LANGUAGEQUESTS IN AN OFF-LINE COURSE MANAGEMENT SYSTEM

by **Marta Navarro-Coy and Carlos Periñán-Pascual**
Universidad Católica San Antonio,
Murcia, Spain

Abstract:
The Internet has become an extremely powerful tool which has pervaded every corner of our lives, including the foreign language classroom. However, we should not forget that in certain situations this tool cannot be easily implemented in the FL classroom, because of either pedagogical or financial reasons. This paper presents CALL Workbench, a course management system which is flexible enough to be adapted to two stand-alone computer-based EFL learning settings: with or without access to the Internet but provided with electronic communication tools. A WebQuest has been designed and implemented through CALL Workbench in order to illustrate some of the advantages and disadvantages that both settings can present as compared to those found in a traditional Web-based environment.
Keywords: LanguageQuest; Course management system; Computer-mediated communication.

Introduction

Nowadays, it is relatively easy to find people supporting the use of computers for learning an FL. In fact, for a long time both researchers and teachers have been showing and talking about the advantages of incorporating new technologies in the language classroom. Among those advantages, we can highlight the following: an increase in learners and teachers' motivation (LeLoup & Ponterio, 1997), the availability of a wide variety of multimedia resources (text, video, image, etc.) or the possibility to communicate worldwide through tools such as e-mail, chat or forum. In fact, those situations allowing real communication are currently widely dealt with in the research on the use of new technologies in foreign language learning, and, indeed, working with the Internet in the FL classroom has become an extremely popular activity (see Warschauer, 1996).

If the use of the Internet has become so popular among language teachers and learners, would it sound contradictory to talk about the benefits of working in non-Web computer-based environments? It goes without saying that a tool such as the Internet can be said to play a key role because it presents a wide variety of learning possibilities which, in turn, have proven beneficial in promoting language learning and acquisition (see Aydin, 2007). However, we have to be cautious and consider not only the benefits but also the problems that can arise from working in a medium about which it is not

unusual to find linguistic and semiotic analyses of the texts it contains with no reference to pedagogical implications. As Kasper (2002) indicates, while hypertext can promote the development of students' literacy skills, without instruction in how to navigate the hypertext effectively students may become lost in a sea of information, potentially experiencing cognitive overload (Rouet and Levonen 1996).

In this paper, we try to show the advantages (together with some of the problems) that a non-Web computer-based environment can offer to the EFL classroom.[1] With that purpose in mind, we show the implementation of a standard WebQuest in *CALL Workbench* (CALLWB) — a course management system which is presented in the next section. More specifically, the WebQuest we are presenting is given the name of LanguageQuest because the task has been specifically designed for language learning (see Koenraad & Westhoff, 2003).

CALL Workbench

An overview

CALLWB is a stand-alone multimedia course management system (CMS) for the implementation of courseware in the EFL classroom.[2] Firstly, CALLWB is a stand-alone application, i.e. it is not Web-based.[3] Indeed, CALLWB runs in a *Microsoft Windows* environment, preferably version 2000 or higher. Secondly, the courseware designed by CALLWB can be multimedia, because the user-computer interaction can be based on textual, graphical and/or audiovisual material.[4] A sample of multimedia resources integrated in a CALLWB course is shown in Figure 1:

[1] Although this version of CALLWB has been primarily developed for the teaching of English, the program is being currently modified so as to allow students change the language of the interface; more importantly, this choice will also determine the language of the spell-checker built into LAN Chat.

[2] This program is freely accessible by getting in contact with the author (Carlos Periñán) via e-mail: jcperinan @ pdi.ucam.edu

[3] The term "stand-alone" is often used to refer to those downloadable software applications which run in some particular operating system(s); therefore, and unlike Web-based applications, stand-alone software is platform-dependent.

[4] Concerning audiovisual resources, CALLWB is provided with Media Player, a built-in player for various audio and video formats, such as asf, avi, mpeg, mp3, ogg, wav, wma and wmv.

