

e L e n e - E E

## Final report WP3

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The WP3 had to work on the question of “Indicators of e-Learning”. We would like to define indicators relevant at Higher Educational Institution (HEI) level and indicative for the regional, state or European ICT’s policy. We tried to deal with a double approach:

- **one at micro economic level**, inspired by HEI business and management perspectives. We would like to integrate dimension about the quality of services provided to customer and some indicators in a Balance Score Cards approach (BSC for e-Learning).
- **another at macro economic level**, with questions about the e-Learning progression in our societies. We would like to identify elements of its development.

At least the WP3 production and the main findings should be presented in three points. First, the four European partners involved in the team designed for HEI decision makers a BSC for e-Learning activities. Second with the data collected and shared by each partner, we had information useful for comparison between European HEI and for a better understanding of the e-Learning development. Third, the work done in a bottom up way inspired a more theoretical contribution trying to propose a “grid” for characterization of the e-Learning development in HEI with only three dimensions (Offer, Demand and Management).

All elements of the WP3 should be consulted on the TL Centre on <http://www.tlcentre.net/index.cgi>.

### **BSC for HEI Decision makers**

The BSC is the first step. We present in this part the technical aspects in order to show what kind of information partners chose to reach their objective.

The BSC should be able to highlight questions as :

- How is e-Learning and Information and Communication Tools (ICT) uses progressing in your HEI?
- Is this policy impact the number of e-Learning students and the quality provided?
- How is this policy impact the ICT’s uses?

From these questions, we defined 11/12 indicators grouped on four dimensions (please see Figure 1 below). We collected one database per year for three years (2004-2006), fill with more than 100 basic inquiries. The data collection was done at the lower relevant level in Faculties or Departments. All basic inquiries were sum at University level for each year.

We had some difficulties during the collection of the data. Some basic inquiries needed are too much detailed for the current Information System of our Institution. Sometimes, e-Learning activities are not already put in the Information System as a specific item for our period (2004-2006) and some results are strategic and quite political. It is not so easy to share it with others.

<p style="text-align: center;"><b>FINANCIAL</b></p> <p>F.1. Percentage of E-learning expenditures in University budget</p> <p>F.2. Percentage of E-learning incomes in University budget</p>	<p style="text-align: center;"><b>CUSTOMERS/STUDENTS</b></p> <p>C.1. People concerned by E-learning in University</p> <p>C.2. Percentage of E-learning students</p> <p>C.3. Number of additional services provided on web</p>
<p style="text-align: center;"><b>INTERNAL BUSINESS PROCESS</b></p> <p>I.1.a/b Media and Interaction on web courses</p> <p>I.2. E-Learning technical process capacity</p> <p>I.3. E-learning tools training per student, teacher and administrative staff</p> <p>I.4. Users' satisfaction with ICT E-learning tools uses (%)</p>	<p style="text-align: center;"><b>LEARNING &amp; GROWTH</b></p> <p>L. 1. Number of events brought by E-learning activities:</p> <p style="text-align: center;">Conferences</p> <p style="text-align: center;">Projects</p> <p style="text-align: center;">New Partnerships</p>

Figure 1: List of indicators of the BSC

The presentation with percentage was preferred for reason of confidentiality and to have enough information to do comparison between partners. At least each institution had in an Excel file a BSC with graphs and figures illustrated the development of e-Learning (please see an example of indicator picked up in a BSC on Figure 2).

