



# **E-Learning and New Teaching Scenarios: The Mediation of Technology Between Methodologies and Teaching Objectives**

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## **ABSTRACT**

*This paper analyzes the reciprocal influences between various teaching methodologies supported by information and communication technology (ICT) and the teaching objectives that are pursued by means of these methodologies. The authors present the main characteristics of the conceptual model which has led to the definition of the teaching objectives and the results of the experience of the “eLearning@LIUC” project, where the validity of the hypotheses underlying the model has been tested through their application within concrete contexts. They believe that the presented model, with its analysis of the possible correlations between teaching objectives, teaching methodologies, and technological tools, can provide a new awareness of the opportunities offered by the adoption of ICT in teaching.*

*Keywords:* *collaboration technologies; higher education; interactive problem solving; student-centered learning; teaching strategies*

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## **THE POINT OF VIEW**

The use of tools based on information and communication technology (ICT), and on the Internet in particular, usually aims at pursuing economies of scale by reducing distribution costs and/or increasing the number of users. The focus is therefore more on reach — or quantity — than richness

— or quality (Weigel, 2000). E-learning projects do not escape this tendency. Although direct interpersonal relationships are generally recognized more effective than those mediated by ICT, their lack of reproducibility makes them expensive, from the point of view of both the teacher, since each new edition requires the replication

of many of her/his costs, and the learner, due to space and time bonds which demand her/his here-and-now presence.

This leads to a prevalence of strategies which tend to interpret e-learning as a tool for reducing the organizational costs of education rather than as a method for improving the quality of education. The common emphasis is on efficiency in the management of educational processes (D'Angelo, 2003), particularly with respect to the distribution of and access to teaching material and the remote interaction among the subjects involved in the process.

### The Objectives of E-Learning

In the design of an e-learning project, two general objectives can be sought (Keeton, Sheckley, & Krejci-Griggs, 2002):

- *efficiency*: in the attempt to reduce the space and time bonds of teaching processes, e-learning operates as a substitute for traditional education, thus increasing some of its quantitative features;
- *effectiveness*: in the attempt to improve teaching processes, e-learning operates as a complement to traditional education, thus increasing some of its qualitative features.

For organizations whose business is education, as in the case of our university, and for whom e-learning can prove a good opportunity to pursue their own mission (Moore, 1993; Trentin, 2000; Piccoli, Ahmad, & Ives, 2001; Smith, Ferguson, & Caris, 2001; Syed, 2001), these poles represent the extremes of a continuum of options. It cannot be assumed in fact that an organization aims at reducing costs without considering quality, nor that an

improvement of quality is pursued without considering costs.

### Our Objective

The main objective of the eLearning@LIUC experimental project, where the model here described takes its origins and has been extensively tested, is of exploiting e-learning as a means to offer students occasions for a more effective learning experience. The emphasis is thus on the dimension of learning more than on the dimension of teaching and, as a consequence, on the point of view of the learner (Huba & Freed, 1999; Weimer, 2002). At the basis of this choice there was the need to find integrative, and not substitutive, solutions to the existing offer: activities which could be carried out “together with”, and not “instead of”, the traditional ones, as literature has been suggesting already for some time now (Tsichristzis, 1999; Marold, Larsen, & Moreno, 2000).

The Cattaneo – LIUC University has several years experience in the use of ICT for didactics. Each course makes use of a dedicated site — with updated information about the course syllabus, the lesson plan, communications as well as downloadable teaching material — integrated in the management system of the University itself. These tools have proven very useful as a support to the management of didactics, but it is clear that they do not have a specific role in enhancing the learning, as for example the extension of the office hours of a university library can facilitate learning conditions for a student but does not obviously influence her/his learning style.

### The Individual Roles in a Blended Solution

It is worth noting that a project which aims at improving the quality of teaching,

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