



Web Assisted Language Learning (WALL) and Learning Management Systems (LMS) in Virtual Centres for Foreign Languages

GERMÁN RUIPÉREZ*
Universidad Nacional de Educación a Distancia

ABSTRACT

The Web has had different uses in the teaching of modern languages: (a) as a source of resources: In a very short time, the Web has become the largest source of resources for the learning of any foreign language; (b) as a window of multimedia applications (in this way CD-ROM is replaced by the Web as the main means of storage of multimedia applications.); and (c) as an e-learning platform.

For an institution to create a Virtual Centre for Foreign Language Learning, certain software must be installed in a computer connected to the Internet. This software is called a Learning Management System (LMS). Apart from the basic functions of the majority of the LMS, we should mention the advanced functions of the LMS: voice chats, digital television channel, mobile telephone services, WAP complementary services and access to the LMS through electronic pocket diaries (PDA). There are many comparative studies of LMS, carried out by consultants, specialist magazines, etc. Despite the proliferation of comparative studies of LMS, they have hardly considered the specific features of CALL software, in which the functions that promote sound interaction should be more advanced. On the other hand, the subject of standards has become relevant. It is logical that the user who introduces contents into a given LMS would want the guarantee of being able to use those contents within another LMS.

KEYWORDS: Web Assisted Language Learning (WALL); Learning Management Systems (LMS); Virtual Centre for Foreign Languages; Web Based Training (WBT); Computer Assisted Language Learning (CALL); e-learning

* *Address for correspondence:* Germán Ruiperez, Departamento de Filologías Extranjeras y sus Lingüísticas, UNED, Facultad de Filología (desp. 620), C/ Senda del Rey, 7, 38040 Madrid, Spain, e-mail:gruiperez@flog.uned.es.

I. INTRODUCTION

The enormous expansion of the Internet, thanks to the popularization of the World Wide Web since 1994, has given birth to a new discipline, the acronym for which is Web Assisted Language Learning (WALL). WALL is defined as: *the science that aims to study the use of the World Wide Web in the learning and teaching of second languages.*

The use of the Web has brought great advantages to teaching in general, which we can summarise as follows:

- *Very easy to use.* Once we have access to the Web, working with it is as simple as clicking the mouse, because it does not entail any additional knowledge of computers. That is why we frequently talk of the "click culture".
- *A multimedia communication system.* One of the great microcomputing revolutions of the last few years is, without a doubt, that we have been able to digitize —that is, to represent in a code of zeros and ones— not only textual information, but also sound and audiovisual information.
- *A means of worldwide communication, in which, in comparison to other media— telephone, fax, normal post — the distance between the issuer and the receiver of information is irrelevant, even in terms of cost.* When we access a page on the Web, we often don't know where the computer sending it is located: it could be just a few metres from our own computer, or thousands of kilometres away. The user does not notice the difference at all and the cost is the same. This does not happen with ordinary mail or the telephone, where the cost is in direct relation to the distance: the further away the issuer is from the receiver, the higher the cost.
- *Low costs* for students and for teachers who generate contents. Since the Internet functions like an international co-operative without profit as a motivating force, where each member only has responsibility for the maintenance and the connection to the closest node, costs are reduced for all.
- *The Web is a multiplatform and is generally very standardized.* The majority of access software to the Web — browsers like Netscape Navigator, Microsoft Internet Explorer— offer versions for a great number of microcomputer types.

On the other hand, The Web has also achieved a high level of standardization in the exchange of all kinds of information. Not only are there very well defined standards in the exchange of texts, so that the "special" characters of the Spanish alphabet which differ from the English alphabet — Ñ, ñ, á, é, í, ó, ú, ü, Á, É, Í, Ó, Ú, Ü— can be represented by any computer, but the same phenomenon occurs in the transmission of graphic, sound, and audiovisual information. Thus, students can use any type of computer (Windows compatible PC or Macintosh) and obtain equal access to information.

