

A hypermedia project for EAP students: interactive materials in a virtual learning environment

Antonia Soler Cervera, Carmen Rueda Ramos, and Elisabet Arnó i Macià

Universitat Politècnica de Catalunya

Abstract

As EAP lecturers involved in the development of teaching materials and IT (information technology) projects, we have been working on the creation of a web-based learning environment. Our aim is to develop a flexible tool for university students with different levels of English, learning styles and academic interests, which can be used both for blended learning and in a self-access mode. Our interuniversity team¹, coordinated by Universitat Politècnica de Catalunya and including lecturers from Universitat de Lleida and Universitat Rovira i Virgili (Tarragona), has created a virtual learning environment called “Quantum LEAP: Learning English for Academic Purposes.” It is a hypermedia project that seeks to help university students improve their communicative skills, both in speech and writing, in situations related to academic contexts. The materials created for the project are based on authentic written and oral texts, involve authentic language use and the integration of skills. In keeping with the guidelines of the EHEA (European Higher Education Area) and the Common European Framework of Reference for Languages (CEF), this web-based learning environment allows for a wide variety of learning routes, including tools to promote autonomy and monitor progress. In this paper, we will present the rationale behind the project and examples of the materials and tools designed. We believe that the lessons learned in the creation of this project can be relevant to other EAP lecturers using IT for the design of courses and materials.

Key words: Virtual learning environments, learner autonomy, the Internet, multimedia materials, English for Academic Purposes

Introduction

This paper presents a virtual learning environment designed to help university students to improve their linguistic competence in academic English. In the last five years, the team that presents this project has worked on the development of teaching materials based on the use of IT tools, which offer a great potential to become adaptable to different learning contexts.

As university lecturers of LSP involved in integrating IT in our teaching practice, we believe that a tool which combines some of the benefits of IT can be very useful to EAP teachers and students in the heterogeneous context of our university. This context is, in fact, conditioned by some factors like a variety of linguistic competence levels in the classroom, different objectives and needs, and varied learning styles. Furthermore, at present, the university curriculum is being adapted to the guidelines of the European Higher Education Area (EHEA), which will require students to develop specific communication and learning skills in an international new context. In this scenario, it is of course vital for university students to develop EAP skills and to become aware of their linguistic competence in English according to the Common European Framework of Reference for Languages (CEF).

¹ This project has been funded by Generalitat de Catalunya (MQD-2003 and MQD-2005), by Universitat Politècnica de Catalunya (UPC-2004) and Universitat de Lleida (UdL-2004, UdL-2005).

With the characteristics of this changing context in mind, we have created “Quantum LEAP: Learning English for Academic Purposes”, which is intended to help university students to develop communicative and learning skills in academic contexts. The materials and tools that this virtual environment offers are flexible enough to be adapted to different needs and learning modalities and can help learners to develop strategies for autonomous learning. In the remaining sections of this paper, we present the rationale underlying the design of Quantum LEAP, and we describe the environment, its contents and the interface.

Background and rationale of the project

In the design and creation of this virtual environment, we have considered how we can exploit the potential of IT for language learning. First, we assume that both teachers of English for Academic Purposes and university students can take advantage of a hypermedia environment which can be accessible online and which allows interaction with the system. We also believe that this virtual environment can foster learner autonomy, especially if tools are designed and provided for this purpose. Another main issue considered in the design and the selection of contents is the use of multimedia, authentic materials, which can offer a wide range of possibilities for the development of language and communication skills.

Thus, a central aspect of the design of Quantum LEAP is the approach taken in terms of the kind of learning environment and the resources it offers. As we were aware that the term “distance education” may refer to a range of learning modes, we decided to develop a virtual environment adaptable to different contexts, accessible online, and including tools to interact with the system. Thus, the environment can take advantage of the hypermedia format for internal navigation and can offer direct access to other web-based resources. It also allows interaction with the system since, in our conception of distance learning and for the purpose of the design of Quantum LEAP, learners are not only working at a distance; but rather, they should find themselves in an environment that provides them with feedback. In fact, as Warschauer et al., (2000) point out, online courses should be designed and implemented taking into account the users’ interests, without “los[ing] sight of the human factor in learning”. Hence, the design of Quantum LEAP, together with its tools, makes it flexible enough to be used in distance and mixed-mode courses, or as a self-access resource.

