Case study: E-learning master curriculum in Serbia

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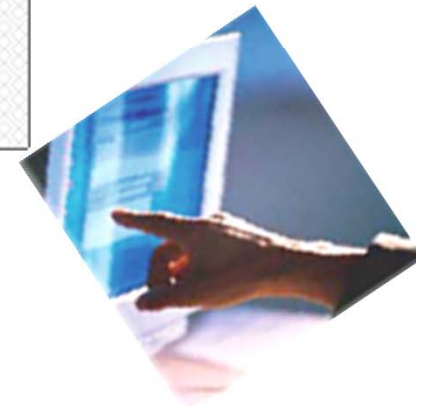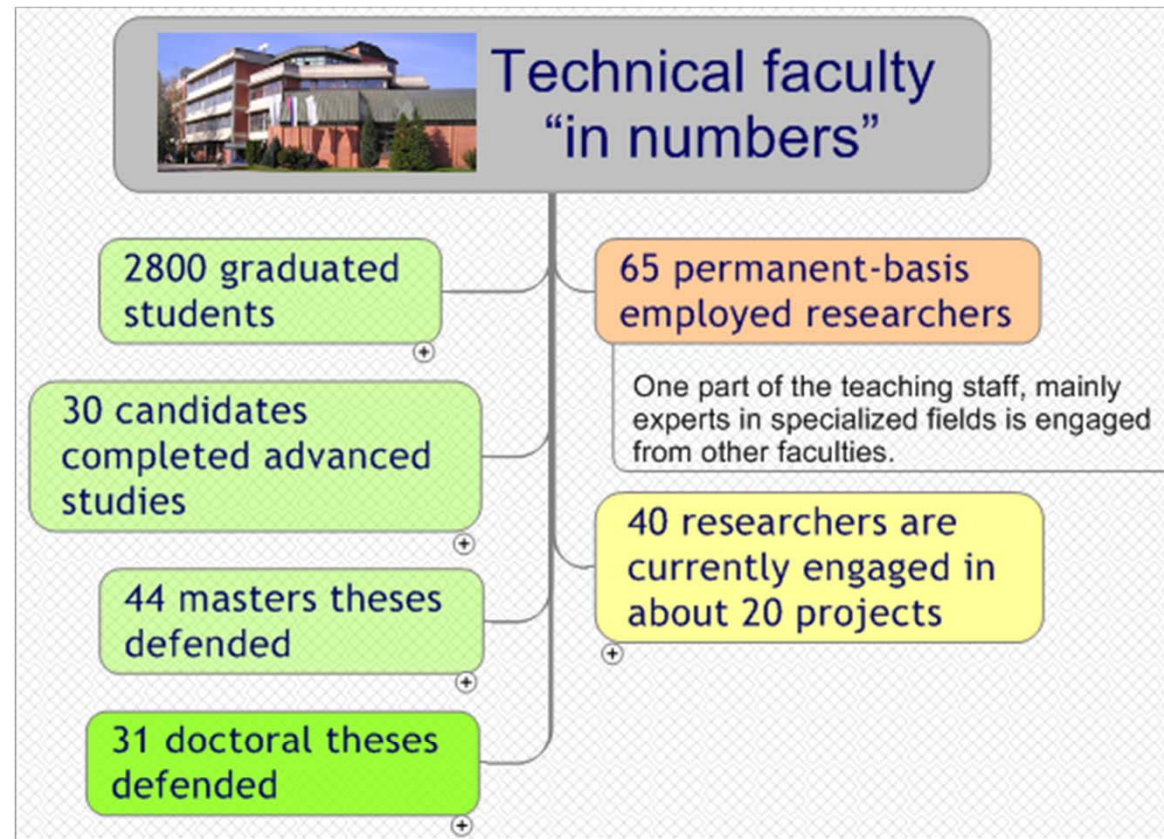
About us...

- The Faculty is seated in Čačak, a town in the central Serbia, 140 km south of Belgrade;

- Technical Faculty Čačak is a higher education institution, founded in 1975;

- Technical Faculty is one of 11 constituents of University of Kragujevac.

Technical faculty "in numbers"

2800 graduated students

30 candidates completed advanced studies

44 masters theses defended

31 doctoral theses defended

65 permanent-basis employed researchers

One part of the teaching staff, mainly experts in specialized fields is engaged from other faculties.