- *Web connection for the great majority of research centres and universities.* This is one of the great added values of the Web. We must also remember that, for the distance learner, this is one of the most important factors in terms of its contents, in that it gives access to the largest library of electronic publications ever dreamed of.
- *Enormous opportunities for interaction* by means of languages like Java, or programmes like Flash or Macromedia Shockwave. The Web is often considered a very passive means of accessing information. However, thanks to the appearance of the programmatic language Java, highly interactive access to software is possible and this is similar to any interactive multimedia stored on CD-ROM.
- *Dramatic expansion as a means of universal communication.* It seems likely that the Web will become a means of communication which is as universal as the fax or the telephone is nowadays in the industrialised countries.

Although the list of advantages in using the Web for the distance learning of modern languages could be further extended, we should not overlook some *inconveniences*:

- *General confusion in the access to information.* Although the Web has become, in a few years, a standardized means of communication around the world, nevertheless the procedure used to access multimedia information can cause confusion. The use of hypertext means that each Web page can contain numerous links to other pages, and these links are generally indicated with different colours or underlined. As a result, the Web is a very dense net of information pages which are inter linked by a system of innumerable cross references.
- In order to avoid this general confusion it is necessary for the design of Web contents to neutralize this tendency to dispersion, and to encourage linear navigation.
- *Almost absolute predominance of English.* For many students, the fact that a very high percentage of documents are only in English represents a great obstacle to the learning of foreign languages other than English.
- *Possible use for destructive and criminal purposes.* There is still criticism of the use of the Internet for disreputable, even criminal, purposes. It is a contact place for fascist propaganda, pornography, etc. Given the organisational characteristics of the Internet — rather than having a sole owner managing the contents, there is an international co-operative which is almost exclusively concerned with the technical operation — it is very difficult for any initiative which introduces sonic censure to thrive.
- *Slowness in access to the Web.* Due to the vast growth of the Web, it is evident that it might be untimely in some cases to talk about information highways, because the impression that we sometimes have is that these highways are almost always at a complete standstill (which is why we ironically refer to it as World Wide Wait).

II. USE OF THE WEB IN CALL

The Web has had different uses in the teaching of modern languages. We can summarise them in three sections:

1. The Web as a source of resources.
2. The Web as a window of multimedia applications.
3. The Web as an e-learning platform.

11.1. The Web as a Source of Resources

In a very short time, the Web has become the largest source of resources for the learning of any foreign language, and it is important to emphasise the following characteristics:

- Most newspapers and magazines in industrialised countries put a free version of their main articles at the disposal of the Internet user. Also, most public and private institutions have their own site on the Web, thereby providing access to any relevant information. This has meant that the feeling of isolation among most teachers and students of foreign languages has disappeared, because they have access to up-to-date information on the country where the foreign language being taught or learnt is spoken.
- Most accessible resources on the Web can be re-used. Thus, both text and images that appear on the Web can be integrated, without major difficulties, in any word processing programme — for example, Microsoft Word —, and the teacher can change them and re-use them for educational purposes, without violating the author's rights.
- Specific access to resources related to certain areas has turned the Web into a primary tool for the teaching of languages for specific purposes. That is the case, for example, in the field of tourism, as the Web allows travel planning, as if it was a real world activity: from the booking of plane or train tickets to the hiring of a car, hotel booking, buying tickets for shows, etc.

11.2. The Web as a Window of Multimedia Applications

The Web has also been used as a *window of multimedia applications*. Thus, it is possible to have access to multimedia applications stored in sites located anywhere in the world from any browser (Netscape Communicator or Internet Explorer), and in this way the CD-ROM is replaced by the Web as the main means of storage of multimedia applications.

