksandra Radulović, University of Montenegro, Montenegro
Suzana Loskoska, , Ss. Cyril and Methodius University, FYRM
Anthony F. Camilleri, EFQUEL, Belgium

2011

Table of contents

Practices of Distance Learning in the Western Balkans

Introduction

This report is intended to give a partial overview of distance learning policies and practices in the Western Balkans, particularly vis-à-vis the issue of quality. It is drawn up within the framework of the DL@Web Tempus project, and as such, it is methodology is characterized by the nature of the collaborative partnership, i.e. one composed primarily of Institutions of Higher Education from the Western Balkans.

This source material has implications on the methodology used to present the report. Primary data was supplied through self-reporting from the institutions participating in the project. This in turn was supplemented with secondary data on e-learning systems in the public domain. This methodology has led to the following characteristics of the report:

- The report is primarily based on case-studies of specific institutions in the Western Balkans, which, due to their interest in taking part in a project such as DL@Web in the first place, are considered to be amongst the more advanced in the field. Thus, conclusions drawn based on observations of these institutions do not necessarily reflect the national situation as a whole in each of the states.
- Due to the very limited availability of cross-country comparative studies on this topic, to a large extent, most of the national-level information can also only be assessed on a per-country basis. This effect is compounded by the fact that several of the countries covered have specific issues preventing effective reporting, e.g. the Kosovo 'national' education system is still nascent, having only recently declared independence; responsibility for Education in Bosnia & Herzegovina is divided between 22 different ministries of education at various political levels of responsibility. For these reasons, the report limits itself to a discussion of the situation in Croatia, Macedonia, Montenegro, Serbia and Slovenia.

Disclaimer

Nothing in this report should be construed as giving an opinion, position or suggestion regarding currently pending international disputes with regards to names of states, the borders of states, or the competent administrative units for the same states.

For practicality and brevity, within this report:

- The word 'Macedonia' is used to refer to the Former Yugoslav Republic of Macedonia
- The word 'Kosovo' is used to refer to Kosovo as defined by United Nations Security Council Resolution number 1244

Furthermore, Serbia refers to the geographic region of Serbia excluding Kosovo, as no research was carried out within the latter territory, nor was secondary data with regard to the territory readily available.

Overview of e-Learning

Legislative and Policy Instruments

A host of different instruments are in place across the Balkans, as summarized by the table below[1]:

Country	Law	National Strategy	Ministry	Government Supported Projects
Croatia	*To be verified*	*To be verified*	*To be verified*	*To be verified*
Macedonia	Law for High Education, Official Gazette 35/2008 from 14.03.2008, Law for Science and Research, Official Gazette 46/2008 from 7.04.2008	National Strategy for Development of Electronic Communications with Information Technologies, One of the priorities is e-Education	Ministry for Information Society	The Government project "Computer for every child" Free internet access in student dormitories. Internet learning - Two E-learning courses for civil servants and candidates for civil service positions
Montenegro	Law of science and research (Official Gazette of Montenegro, 71/2005),	Strategy for the development of the information society (February 2009) One of the priorities is e-Education	Ministry for Information Society The Ministry of Education and Sport	No large-scale government-supported projects on elearning
Serbia	Law on Scientific and Research Activity since December 2005. Law on Higher Education Adopted in September 2005. Law on Innovative Activity Adopted in 2005	Strategy for Development of an Information Society of the Republic of Serbia. Official Gazette of Serbia, no. 87/2006) One of the priorities is e-Education	Ministry of Telecommunications and Information Society, Ministry of Science	Digitalization of scientific and cultural inheritance System for objective evaluation of articulation quality and its application correlated to pathological pronunciation Web intelligence and e-learning Corporative Web portal for permanent education of employees
Slovenia	*To be verified*	*To be verified*	Ministry for Education and Sport	Internet as the support for learning and teaching – the Trubar project[2] ICT in schools[3] Distance learning in Slovenia[4]: Several projects where educational software was developed for different subjects like chemistry, physics, special needs and smaller educational projects where internet e-content was produced – more than 300 products produced[5]

[1] Sources: Macedonia, Montenegro, Serbia: The Challenge of e-Learning in the Western Balkans White Paper. Produced by ICT-WEB-PROMS project (FP7 Support Action, 2010). Slovenia: Amon T. *E-Learning in Slovenia* in Demiray U. (ed) *Case on Challenges Facing e-Learning and National Development: Institutional Studies and Practices Vol. 2*. Andolu University, Ekisheir Turkey, 2010.
[2] http://www.educa.fmf.uni-lj.si/trubar
[3] http://colos1.fri.uni-lj.si/~infor
[4] http://www.ltfe.org/crp
[5] http://ro.zrsss.si/projekti.htm

e-Learning and Distance Learning in Macedonia

Within Macedonia, a number of government efforts are contributing or supporting the development of e-learning, albeit from an extremely low base. Amongst these one can include:

- Funding for introduction of ICT technologies in institutions
- A strategy to increase internet penetration in society,
- A strategy to provide Higher Education from most towns in the country, through the creation of HE units for 'dispersed studies'

The efforts of the government to implement ICT in the society resulted by establishing a Ministry for Information Society and Administration. Among many projects carried out by the Ministry are e-infrastructure, e-government, e-business, e-health, e-education and e-citizens[6] (). Some of the results of e-education project include: computer for every student, deploying of LAN – networks and free of charge Internet access in all students dormitories, allotment of valuable vouchers for buying computers, Internet for all of the high and primary schools, etc.