40 researchers are currently engaged in about 20 projects

Education

- We educate future *engineers*, *teachers* and *managers*
- The academic programme includes accredited study courses in the following scientific fields:

- **Undergraduate studies**: *Electrical and Computing Engineering, Mechatronics, Information Technologies, Engineering Management and Entrepreneurial Management*;

- **Master studies**: *Technics and Informatics – Master in e-Learning, Electrical and Computing Engineering, Mechatronics; Master in Remote Control*

- **Doctoral studies**: *Electrical and Computing Engineeri*

  Modules: *Electrical Engineering and Materials*

Distance learning in Serbia

- National bodies responsible for higher education (Ministry of Education, National Council for HE, and Accreditation Committees) recognize the importance of DL and provide administrative and legal support

Distance learning in Serbia

- The Accreditation and quality assurance commission (CAQA) issued in 2009:

- "*Guidelines for the preparation of material for accreditation of a study program realized by distance learning (DLS)*"

Distance learning in Serbia

- 10 DL programmes officially accredited
- High number of blended courses

-Still lacks the QA procedure for DL and blended courses, thus:

- Current Tempus DL@WEB project „Enhancing the quality of distance learning at Western Balkan higher education institutions"
- WWW.DLWEB.KG.AC.RS

E-learning master curriculum at Technical faculty Čačak

10. eLearning Tag 2011, 20. September, FH JOANNEUM Graz

JEP - 41016 - 2006 M.Sc. Curriculum in E-Learning

Education and Culture
TEMPUS

Welcome

News

Tempus JEP Workshop: Development of M.Sc. curricula in the framework of TEMPUS
Kopaonik, March, 03-06, 2008
Download agenda (68KB) (Photo Gallery)

Grantholder (EU)

Mr. DEBEVC MATJAZ
UNIVERSITY OF MARIBOR
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and Computer Sciences
Maribor, Slovenia

Grant co-ordinator

Mrs. KRNETA RADOJKA
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KRAGUJEVAC
Technical faculty
Cacak, Serbia

Specific project objective:

- To develop and implement MSc. curriculum in e-learning at Serbian partner universities according to EU practices and current e-learning specifications.

www.tfc.kg.ac.rs

Based on several similar study programs from the following relevant universities:

The following M.Sc. Programs are analyzed:

- **Master of Distance Education**, Athabasca University, Athabasca, Canada

- **Master of Education in e-Learning Technology and Design**, Jones international university, Spain

- **Master of distance education**, University of Maryland University Collage, Carl von Ossietzky University of Oldenburg, Germany

- **Master's in eLearning Design and Implementation**, University of Colorado Denver, USA

- **Master di I livello in Open Distance Learning**, Università degli Studi di Udine, Italy

Project goals

- **The implementation of this curriculum at partner universities will produce qualyfied experts in the field of e-learning and will provide an environment for teacher's and student's mobility**

- **The project will assure retraining of partner universites teaching staff**

- **Purchasing of a new equipment for supporting e-learning process will be enabled by project realisation**

Project outcomes

1. Defined principles of M.Sc. studies in e-learning
2. Defined curriculum
3. New teaching materials and equipment
4. Teachers retrained
5. ECTS introduced and curriculum internationally recognized
6. Dissemination and sustainability
7. Quality control and monitoring
8. Implementation of new curriculum

REVIEW OF CURRENT E-LEARNING CURRICULA

The major analyzed aspects:

- **program outcomes,**
- **credit system,**
- **the way of courses delivering,**
- **program structure,**
- **admission requirements,**
- **duration of studies,**
- **corses organization and**
- **career options**
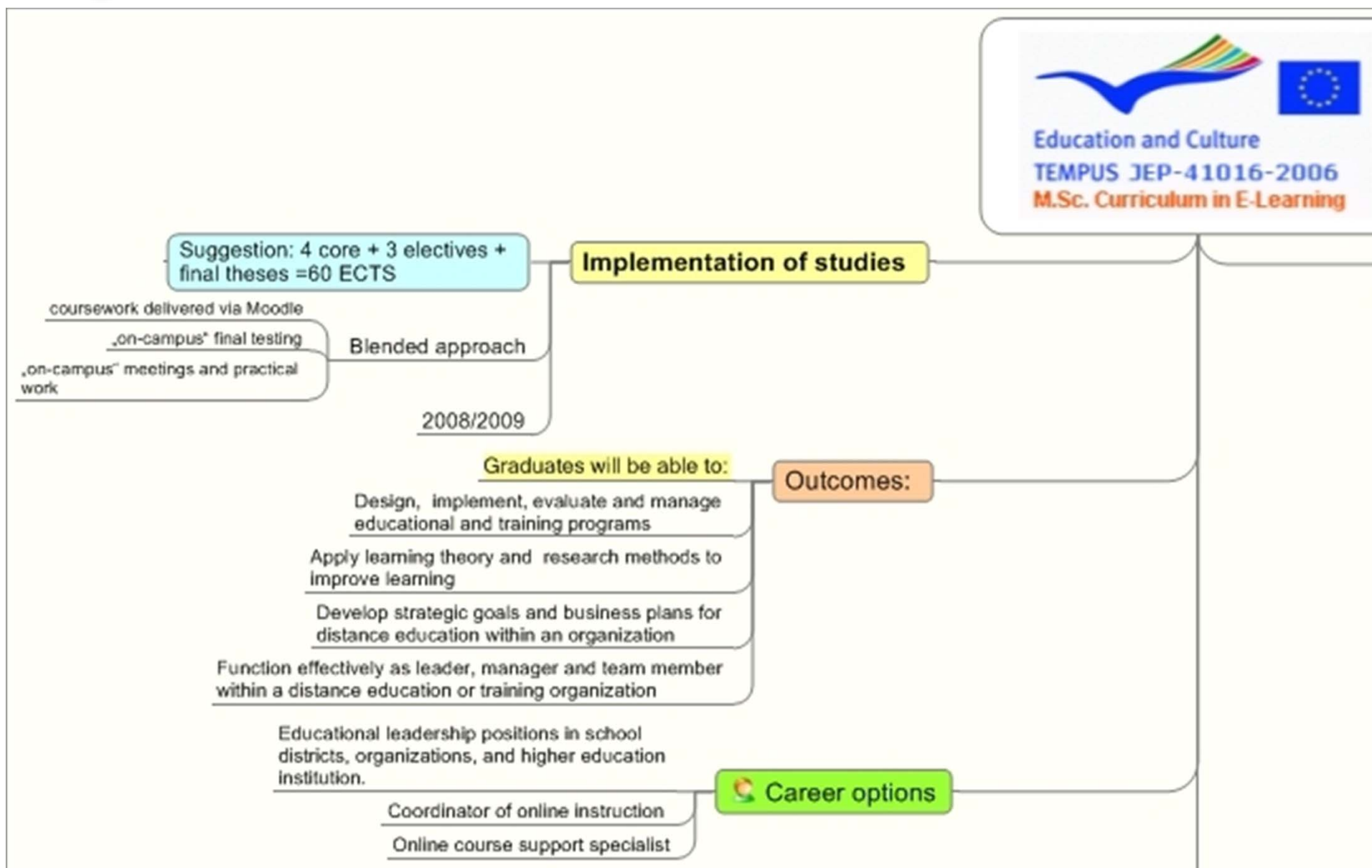
STRUCTURE M. Sc. CURRICULUM IN E-LEARNING

- The value of master studies will be 60 ECTS credits
- The studies will be organized into two semesters.
- Coursework delivered via Moodle, with „on-campus" meetings, practical work and final testing
- First semester: Core (obligatory) modules
- Second semester: Elective modules and Final theses
- Graduate degree: "Master in E-Learning"

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Education and Culture
TEMPUS JEP-41016-2006
M.Sc. Curriculum in E-Learning

Suggestion: 4 core + 3 electives + final theses =60 ECTS

Implementation of studies

coursework delivered via Moodle

„on-campus" final testing

„on-campus" meetings and practical work

Blended approach

2008/2009

Graduates will be able to:

Outcomes:

Design, implement, evaluate and manage educational and training programs

Apply learning theory and research methods to improve learning

Develop strategic goals and business plans for distance education within an organization

Function effectively as leader, manager and team member within a distance education or training organization

Educational leadership positions in school districts, organizations, and higher education institution.