Despite the simplicity of this approach, this vision has had both advantages and drawbacks, which we will discuss as follows:

- Being able to gain access from a browser to any multimedia application in any site on the Internet creates new opportunities, because the costly distribution of any multimedia application can be avoided, and also the author can distribute and market his or her applications without intermediaries.
- However, not every multimedia application can be fully accessed from a browser:
 - Internet bandwidth is still limited. As a result, it is still difficult to gain full access to multimedia applications, which generally consume many resources, from a browser. This, for example, is the case with video or sound files.
 - The languages that allow the production of multimedia applications through a Web browser (Flash, Director, Java, etc.) have their limitations, even though they are already very advanced.

Until the Web has a speed that will allow us, for example, to view videos on a full screen with a quality comparable to a DVD and from any PC, we will continue to opt for hybrid solutions in this type of multimedia application. While the larger files, like videos, are stored on CD-ROM, the rest of the information comes from the net. From one browser the user can access a CALL multimedia application, whose information comes from the net, and its CD-ROM. An example of this is *enREDando* (<http://www.enredando.org>; see *Figure 1*), an application for learning Spanish as a foreign language, which is stored mainly on CD-ROM, with contents always viewed from a Web Browser.

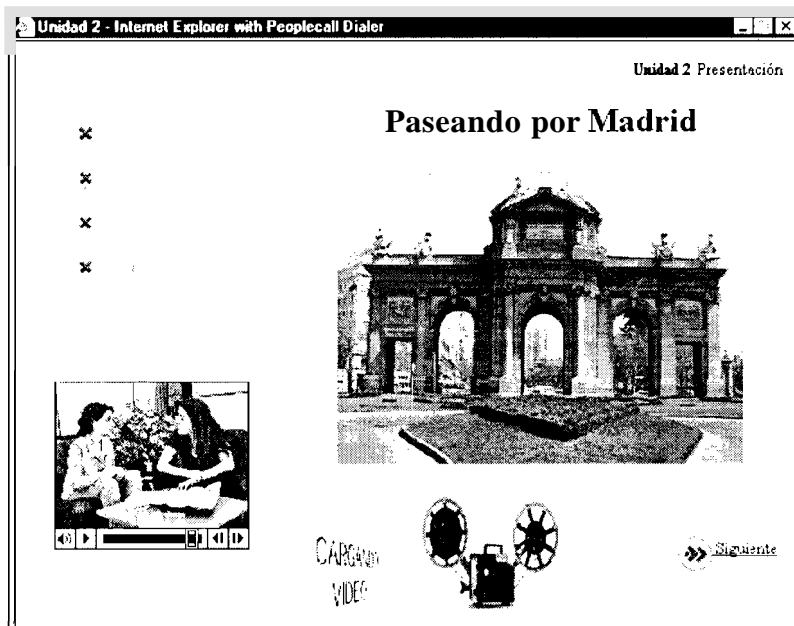


Figure 1. *enREDando*: interactive Spanish course for foreigners (author: G. Ruipérez)

11.3. The Web as an E-learning Platform

In the last few years the Web has become a very useful "telelearning" tool. It is known as e-learning and can be defined as follows:

Distance learning characterised by a physical separation between teachers and students — without excluding occasional face-to-face meetings. Between teachers and students a two-way asynchronous communication predominates, with the internet as the preferred means of communication and distribution of knowledge. The student is at the centre of independent and flexible training, and negotiates his/her own learning, generally with the help of external tutors.

III. LEARNING MANAGEMENT SYSTEMS (LMS)

111.1. Definition and Characteristics

For an institution — whether public or private — to create a Virtual Centre for Foreign Language Learning (see *Figure 2*), certain software must be installed in a computer connected to the Internet. This software is called a Learning Management System (LMS). We can define LMS as follows:

Software, generally in the form of an integrated package (made of software units with independent functions), which includes all the necessary logistics to be able to offer courses through the internet or an intranet.