Penetration of the Internet in society is low. The ITU (http://www.itu.int/en/pages/default.aspx) reported 1,057,400 Internet users as of June 2010, which is 51.0% of the population of the state. However, the national ICT strategy of 2009, puts the numbers at 50% of the population using computers and 30% using the internet)

Currently, the distance learning environment involves the provision blended study programs[7], particularly as an element of part-time studies are accredited and offered to students. No institution currently provides a fully distance programme. Legislation does not distinguish between these and more traditional modes of provision, meaning that all accredited blended programs receive their accreditation only because they fulfill rules defined for traditional learning programs.

This said, e-learning technologies are widely used to support the learning process. Thus, almost all universities use some learning management systems to support of the learning process, and some of them offer videoconferencing as a form of distance learning.

Distance Learning at select Higher Education Institutions

Ss. Cyril and Methodius University (Skopje)

The Ss Cyril and Methodius University (UKIM) in Skopje is the first state University in the Republic of Macedonia, founded in 1949. Today, UKIM represents a functional community of 21 faculties, 5 research institutes and 11 accompanying members developing curricula in all scientific fields - social, technical, natural sciences, mathematics, medical, biotechnical sciences and arts. In 2009, the university consisted of around 50.000 enrolled students from Republic of Macedonia in all cycles of studies, as well as over 700 foreign students; over 2.700 teaching, research and associate academic staff; over 126.000 graduated high-professional staff (with awarded Bachelor degree); over 5,300 candidates obtained Master's degree; over 2,700 doctors of science in all teaching and scientific fields.

DL Offering

The university offers one distance learning programme, namely a Master in Digital Signal Processing, which forms part of the university's standard catalogue of programmes, and has been subject to the same accreditation process as the other programmes at the institutions.

[6] http://www.mio.gov.mk/?q=node/156
[7] As in: Bonk C. J., & Graham, C. R. (2006). *The handbook of blended learning: Global perspectives, local designs*. Pfeiffer.

Other Uses of ICT

Each faculty uses the web to provide information for students, and uses a Learning Management System for use as a digital course material repository. In addition, there is limited use of LMS functionality for collection of assignments and class quizzes.

At least, each faculty provides some information system for the students and LMS as repository of course materials. For example, Moodle is used as LMS for Master studies of DSP. In fact, Moodle is the most used LMS at different faculties. Although the Moodle mainly is used only as repository for course material, some colleagues use its functions like assignments, quizzes, etc.

Technology

Three different technologies are used within the university:

- Moodle is used as the LMS for the Masters in DSP course. In addition, Moodle is used as the LMS of choice for many of the faculties using e-learning in a supporting role
- The Faculty of Electrical Engineering and Information Technologies has developed its own LMS known as FEITle[8]. FEIT Learning Environment or FEITle is an online system for communication and exchange of study materials. The system gives students access to documents or materials in electronic format (books, lectures and exercises presentations, materials for laboratory exercises, results of tests, etc.), announcements of course activities, course forums, results from a particular course activity, proposed topics for seminar papers, projects, a calendar of activities for the course, Wiki pages of the course, which can be reviewed and supplemented, and the latest information and announcements from the Faculty
- The Faculty of Natural Sciences and Mathematics, University Ss Cyril and Methodius, Skopje implemented and uses a system for Electronic Assessment developed by a company called Innovation[9]. This portal has modules for administrators, courses, questions, automatically entering questions into the system (course) from a word template, reports, test creation, taking tests, statistics and many others.

Case Study: Use of the eTest System at SS. Cyril and Methodius University

The basic structure of the system consists of courses which material is divided in lectures, presented in a tree format. Each lecture consists of smaller parts and each part consists of different sets, each with defined learning objectives. The course material in the lesson is divided into at least three parts. For each part there are at least 4 sets of questions. Each set of questions consists of at least 5 questions. At least one of these questions is hidden and is intended for final test exam, not for testing purposes. The remaining questions are used for online testing.

The system for eTesting can have unlimited number of courses which are administrated by uses with special privileges to administrate courses. The courses are independent from each other and have their own structure and question bank. A system is able dynamically to create tests by selection of questions from question bank. The questions are divided in different learning objects, according to the course organization described above. The number of questions available for every course usually reaches around 1500 questions per course.

Each test generated by the system measures verbal, quantitative and analytical skills related to a specific field of course study. A different time constraint and score mark is associated to each area. The area consists of a set of questions defining one concept or one knowledge skill. The system differentiates three classes of questions: verbal, quantitative and analytical. Three question-types are supported: multiple choice, short answer and essay answer. The system evaluates the entered answers at the end of the test. Because most questions used in the system are fixed response questions, they are easy to evaluate when final results are displayed. The system displays the final results with an option to see the correct answers. To eliminate guessing, negative marking is implemented.

The system dynamically creates a different test for every student. These dynamically created tests have a fixed number of questions. The strategy for test generation is defined by the course administrator when he schedules the assessment. When setting the strategy the course tree structure is used. The administrator identifies the learning objects from which questions will be selected, specifying the number of questions taken from every learning object. Because every learning object has questions with the same weight, the tests which will be generated will have same weight too, but the students will get different tests from those learning objects selected by the course administrator.