Career options

Coordinator of online instruction

Online course support specialist

STRUCTURE M. Sc. CURRICULUM IN E-LEARNING

Outcomes:

Students will be able to:

- design, implement, evaluate and manage educational and training online programs

- have a practical knowledge of a range of applications and environments for delivering online learning

- apply learning theory and research methods to improve learning

- develop technical skills, including web page design and using e-learning development tools
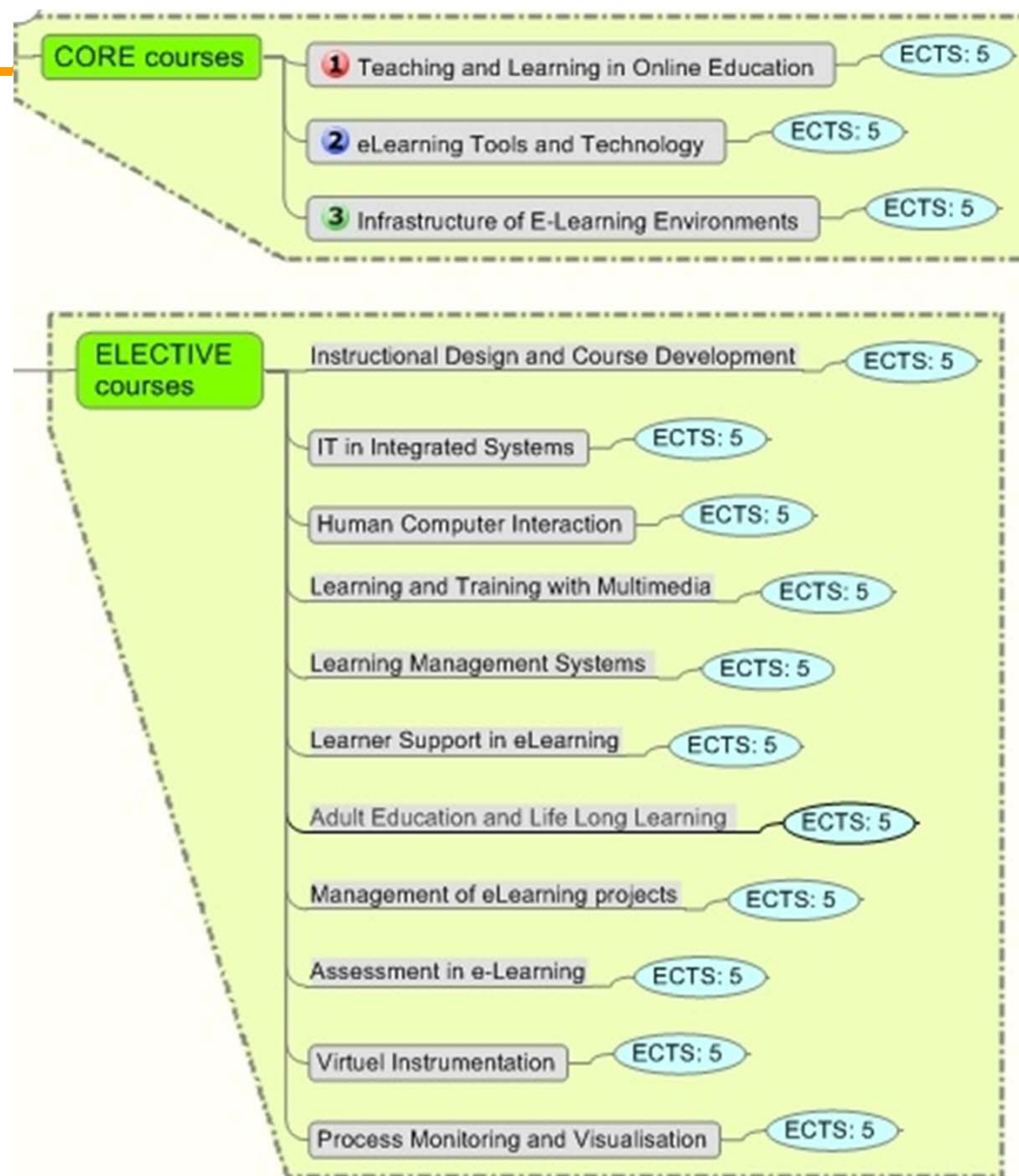
STRUCTURE OF M. Sc. CURRICULUM IN E-LEARNING

Outcomes:

Students will be able to:

- develop strategic goals and business plans for distance education within an organization

- function effectively as leader, manager and team member within a distance education or training organization

- master graduates aiming for a research career can continue directly with their doctoral studies, which takes three years

CORE courses

1. Teaching and Learning in Online Education — ECTS: 5
2. eLearning Tools and Technology — ECTS: 5
3. Infrastructure of E-Learning Environments — ECTS: 5

