
Deliverable 2.2

Methods and Tools: QA in DL Across WB

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DL@WeB

ENHANCING THE QUALITY OF DISTANCE LEARNING
AT WESTERN BALKAN HIGHER EDUCATION INSTITUTIONS



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0. Preamble

The present report is aimed at focussing on the main e-learning requisites in terms of procedures comparing main standards defined by Quality reports of different European and International associations with currently distance learning programs run in Western Balkan countries according to the description of different case-studies tied to the Republic of Serbia, Macedonia and Montenegro.

The description developed in the report 2.1 titled “Practices of Distance Learning in the Western Balkans: the issue of quality” is the first step towards the objective of workpackage 2, that is, “Establish the framework for improving Distance Learning quality assurance and e-Learning methodology on Higher Education institutional level in Western Balkan partner countries”; the present document offers a general analysis of the elements of discontinuity and/or gaps between practices reported in the deliverable 2.1 and quality standard to provide a set of benchmarks.

The document is a result of a collaboration between institutions for Higher Education in the Western Balkans, who provided much of the data on current practices which were used to inform the creation of these guidelines. The guidelines themselves were also inspired strongly by desk research into current quality systems for e-Learning, particularly the UNIQUe certification scheme for institutions and principles of instructional design. Chapters 1 and 3 were authored by Laura Fedeli and Per Giuseppe Rossi of the University of Macerata, while Chapters 2 and 4 were authored by Anthony F. Camilleri of the European Foundation for Quality in e-Learning.

1. Introduction

The word e-learning is replacing, today, many of the expressions previously used to define the teaching/learning process run at a distance and related to different delivery methods such as web facilitated delivery, blended/hybrid delivery and online delivery.

The so called “distance education” was early defined as “institution-based formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors (Simonson, 2003).

Since that definition many others occurred and online education acquired huge and renovated interest in the international context. Different theoretical frameworks, at European and international level, were created to provide distance education with the proper background, but we can already identify in Simonson’s definition the main aspects of the e-learning framework, aspects that are also present in the first systematic work on e-learning design and management by Badrul Khan (2003).

If we analyse Simonson’s viewpoint on distance education, in fact, we can isolate the following variables: institution-based education, formal education, connection and interaction over significant distances by electronic means.

Those aspects remains today the focus of the e-learning management and the parameters on which the quality vision, as shared by international research centres such as the Masie Center and European associations (e.g. ENQA, EFQUEL, NADE), should develop.

The above mentioned aspects are clearly connected to the three dimensions that we are going to address in the present report:

- Institutional;
- Pedagogical;
- Technological.

The primary purpose of the report is to present a set of standards and benchmarks for each section that will follow a similar format: a brief general introduction on the specific topic and a table in which benchmarks are highlighted.

The standards refer to the quality European Frameworks (see deliverable 1.1) and international reports while the benchmarks have been identified cross-matching EU models with the current

situation in Western Balkan countries namely Serbia, Macedonia and Montenegro as described in deliverable 2.1.

The standards outlined in this guide are influenced by instructional design models of e-learning. In a review of such models, Engelbrecht (2003), finds that they tend to include:

- Needs analysis
- Student profiles that will analyse their needs and expectations
- Institutional support for e-learning initiatives
- Pedagogical choices that meet the requirements of the subject and the needs of the target learner group.

2. Institutional dimension

2.1 Strategy

Institutional strategy is a key enabler of quality e-learning. Numerous studies, including (Jenkins et al., 2001, Smith, 2002 and Stiles, 2002) have found that a lack of institutional strategies on instructional learning technology hinder their more widespread adoption. (as cited in Lisewski, 2004).

Generally speaking, two types of plans can be distinguished from literature. The first is ‘integrated strategies’ whereby e-learning is integrated into documents such as the overall institutional strategy, course design guidelines, strategic development plan etc. The second involves ‘discrete strategies’ being created which deal specifically and exclusively with e-learning delivery and development. In a survey of e-learning strategies present at Australian universities, Inglis (2007) finds that discrete strategies tend to specify a wider range of e-learning related activities than integrated strategies. On the other hand, by contextualising e-learning within a broader spectrum of learning and teaching activities, universities adopting integrated strategies tend to be less likely to create a separation between e-learning and other forms of learning.

Based on the evidence available, we propose an integrated approach whereby e-learning is integrated into the macro-level documents and processes of an institution, while at the same time outlining a specific, stand-alone strategy that ensures adequate priority is given to e-learning development, considering the significant resources, and constant iterative innovation which is required to offer this mode of provision.