[8] http://e-tech.feit.ukim.edu.mk/FEITPortal/FileManagement/TabelaProfesor.aspx
[9] http://etest.ii.edu.mk/

DL Student Body

Statistics are only available for use of the FEITe system. Since the beginning until today the portal was used by 3797 students and 120 faculty staff. From 3797 students that used the system 3318 students are undergraduates and 479 are enrolled in the second cycle - Master's degree programs.

R&D Projects

Project	Description and Outputs
Establishment of an open and distance learning study center in Skopje CONV/98/PHA/0040, 1999/2000	The project resulted in the establishment of the Centre for Open and Distance Learning at the Faculty of Electrical Engineering
Initiation of blended learning system TEMPUS SCM-C010A05-2005	The project developed web-based tools that visualize the basic concepts in the Digital Signal Processing (DSP) provided lectures with tools that offer functionality, and enabled learners to actively engage with the tools and enjoy an enhanced learning experience. Evaluation from students that followed intensive course using this approach, show that they thought the tools helped them to visualize some of the concepts and led to a more effective delivery of the learning experience.
Master studies in DSP based on blended learning approach[10]	This involved the development and creation of a study program by the same name, at the Faculty of Electrical Engineering and Information Technologies. Cyril and Methodius, Skopje. This study program received accreditation and now is offered to students at the Faculty. The program passed the same accreditation process as for conventional classroom-based study programs, and no additional requirements were necessary.
Distance Education System (DES) Tempus Phare 13371-1998	The project attempted to introduce the concept of a distance education system using the university's high speed network.
Distributed Information Technologies and Flexible Education TEMPUS Phare 14440-1999 JEP	The aim of the project was to review, reconstruct and/or develop new courses and flexible ways in the field of informatics, information sciences and (digital) library sciences, emphasizing development, management and use of complex distributed information systems.
Multilingual Web-based Science Courses TEMPUS SCM No C00B04 – 2004	aimed to improve the Web-based knowledge of the Science students and teachers, to implement the Web-based approach into the Science curricula and to establish a centre for multilingual distance education at the University of Skopje and the University of Tetovo.
Integrating E-Learning across Teachers' Curriculum TEMPUS CD No 40020-2005	The project aimed to restructure and develop the teachers training curriculum and to establish modern training facilities, maintained by Pedagogical and Teachers Training Faculties in Macedonia on the basis of: revising, reconstructing and developing new core undergraduate and post graduate courses that will incorporate electronic learning into the teaching methodology and practice, establishing e-learning environment as a curriculum support with upgrading the technical facilities, professionalizing and (re)training teacher-trainers and students in technology supported teaching/learning.
Web Based Multimedia E-Learning for Applied Technologies[11] Tempus SCM No C013B05 – 2005	The project aimed to develop methodology a methodology to move towards web-based multimedia e-learning for applied technologies and the prototype implementation through selected pilot lab-oriented courses between Macedonian universities and members of the Consortium.
Computer-supported Collaborative Learning TEMPUS SCM CO21A06-2006	The project aimed to introduce a new learning environment, in which less emphasis wouldl be placed on memorisation, note learning, and cramming for examinations and more on real-world abilities such as communication, problem solving, and articulation of solutions.
Video Conferencing Educational Services (VICES)[12] 144650-TEMPUS-2008-IT-JPGR	The project aims to establish video conferencing services as a part of Distance Learning (DL) system among Universities in R. Macedonia over the already existing IP based communication infrastructure (MARNET). Tthe project deals with the adaptation of educational and organizational methodology for using the videoconferencing subsystem in educational purposes in multi lingual distance learning environment; the development of common video conferencing based distance learning environment which will enhance inter-disciplinarity and trans-disciplinarity of the training services at national and International level, and to build up the capacity of MARNET for international cooperation and for a permanent modernization process, by assisting in opening up the MARNET more to all educational institutions in the country, as well as to the civil society.

[10] http://dsp.feit.ukim.edu.mk/DSPBLEND/
[11] http://weblab.ii.edu.mk/
[12] http://vices.marnet.net.mk/

South-Eastern European University (Tetovo)

