

# Quality in eLearning.

## Some results from a national research program

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### Abstract

Quality is an open concept.

Something has a good quality when the most salient of its characteristics have a positive value. What are these relevant features? It depends on the interest of who is judging the quality.

Therefore the idea of quality can be separated neither from the object under examination, nor from the point of view selected by the evaluator.

It is important also to choose when and how to evaluate quality.

This paper -realized within the PRIN -National Interest Research Project- entitled "Comunità di apprendimento per la didattica universitaria in ambienti open source"<sup>1</sup>- analyses the criteria for evaluating the quality of an academic eLearning course and it claims that a quality analysis model needs to be created *ad hoc* for the context in which it is going to be applied. If the model we want to use was created for a different environment, it has to be carefully adapted for our one.

Keywords: quality in eLearning, quality assessment, method and tools

## 1. Introduction

Quality is a mutable and open concept.

Something has a good quality when all, or the most salient, of its characteristics have a positive value.

Unfortunately, to define the relevant features of something is a challenging issue, because they depend on the interest of who is judging the quality.

Therefore the idea of quality cannot be separated neither from the object under examination (here it is the eLearning in the academic environment), nor from the point of view selected by the evaluator.

Finally, once the salient characteristics are settled, we must choose when and how to evaluate their quality.

## 2. Stakeholders, levels and times for the quality analysis

### 2.1 Stakeholders

Priorities, expectations and needs change from one person to another, according to her/his

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1 "Learning communities for university teaching in Open Source environments"

role.

eLearning stakeholders<sup>2</sup> are many, for instance:

- people in charge for decision;
- learners;
- teachers;
- tutors;
- ...

This list is widely variable, in fact the responsibilities pertaining to any role can be split and reassigned to the others, depending on the available resources.

Each stakeholder has his own aims, which should live together with the aims of the others. For this reason it's essential to define each role, to enhance its contribution and to underline the importance of the cooperation among all of the stakeholders and of the negotiation for the use of the available resources.

A shared knowledge about the assignment of duties and responsibilities is necessary, in order to facilitate and improve both communication and interaction.

## ***2.2 Levels and times for the quality analysis.***

Quality analysis must consider the whole framework in which the educational course takes place, to be really effective.

In literature we find three different level of academic eLearning quality analysis: the institution, the degree and the course.

Furthermore we can lead our survey in three different time points: *ex ante*, i.e. before the beginning of the educational activities; *in itinere*, i.e. in progress; *ex post*, i.e. after the activities are done.

Combining all these possibilities, we obtain nine level/time points of view for the analysis:

institution – ex ante	institution -in itinere	institution – ex post
degree – ex ante	degree – in itinere	degree – ex post
course – ex ante	course – in itinere	course – ex post

We need therefore to define stakeholders, levels and times, since different dimensions, models, methods and tools can be more or less suitable for the characteristics of our quality analysis survey.

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2 “Stakeholder: A person with a vested interest in the successful completion of a project.  
(<http://www.learningcircuits.org/glossary.html>) (2008/02/25)

### 3. Dimensions and models.

Besides stakeholders, levels and time points, there are four dimensions to take into account for an accurate analysis. These dimensions are: pedagogical, organizational, economic and technological. According to Barchechath, their hierarchic position can vary depending on the point of view, but in any case, they constitute a system and they cannot be considered separately.<sup>3</sup>

There are several factors, as we said, to consider. Therefore we need a model to help us to focus the relevant elements for describing the subject of our study.<sup>4</sup>

The SLOAN-C model, in our opinion, is really suitable for the eLearning quality analysis.<sup>5</sup> SLOAN-C is an American consortium that has been dealing with eLearning quality for years and that summed up its point of view in *The Sloan Consortium Report to the Nation: Five Pillars of Quality Online Education*.<sup>6</sup>

These five pillars are:

- I. LEARNING EFFECTIVENESS – interaction between learners, teachers and contents is the key;
- II. STUDENT SATISFACTION – quick and customized services; high-quality learning results;
- III. FACULTY SATISFACTION – moral and administrative support, reciprocal respect between eTeachers e traditional teachers;
- IV. COST EFFECTIVENESS – cost control. For example use of the technologies to improve the learning efficacy, decrease the drop-out rate, solve the problem of the overcrowded buildings and lower expenses;
- V. ACCESS – students (impaired or not) must be given the opportunity to find out by themselves how effective, satisfying and financially convenient eLearning is. It is essential to pay attention also to the “digital divide”, which is still a problem.

### 4. Defining a contextualized approach. The experience of the University of Trento.

Within the theoretical framework of the SLOAN-C model, we took into consideration the methods and the tools available for the quality evaluation.

By **method** we mean an organic set of rules and principles, that constitutes a basis for an

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3 E. Barchechath (1996), La progettazione dei sistemi formativi a distanza dal punto di vista economico, pedagogico e organizzativo, in M.A. Garrito (ed), *La multimedialità nell'insegnamento a distanza*, Garamond, Roma.

4 A model can be seen as a theoretical scheme that delineates an object by highlighting the most salient features. The word “model” can be defined in many other ways, beside the one here suggested. See: Ghislandi, P. (2005), *Didattiche per l'università*, Edizioni Università degli Studi di Trento.

5 LabIndia, Laboratorio di Innovazione Didattica Accademica, i.e. Innovation in Higher Education Laboratory is a laboratory of the Cognitive & Education Sciences Department, University of Trento.