Another area of interest that came to the fore in the design of Quantum LEAP was the potential that the Internet and virtual environments offer to develop learner autonomy. In our view, learner autonomy entails key notions like control, responsibility, learner training, collaboration and critical reflection, which are also key terms in the literature on autonomy from a wider perspective (Holec, 1981; Little, 1991; Benson, 2001; White, 2003). If, like Holec (1981), we believe that autonomy involves taking responsibility for one’s learning and controlling the learning process, we also assume it is necessary to equip learners with tools that can help them take control. In fact, this entails taking a step further, as Kenning (1996) and Hurd (2000) point out, and it is necessary to help students to develop learner training strategies so that they can become more autonomous. These aspects have been carefully considered in the creation of Quantum LEAP, and the interface provides direct access to tools for autonomous learning.

Besides being potentially useful for learner autonomy, virtual environments can be especially valuable to develop learning and communication skills (Monereo, 2005; Arnó et al., 2006). The Internet and the World Wide Web can help the learner develop strategies to search for and select the necessary information, can support the learner in the construction of knowledge, and can help the learner develop communication and collaboration strategies. Quantum LEAP tries to exploit this potential by providing tasks that engage learners in exploring for information, collaborating or using information to make decisions. In fact, this approach emphasizes the importance of materials design and resource-based approaches in relation to learner training and autonomy, as highlighted in Benson (2001) and White (2003).

Finally, one of the applications of the Internet in the project has been the selection of the contents, with the use of the WWW as a source of materials, in multimedia format, which allows for the development of writing and oral skills. The WWW is used as a source of different types of text, both written and oral, thus allowing the learner to deal with a variety of authentic materials. If accompanied by meaningful tasks, web-based materials become especially relevant for LSP students and can encourage learners to take an exploratory approach. The web-based materials that Quantum LEAP offers are also intended to cater for the diverse needs of EAP students (Jordan, 1997) and are oriented towards EGAP (English for General Academic Purposes), since they are related to topics of general academic interest. The organization of the material allows for flexible learning routes, so that it can be used by students with different levels of proficiency, offering resources to promote learner autonomy. This flexibility is essential taking into account the broad range of student needs and learning situations found among students of EGAP.

Description of the project

With these objectives in mind, we have developed *Quantum LEAP: Learning English for Academic Purposes*, (Figure 1) addressed to university students who wish to improve their ability to communicate in English in academic settings. Both the contents and the skills covered in the materials are related to academic life, with emphasis on authenticity (tasks, materials, and communicative situations). The material is organised into thematic modules dealing with topics from different university disciplines, approached from an interdisciplinary perspective. The multimedia materials have been designed to promote the four skills, with specific language awareness activities that focus on aspects of language or genre. The tasks have been designed with the aim to promote interactivity and learning autonomy, so that students can personalise the material, creating their own learning routes according to individual needs and interests.