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
The provision of distance learning supports the achievement of the institution's overall objectives.		
An institution level strategy document lays out the objectives of the distance learning program and includes measurable targets. This strategy is reviewed and updated regularly.		
A suitable development plan lays out an implementation strategy for the distance learning programme’s stated objectives.		

The institution involves internal and external stakeholders in the definition and evaluation of institutional strategies at all levels of governance.		
Distance learning contributes to the organization's corporate social responsibility objectives.		

2.2 Administrative Issues

We are using the terms ‘administrative issues’ in the broadest sense of the term, essentially to cover all areas of the institution’s activities which neither qualify as governance, nor as course delivery.

As such, the category consists of:

- needs analysis – i.e. how is the nature and content of the course offering decided upon, vis-à-vis the needs of internal and external stakeholders
- institutional readiness analysis – this includes the institution’s commitment to innovation, its financial resources, and the qualifications of its staff
- monitoring and quality assessment of capacity to deliver online courses – this analyses the institution’s quality culture as well as its quality assurance policies
- learning environment – deals with the supporting tools which contribute towards a better learning experience

2.2.1 Needs analysis

We are constantly making the mistake of specifying the means of doing something rather than the results we want. This can only limit our ability to find better solutions to real problems. (Gilb, 1988). So as to avoid this, it is now considered best practice to apply some element of needs analysis so as to design the course.

Needs analysis in instructional design usually takes into account (Engelbrecht, 2003):

- demand for instruction in a specific subject
- demand and need for an online course
- equivalence of an online course with face-to-face programmes
- costs

In this set of benchmarks we are separating the concept of needs analysis from institutional readiness analysis. Thus, here we deal with discovering the needs of potential students as well as of the wider community, and not with how the institution may effectively address them.

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
The institution chooses the course delivery methods based on criteria of pedagogical appropriateness, social sensitivity and cost-effectiveness.		
Analysis and review of the potential needs within the community and labour market, both in terms of training needs and training modes, are regularly carried out.		
Course review takes into account the latest developments in the field of study.		
Course design reflects national and regional priorities for development.		

2.2.2 Institutional readiness analysis

Chapnick (2000) provides an oft-cited set of criteria for an institution to measure its readiness to adopt e-learning. The factors analysed in her model include:

- Psychological readiness: i.e. how will individuals' state of mind and attitudes impact the outcomes of the e-learning?
- Sociological readiness: i.e. what sort of interpersonal relationships exist within the surrounding environment which affect the implementation of the e-learning initiative?
- Environmental readiness: i.e. what sort of large scale forces operating on stakeholders, both inside and outside the institution, will affect the offering? A typical example of such a force might be the 'sovereign debt crisis' in 2010-11.
- Human resource readiness: i.e. are the design and availability of appropriate human resources to delivery and support the e-learning
- Technological skill (aptitude) readiness: considering observable and measurable technical competences on the part of staff
- Equipment readiness: is the appropriate equipment for e-learning being deployed?
- Content readiness: which deals with the subject matter and goals of the instruction

From a quality assurance perspective, only the last four of these criteria are specific and measurable, and therefore lend themselves to conversion into guidelines. Thus, in these guidelines we deal with readiness of human resources, aptitude, equipment and (in other sections) content.

2.2.2.1 Evaluation of commitment to innovation

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
The institution mandates constant iterative curricular innovation through formal policies and incentives.		
The institution has policies and procedures which allow for systematic distribution of course content online through an institutional repository in place.		
The institution has made a link between its intellectual property policies and innovation policies (e.g. Through patenting, knowledge transfer guidelines)		

2.2.2.2 Evaluation of financial resources

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Resources are in place to guarantee provision of courses until completion for all currently enrolled students.		
Necessary physical, spatial and digital infrastructure is in place for quality delivery of academic and administrative services.		
There is a specific budgetary allocation for further development of e-learning and/or distance learning and for research into the same.		

2.2.2.4 Evaluation of qualification and competence of staff

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
All staff are appropriately qualified to perform their designated duties. Criteria for staff selection are equivalent to those in campus based education, and in accordance with relevant legislation.		
Detailed job descriptions including competence maps exist for all roles		

within the institution.		
Distance learning staff has equal career progression opportunities to other staff within the institution and are located within the department faculty structure.		