6 The Sloan Consortium is a consortium of institutions and organizations committed to quality online education <http://www.sloan-c.org/> (27 February 2008)  
See: Lorenzo G. & Moore J. C., *The Sloan Consortium Report to the Nation: Five Pillars of Quality Online Education* (2002) available at <http://www.sloan-c.org/effective/pillarreport1.pdf> (27 February 2008)

activity.

A **tool** is what we use to get something. In our case, it is the mean by which we can collect the information we need.

The most common methods and tools for the quality analysis are:

- standard
- best practices
- guidelines
- benchmarking
- rubric
- checklist<sup>7</sup>

The approaches we can use vary depending both on the level and the time we choose for the survey. When we design a course, we can use guidelines, best practices, checklists and standards. At the same time, rubrics, checklists and benchmarking are suitable for the evaluation *-in itinere* or *ex post-*, to check the presence of all of the necessary requirements, and to assess their implementation degree.

We notice that the factors leading to excellence are always similar among different approaches to the quality evaluation (Quality On The Line,<sup>8</sup> MECA-ODL,<sup>9</sup> Quality Matters Rubric<sup>10</sup>, ...).

Anyway those approaches present at least two limits:

- they were created choosing one level of application and the point of view of one stakeholder;
- they were developed in their own particular context, so they may not fit other situations.

Within the “PRIN 2006 research program” many methods and many tools have been considered, in order to find the best one to evaluate some courses of the Cognitive Sciences faculty. None of the approaches we met suits perfectly our case, because we need a means of assessing courses which pays particular attention to the online learning communities.

To define a quality approach, that:

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7 For a description of tools and methods see Pedroni A. *La qualità nella progettazione di eLearning*. Tesi di laurea. Università degli studi di Trento. 2007

8 *Quality on the Line. Benchmarks for success in Internet-based distance education* di Jamie P. Merisotis and Ronald A. Phipps (2000) is freely downloadable from the site of the Institute for Higher Education Policy (<http://www.ihep.org> 2008/02/20)

9 *MECA-ODL Methodology for the analysis of quality in ODL through Internet* is a benchmarking project of the Fundación Universidad-Empresa de la Universidad de València, supported by the EU within the Socrates Project. The whole material is at disposal at <http://www.adeit.uv.es/mecaodl/> (2008/02/21)

10 The QM Rubric was developed within the Quality Matters Project (<http://www.qualitymatters.org/>), sponsored by MarylandOnline, a consortium for the promotion of excellence in eLearning, that joins together colleges and universities of Maryland <http://www.marylandonline.org/> (2008/02/27)

- can be applied *ex ante*, *in itinere* or *ex post*, as needed;
- can be applicable at each stage of eLearning development

we have to formalize the procedures we implement and adapt day by day to solve problems arising during the design and implementation phases.

This will result in a collection of methods and tools classified according to their purposes and to the stakeholders they can be useful to. This will also be constantly growing and improving through use and, above all, this will suit perfectly the context in which it is going to be developed and applied, in our case the University of Trento.

Once this is done, we have to define level, time and dimension we are interested in, to choose the right methods and tools of quality course analysis.

To reach this goal the steps are:

1. define an approach suitable for the context;
2. evaluate and improve this approach;
3. apply it to the online courses;
4. use the feedback to improve:
  - the courses
  - the infrastructure underpinning the courses
  - the evaluation instruments themselves.

This way we get progressively to a tailor-made solution for quality evaluation, giving the right importance to the last stage of the instructional design, the quality evaluation, which is often neglected.<sup>11</sup>

## **5. One step toward our contextualized approach.**

As we said, we chose the SLOAN-C five pillars as framework and we set that a suitable quality approach should be defined expressly for the context in which it is going to be applied.

Bearing in mind the importance of each one of the five pillars, we focused mainly on:

- a. analysis of the faculty satisfaction concerning the quality of the online learning communities;
- b. analysis of the student satisfaction, collecting the student's opinion through questionnaires and focus groups;

After a carefully analysis of methods and tools available in literature, we decided to create an

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<sup>11</sup> The ADDIE Model can give an idea of these stages, similar in all approaches. ADDIE is the acronym of: Analysis, Design, Development, Implementation, Evaluation. The last stage, evaluation, should be implemented during the whole process. A good description is available at <http://ed.isu.edu/addie/index.html> (2008/03/05).

*ad hoc* tool for the courses of the University of Trento. The kind of instrument we developed lies between a rubric and a checklist. It consists in a set of 40 items based on literature and on the direct experience of both the Trento research team and DOL designers (Dipartimento di Didattica Online – Online Didactics Department of the University of Trento).

These items are divided in 8 areas:

1. introduction to the course and general informations
2. educational objectives
3. learning assessment
4. resources and materials
5. students participation
6. technologies
7. students support
8. accessibility

Every item has a score (from 1 -important- to 3 -essential-), it can be ticked as present or absent and it is followed by the comment of the evaluator.

Each course should be evaluated at least by three different people (like teacher, designer, etc.) for the survey to be really effective.

As we explained before, this tool should be applied on the courses and then the feedback should serve as a basis for improving the courses and for reviewing the tool itself.

Of course, it is far from being a definitive tool. It needs to be improved through use and revision, as we said, but moreover each one of the eight areas has to be evaluated more deeply, always taking into account the specific course under study.

Other research lines within PRIN06, in fact, are related to

- the creation and the validation of a tool for the analysis of the asynchronous forums of a learning community (in relation with the learning assessment and the student participation);
- the study of the accessibility problem, in particular for visually impaired people (related to the accessibility area of our tool).