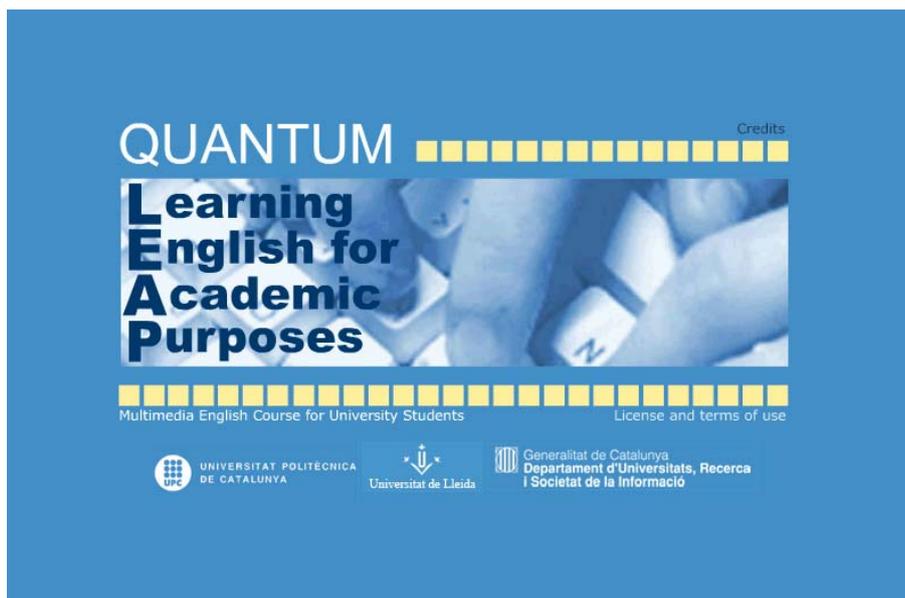


Figure 1. Homepage of Quantum LEAP

Quantum LEAP: Learning English for Academic Purposes consists of 15 thematic modules independent of each other, which contain a variety of materials and tasks for the development of the four skills. Each module is in turn organized into different sections, corresponding to each of the skills. The modules are situated in the virtual learning environment designed specifically for the material, with a series of navigation tools and resources to allow students to design their learning route, work on the materials and monitor their own learning. At the moment, the project is under development. The learning materials have been designed, and they are gradually being implemented in interactive format into the learning environment. Simultaneously, the materials are being piloted, which is why the access is restricted to authorized users.

Organization of the material

The first stage in the development of our project was to decide on and define the topics around which the thematic modules would be organized and which would constitute the basis for designing materials focusing on the four skills. In order to create a material that could be used by university students regardless of their discipline, we chose topics of general university interest, which had to meet the following criteria:

- a) They should be relevant to a wide range of university disciplines.
- b) They should have an intrinsic interest for university students, without being too closely related to particular disciplines.
- c) They should lend themselves to an interdisciplinary approach.
- d) They should be motivating, so that students can make relevant contributions.

Therefore, the following topics were selected to develop the modules (see Figure 2 for a screenshot with the map of the modules): *Women and Science*, *Computer Security*, *Internet Piracy*, *Business and The Media*, *Environmentalism*, *Humans and Machines*, *GMOs: Genetically Modified Organisms*, *From Military Uses to Civilian Items*, *Globalization and the English-speaking World*, *Science-Fiction or the Limits of Science in Fiction*, *Medicine and Ethics*, *The Universe: The Last Frontier?*, *Emotional*

Intelligence at Work: EQ vs. IQ, Urban Planning, and New Challenges at University: The Student of the 21st Century.