2.2.3 Monitoring and quality assessment of capacity to deliver online courses

Report 1.1 of the DL@Web project (Devedžić, Krstajić, Radulović and Kraljevski, 2011) provides an extensive overview of current quality assurance guidelines, procedures, policies, service standards, benchmarks and tools in the field of e-learning. The report stresses that quality assurance in distance learning should be analysed in the context of quality assurance in ‘traditional’ higher education, while at the same time using differentiated criteria and processes for distance learning. As such, this section considers whether the institution has the appropriate quality assurance procedures in place from an organisational and structural perspective, so as to be able to undertake appropriate procedures of self-analysis, peer-review, self-improvement and externally-mediated improvement.

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Metrics are collected on students’ usage of learning resources.		
Evaluation of the learning experience from students is collected and used for improving the eLearning experience.		
Evaluation of the learning outcomes from stakeholders and graduates is collected and used for improving the eLearning experience.		
Continuous efforts are made to promote an optimal learning environment.		
Analysis of assessment outcomes is used to inform curriculum improvements.		
Course objectives and curricula are regularly reviewed by internal and external peers.		
The curricula match the standards and guidelines established by national accreditation bodies.		
The institution is appropriately certified by national accreditation bodies, and operates in line with the European standards and guidelines for quality assurance.		
Data on performance of individual teaching staff is collected and used to		

inform individual career progression pathways and training needs.		
The reasons for and quantity of dropouts is evaluated, including through student feedback, and used to inform targets for reducing the dropout rate.		

2.3 Academic issues

2.3.1 Staff development

The major roles of a competent online teacher have been outlined as (Goodyear, Salmon, Spector, Steeples & Tickner, 2001):

- The role of content facilitator, concerned directly with facilitating the learners' growing understanding of course content;
- The role of technologist, concerned with making or helping make technological choices that improvement the environment available to learners;
- The role of designer, concerned with designing worthwhile online learning tasks;
- The role of manager/administrator, concerned with issues of learner registration, security, record keeping, etc.;
- The role of process facilitator, concerned with facilitating the range of online activities that are supportive of student learning;
- The role of adviser/counsellor, concerned with offering advice or counselling to learners on an individual or private basis to help them get the most out of their engagement with the course;
- The role of assessor, concerned with providing grades, feedback, and validation of learners' work;
- The role of researcher, concerned with engagement in production of new knowledge of relevance to the content areas being taught

A well designed professional development for staff needs to take cognisance of all these various roles. Often these are not entirely unbundled into different professions, meaning that a member of staff will need to be proficient in a number of the roles so as to ensure quality provision. Aside from formal training programmes, common approaches for developing the provision of localised staff development include the provision of opportunities to share expertise, the mentoring of staff, the development of networks of staff (internal and external to the faculty) that foster learning and

collaboration from others, and that focus on the use of technologies in relation to specific disciplines and project teams.

2.3.1.1 Continuing professional development

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
The institution has a policy in place whereby institution staff are kept up to date with technological developments and their impact on pedagogical approaches and course content.		
Teaching staff needs analysis are regularly implemented through staff competence reviews or self-assessment processes.		
Acquisition of further ICT competences are an integral part of continuing professional development for staff.		

2.3.1.2 Academic community

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Systemic collaborative working procedures and tools are employed in order to share knowledge developed with the community		
All staff involved in course design and teaching hold regular academic titles / positions within the university structure.		
All staff responsible for course design undergo processes of peer-learning and review, evidenced through academic resources for attendance to conferences and activity in academic publications.		

2.3.2 Course management

As part of a learning process, a variety of support services are required by students. These include (Rekkedal & Qvist-Eriksen, 2003):

- a. Teaching/tutoring

- b. Academic support
- c. Organisation of learning
- d. Social support
- e. Assessment
- f. Practical support, economy etc
- g. Follow-up
- h. Technical support
- i. Resources/library
- j. Learning group support
- k. Local learning support
- l. Local administrative support
- m. Local technical support
- n. Local social / practical support.

Of these, support for items b, c, g, h, l, and m are also required at a different level by academic staff themselves.

2.3.2.1 Student Support

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Individual learner support (methodological , pedagogical, technical and organisational) is available, and integrated into the course design including through minimum face-to-face time quotas where appropriate.		
The institution provides the appropriate services required to ensure that students can acquire the ICT skills necessary to access an eLearning course and/or utilise technology to improve their learning.		
All students have access to convenient guidance service including psychological, career and social guidance services.		