LMS have a series of general characteristics that define a series of basic training functions (see *Figure 3*):

- Student's personal diary
- Student's personal details page
- Contents area:
 - Contents
 - Course programme
 - Learning guide
 - Most frequent questions
 - Subject matter
 - External materials and references

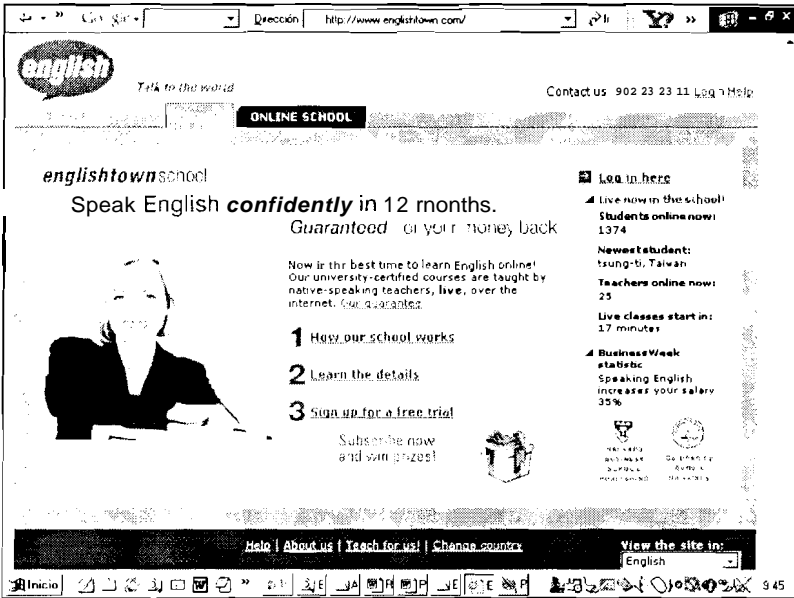


Figure 2. Englishtown: Virtual Centre For Foreign Language with affiliates all over the world (<http://www.englishtown.com>)

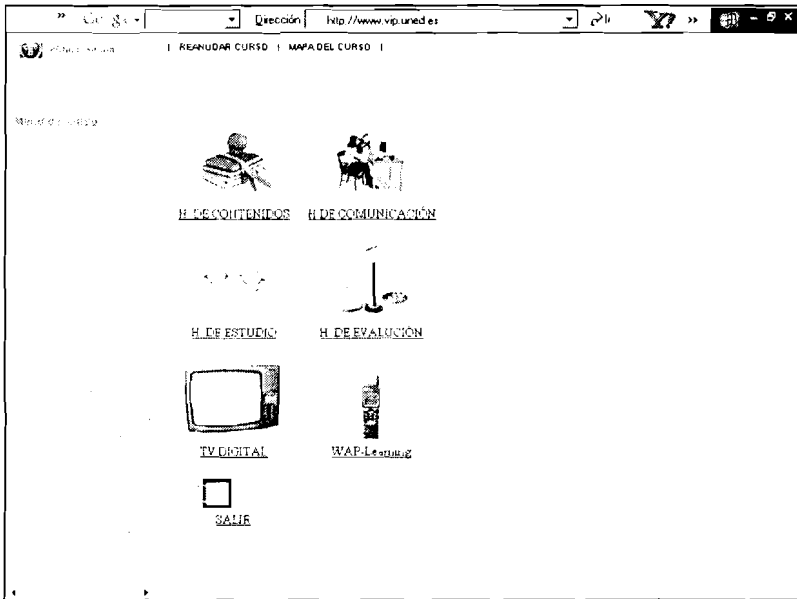


Figure 3. Typical interface of an LMS (here: WebCT)

- Tools for the administration of contents
- Contents compiler
- Automatic index of contents
- Searches
- Glossary
- Communications area
 - Personal e-mail
 - Discussion forums
 - Chats
 - Shared notice board
- Assessment and self-monitoring
 - Assessment
 - Written work assessed by the teacher
 - Interactive automatic self-assessment exercises
 - Exams or tests (assessed by the teacher or self-assessment)
- Grading of the assessments
 - Issued by the teacher
 - Self-assessment automatically generated by the LMS
- General self monitoring