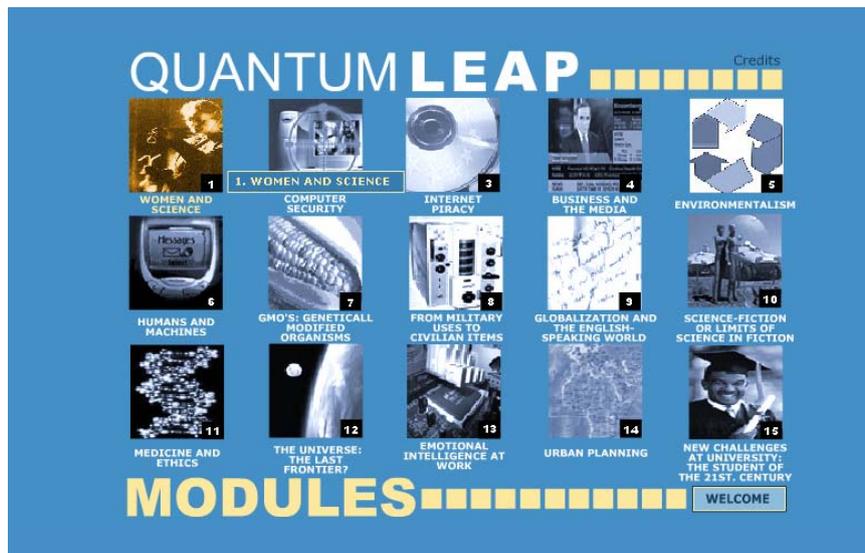


Figure 2. Map of the modules

This thematic organization helped us achieve coherence and contextualize the learning activities. In turn, each module follows the same structure, with the following components, which—apart from the sections containing the learning activities—also includes a series of tools to facilitate learning management and the use of the materials (see Figure 3):

- a) Sections: *Preview, Reading, Writing, Listening, Speaking*
- b) Tools: *Study Guide, Personal Log, Glossary, Help*
- c) Language resources: *Online Resources, Pronunciation*

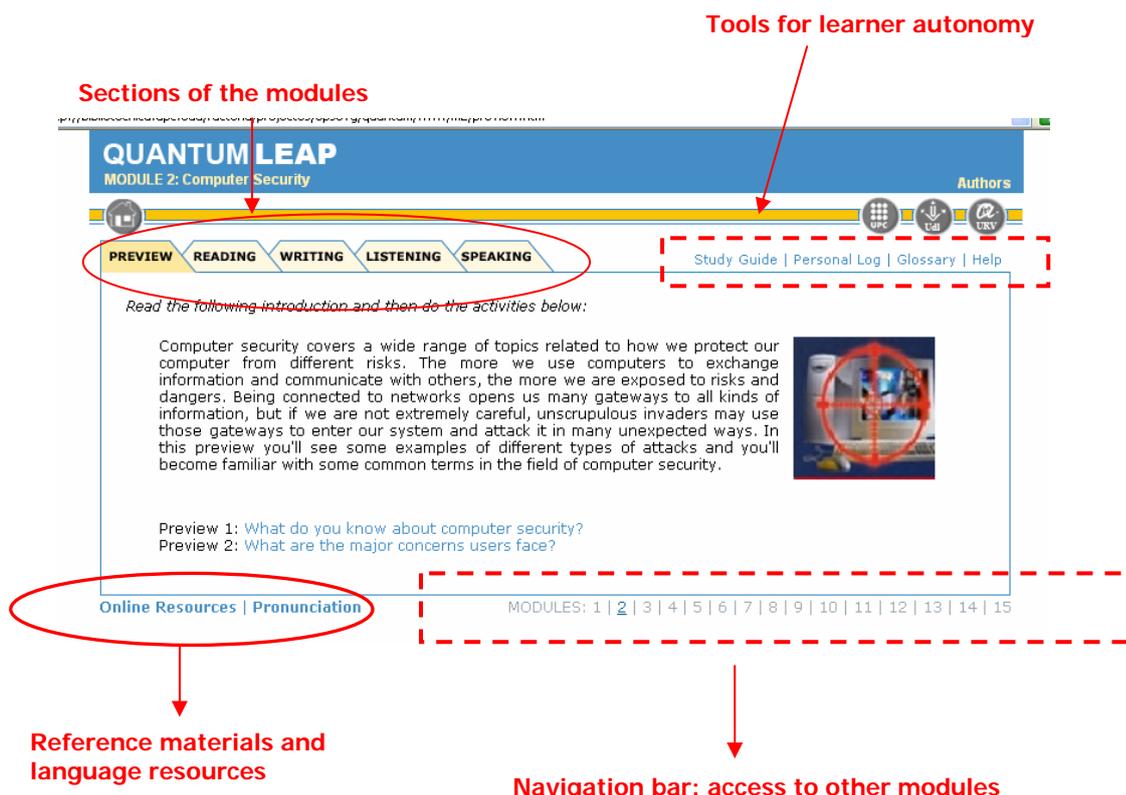


Figure 3. Interface of *Quantum LEAP*

The 'Preview' section is the homepage of each module, and contains a series of warm-up activities to familiarize students with the topic, motivate them, and help them activate their previous knowledge. When finishing the preview, students can decide whether they wish to continue working on the module or not (Figure 4). They are invited to access the Study Guide, which will allow them to plan their learning route and access the section of the module that they wish to focus on ('Reading', 'Writing', 'Listening', 'Speaking').