2.3.2.2 Teaching Staff Support

Methodological, organisational and technical support for any staff wishing to develop eLearning resources is implemented across the entire institution.		
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2.3.3 Assessment

While higher education generally speaking boasts multitude forms of assessment, online assessment only further expands the realm of what is possible. McLoughlin and Luca provide the following breakdown of types of objective assessment available online. They distinguish between assessment methods which:

Objective assessment	Authentic assessment	Indicators of authenticity	Web-based support
Require correct responses only	Require quality product and/or performance, and justification	Assess whether the student can explain, apply, self-adjust, or justify answers, not just the correctness of answers using facts and algorithms.	Allows students to articulate viewpoints in text-based conversation that can be archived as a learning resource.
Must be unknown in advance to ensure validity	Are known as much as possible in advance: involve excelling at predictable demanding and core tasks: are not gotcha! Experiences	The tasks, criteria and standards by which work will be judged are predictable or known like a project proposal for a client, etc	Web-based teaching allows access to multiple sources of information about the task, while allowing learners to explore alternatives
Are disconnected from a realistic context and realistic constraints	Require real-world use of knowledge: the student must do history, science etc in realistic simulations or actual use.	The task is a challenge and a set of constraints that are authentic likely to be encountered by the professional (know-how, not plugging in, is required)	The task is a challenge and can extend the confines of the classroom to involve complex, ill-defined tasks and collaboration
Contain isolated items requiring use or recognition of known answers or skills	Are integrated challenges in which knowledge and judgment must be innovatively used to fashion a quality product or performance	The task is multifaceted and non-routine, even if there is a right answer. It thus requires problem clarification, trial and error, adjustments, adapting to the case or facts at hand, etc.	Web provides access to information, databases and course notes. Learners have control
Are simplified so as to be easy to score reliably	Involve complex and non-arbitrary tasks, criteria and standards	The task involves the important aspects of performance and/or core challenges of the field of study	Web-based learning provides multiple vehicles for showcasing student achievement, including portfolios and skills demonstrations
Are one shot	Are iterative: contain recurring essential tasks, and learning processes	The work is designed to reveal whether the student has achieved real versus surface mastery or understanding versus mere familiarity, over time.	Web-based teaching enables gathering of continuous process data on student achievement.

2.3.3.1 Assessment of students

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Students' progress in eLearning is monitored (through continuous assessment) and made available to students.		
Continuous Self assessment opportunities are made available to students to allow them to reflect on their learning experience (promoting self development initiatives)		
Both formative and summative assessment are used		
Assessment tests the acquisition of learning outcomes defined at the beginning of the course.		

2.3.3.2 Assessment procedures

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
The institution has appropriate tools and procedures to secure the assessment process and ensure confidentiality of the results		
Fairness and transparency in assessment are ensured by allowing auditing of every step of the assessment process.		
Methods to detect plagiarism and other malpractices are in place, and communicated to students		
Timely , comprehensive and constructive feedback is provided to students		
An efficient and fair system for grievances from assessment results is in place.		
Procedures are adopted to ensure consistent marking policies by different examiners.		

2.3.4 Recognition

Through the creation of a European Higher Education Area (launched by the conference of education ministers in Budapest/Vienna – 2010), a European system of recognition of credits and qualifications has been put into place. The basic components of this system include:

- All learning being defined in terms of a system of credits, based on learning outcomes and workload
- A three-cycle system of degrees
- A system of qualifications mapped to the European Qualifications Framework
- A quality system based on the European Standards and Guidelines, to ensure the integrity of the above steps.

As these procedures are meant to be applied to any and all Higher Education within the European Higher Education Area, generally speaking these should be identical for e-learning and presential learning. Thus, from a standpoint of a quality system for e-learning, we only need to assure that the qualifications being offered are equivalent to presential ones in terms of recognition.

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Appropriate procedures are in place to ensure transparency and recognition of all the institution's credits and qualifications.		
Distance learning modules are recognized using identical or equivalent qualifications to those awarded for comparable traditional learning modules at the same level using the same content.		
All qualifications offered by the institution allowed to student progress from one level of education to the next higher level, including between distance and presential forms of learning, and towards gainful employment.		

2.4 Equity of Offering

For e-learning to be considered a mainstream rather than niche activity, it is essential that equity concerns be taken into account – so as to ensure that provision can reach the full breadth of the student population.