Apart from the basic functions of the majority of the LMS, we should mention below the *advanced functions of the LMS* that for the moment only appear in the advanced LMS:

- Voice chats
- Digital television channel
- Mobile telephone services:
 - WAP complementary services
 - Access to the LMS through electronic pocket diaries (PDA)

III.1.1. Basic Functions

The student's *personal diary* is a virtual diary available to the student, and it is of great interest, because the student can include in it personal notes (exam dates, holidays, academic days, etc.).

The *personal page* enables each student to create, in the LMS, a Web page presentation, where they can include, apart from a photograph, personal details of interest to other students.

From the didactic point of view, it is important for the teacher to encourage his/her students to create their own personal page, so that an authentic virtual community among the students can be achieved, creating a sense of belonging to a group with similar interests and concerns.

In the electronic *contents* area of the LMS, the contents are as follows:

- *Course programming.* The course programme includes all types of general information about the course, particularly details about the course that someone who has not yet enrolled would need to have a very clear idea about it.
- *Study guide or didactic guide.* One of the keys to the success of distance teaching through Internet is that the students have at their disposal a good study guide. This should give thorough information about the best way to approach learning. A didactic guide generally has the following components:
 - Outline summary of the course contents
 - Distribution of the learning time. In this section very concrete and realistic statements about how the student must distribute his/her learning time must be made.
 - General recommendations about how to manage the course as painlessly as possible: how to contact the teacher, how to overcome difficulties already foreseen by the teachers, etc.

One section of the contents that is widespread in Internet learning is the most frequently asked questions area. It involves a series of brief questions with concise answers, where the most frequently asked questions by the students and the corresponding teachers' answers are included.

In addition, the contents section contains the course electronic contents (text, sound recordings, audiovisual recordings, activities).

In order to manage the course contents stored in electronic format, the LMS frequently includes *management tools for electronic contents*. The idea is to facilitate access to information. Among the most common tools that the student can find are: *contents compiler, automatic index of contents, course searches and glossary*.

Another group of advanced functions relates to the *communications area*, and these are, without doubt, the most important functions in any Internet course, since most are exclusive to virtual courses, and do not exist in conventional courses. These functions facilitate communication between teachers and students, and among students.

As mentioned before, the most widespread functions in the communications area of any LMS are the following:

- Personal e-mail
- Discussion forums
- Chats
- Shared iiotic board

E-mail is without doubt the most used resource in the LMS, because of its countless advantages:

- *It is based in an asynchronous communication system*, which means that the sender and the receiver do not need to be active at the same time for communication to occur.
- *E-mail messages are very simple to write*, since the usual conventions of other media do not apply.
- *No superfluous information*. As a rule, e-mail texts are very direct, with little superfluous information.
- *High level of grammatical and orthographic freedom*. Whilst in a conventional letter any error or spelling mistake can cause a bad impression, there is more tolerance in e-mails. The absence of accents, ñ and diaeresis (ü) are not taken very seriously.

Discussion forums are really asynchronous textual discussions, where teacher and student ask questions and answer messages which are stored by the LMS, in such a way that any student can answer or add to any other previous message, or make a new comment or question, which the rest of the students or teachers can answer or add to if they feel it is appropriate.

Written conversations—often known by the original English name of *chats*—are really discussion forums, but they are based in synchronous communication, so that all participants are positioned at the same time in front of the computer typing what they think. However, if what they have to share is graphical rather than text based information, then they generally use a "shared iiotic board". This is used for a few subjects which require graphical interaction to explain certain topics.