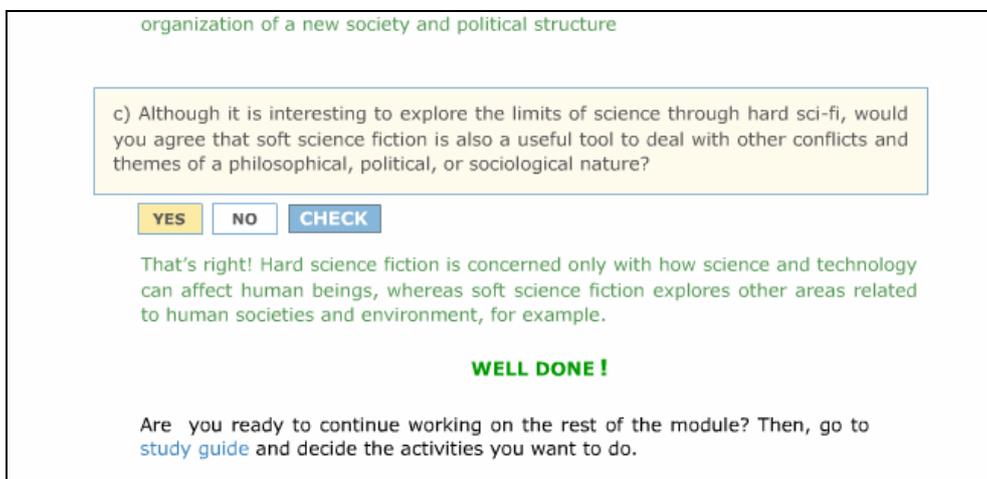


Figure 4. Message that appears at the end of the *Preview*, inviting students to access the *Study Guide*

Resources and tools for managing learning

Since one of the priorities in the development of the material was to promote active learning and learner autonomy, emphasis was placed on the design of the 'Study Guide', trying to create an appropriate tool for students to reflect on and control their learning process. An example of a 'Study Guide' is shown below (Figure 5a and 5b). It consists of two parts: (i) the first one is a general introduction to the module, to help students become familiar with the material and to make some suggestions especially addressed to independent learners; (ii) the second part is a map of the module, which develops the objectives and contents for each skill in more detail, and allows students to access the skill they wish to work on (Figure 5b).

**STUDY GUIDE – MODULE 10
SCIENCE FICTION OR THE LIMITS OF SCIENCE IN FICTION**

AIMS AND CONTENTS:

- o This unit deals with the topic of "*Science Fiction or the Limits of Science in Fiction*", and it presents the ways many novels and movies have examined the possible consequences of our technological developments and their effects on human beings and society. This unit seeks to introduce the student to some basic concepts of science fiction and to familiarise him / her with key works that have explored the limits of science in literature and film.
- o In this module you'll learn more Science Fiction through reading, listening, writing and speaking activities.

Don't forget to fill in your personal log as you do the different activities. It will help you monitor your progress.



SOME SUGGESTIONS FOR WORKING THROUGH THE MODULE:

- ❑ Use the web resources in this module to write notes. Keep records of those resources, because they'll be useful to acknowledge your sources in the 'extension work' written assignments: summarising a passage, writing a quotation, making a paraphrase and techniques to avoid plagiarism.
- ❑ Find out whether there are any important **SCIENCE FICTION AWARDS** in this country, even in your own university. Find out about **sci-fi associations** in this country.