Quality assurance agencies often address equity issues either in a direct fashion through the definition of standards and criteria, or otherwise implicitly when institutional missions and their implementation are under scrutiny. External Quality Assurance has been shown to be an effective monitoring mechanism for the implementation of equity concerns which have strong policy frameworks in place. (Martin, 2010).

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Tuition fees are fair and equitable when compared with those existing local fee structures being reported for similar type courses.		
Assuming access to a computer and Internet, students are provided with all digital/physical materials and services, necessary to fully use the e-learning/TEL offering.		
A strategy to overcome technological barriers for disadvantaged groups is in place (disabled students, rural areas, socio-economic disadvantage etc)		
Initiatives are in place to facilitate access for students from disadvantaged socioeconomic backgrounds.		

3. Pedagogical dimension

The pedagogical dimension is the macro area related to the teaching/learning process and focused on the design approach and the delivery of instruction.

The pedagogical framework is aimed at highlighting conceptual and procedural guidelines to produce e-learning curricula; the framework addresses different levels of analysis:

- The design approach;
- The content analysis and creation;
- The didactical strategies and tools.

A transversal level is represented by the teacher/ learner relationship, a variable that deeply affect all the above mentioned aspects.

The various learning theories which contributed in building approaches that differently positioned the role of the learner, the teacher and the medium in the teaching/learning context may represent a continuous adaptation of the the conception of knowledge and learning in an evolving society.

The different sections, here described, will take into consideration the today's complex society where language, interaction and media are affected by multiple relations and are creating hybrid learning spaces. E-learning, within this perspective, needs to consider today's learners' attitudes such as the ubiquitous access to online environments and the active role in the digital production.

3.1 Design approach

A systematic approach (Dick, Carey and Carey, 2005) to the design process is needed to establish quality procedures.

In a formal instructional context where e-learning is either a partially or a fully integrated option the design process is the result of the synergic effort of the institutional dimension and the pedagogical one; planning a course implies, in fact, the joint involvement of administrative and academic procedures and staff .

No specific information is provided in the case-studied described by WB partners within the reporting activity required for deliverable 2.1. Most experiences show a lack in terms of

instructional design or, when the use of an ID model is reported, a contextualized analysis is missing. UNIQUE guidelines, The Quality Label for the use of ICT in Higher Education¹ stresses the relevance to develop strategies in e-learning in order to make course design guidelines available for the staff.

In the present section is intended to identify the benchmarks for a systematic approach to instructional design focussing on the specificity of today's complex society and the so called "Interactive Age" we live in that makes learners much more oriented towards active and personalized education models, where teamwork and collaboration are needed to develop a learning to learn competence.

Williams, Karousou and Mackness (2011) perfectly describe the shift from the so called *Information Age* to the *Interactive Age* in which "the emphasis is not so much on the transfer of data by individuals and institutions (in information and communication technology, ICT), but rather on interaction and collaboration within social networking" (p. 44).

The learners' need are, thus, deeply affected by those attitudes; Brill and Park (2008) highlight four main relevant aspects that should be focussed in in the learning design process: networks, devices, interfaces, user focus (fig. 1).

A brief explanation of the four issues is provided with examples by the authors (p.71):

- *Network*: "Rather than just deliver a document to an individual's inbox, sender and receiver might use a network to conference real-time about that document".
- *Devices*: "In the Interaction Age, we witness an extension of these individually-owned devices through augmented work and play spaces that enable individuals to plug in portable devices to share and engage with one another"
- *Interfaces*: "The ever-increasing focus on Web technologies is moving today's learners from a graphical user interface (GUI) to tangible interfaces that allow for a greater range of interaction modalities. Interactive smart boards, gesture-based gaming, digital pens, or even cutting edge multi-touch interfaces all allow for greater flexibility and fidelity in terms of supporting the human response"
- *User focus*: "Increasingly more jobs require human engagement in group settings rather than individual performance. Many learning environments have already begun to reflect this shift

¹ The label, officially launched on the 12 June 2009, aims to raise the standard of technology enhanced learning programmes in Europe. A comprehensive description of the background project is available at <http://www.qualityfoundation.org/unique-certification/>.

by embedding more group or team work. Emergent technologies, too, are beginning to break new ground toward true multi-user interfaces; although retrofitted or adapted single-user interfaces still seem to predominate”.