III.1.2. Advanced Functions

As we have said before, the LMS supply the students with advanced functions, which we can now summarise as follows:

- Spoken conversations
- Digital television channel (see *Figure 4*)

- Mobile phone services:
 - WAP complementary services (see Figure 5)
 - LMS access through pocket electronic diaries (PDA)

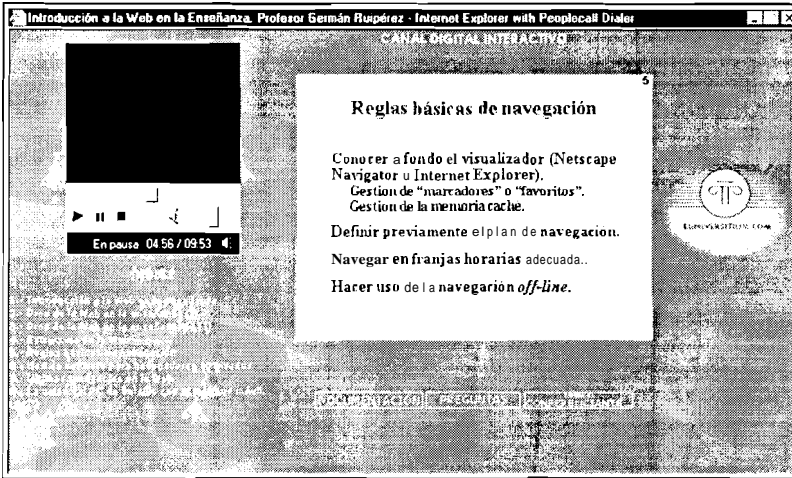


Figure J. Digital television channel via the Web

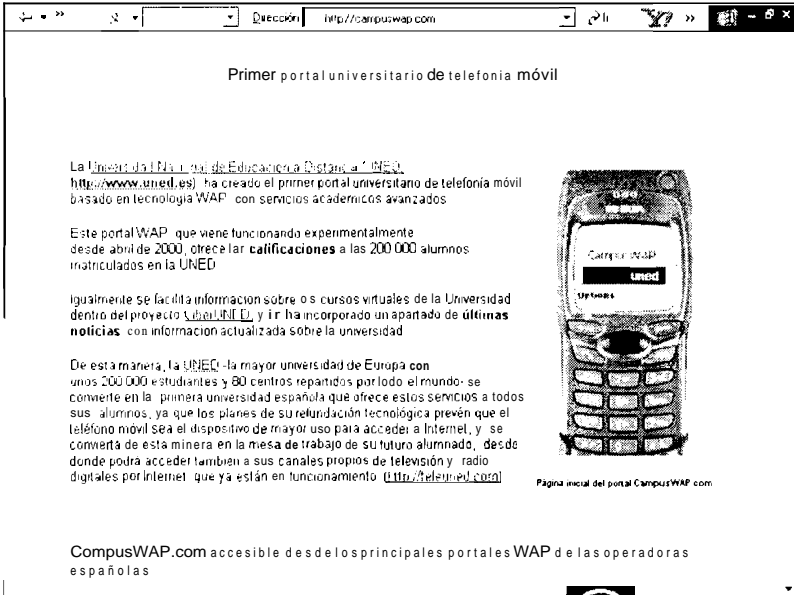


Figure 5. Campuswap.com: Example of e-learning services based on mobile telephony.

Spoken conversations, also known as “*voice chats*”, consist of various Internet users chatting simultaneously among themselves, each from their own computer, although, as a rule, the LMS anticipate that only one Internet user speaks, while the others listen.

On the other hand, a function which is on the increase in teletraining is a digital television channel, which enables the student to see and listen to a teacher giving a class from his own computer. On one part of the screen, slides will appear to illustrate the speaker's presentation. In some cases, the student can also send an e-mail to the teacher, so that questions can be asked.

