THE UNIVERSITY OF BOLOGNA CAREER GUIDANCE PROJECT: BRIDGING SECONDARY SCHOOLS AND UNIVERSITY WITH THE E-LEARNING EXPERIENCE

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The University of Bologna has started the Career Guidance Project developing several initiatives: self evaluation questionnaires for Secondary Schools students, training courses for admission tests, and an e-learning platform with online modules in order to explain and show the cultural and professional environment of the University. It will be explained the genesis of the Project, the choice of the Learning Content Management System, the authoring tool advantages and the practical modules implementation. Special attention will be devoted to the analysis of the relationship with Professors and Authors during the modules preparation: the course deployment has been an opportunity not only to explain which are the basic aspects of e-learning effectiveness, but also to stress the importance of pedagogical aspects of a well structured course. The modules were offered to several Secondary Schools in a pilot edition in Spring 2007. Now there are ten modules available: Industrial Chemistry, Economics, Engineering, Medicine and Nursing, Foreign Languages, Arts and Humanities, Psychology, Statistics, Law, Sciences. A new development of the Project will offer to the Erasmus students the possibility to use the e-learning modules to approach the University of Bologna and the preferred Faculty.

Keywords

1. INTRODUCTION

Italian Universities are devoting increasing efforts into in offering guidance and counselling services to Secondary Schools pupils ("orientamento in entrata") and counselling to graduate students seeking their first jobs ("orientamento in uscita/job placement"). The University of Bologna was one of the first in Italy to establish a dedicated office which comes under Students Services. The Committee of Faculty Delegates, chaired by the Vice Rector for Students Affairs, drafts projects and deals with other institutions and agencies.

In the years 2004-2006, the University of Bologna received ad hoc funding by the Ministry for Tertiary Education for such projects; one of the sub-projects was clearly indicated as "self-instruction/e-learning courses for Secondary Schools pupils with guidance purposes".

As soon the Bologna University established the E-Learning Centre [1], the Centre was appointed as co-ordinator of this sub-project called "Progetto Orientamento".

The paper highlights the main aspects of the project and its pilot test, as well as discussing advantages and tradeoffs within the University and outside it.

2. THE E-LEARNING CAREER GUIDANCE PROJECT: "PROGETTO ORIENTAMENTO"

In July 2006 initial funding was allocated to the E-Learning Centre of the Bologna University (CELAB) to start the Project. The E-Learning Centre Scientific Committee set up the guidelines to cooperate with an initial group of Faculties, defined the purpose and the layout of the courses, the LCMS for the Project and appointed the E-Learning Centre President, Professor Luigi Guerra, to make contacts with the Regional Authority for Secondary Schools.
It is a four step pilot project: i) guidelines implementation; ii) software and platform choice; iii) Learning Objects production; iv) pilot delivery.

Guidelines implementation

Guidelines were discussed during three Committee meetings; the final draft of the guidelines was presented to the Vice Rector for the Students Affairs and the Vice Rector for Education and Training.
The general purpose of the guidelines is to outline the following:
1. Scope of the courses
2. Information provided in the e-learning courses

The guidelines suggest that the main objective of the courses is to inform the student about the different environments they will enter, which differ from the Secondary School in many fields: time and space to study, language and academic approach to the subjects.
Furthermore, guidelines define that the training aspect of the e-learning modules should deal with the specific cultural environment, terminology, the proper education and research methodology of each Faculty or discipline area. In particular, differences among the "scientific approach", the "clinical approach", the "legal approach", the "social survey approach", etc. ; will be highlighted.
Contents should be related to the main professional job profiles expected at the end of the University degree courses.
In drafting guidelines, the Committee pointed out that there has been a large change in the Faculties teaching and organization since most of the current Secondary Schools teachers graduated, and therefore there is a need to show pupils what the University is offering.