Shift from Information Age to Interaction Age		
	Information Age	→ Interaction Age
Networks	Transport data	Provide for social interaction
Devices	Portable devices	Augmented environments
Interfaces	Graphic interface	Tangible interface
User focus	Individual work	Group work

Fig. 1. (Brill, Park, 2008)

Learning and learning environments needs today's to be meant and designed as social and contextualized (Moore, Fowler, Watson, 2007).

Case-studies from Serbia, Montenegro and Macedonia report in most cases a poor use of the learning management system as a mere repository for digital study materials and for individual self-study. Actually, in those cases, no course structure is planned.

The Quality Assurance Agency for Higher Education (QAA) developed a Code of Practice for Quality Assurance² in which it's clear the insistence on the importance of the development of quality standards in programme design and procedures.

The focus is on the opportunity to offer a course structure that is monitored, reviewed and subject to reapproval periodically:

“it is important that there is a clear designation of the body responsible for approving a programme and for ensuring that all conditions have been met before the programme begins. It is important for institutions to be clear about the type of process that is appropriate to different kinds of approval; for example, for a new programme, a new module/unit, or a change in the balance of assessment within a module/unit” (QAA, 2006, p.12).

For what concern the course structure's benchmarks special attention has been paid to the Quality on the line – Benchmarks for success in internet-based distance education (Merisotis, Phipps, 2000).

² The overall Code of practice and its 10 constituent sections were originally prepared by QAA between 1998 and 2001. The documents are available at: <http://www.qaa.ac.uk/AssuringStandardsAndQuality/code-of-practice/Pages/default.aspx>.

3.1.1 ID Models and process

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. The design activity: a) is developed by an established team including the profile of the instructional designer for e-learning courses, the faculty, the supporting staff (tutors); b) is affected by the results of : - the need analysis; - the institutional readiness analysis; - the quality assessment of capacity to deliver online courses.		
2. The design process implies: a) the discrimination of the domains of learning; b) the analysis of learners' entry behaviours (skills, knowledge and attitudes that are required to begin the instruction); c) the development of an instructional strategy; d) the development and selection of instructional materials; e) the organization of a formative evaluation of instruction; f) the revision of the instruction according to data retrieved from the formative evaluation; g) the organization of a summative evaluation.		
3. The design model takes into account models that can adapt to learners' needs in the "Interactive Age": a) Network b) Devices c) Interfaces d) User focus		

3.1.2 Course structure

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. All online courses are based on a common general structure that is specifically designed for a) the level of instruction: graduate courses, <i>post-lauream</i> courses;		

b)	the course duration.		
2.	All online courses show a clear description of the: a) formative commitment (pre-requisites, objectives, expected outcomes, number of hours dedicated to self-study/online activities/stage-project works, netiquette); b) Organization of modules; c) Organization of activities in each module; d) Both mandatory and optional learning materials; e) Assessment ; f) Contact information (teaching and supporting staff)		
3.	Guidelines for course structure allow for the promotion of good practice in programme design		
4.	The course structure takes into account the different online environments where it's run: the LMS itself, environments integrated in the LMS and external to the LMS (e-g web 2.0 environments, networks).		

3.2 Content analysis and creation

The deliverable 2.1 highlighted the vagueness of the standards related to course content in distance learning by the National Council for Higher Education of the Republic of Serbia where it's stated that "Course contents should be conceptually adjusted to distance learning" (Ivanovic et al., 2010 quoted in dev. 2.1).

The relevance to specify the analysis and the creation of proper course contents is one of the aspects underlined in the section "Material/Content" in the framework produced by ELQ – a model for quality assessment of e-learning (ELQ, 2008); the model clearly states that "The main quality issues that concern material and content are selection and sequencing of material, and the quality of the material used and produced on a course" (ELQ, 2008, p.40).

In today's distance learning content is strictly connected to new media showing all the typical elements of digitalization such as convergence, variability and modularity (Ciotti, Roncaglia, 2000) and it's accessed by a variety of devices creating flexible and ubiquitous opportunities for online learning.

Those aspects make it easier for any user to create digital content thanks to freeware and very intuitive authoring tools (e.g. exe-learning for LO) and in learning contexts, where the active participation of students is fostered, learners themselves can be either the individual producers of new content or the producer of a peer collaborative product.

Course content is, in fact, not only created by the teacher or, as reported by E-xcellence, by a team of production experts (E-xcellence 2007) but may be produced also by students.

This aspect raises quality issues that affect both the content creation in its final product and the process of creation (QMPP Handbook, 2010).