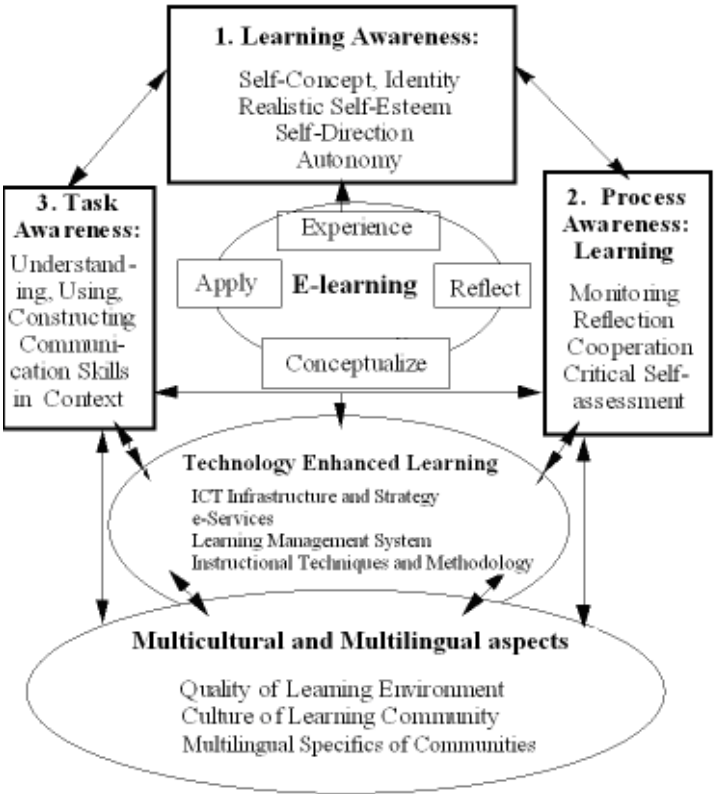
DL Offering

The University offers a possibility for part-time study for several study programs [SEEU, 2011]. Study programs that can be studied on this way are Public Administration Studies and Communication Sciences at the Faculty of Public Administration and Political Sciences; Computer Science at the Faculty of Contemporary Sciences and Technologies, and English language and literature at the Faculty of Languages, Cultures and Communication. The regime of studies on these programs is as follows:

- in the beginning of the semester students have one introduction lecture with the professor of the respective course;
- the skill courses (e.g. English language and IT skills) are organized in face to face teaching, once in two weeks, after the working hours, based on the level of knowledge of the students;
- by using electronic learning management system "Libri", students are guided about self learning manner, with evaluation criteria, needed material and possibility for taking part in electronic forums;
- at the end of the semester, an intensive seminar with professors of the respective course is organized.

As of the 2011-12 academic year, entire degree programmes will begin to be offered via distance learning.

Studies are organized according to a multi-lingual and multi-cultural model, represented graphically below:



Other Uses of ICT

The Instructional Support Center (providing training in modern, interactive teaching methodologies with an emphasis on the use of technology and intercultural communication), the Career Center (bringing students and local businesses together, and networking with other career centers in the region), the Business Development Center (providing services to local businesses, again with an emphasis on using technology), and the Distance Education Center (an effort to extend the

University's services beyond the campus and into surrounding communities), all make significant use of ICT in their daily functions.

All students complete their schedules electronically and have access to their transcripts and other pertinent information via E-services. Teachers also manage their schedules on the same service and post grades on the recently implemented E-grading service.

Support Services

An eLearning Center within the Institution assists the University community in exploiting the potential of technology to enhance teaching and learning. One of the primary goals of the eLearning Center is to promote quality self-paced, learner-centered education through the development and delivery of quality web-based courses that can be delivered completely online. Moreover, the eLearning Center provides assistance in enhancing teaching and learning effectiveness through the development of interactive online supplementary material to traditional courses as well as organizing training workshops related to the development and delivery of online material. The e-Learning Center provides a number of services to the university community to achieve its objectives, including:

- organization of workshops on different issues related to e-Learning, e.g. benefits and limitations of e-Learning, instructional design, online teaching, etc...
- all necessary software, e.g. Learning Management Systems to ensure successful delivery of eLearning activities. Learning Management Systems (Libri) help faculty members to carry out course related activities through the web. This includes course content delivery, communication and collaboration, and assessment to.
- hands-on training programs are frequently conducted for SEEU faculties to enable them to develop effective online instruction. These training programs cover a wide range of topics starting from instructional design of online courses where participants are introduced to various concepts and tools that help in designing pedagogically sound online courses to the development of online content using various online content development tools like Camtasia studio, Adobe Connect etc. In addition, the Center provides training on the Libri LMS and its tools so as to enable faculty members to publish their courses online.
- support to develop online courses. Faculty members provide only the content of the online course and the support team in the eLearning Center does the rest of the job. In addition, the eLearning Center provides assistance to all faculty members to develop quality online instructional material to enhance student learning.

Technology

Libri[13] is an online Learning Management Systems (LMS) available to the university community to deliver and conduct their courses through the web. The Libri system supports instructors in carrying out course related activities through the web including course content delivery, communication and collaboration, and assessment. Course accounts are created corresponding to running courses, on the request of faculty members.

Libri is complemented in some cases by use of the ANGEL learning management system

R&D Projects

The institution takes part in the VICES project present earlier.

[13] https://libri.seeu.edu.mk

FON University (Skopje)

DL Offering

The university does not offer distance programmes.

Other Uses of ICT

Around 50 courses within the faculty use a learning management system to support course activities.

Support Services

Technology

Moodle is used as the LMS of choice.

DL Student Body

Approximately around 50 courses per Faculty are implemented in the system, and around 5000 students and 30% of the academic staff uses the system regularly.

R&D Projects

The institution takes part in the VICES project present earlier.

Other Universities in Macedonia

University of St. Kliment Ohirdski (Bitola=

As other universities in Macedonia, The University St.Kliment Ohridski in Bitola does not offer distance learning study program. Within the University, several LMS are used mainly as repositories of study materials. For example Faculty of Administration and Management of Information Systems, uses its own LMS system (http://famis.edu.mk/atutor/index.php) based on ATutor (http://atutor.ca/). The use of the system provides easier access to study materials, and what is more important this system is convenient for part time students, because they are not obliged to travel to Bitola.