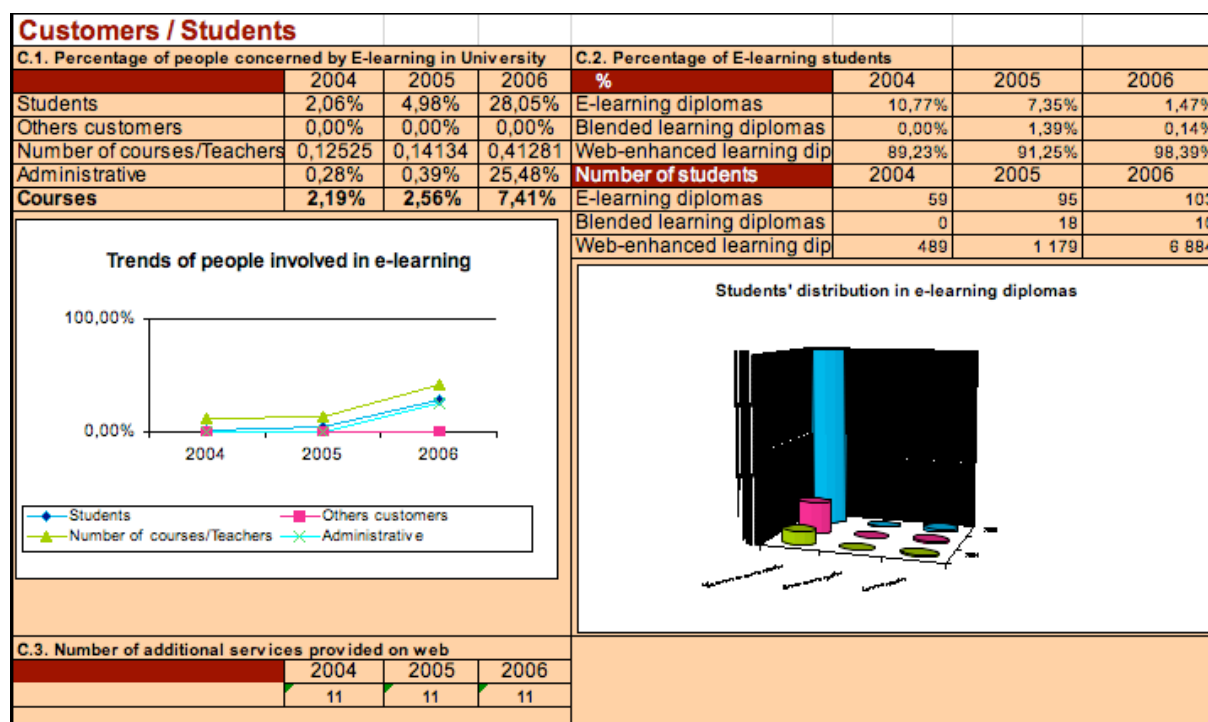


Figure 2: Example of BSC indicators in their definitive form<sup>1</sup>

A complete version of the BSC (Excel version) is available on the TL-Centre with guidelines on the resource “Implementing an e-Learning scorecard in HEI: BSC Balance Score Card”.

<sup>1</sup> In the BSC **E-learning** concern student who have more than 70% of the number of diploma's hours at distance on web, **Blended-learning** concern student who have more than 30% of the number of diploma's hours at distance on web and **Web-enhanced learning** concern teachers who put pedagogical materials on an official university website.

## **Exploring BSC data: comparison and understanding**

The three partners involved in WP3, the METID centre at the Politecnico di Milano<sup>2</sup>, the Polish Virtual University<sup>3</sup> and the CANEGE consortium<sup>4</sup> are all at more or less advanced phases in the emergence and structuring of their models of learning via the Internet. They clearly need to show, within their own establishments, how their e-Learning activities are progressing. The partners in the eLene-EE group collectively decided to adopt a resolutely managerial approach. This decision was taken because e-Learning activities have introduced important stakes into the future of higher education establishments, and there is an apparent lack of tools to monitor the development of e-Learning activities.

Using the BSc elaborated in the eLene-EE WP3, we describe e-Learning developments in four European cases. They demonstrate different stages of development, different strategic choices and underline common aspects that could inform e-Learning evolution models for European HEI. We discuss these observations within the HEI management field and in terms of future research. You should see all the cases studies on the TL-Centre on the resource “Experiences with BSC in e-Learning”.

But during our two years of work, several things became clear. First, the total cost of e-Learning activities in the university budget is quite small. In fact, for the most experienced partner, the proportion was 1 per cent and for the least experienced it was less than 0,2 per cent. Many people had perceived e-Learning to be “very costly” but in the WP3 sample, the financial implications for the universities studied were quite small. And deeper analysis of the financial data reveals that within a few years incomes exceed expenditure. Indeed, e-Learning becomes a profitable activity when the universities are developing external partnerships.

Second evidence comes from the analysis of the degrees offered in terms of e-learning services. All the partners first implemented or reoriented their strategic goals to Web Enhanced Learning (WEL). WEL consists of the transformation of traditional lectures into numeric form. As it, it has become like a standard offering for students at one institution. Before the structural changes were announced, it seems necessary to spread out the ICT tools and examine their uses. However, the emphasis on WEL shows that universities had some difficulty in developing fully online degree course with high levels of interaction and media involvement. The provision of full online degree courses, of high quality, requires a change in didactics and an evolution in teaching practices and learning processes (Garrett R. and Jokivirta L. 2004).

Among the participants in the workgroup, some have responsibilities for the management of e-Learning activities in their institutions and had first hand opportunity to test out the BSc approach during last months of 2007. Susanna Sancassani, managing director of the Centre METID, Politecnico di Milano, experimented with it for a board meeting and emphasized following points:

*“E-Learning is a complex field which needs a “multifaceted” approach for a good strategic*

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<sup>2</sup> Centro METID (Metodi e Tecnologie Innovative per la Didattica) -Politecnico di Milano.

<sup>3</sup> Marie Curie Sklodowska University in Lublin, on behalf of the Polish Virtual University.

<sup>4</sup> Represented by two French universities: University of Nancy 2, University of Nice Sophia Antipolis.

*comprehension: we discovered a lot about ourselves! We are able now to show to stakeholders (METID Scientific Committee, university decision makers but also teachers and students) how really e-Learning impacts the life of the university. At least, it is important to personalize the model to specific context by introducing or modifying single indicator.”* (Sancassani S., Tomasini A. 2007).