The ELQ report also underlines the need of guidelines for selection/production of digital material and copyright issues and highlights the strong connection between the pedagogical dimension and the technological one.

If it's true that today "Open Educational Resources" (OER)³ let any user, being a teacher or a student, to easily re-use existing content that is openly available (no need to pay royalties or licence fees), it is needed to focus the quality issue responsibility when dealing with an institution that is running a formal course.

In this perspective the teaching staff is required to select, adapt, and evaluate the content before using OER available in online repositories.

OER fosters the students' reflection practice in the learning process both in the selection process and in the production:

"The principle of allowing adaptation of materials provides one mechanism amongst many for constructing roles for students as active participants in educational processes, who learn best by doing and creating, not by passively reading and absorbing. Content licences that encourage activity and creation by students through re-use and adaptation of that content can make a significant contribution to creating more effective learning environments" (Butcher, 2011, p.13).

A benchmark that is shared by the different quality framework above mentioned is that instructional materials are reviewed periodically to ensure they meet standards and satisfy students' needs.

In designing and creating content to be delivered online we need also to explore the stability of course content (Khan, 2003). We need to discriminate between static content (e.g. historical

³ The concept of Open Educational Resources (OER) was originally coined during a UNESCO Forum on Open Courseware for Higher Education in Developing Countries held in 2002

timelines) that doesn't require updating and the so called dynamic content (e.g. links to external web resources or guidelines/tutorials to use software) that need to be reviewed continuously in order to avoid the delivery of obsolete information.

Criteria to select resources retrieved from the Internet are identified by Alexander and Tate (quoted in Calvani, Rotta, 2000) in five parameters: accuracy, authority, objectivity, currency and coverage.

3.2.1 Creation of ad hoc content

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. Content is created ad hoc by the teaching staff following the standards (e.g. SCORM) in order to satisfy interoperability.		
2. Content is designed to satisfy instructional activities (e.g. Learning Objects), collaborative activities and reflection/self-assessment activities (e.g. e-portfolio)		
3. If a list of external resources is provided, they are previously assessed according to the general following criteria: accuracy, authority, objectivity, currency, coverage.		

3.2.2 Adjustment of existing content

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. If the teaching staff is using existing resources used in face to face context, they will adjust the content for online students taking into account the specificity of the online environment.		
2. Content that is retrieved from online resources (papers, blogs, websites etc) is periodically reviewed in order to check accessibility and		

updates .		
3. Content created by students within the development of a previous online course goes under a quality review to be reused.		

3.2.3 External OER repositories

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. The teaching staff will be involved in information searching, selection, adaptation, and evaluation before using OER available in online repositories.		
2. The teaching staff is familiar with copyright issues and aware of the different ways in which they can harness openly licensed resources.		
3. Students are introduced to the concept of OER and fostered to be active learners modifying and re-using content with open licences.		

3.3 Didactical strategies and tools

The concept of didactical *dispositif*, in the definition proposed by Calvani (quoted in Magnoler, 2009), well satisfy the synergy between strategies and tools within the didactical process. A didactical *dispositif* represents, in fact, the action plan to support and orientate the students' learning dynamics matching the use of proper tools (technical) and strategies (conceptual).

The *dispositifs* used will be consistent with the instructional approach chosen and the specific course design.

When we speak about tools we refer to all elements provided in the LMS (e.g. fora, chats, wikis etc.) or the web-based services/applications (e.g. blogs, podcast etc.) used as additional tools in the learning path.

The tools are selected to satisfy specific teaching strategies such as case-studies, simulations, role-playing etc. The choice of the different strategies to apply may be affected by the learning domain, the objectives and, as said before, by the general didactical approach (Khan, 2004).

The effectiveness of the strategy is strictly related to the efficiency of the tool used and its usability, but it's also connected to the students' perception of the easiness of use.

Furthermore the role of the teaching/supporting staff (teachers, tutors, coordinators) is relevant to activate strategies for appropriate instructor-student interaction and student-student interaction, including adequate and frequent feedback about student progress. Feedback and assistance is developed through the use of a variety of tools such as email, telephone office hours, chat sessions, web-based discussions, video conferences and threaded discussions to be activated through the progression of the online course.

Those benchmarks are common in different quality framework analysed like the "Quality on the Line" by the Institute for Higher Education Policy (Merisotis, Phipps, 2000), the "National Standards of Quality for Online Courses" by NACOL (2010) and the "Quality Assessment Panel Report Guidelines" by the Postsecondary Education Quality Assessment Board (PEQAB).