University "Goce Delcev" (Stip)

Like in other Macedonian universities, in "Goce Delcev" University, there is no accredited e-learning or distancel learning study program. But, many forms of distance and e-learning are implemented and used in the practice. Although, at present they mainly use MOODLE as a platform, the university is developing own solution with collaboration of Microsoft that is based on Sharepoint. The existing infrastructure at the university - interaction tablets Claus, with their client-server software which provides TCP/IP connections to the tablets is also used for chat and interaction. Videoconferencing is also established. This system is mainly used by students of the medical faculty for following in-vivo operations in Nuremberg Clinique, Germany and in the Filip Vtori" hospital in Skopje.

Quality Assurance of e-Learning and Distance Learning

The Law on Higher Education regulates several issues including the Quality Assurance process. One of the major changes in the current version of the Law is the establishment of a unique Accreditation and Evaluation Board for Higher Education of the Republic of Macedonia instead of two different bodies (Board for Accreditation and the Agency for Evaluation of Higher Education) defined in the previous version. The Accreditation and the Evaluation Board is an independent body with the following duties:

- Approval, verification and recognition of the higher education institution accomplished through the accreditation process;
- Quality assessment in the following areas: performance of the activities, management and financing;
- Evaluation system for academic and other related activities;
- Other activities and mechanisms that develop and maintain the quality of higher education and the regulations of the bodies (agencies) which carry out the quality assessment of higher education.

The evaluation (Quality Assessment) of the Higher Education Institutions is implemented through: external evaluation (external quality assessment); self-evaluation (internal quality assessment); and a system for the evaluation of the quality of the academic staff.

There are no specific rules or procedures for quality assurance of distance or blended learning programmes. Thus, the blended learning programmes, and forseen full virtual programmes, go through the same evaluation and certification procedures as a standard course.

However, certain universities are working towards creating new standards as part of their quality culture. Notably, within the SEE University the e-learning centre has started the development of guidelines and quality standards for eLearning processes like content development, course delivery, assessment and evaluation, copyright, online teaching etc.

In addition, within the same institution, researchers have developed a model to assess distance education, based on the following indicators[14]:

- Students' needs analysis
- Motivation
- Face-to-face interaction
- Social effects
- Organisational specifics
- Instructional design
- Accessibility
- Learning specifics based on learners' needs
- Constraints in assessing the barriers that influence distance education overall in correlation with the environment and overall policies of the universities.

[14] Fetaj B, Fetaj M, *E-Learning in Croatia* in Demiray U. (ed) *Case on Challenges Facing e-Learning and National Development: Institutional Studies and Practices Vol. 1*. Andolu University, Ekisheir Turkey, 2010.

e-Learning and Distance Learning in Montenegro

Like most countries in the Balkans, the potential of eLearning by distance is somewhat limited by a relatively low internet penetration rate of 43.9% in 2009. This disadvantage is however somewhat mitigated by the fact that Montenegro is a small country, thus posing no significant geographic barriers to attending university, where all universities make adequate internet resources available to all their students.

Education in Montenegro is regulated by the Ministry of education and sport of Government of Montenegro. The Ministry of education and sport (MES) is the highest authority responsible for overall education policy in the country.

Higher education may be provided by universities and higher education institutions that have a license and accreditation. Universities and colleges, academies and independent vocational school organize and conduct studies in scientific, artistic and professional fields for which they are accredited. In the first year of study may enroll candidates who have acquired appropriate secondary education. A student can be paid from the budget, or the student pays.

From 2004/05 academic year Bologna Declaration has been applied in all faculties. Implementation of this Declaration means that postsecondary non-tertiary so-called high schools do not exist any more but only so-called higher schools (faculties) where education lasts for 3 years. Study programmes in Montenegro can be divided into two streams: academic study programmes and applied study programmes

Basic studies least three school years. Postgraduate specialist studies last for one academic year, while the postgraduate Master's course of study is, in principle, the two school years after the primary, or one year after the specialist studies. Doctoral studies last three years. Only academic study programmes can lead to the diploma of Doctoral studies, while applied study programmes can lead to the level of Master.

Montenegro hosts one public university, and two private universities. While almost all the departments within these universities utilise ICT, they are not used for distance learning but as support to classroom studies.

Distance Learning at Montenegrin Higher Education Institutions

University of Montenegro

The University of Montenegro is the only public higher education institution in Montenegro. The University of Montenegro comprises 19 faculties, 3 independent study programs and 3 scientific-research institutes. Those 19 faculties offer 77 study programmes. In 2009/10, total number of students were 20475.

DL Offering

A number of faculties within the university, have distance learning offerings:

- The BSc study programme in Podgorica has a distance learning group. Students forming part of this group have the same rights as students following classroom-based studies, but access recorded lectures, literature and materials through their LMS account. 35 modules are now present in the LMS, of which 25 are fully online except for tests and final examinations. Classroom-based and Distance students receive the same assessments and exams, and receive the same certifications.
- The faculty of Electrical Engineering has been running a pilot of blended learning course at the BSc level since 2007. The course methodology combines face-to-face and technology-mediated instruction provided by LMS. All materials for the course (lectures, exams, tests, etc.) is provided through the learning management system.

- Since 2006, the faculty of economics has broadcast lectures for one of their study programmes via video-conferencing to a remote campus in Bijelo Polje in the north of Montenegro. Lectures are held on nearly a daily basis, and economics faculty staff only visit the campus in person to moderate practical work. As of next semester, all lectures and practice will be moved to the web, although exams will still need to be held traditionally.