ELECTIVE courses

- Instructional Design and Course Development — ECTS: 5
- IT in Integrated Systems — ECTS: 5
- Human Computer Interaction — ECTS: 5
- Learning and Training with Multimedia — ECTS: 5
- Learning Management Systems — ECTS: 5
- Learner Support in eLearning — ECTS: 5
- Adult Education and Life Long Learning — ECTS: 5
- Management of eLearning projects — ECTS: 5
- Assessment in e-Learning — ECTS: 5
- Virtuel Instrumentation — ECTS: 5
- Process Monitoring and Visualisation — ECTS: 5

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E-lab is established in the framework of the TEMPUS project

It is equipped by video-conferencing system VCON HD 3000 enabling the following:

- up to four multipoint conferencing
- striming multimedia
- recording lectures

VC equipment in e-lab will be used for various activities: lecturing, presentations, experiments, video meetings with partner faculties, joint work on projects etc.

The main intention for e-lab is to:

- Provide ambient and logistic for implementation of online study by using VC system

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The first generation of e-students at TF

In school year 2008/2009, a total of 24 enrolled students on master studies in e-learning were educated on distance by using Moodle LMS

Students come from many parts of Serbia – Vlasotince, Smederevo, Novi Sad, Kruševac, Beograd, Petrovac na Mlavi, Čačak, and BiH (Banja Luka)

- Moodle is selected as the main LMS platform and supports creating and delivering different teaching materials and activities:

- *e-books, multimedia interactive lessons, vocabulary, forums, wiki pages, chats, tests, quizzes, homework, workshops, classes in virtual environments etc.*

- The favourite student e-Learning activity are SLOODLE classes (Second Life integrated in Moodle 1.9)

10. eLearning Tag 2011, 20. September, FH JOANNEUM Graz

Quality assurance of e-learning master programme

- The approach to internal QA at Technical faculty Čačak is very systematic and in general is the same for all study programs regardless on delivery method.

- The objective of the student evaluation is to determine students' opinions on:

- the pedagogical work of teachers and associates;
- the quality of study programs;
- the quality of teaching and working conditions and quality of non-teaching support;
- their contribution to the success of the teaching process

Quality assurance of e-learning master programme

- Apart from the standard QA procedures for all study programs at the Faculty, two distinct evaluations specific for DL study programs were conducted.

One of them developed by faculty staff, deals with evaluation of the effects, process and qualitative dimensions of the master study programme in e-learning.

Evaluation categories	Number of items	Absolute measures								Scale 1-5	
		Min		Max		M		SD		M	
		2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
a. Content and structure of curriculum	11	44	37	55	55	48.38	49.44	2.97	4.46	4.40	4.49
b. Goals and outcomes	8	25	22	40	40	34.19	35.41	3.40	4.29	4.27	4.43
c. Organization of (e)teaching	13	46	38	63	65	54.71	55.75	5.41	7.16	4.21	4.29
d. Evaluation, monitoring, grading and testing	6	22	14	30	30	26.62	26.25	2.42	3.75	4.45	4.38
e. Organization of e-materials, resources	5	20	16	25	25	23.38	22.56	1.56	2.31	4.68	4.51
f. LMS and technical support	8	33	28	40	40	37.52	36.72	2.25	3.20	4.69	4.59
g. General Impression of the curriculum	7	23	17	35	25	31.81	22.66	3.22	2.62	4.54	4.53
h. Evaluation of the teachers	5	17	12	25	35	22.95	31.44	2.06	4.66	4.59	4.49
i. General evaluation (grade) of the curriculum	63	256	203	311	315	278.57	280.22	16.56	26.41	4.44	4.45
N (sample)		21	33								

The second applied QA tool in 2010/2011 is well known self-evaluation tool for quality in e-learning SEVAQ+ v2.0

SEVAQ+ survey comprehends questions about resources, processes and results.

We applyed SEVAQ tool because the existing surveys for student self-evaluation, defined by the Faculty regulations don't cover all aspects of quality assurance in DL.