III.2. Choosing the Ideal LMS

There are many comparative studies of LMS, carried out by consultants, specialist magazines, etc. Here are some of those published on the Internet (March 2002), which we recommend:

- *Evaluation of web-based course platforms* (learning environments) (http://www.cdutech.ch/edutech/tools/comparison_e.asp), by Edutech.
- *Comparison of Online Course Delivery Software Products* (<http://www.marshall.edu/it/cit/ebct/compare/comparison.html>)
- *Online educational delivery applications: a web tool for comparative analysis* (<http://www.ctt.bc.ca/landonline/choices.html>), by the Centre for Curriculum, Transfer & Technology.
- *WebEd Tools Chart* (<http://www.osc.cdu/textonly/education/webed/Tools/chart.shtml>), by the Ohio Supercomputer Centre.
- *Evaluation of Web-based Educational Systems* (<http://www.abe.villanovaa.edu/proc2000/n115.pdf>), by University of Macedonia.
- *WWW Online Courseware Development and Delivery Tools: Comparison and Contrasts* (http://www.aum.iawf.unibe.ch/did/didactica/ONLINE_COURSEWARE_TOOLS.pdf).

Despite the proliferation of comparative studies of LMS, they have hardly considered the specific features of CALL software, in which the functions that promote sound interaction should be more advanced.

On the other hand, the subject of standards has become relevant. It is logical that the user who introduces contents into a given LMS would want the guarantee of being able to use those contents within another LMS. This is because he/she might want to change LMS at any time, or because he/she might want to add or offer to a third party the contents of his/her current LMS.

Despite the diversity of standards for LMS, there is a growing tendency to consider SCORM (Sharable Content Object Reference Model) as the dominant standard. SCORM is an initiative led by ADL (Advanced Distributed Learning), which tries to draw together the other rival standards, like AICC, IEEE, and IMS.

IV. CONCLUSIONS

The growing use of the Web in the learning of modern languages has given birth to a new discipline, called Web Assisted Language Learning (WALL) which can be broken down in three important areas:

- The Web as a source of resources.
- The Web as a window of multimedia applications.
- The Web as an e-learning platform.

The area of WALL most likely to develop in the next few years is the use of the Web as an e-learning platform. This has already given birth to Virtual Centres for Foreign Languages.

The following observations should be made about these Virtual Centres for Foreign Languages:

- The teaching model they offer will not be exclusively Web based. They could also include phases of face-to-face tuition, when the aim is to develop oral skills (listening comprehension and especially speaking skills).
- The use of a particular LMS has very strategic implications, as it will also determine the teaching methodology that will be implemented.

Therefore, a thorough understanding of the basic and advanced functions of an LMS is very important in the development of the infrastructure of a Virtual Centre for Foreign Languages. On the other hand, all LMS functions that encourage both asynchronous communication (e-mail, discussion forums, etc.) and synchronous communication (chats, videoconference, etc.) are of great importance in the Virtual Centre for Foreign Languages, as they encourage interaction and the idea of a virtual community.