Other Uses of ICT

Video-conferencing and course-repositories are used widely throughout the institution, in a variety of courses.

Support Services

The university one main eLearning centre, operated by the Center of Information system (CIS). CIS is organization unit of UoM which plans, builds, develops and maintains the Montenegro Research and Education Network (MREN) and services. One of the provided services is eLearning. CIS coordinate all activities on University of Montenegro regarding any kind of eLearning, as well as provides technical resources, both in-house as well as on premises in the faculties, as necessary.

Technology

The Learning Management System is based around Moodle, while Adobe Connect Pro is used for video-streaming. A video-conference room is made available at the CIS.

DL Student Body

Around 120 students are enrolled in the distance option of the Podgorica BSc.

R&D Projects

Project	Description and Outputs
eLearning Programme for Serbia and Montenegro Funded by World University Service – Austrian Committee	The project's objective was to create collaborative environment between the academic community and third parties in Serbia and Montenegro, so as to result in a common and standardized approach regarding all relevant issues in the establishment of eLearning process on the respective members' territories. The project set up university eLearning Centers, to serve as hubs for promotion and development of eLearning within the same universities. The UoM eLearning centre was created directly as a result of this project
eLearning Programme for Serbia and Montenegro – Phase 2 Funded by World University Service – Austrian Committee	The project supported course development involving e-learning. Specifically, the pilot programme at the engineering department was set up thanks to this initiative.

Private Universities in Montenegro

University Mediterranean

Like others universities in Montenegro, the University Mediterranean provides Distance Learning System (DLS) in their curricula at the Faculty of Information Technology, Faculty of Tourism Bar-MTS-"Montenegro Tourism School" and Faculty of Business Studies "Montenegro Business School".

University "Mediterranean" allows students to study at a distance by using Internet platform for learning with DLS. During the semester, there are periodic monitoring of lectures and exercises (morning or afternoon, or Saturday) at the faculties according to the plans of teachers and assistants. Students perform presentation of seminars and other works; pass tests and final exams on classic way at faculties. University "Mediteran" in Podgorica took into account recommendations and experience of leading world institutions and organizations providing specific standards and systems to ensure quality in distance teaching. Preparations for introduction of the distance learning system to other faculties are currently underway. QA is internal and is done as well as other face to face lectures at the faculty.

University Donja Gorica (UDG)

The university uses distance learning as part of regular classes, when professors from abroad have lectures via a video link for students at the university. The connection is bidirectional. In each semester there are cases where only part of the teaching done in this way, and it happens every week. Moreover, UDG uses a LMS for almost all courses. They developed their own software infrastructure. Each student receives an account, using which they can register the exams they intend to take in a particular semester (the only way to register exams is online thought the application), view their academic portfolio (each student can only see their grades) and check the status of financial obligations to the faculty (as well as pay fees through the portal). Students also have access to various course and learning resources, and are given an allocation of web-space and an e-mail account.

Quality Assurance of e-Learning and Distance Learning

In 2004, the Government of Montenegro established the Council of higher education. It functions, among other things, as an accreditation body and conducts external evaluations through its commissions. The Council is especially responsible for realising quality of higher education in Montenegro.

The Ministry of education and sport has the power to issue an operating licence to an institution, as well as to change or revoke the licence. Each higher education institution in Montenegro, whether it is newly founded or already in operation, is required to have an operating licence. The licence determines the institution type, its accredited study programmes, the maximum number of students it may enrol, as well as the degrees and diplomas it may award.

In terms of e-learning quality, distance education courses must go through the same accreditation procedures as a standard degree. In our research, we have encountered no quality procedures or standards specific to distance education or to e-learning. This said, the University of Montenegro reports that it does conduct student surveys of distance and e-learning students as part of its internal quality assurance procedures.

e-learning and distance learning in Serbia

Activities related to DL in Serbia were initiated through personal interests and international connections of university researchers interested in various forms of Internet-based technologies applied to education. Over time, funding has been provided for moving from research-related issues to establishing DL practices at universities. They introduced the use of learning management systems (LMSs), such as Moodle, to their departments and started to gradually attract more and more attention. In recent years, a few full-fledged DL programmes of study have been developed and accredited at some universities in Serbia. However, QA procedures and practices in these cases are at various states of advancement.

Today, the 'Strategy of Development of Information Socety in Republic of Serbia' promotes e-learning, claiming that "effective integration of ICT into an educational system is one of the catalysts for the creation of a knowledge-based society and economy". In particular the strategy states that:

- ICT should be used within a function of useful and valuable education, research and development
- ICT in education should be used for introduction of contemporary concepts of eLearning and open distance learning
- ICT should be a technological base for up-to-date and efficient research and development.