### **Theoretical contribution: How is e-Learning progressing in HEI?**

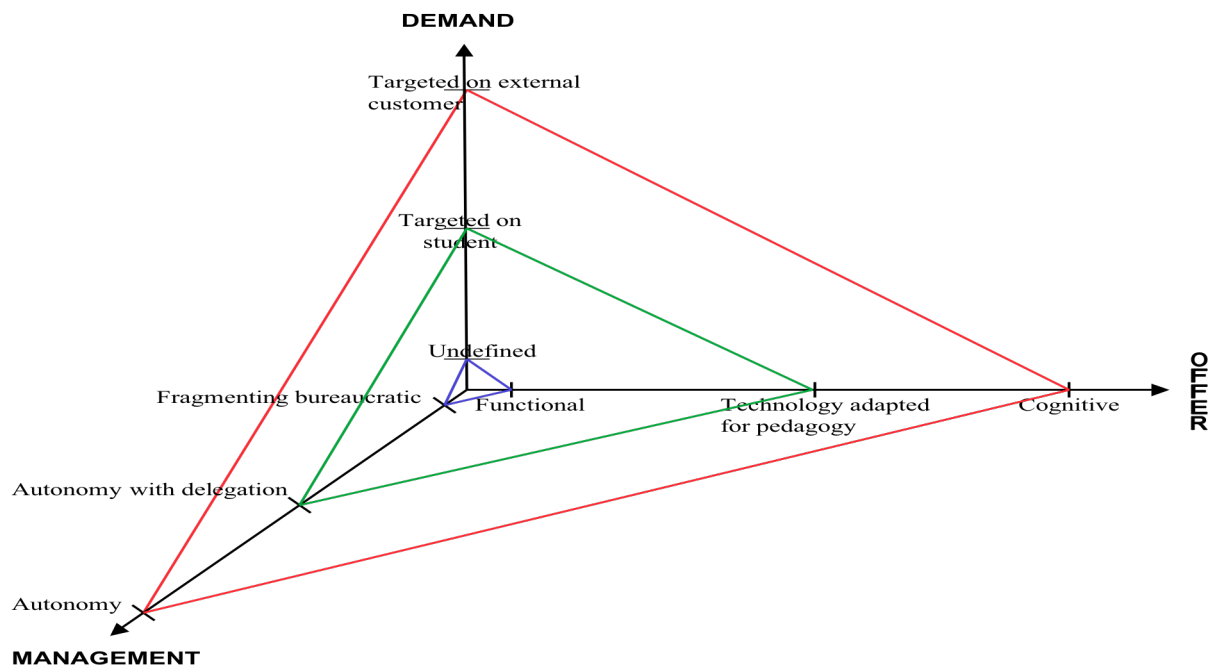
In this last part of our work, we tried to design a tool able to drawn different trajectories of the HEI in their e-Learning development. We synthesized mains elements on three axis: first few features of *demand*, second the role of the Institutions in *offer* of e-Learning services and third the models of *management* used in the different situation of demand and offer. Let say few words about each axis.

First, we had difficulties to find interesting papers about demand of e-Learning. On practice, e-Learning seems to be more an institutional challenge than an answer push by demand. But in our sample of universities and in the literature, we found three attitudes about demand. Few institutions didn't take precisely into account the demand aspects. They didn't have a clear and coherent view about needs of potential users. So after years, we observed a lack between services provided and potential customers expectations. After more than seven years involving in e-Learning program, some universities didn't characterized well their demand yet. On the other hand, others institutions target clearly new specific public outside of the university. A third way is where the main part of the e-Learning services was provided for students in traditional learning. So, we had three different view about demand: Undefined, Targeted on Student, Targeted on external customers.

Second, we found a lot of contributions about how the ICT should be integrated in higher education, and we carried off three mains steps of offer provided by Universities. The first one consists in a functional approach of ICT uses. It is mostly oriented on administrative and storage uses with a very low level of interaction with pedagogy. At this stage the bigger objective is to substitute existing tools by numerical tools. A second step tries to implement ICT in learning process in both traditional or at distance courses. It tries to shut down space and time constraints emphasising availability of lecture documents on servers, desynchronization of the knowledge transfer, and tutoring activities. But it doesn't reshape pedagogy, technology is adapt for pedagogy. The third step observed wants to integrate innovations provided by technology in the didactic process with changes in pedagogy. The main idea is to create a set of resources dealing with needs of a specific public and organised in a cognitive way.

Third axis is about the management of e-Learning activities especially viewed through organizational aspects. We observed at least three “models”. The autonomous one has a complete autonomy for their activity program, for their budget and their strategy. It is placed under the authority of the top management of the University but it enjoys a kind of dispensatory status. The second one has like the first a strong autonomy in decision making, finance, motivation system and particular department culture but the University gives it a mission with objectives linked with the global strategy of the Institution. It is autonomy with delegation. The third one tries to integrate tightly e-Learning activities on the existing

structure of the University with a separation of the different aspects (technical, pedagogical, administrative or marketing). We named this situation bureaucratic fragmentation. At least we put the three axis in a figure (please see Figure 3 below).



*Figure 3: Characteristic elements of e-learning development in universities*

This figure is a first step to show how HEI deals with their e-Learning activities and in order to design trajectories of development we should have to do longitudinal studies of several universities on several years.

You can find other documents on the TL-Centre on the resource “How is e-Learning progressing in HEI?”