Software and platform choice

The Committee decided to use the ATutor platform [2] and the production software associated with the platform version made in the A³ project [3] (Bologna University, Department of Computer Science).
The platform ATutor has been modified in order to comply with Italian regulations regarding accessibility.
Software features are illustrated in papers [4], [5].
The software produces accessible and reusable – SCORM compliant – Learning Objects, from Microsoft Word files, integrated with other types of files (images, pdf , data, etc.).
The software has two components: ISA (Immediate Site Activator) which transforms the Word file saved as an *.htm* file in an *.xml* file, and LOB (Learning Object Builder) which creates from multiple XML files and multimedia files an output Learning Object ready for use on the platform.
The complete process allow Authors to write their content on a Microsoft Word template; these few mandatory forms and styles make it possible to transform the document in the production process, inserting the document's parts into the Learning Objects components.
The production system is developed in three phases:
1. Authoring: the Author writes and builds his/her content into the Word template, also filling a customized template section with metadata. The output in this phase is a Word file *.doc*
2. Production: the files are saved in the .htm Word format and converted trough ISA, in a intermediate group of *.xml* files, which contain the document structure AND the metadata. The LOB converts these files in *.html*, creates its SCORM manifest and zips them all in a .ZIP file
3. Delivery: the SCORM packages are loaded onto the platform ATutor
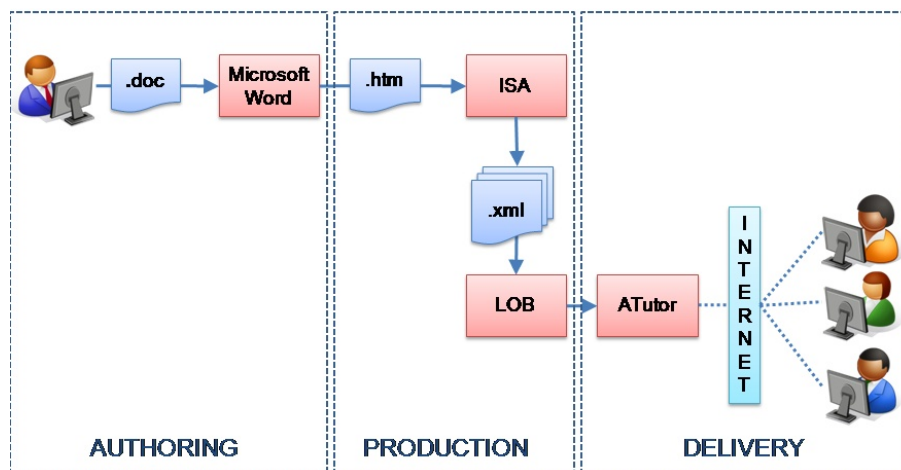
(Fig. 1 the ISA-LOB process)

Learning Objects production

The Committee appointed E-Learning Centre technical staff to revise and integrate the Author Manual; in this Manual, a new chapter was introduced, about the course structure, the learning objectives and learning outcomes (new version of the Table in [6]).

The Faculties of Arts and Humanities, Economics (Forlì), Engineering (Cesena), Industrial Chemistry, Foreign Languages and Literature, Medicine, Psychology, Mathematical Physical and Natural Sciences, and Statistical Sciences were the first to formalise an agreement with the E-Learning Centre in order to produce the e-learning modules along Committee guidelines.

From December 2006 to February 2007 the Authors and their assistants were helped and supported by the E-Learning Centre technical staff to write the content along the Manual guidelines and the templates; special attention was paid to the methodological and pedagogical revision and edition of content, and its multimedia files. Moreover, the E-Learning Centre technical staff edited and produced the Learning Objects following the above described process.

At the end of February 2007 the modules were ready and the platform was set up in order to start a first pilot delivery.

(Fig. 2 The e-learning guidance platform)

Pilot delivery

Eleven Secondary Schools accepted to be the test sites for the delivery.