Students evaluated set of statements about *information provided on the courses, learning materials, services offered to the learner, eLearning activities, knowledge assessment, course efficiency – general, knowledge increase and motivation to learn effectively.*

- The highest overall average rating for courses are:

- Infrastructure for e-learning   3.76
- Tools and technologies for e-learning 3.49
- Teaching and Learning in e-Education   3.42

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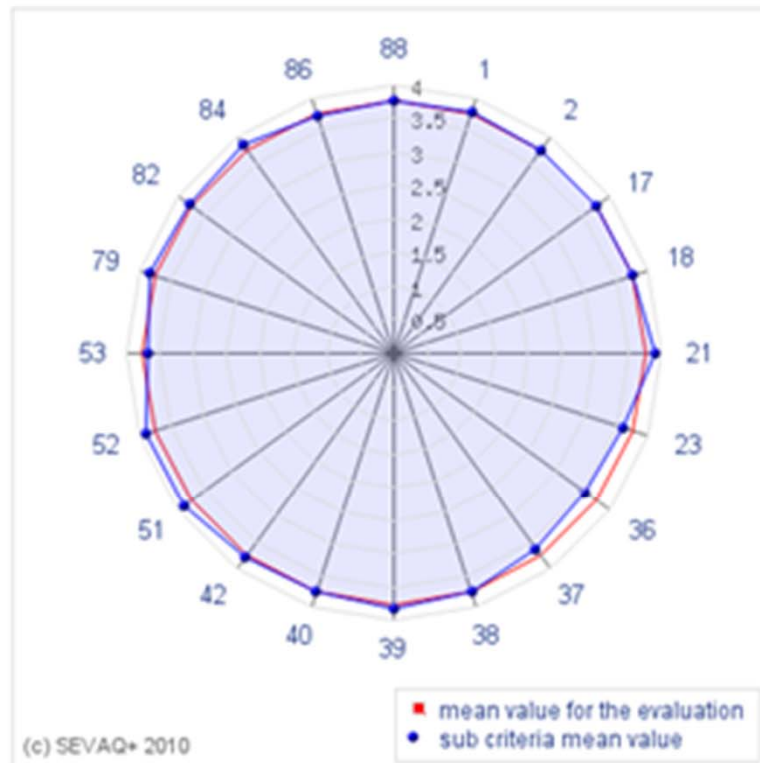
SEVAQ+ survey results for the course "Infrastructure for e-learning"

> RESULTS OF THE QUESTIONNAIRE

"INFRASTRUKTURA ZA ELEKTRONSKO UČENJE"

Radar diagram

Improvement needed
Subcriteria with results under the mean

- 86 : Learning management [3.73]
- 53 : Assessment process management [3.7]
- 40 : Personalisation [3.75]
- 37 : Time management [3.62]
- 36 : Organisation services and administration [3.54]
- 23 : Advanced concerns about the quality of resources for the learner [3.61]
- 2 : Course prospectus (off the shelf opportunities) [3.74]

Improvement less or not needed
Subcriteria with results above the mean

- 88 : Self-motivation [3.78]
- 84 : Awareness of learning preferences [3.84]
- 82 : Learner's perspective [3.77]
- 79 : Levels of overall knowledge outcomes [3.84]
- 52 : Assessment process design [3.91]
- 51 : Group learning support [3.88]
- 42 : Collaboration and self-study [3.79]
- 39 : Training approach [3.83]
- 38 : Navigation and resource options [3.76]
- 21 : Coherence with promises [3.91]
- 18 : Pedagogical aspects of learning content [3.76]
- 17 : Availability [3.76]
- 1 : Availability of learning opportunities (off the shelf opportunities) [3.79]

mean value for the evaluation
sub criteria mean value

(c) SEVAQ+ 2010

Mean value for the evaluation = **3.76**

Sub-criteria that are needed improvement for all three courses:

- Course prospectus (off the shelf opportunities),
- Assessment process management
  - The assessment process took into account your personal behaviour during the online course (participation, respect of the schedule, etc...)
  - The mark obtained in the end of course assessment was a fair reflection of the knowledge/competencies developed during the course.

Sub-criteria that requires some or none improvement for all three courses:

- Awareness of learning preferences
- Learner's perspective
- Training approach
- Navigation and resource options

Cross-matching of evaluation criteria and QA self-evaluation tools

Table 1: Cross-matching of evaluation criteria and QA self-evaluation tools

Evaluation criteria / Tool for self-eval.	1. Goals and outcomes	2. Course content	3. Organization of teaching materials	4. Evaluation of teachers	5. Services offered to the learner	6. Assessment and grading	7. eLearning activities (Collab., Person....)	8. LMS & technical support	9. Student's expectations fulfilment	10. Motivation to learn effectively
Own DL QA self-eval.	x	x	x	x	none	partly	partly	x	none	x
SEVAQ QA self-eval.	x	x	x (inc. navigation)	partly	x	x	x	x	x	x
TFC official QA self-eval	x	x	x	x	none	partly	none	none	x	partly

Thank you for your attention!