In terms of internet penetration, the rate in Serbia is particularly low, with the 2008 rate set at 32.4%.
At the time of writing (Mid 2011) the situation with DL and its QA aspects in Serbia was hard to judge in general, because of a lot of controversial information. For example, a survey from 2010 [Ivanovic et al., 2010] mentions that about two dozens of departments, from all state universities and some private universities and colleges in Serbia, offer DL courses. The survey even characterizes some of these cases as "the whole curriculum is offered in a form of distance learning". On the other hand, the official information from the Committee for Accreditation and Quality Assurance in higher education in Serbia (CAQA) at the time of writing reads that there are 6 DL programmes officially accredited at the university level in Serbia (3 with state universities, and 3 at a private university), as well as 4 at the college level. In addition, another private university offers 7 accredited programmes of study offered in both F2F and DL modes, although for some reasons this is not noted in the official information obtained from CAQA. Hence one can conclude that much of the DL offered at universities in Serbia is actually an additional support to conventional, classroom-based studies. In other words, a closer inspection of current practices reveals that most courses claimed to be DL courses are actually offered in blended mode, with much of the course material available through Moodle or another LMS, but with few other educational components and processes (such as assessment and administration) supported in the DL mode.

Distance Learning at Serbian Higher Education Institutions

University of Kragujevac

DL Offering

At the University of Kragujevac, Technical Faculty Cacak (TFC), a DL M.Sc. programme of studies in e-learning is established in 2008, with the objective to educate future experts in designing and implementing e-learning. This programme is established according to the principles of the Bologna declaration and under the framework of the Tempus project "M.Sc. curriculum in e-learning" and the classes are delivered online (http://www.tfc.kg.ac.rs/tempus-jep-41016-2006/). The programme is unique in Serbia, being an "e-learning programme about e-learning" - its content/topics cover e-learning, and DL technology is used for delivery.

Other Uses of ICT

A number of faculties use a learning management system as a course-materials repository.

Support Services

Technology

Moodle is used as a course repository by a number of faculties

DL Student Body

R&D Projects

University of Belgrade

DL Offering

The Faculty of Organizational Sciences (FOS), a DL programme entitled Information Systems and Technologies (IST) was accredited in 2009 and is now a part of the faculty's standard offer to new generations of students. Note that it has evolved from the F2F programme with the same title, as the faculty's response to a high demand and interest of students for information systems and technologies. The course is prepared according to the ADDIE model, with each course description including a detailed course structure by topics and learning units, as well as teaching objectives and methods for each method. These methods include computer-based learning, experience-based learning, problem-based learning, social-constructivist learning, and so on, and these are often combined. In addition, the curriculum is based on the ACM guidelines published as an official recommendation on developing IST curricula [ACM/AIS/AITP, 2002].

Many other departments of the University of Belgrade also offer online courses. Very often, these are run by DL enthusiasts, i.e. teachers who find DL a promising additional support for their courses. A good example here is the School of Medicine, where there are currently 4 online courses at the BSc level, 3 blended courses at the MSc level, and 2 blended courses at the PhD level. However, the School of Medicine has not adopted a DL development strategy, with courses thus being developed thanks to support from international projects and donations that the enthusiast teachers have developed their online and blended courses.

Other Uses of ICT

Several departments offer a repository of course materials through a learning management system, while the administrative backend of some others is now online.

Support Services

Technology

Moodle is used as an LMS within the institution.

DL Student Body

The Information systems and technologies course accommodates 80 distance learning students per year.

R&D Projects

Other Serbian Universities

University of Nis

The Faculty of Electronics use Moodle to offer their courses, and are currently in the process of unifying the previously individual offers into a coherent and unified one. All courses are described

following the same pattern, and the pattern structure is highly informative for students. This is definitely a good QA approach, at least as far as an individual department goes. University-wide, such a unified approach is not adopted, and there is no university-wide standard with respect to the LMS to be used.

University of Novi Sad

A number of courses offered by the University of Novi Sad are available in DL mode, and QA related to the contents is provided, as well as tech support for teachers and students. For example, the Department of Informatics, Faculty of Technical Science, has a comprehensive set of wiki pages related to their courses, and also uses Sakai LMS for course management, and their proprietary assessment system, called Otisak. About a dozen of course instructors at the University of Novi Sad run their assessment tests using Otisak regularly, although the system only supports multiple choice questions.

Unfortunately, just like the School of Medicine at the University of Belgrade, University of Novi Sad has not adopted a unified DL development strategy yet, and it is only the enthusiast teachers who have developed their online and blended courses. LMSs differ from one department to another (e.g., the Department of Mathematics uses a Moodle-based portal for their online courses), and the general level of adoption of DL varies across departments.

Singidunum University (Belgrade)

The university offers three accredited programmes of study via distance learning- Business Economics, Tourism and Hotel Management, and Engineering Management. At the time of writing, the university's Web site shows another accredited programme, Marketing and Commerce, but the CAQA database of accredited programmes shows just the first three.

DL material/content is based on Moodle, and each course is presented by learning units on the week-to-week basis. There is a DL tech support team in charge of the DL platform management and course maintenance, communication with staff and students, as well as for assessment preparation and administration. They have made important steps towards putting up assessment to the DL mode and to automation of assessment and administration. For example, proprietary tools are used to enable interoperability and export/import of items between the (also proprietary) assessment system, called Multitutor, the Moodle DL platform, and the student service administration. It is especially the assessment system, that makes a distinction between DL at Singidunum University and DL at the other universities. It is in use since 2007, and has been installed at several university departments. But, as in many other cases, results of evaluations of DL courses and programmes at Singidunum University are not published.