| Secondary Schools	City	Districts	Number of Students
Istituto Tecnico Commerciale Statale " G. Salvemini"	Casalecchio di Reno	Bologna	17
Istituto "Caduti della Direttissima"	Castiglione dei Pepoli	Bologna	23
Istituto Tecnico "Crescenzi-Pacinotti"	Bologna	Bologna	10
Istituto d'Arte "A. Venturi"	Modena	Modena	34
Istituto d'Arte "Gaetano Ballardini"	Faenza	Forlì-Cesena	6
Istituto d'Arte	Forlì	Forlì-Cesena	20
Liceo Linguistico - Liceo delle Scienze sociali "Laura Bassi"	Bologna	Bologna	50
Liceo Classico Statale "G. B. Morgagni"	Forlì	Forlì-Cesena	74
Liceo Scientifico "Enrico Ferrari"	Cesenatico	Forlì-Cesena	14
Liceo Scientifico Statale "Enrico Fermi"	Bologna	Bologna	21
Liceo Classico - Sezione Scientifica "Rinaldo Corso"	Correggio	Reggio Emilia	25
		Students	**294**

(Fig. 3. Secondary Schools participating to the pilot edition)

After meetings with the Teachers, who were informed about the goals and the technical aspects of the Project, a pilot test delivery started in March 2007.
Student activity has been traced through the LCMS tracer system.
98% of participating students accessed the platform and the available modules (seven Faculties) at least once.
The figure 4 shows how many students entered the different modules at least once.
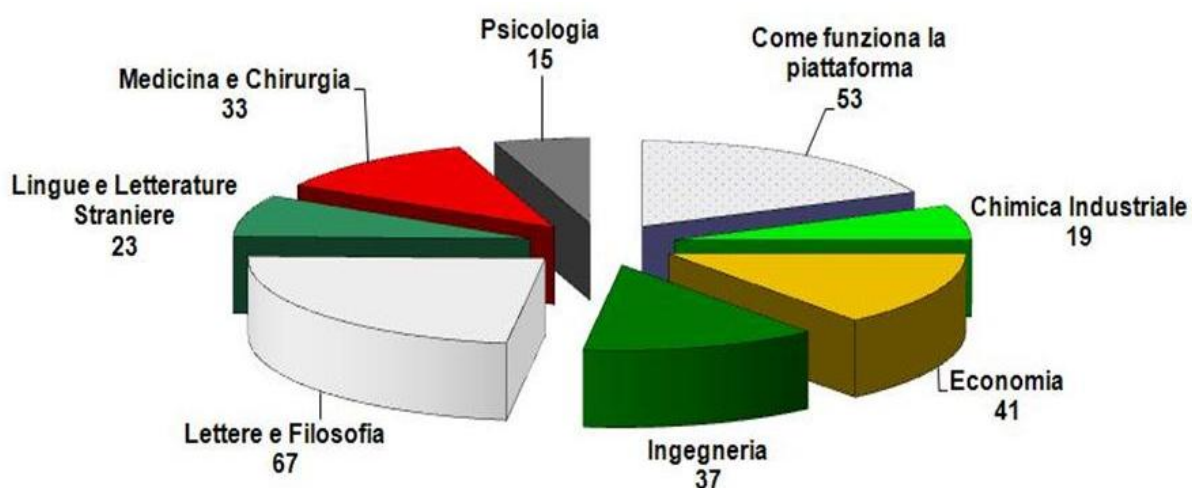
(Fig. 4. Students accessing the different modules at least once)