All those documents underline that the value of the consistence of the course design with the selection of strategies and tools contributes to and fosters the creation of a learning community among students and between students and teaching staff.

3.3.1 Evaluation of consistence: course design, strategies and tools

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. Educational strategies are consistent with the pedagogical approach and the course structure.		
2. Strategies applied to develop activities can rely either on LMS internal tools or on external tools (e.g. web-based applications)		
3. The teaching/supporting staff is		

continuously engaged in the process of comprehension of the course's rationale: connection among modules, activities and tools are clearly initially described in the "Formative Commitment" but also clarified, when needed, along the learning path.		
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3.3.2 Web-based and LMS instructional tools

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. LMS instructional tools offer a variety of opportunities in terms of students' participation in the learning process (collaborative tools, discussion tools, reflection tools and self-assessment tools)		
2. Updated tutorial and guidelines are available for students to make them use the platform tools (e.g. forum, wiki, chat) and external tools (e.g. blog, networks, social tools).		

3.3.3 Synchronous and asynchronous communication tools

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
1. The course structure provides a good balance of asynchronous and synchronous activities according to the specificity of the course. Both synchronous and asynchronous tools are accessible from the LMS.		
2. Synchronous/asynchronous tools provide the opportunity to communicate either in an individual session or a group session.		
3. Different tools are provided for textual communication and audio/video communication		

4. Learning Resources

In an attempt to create an e-learning maturity model based on the SPICE model for software engineering, Marshall & Mitchell divide the instructional design experience into five process categories, namely organisation, evaluation, coordination, development and learning. The development process category is defined as processes surrounding the creation and maintenance of e-learning resources, and are composed of the following processes:

- guidelines regarding minimum standards are used for course development, design and delivery
- the reliability of the technology delivery system is as failsafe as possible
- learning outcomes, not the availability of existing technology, determine the technology being used to deliver course content
- technical assistance in course development is available to faculty
- faculty are encouraged to use technical assistance when (re) developing courses
- faculty members are assisted in the transition from classroom teaching to online instruction

We have expanded on these processes (where not already covered by other criteria), to produce the following set of benchmarks:

4.1 *Material conditions for learning*

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
The institution has appropriate hardware and software to cover all aspects of the course design and delivery. These should include:		
- Content authoring tools, including appropriate multimedia-authoring software		
- Course delivery tools, in particular a Learning Management System.		
- Tools for real-time and asynchronous tutor-student communication		
- Tools for formative and summative assessment		
- Tools for monitoring the		

students' progress through the learning system		
All technologies are appropriately scaled up and supported to meet anticipated course demand.		
The institution has guaranteed possession of all aforementioned technologies for the duration of the courses being offered.		
All administrative procedures can be conducted through the university intranet.		
Staff and students have single sign-on access to various applications (i.e. using the same password to log into different applications)		
Strong, end-to-end encryption, is used to protect all personal data of users in the system.		
Available technical learning resources have been tested for usability, and rectified to overcome common technical problems		
Systems and services to support communication between students and staff are implemented, including at minimum, real-time audio communication, group communication rooms, screen casting and messaging.		
Technical services to support staff interaction (e.g. one-to one; one to many, peer review) by different means (virtual teaching staff room, forums, blogs and on-line and off-line help) are implemented.		
Best practice procedures are implemented for backups. At very least these include mirroring, and asynchronous off-site backup.		
All technology-based procedures are appropriately tested according to industry best-practice.		
Learning management software is tested for usability particularly with respect to appropriateness in supporting the achievement of designated learning outcomes.		

4.2 Course-Materials

<i>Benchmarks</i>	<i>Meets the benchmark (Y/N)?</i>	<i>comments</i>
Electronic databases are used to significantly expand the scope of a universities' collection, either through the inclusion of full-text electronic resources, or through the operation of an efficient library-loan system		
Learning resources are made available are labelled according to a prevailing meta-data standard, and made available in a searchable and harvestable and at database.		
All course materials are made perpetually available to students, including after their studies.		
All relevant current information and notifications are delivered to students through a web-portal.		
The institution has an archiving policy for learning materials.		
Course authoring and production tools are able to cover a variety of actual formats and also take fully into account the principles of reusability, accessibility, interoperability and durability, aimed at facilitating ongoing applicability .		
Common agreed production quality standards are available (consistency in graphics, compatibility audio/video..)		

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