Figure 5a. Sample 'Study Guide'. Introduction

STUDY GUIDE. MAP OF THE MODULE Choose the skill you want to practise by clicking on it	
<p>Reading</p> <ul style="list-style-type: none"> - Identifying vocabulary items within a passage. - Locating specific information. - Identifying textual organization. - Recognizing different types of discourse: magazine article and academic essay. 	<p>Writing</p> <ul style="list-style-type: none"> - Making predictions about future technologies. - Writing exercises on summarising, quoting, paraphrasing and avoiding plagiarism in academic writing. - Reporting what somebody else has said in academic writing.
<p>Listening</p> <ul style="list-style-type: none"> - Understanding specific and general information from video clips (from the film <i>Blade Runner</i>). - Understanding specific information about cyborgs (from the TV series <i>Star Trek</i>). - Noticing the difference between similar words (from three 1950s sci-fi trailers). 	<p>Speaking</p> <ul style="list-style-type: none"> - Reporting orally what somebody else has said (from the video <i>Science Fiction Online</i>). - Pronunciation practice: American vs British pronunciation (/t/ pronounced as /r/ and /t/ silenced or glottalized). - Taking notes from external sources to give a short presentation on a topic (Extropians).

Figure 5b. Sample 'Study Guide'. Map of the module

In order to encourage students to plan and monitor their learning, they are encouraged to use the 'Study Guide' in combination with another interactive tool, the 'Personal Log', which allows students to keep track of the activities they do. In addition, the 'Personal Log' also encourages reflection on the learning activity, both in terms of self-assessment tools to monitor one's progress and of an overall evaluation task, which involves considering such factors as the effort put into the activity, the difficulty involved, or the usefulness of the task in terms of the objectives set at the beginning of the module. At the end of each module, the student is also encouraged to think about the work done on the module as a whole, as well as on the specific objectives achieved and, in turn, to set a plan for further learning actions. In this sense, and given the changing context in higher education in Europe, both the design of the tools in the project and the specification of the learning objectives are based on the parameters and criteria set in the Common European Framework of Reference for Languages (CEF) and the 'Portfolio'.

Design of the learning activities

Although each of the sections of the modules concentrates on a specific skill, the learning activities have been designed to encourage the integration of different skills, replicating real-life tasks and following the criterion of task authenticity. The activities are based on a hypermedia structure; that is, they do not follow linear path and use different media to encourage real language use, both receptive and productive skills, integrating video and audio with written texts (Figure 6 shows the screenshot of an activity). The activities were designed to encourage purposeful communication taking advantage of the possibilities of multimedia and internet technology. In this respect, the learning activities were designed according to the following criteria:

- They should encourage students to perform a meaningful task related to their academic needs (read a report, take notes, participate in a debate, etc.).
- The thematic contents are of academic interest and are based on authentic and varied input from different sources, using several media.
- The Internet plays a central role in that it is the medium for presenting the materials, a source of input, and a learning objective as students are encouraged to develop internet skills (communication, search, choosing and evaluating sources, etc.).
- Emphasis is placed on genres relevant to university students, with activities focusing on the distinctive characteristics of each: different types of articles, lectures, academic essays, etc.
- Related to the above, students are provided with guidance to help them in the production of the genres that are more relevant to their needs, such as oral presentations, seminar discussions, electronic and paper correspondence, reports, etc.
- Varied and flexible activities are proposed so as to allow different routes and their adaptation to different levels of proficiency.
- The materials encourage attention both to the process and to the product, at the same time as they encourage collaborative work.
- Within a broader communicative aim, specific attention is paid to linguistic, pragmatic, and generic features that are relevant to academic English in a

contextualised manner (e.g. textual organization patterns, pronunciation features, levels of formality in language use, etc.).