Metropolitan University (Belgrade)

the Faculty of Information Technology (the founder of the Metropolitan University), was the first one in Serbia to obtain the work permit from the Ministry of Education to organize a programme of study at the BSc level DL and offer it as both F2F and DL programme. After that, in cooperation with lecturers from the New York Institute of Technologies, Metropolitan University has managed to develop and accredit another six study programmes, both F2F and DL, in the fields of management and design (Operations Management, Graphics Design, and Management and the BSc/BA level, and Information Technologies and Systems, New Media Design, and Marketing Management at the MSc level).

Currently, there are over 500 DL students at Metropolitan, from Serbia, Greece, Austria, Spain, Germany, The United States of America, Mexico, and The United Arab Emirates. Examples of multimedia lectures and tutorials are available from the Metropolitan University Web site. Along with digital literature and lecture materials for exam preparation, they enable successful studies to DL students who are unable to attend lectures regularly. The DL lecturers are available to students through video conferencing, so absence from traditional classes does not exclude real-time communication with lecturers.

Quality of Assurance of Distance Learning and e-Learning

The Serbian National Council for High Education produces a statute of Standards and Procedures for Accreditation of Faculties and Faculty Curricula. The Statute includes a set of standards for distance education offerings. According to the standard, such programmes should be “based on methods and technologies of distance education, supported by resources that enable qualitative execution of this study programme. Faculty can organize distance and study programmes for each area, and for each educational-scientific and educational-artistic field, if educational content, supported by available resources, can be qualitatively adopted through distance studies, and if it is secures the same level of knowledge of graduated students, same study efficiency and the sam diploma degree, as in case of usual methods of study programme realization=.

The statute mandates that:

- Course contents should be conceptually adjusted to distance learning, with clearly noted consultation hours
- Learning guides, provided by the faculty, must contain concrete proposals and suggestions about the learning strategies of students and self-testing
- The testing subsystem must be integrated into a learning management system, and must support different learning and assessment methods
- The exam must be executed within the premises of the faculty
- The faculty must provide the necessary equipment and ICT for keeping and maintaining two-way communication between lecturers and students, needed for realisation of distance education.

Apart from these essential requirements, different universities have additional quality systems which they have implemented over time.

The university of Kragujevac implements a systematic quality cycle, whereby at the end of each academic year, a poll is conducted with the students with the objective to evaluate the programme itself, the teachers, the service, and the like. The results are published and TFC uses them for continuous improvement of their offer and delivery. In addition to such periodic evaluations, the faculty has recently conducted a SEVAQ+ evaluation of its DL study programme in e-learning as a part of their internal QA. The results of the evaluation are published in an extensive report. As SEVAQ+ survey includes questions about resources, processes and results, students have evaluated a set of statements about information provided on the courses, learning materials, services offered to the learner, eLearning activities, knowledge assessment, and course efficiency (in general, as well as in terms of knowledge increase and motivation to learn effectively.

In addition, all other universities, to some extent or other, apply internal quality standards to their offerings. This can take the form of standards for publication of course descriptions, student questionnaires, technology policies, standards for creation of learning materials and so on. However, these policies change from faculty to faculty and are not governed by institution-wide policies.

References

[ACM/AIS/AITP, 2002] ACM/AIS/AITP, "IS 2002 - Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems". [Online]. Available: http://www.acm.org/education/is2002.pdf (Last visited: June 2011)

[DEMIRAY, 2010] U. Demiray, eds., CASES ON CHALLENGES FACING E-LEARNING AND NATIONAL DEVELOPMENT: Institutional Studies and Practices, VOLUME: II, Anadolu University-2010, Eskisehir-Turkey, Electronic ISBN 978-975-98590-9-1 (2.c)

[HSV, 2008] Swedish National Agency of Higher Education (HSV), "E-learning quality: Aspects and criteria for evaluation of e-learning in higher education", Report 2008:11 R, 2008. [Online]. Available: http://www.hsv.se/download/18.8f0e4c9119e2b4a60c800028057/0811R.pdf (Last visited: June 2011)

[HEFYROM, 2009] HIGHER EDUCATION IN THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA,http://eacea.ec.europa.eu/tempus/participating_countries/reviews/fyromacedonia_review_of_higher_education.pdf (Last visited: June 2011)

[Ivanovic et al., 2010] M. Ivanovic, Z. Putnik, Z. Budimac, "The State and Development of E-Learning in Serbia". In: U. Demiray (Ed.), "Cases on Challenges Facing e-Learning and National Development: Institutional Studies and Practices", Vol. I, Anadolu University-2010, Eskisehir, Turkey, Electronic ISBN 978-975-98590-8-4 (1.c), pp. 773-797.

[Milosevic et al., 2009] Milosevic, D., Bjekic, D., Krneta, R.: Evaluation Of Master Study Of E-Learning: Case Study From Serbia, 5o International Conference on Open and Distance Learning ICODL 2009, Open and Distance Education for Global Collaboration & Educational Development, Proceedings on CD, ISBN 978-960-87597-1-8, Athens, Greece, November 27-29, 2009, pp. 260-269. http://artemis.eap.gr/ICODL2009/ICODL_5/My%20Webs/ICODL/B-PDF/B2/100.pdf

[SEEU,2011] http://www.euni.de/tools/jobpopup.php?lang=en&option=showJobs&jobid=443946&jobtyp=5&university=See+University&country=MK&sid=3783 (Last visited: June 2011)