BIBLIOGRAPHY

- AEFVI (ed.): *Virtual Educa 2001. Actas de la conferencia internacional sobre educación, formación y nuevas tecnologías*. Madrid 2001
- Autorengruppe E-Writing.de: *E-Learning und Ekooperation in der Praxis*. Neuwied, Krißel 2002
- Bank of America Securities: *The e-Bang Theory*. NY 1999.
- Bilies. A.W.: *Managing Technological Change*. San Francisco 2000.
- Bates. A.W.: *Technology, Open Learning and Distance Education*. London - New York 1995
- Bear, J. y Bear, M.: *College Degrees by Mail & Internet*. Berkeley, CA 2000.
- Bernath, U (e) . *Online Tutorien — Beiträge zum Spezialkongress "Distance Learning" der AG-F im Rahmen der LEARNTEC 2002*. Oldenburg 2002.
- Centre for Educational Research and Innovation (CERI): *E-Learning — The Partnership Challenge*. Paris: OCDE 2001.
- Collado Medina, J.: "Economic Efficiency in Open and Distance Learning". In: Ortner, G.E. / Nickolmann, F. (eds.): *Socioeconomics of Virtual Universities*. Weinheim: 1999, p. 139-163.
- Criscito, P.: *Barron's Guide to Distance Learning*. Hauppauge, NY 2002
- Daniel, S. S.: *Mega-Universities and Knowledge Media. Technology Strategies for Higher Education*. London 1990.
- Fundación Retevisión (ed.): *eEspaña 2007 — Informe anual sobre el desarrollo de la sociedad de la información en España*. Madrid 2002.
- García Aretio, L.: *La educación a distancia. De la teoría a la práctica*. Barcelona 2001
- Harry, K. (comp.): *Higher Education Through Open and Distance Learning*. London 1999
- Hohenstein A. / Wilsberg, K. (eds): *Handbuch E-Learning*. Köln 2002
- Hülsmann, Th.: *The Costs of Open Learning: a Handbook*. Oldenburg 2000.
- Misoi, R.: Institutional Models for Virtual Universities. En F. T. Tschang y T. D. Senta (Coiips.). *Access to Knowledge. New Information Technologies and The Emergence of the Virtual University* (pp. 167-206). Amsterdam 2001a.
- Misoi, R.: Effective facilitation of online learning: the Open University experience. In J. Stephenson (comp.), *Teaching and Learning Online* (pp. 67-75). London 2001b.
- Mira Mira, J. (ed.): *Conocimiento, método y tecnologías en la educación a distancia*. Madrid 2000
- Muñoz Rodríguez, A. - Morilla Oliva, M. (eds.): *Metodología par la utilización de los sistemas multimedia y telemáticos en formación continua*. Málaga 2000.
- Ortner, G.E. / Nickolmann, F. (eds.): *Socioeconomics of Virtual Universities*. Weinheim 1999.
- Palloff, R. M. & Pratt, K.: *Lessons from the Cyberspace Classroom. The Realities of Online Teaching*. San Francisco, CA 2001.
- Peterson's (comp.): *Peterson's Guide to Distance Learning Programs 2001*. Princeton, NJ 2001.

- Phillips, V y Yager, C.: *The Best Distance Learning Graduate Schools*. Princeton, NJ 2000
- Román, E.: "El aprendizaje interactivo virtual del español coiiio lengua extranjera: retos. estrategias y aplicaciones". In: *Revista Interamericana de Desarrollo Educativo: La Ediicacióii*, 2002a, 138-139.
- Ruipérez, G.: "Formación a distancia o la formación del futuro". Eii: *Anuario de los Teiiias y sus Protagonistas 2001*. Barcelona 2001.
- Ruipérez, Ci.: *E-Learning y formación virtual*. Madrid 2002
- Ruttenbur, R. Ml., Spickler, G. C. y Lurie, S.: *eLearning. The Engine of the Knowledge Economy*. (White Paper). New Yoi-h 2000.
- San José Villacorta, C.: *Tecnologías de la información en la educación*. Madrid 1999
- San Martín, J.: *Enseñanza presencial, enseñanza a distancia y enseñanza virtual: costes y beneficios*. Murcia 2002 [manuscript]
- S io, J.: *La virtualización de la universidad*. Caracas 2000
- Silvio, J. *Universidades Virtuales en Iberoamérica*. Actas de la Conferencia Virtual Educa 2001 (pp. 134-149). Madrid 2001.
- Simonson, M. e.a.: *Teaching and Learning at a Distance. Foundations of Distance Education*. Upper Saddle River 2000.
- Stevenson, N.: *Distance Learning Online for Dummies*. Foster City, C A 2000
- Telefónica (ed.): *La sociedad de la información en España — Perspectiva 2001-2005*. Madrid 2001
- Thompson, G.: Unfulfilled Prophecy: The Evolution of Corporate Colleges. *The Journal of Higher Education*, 71 (3) 2000.
- Turlington, S. R.: *The Unofficial Guide to Distance Learning*. Foster City, CA: 2000.