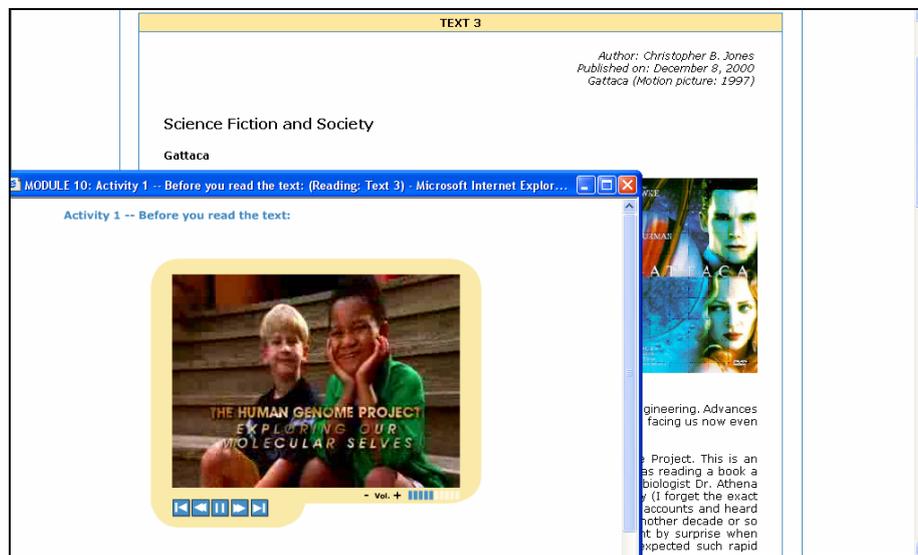


Figure 6. Screenshot of one of the learning activities.

This virtual learning environment has been designed with tools that allow students to save their production (both spoken and written). However, because the material is the result of an interuniversity project and its application thus goes beyond a single university, it was decided not to include specific classroom spaces or tools for communicating with teachers and students. This type of communication, together with collaborative work, is obviously encouraged as part of the learning process, but it is expected that Quantum LEAP materials can be integrated in the online platforms used by different universities (e.g. virtual campuses based on Moodle).

Final remarks and future work

The aim of the project presented here is to design a flexible web-based learning environment with multimedia materials to help university students develop their ability to communicate in English in academic contexts. Through motivating content, students are expected to perform meaningful tasks that involve the integration of skills and information from different sources.

This project is the result of a joint effort by EAP lecturers from different universities. At the current stage we have developed and piloted the teaching materials, which are being integrated into the virtual environment. The results of the piloting stage are being incorporated into the project, as we try to adapt the materials to the needs that we detect, trying to provide students with interesting and meaningful activities. There is still much to be done, especially on the technical side of the project. However, it is our hope that in a changing university context like ours, these materials can be useful for a wide range of students with diverse EAP needs.

References

- Arnó, E., A. Soler & C. Rueda (2006). "Information technology in languages for specific purposes: prospects on a brave new world". In E. Arnó, A. Soler & C. Rueda (eds.), *Information Technology in Languages for Specific Purposes. Issues and Prospects*, 247-261. New York: Springer.
- Benson, P. (2001). *Teaching and Researching Autonomy in Language Learning*. Harlow, Essex: Longman.
- Holec, H. (1981). *Autonomy in Foreign Language Learning*. Oxford: Pergamon.
- Hurd, S. (2000). "Distance language learners and learner support: Beliefs, difficulties and use of strategies". In M. Victori (ed.), *Autonomy in Second Language Learning. Links & Letters 7*. Bellaterra, Barcelona: UAB, Servei de Publicacions: 61-80.
- Jordan, R. R. (1997). *English for Academic Purposes*. Cambridge: Cambridge University Press.
- Kenning, M. M. (1996). "IT and autonomy". In E. Broady & M.M. Kenning (eds.), *Promoting Learner Autonomy in University Language Teaching*, 121-38. London: Association for French Language Studies/CILT.
- Little, D. (1991). *Learner Autonomy. I: Definitions, Issues and Problems*. Dublin: Authentik.
- Monereo, C. (ed.), (2005). *Internet y Competencias Básicas*. Barcelona: Graó.
- Warschauer, M., H. Shetzer & C. Meloni (2000). *Internet for English Teaching*. Alexandria, VA: TESOL Inc.
- White, C. (2003). *Language Learning in Distance Education*. Cambridge: Cambridge University Press.