Follow up meetings were organised with participant Teachers and Modules Authors; in this context the delivery relational aspects were discussed, with special regards to teachers' role and E-Learning Centre assistance. [fig.5]
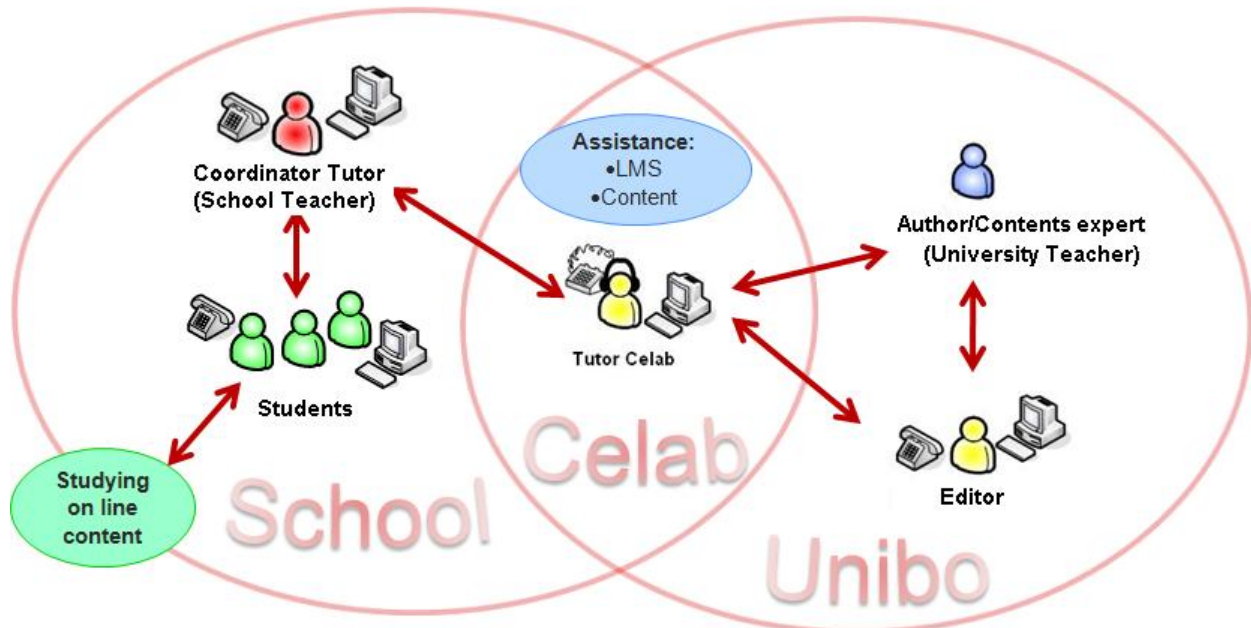
(Fig. 5. Relationships and Roles)

In general, an overall positive evaluation was given to the E-Learning Centre "Progetto Orientamento", as students stated they appreciated the opportunity to access and collect information and guidance about the various aspects and environments presented by the Faculties.

The critical aspects and some suggested improvements are outlined in the 3th paragraph of the present paper.

3. INSTITUTIONAL AND RELATIONAL ASPECTS

Module building became an opportunity to establish cooperative relations with the Authors (the involved Professors and their assistants) on the following

- What is e-learning and how it works, by the technological point of view (Learning Objects, platforms, delivery, evaluation tools)
- How to create effective teaching modules and set up objectives and learning targets

We wish to stress how important this first experience has been for a traditional teaching environment, such as Bologna University is (the oldest University in Europe !). Despite University performance in very advanced research in many disciplines, an old fashioned style of academic teaching is still present; hence the innovative aspects of our project.

The E-Learning Centre Committee suggested the accreditation of a maximum of two credits (CFUs) for the pupils attending the e-learning courses, but it proved to be too difficult, for administrative reasons, to include such credits inside the students' personal portfolios.

Finally the Secondary Schools teachers suggested delivering the courses not only to the final year' classrooms in March, but also to the fourth year (one but last) students and maybe in the middle of the school year.

4. CONCLUSIONS AND FUTURE PLANS

The project has been favourably considered inside the University and by the students.

The University Career Guidance Delegates Committee acknowledged the Project could reduce first year drop out rates: a more informed choice means a more accurate identification of the Faculties leading to desired professional development.

The number of modules has since increased: from February 2008 there will be 10 available modules.

Further developments are already planned for 2008: an English abstract will be introduced in order to help Erasmus students better understand the educational offer of each Faculty; new modules are

expected from the following Faculties: Political Sciences, Education, Agriculture, Veterinary Medicine, Pharmaceutical Sciences, Cultural Heritage Preservation Sciences and Sport Sciences.

The Bologna University Student Services Area would like to see a more open access to the modules, for individual students, and not only for students through their Secondary Schools. This may be possible and is being considered, as it would require a standard authentication by the students in the University Directory Service.

Throughout 2008 a wider access to the platform in different months of the year will be tested.

Moreover the E-Learning Centre Scientific Committee may suggest the University Career Guidance Delegates Committee the definition special indicators about the e-learning project's effectiveness in regards of the first year drop out rates.

References

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