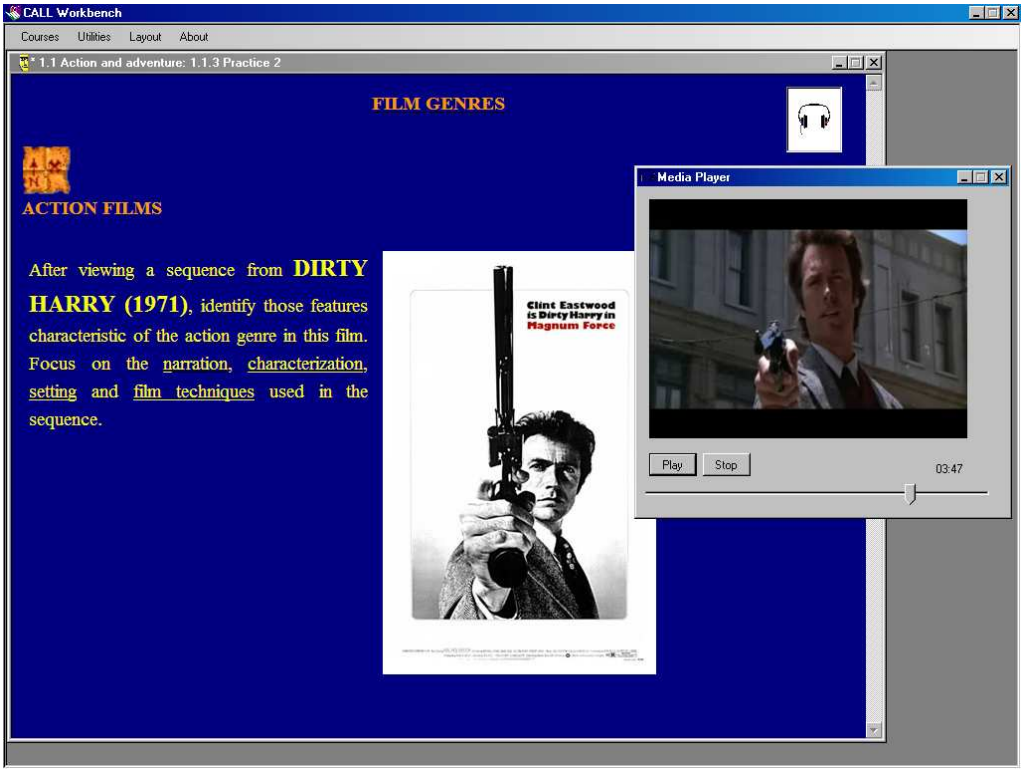


Figure 1. Multimedia resources in CALLWB.

Thirdly, CALLWB is a CMS because the teacher works in a platform in which different elements of a course are integrated in a controlled way. CALLWB allows teachers to design and implement the units and tasks which make up their own courseware, thus creating computer-based materials more closely related to specific syllabus objectives.

Furthermore, CALLWB is provided with several fully-integrated utilities, which have been classified into three categories according to their functionality: searching utilities (e.g. Database Searcher and Web Browser), CMC utilities (e.g. E-mail and LAN Chat), and graphical and audiovisual utilities (e.g. Media Player and NotePad). As shown in Table 1, some of these CALLWB tools require Internet connection, and some others do not; among all of them, the most outstanding is LAN Chat, because students can be provided with one of the most important synchronous multi-user CMC tools but in an off-line computer-based setting.

Table 1. CALLWB tools.

Function	Name	On-line access

Searching utilities	Database Searcher	no
	Web Browser	yes
CMC utilities	E-mail	yes
	LAN Chat	no
Graphical & audiovisual utilities	Media Player	no
	Notepad	no

Course management systems and CALL Workbench

CALL programs can be created by means of programming software, which comprehends both authoring programs and programming languages (Periñán-Pascual, 2007). In the last decades, there has been a proliferation of authoring programs, which allow teachers with very little computing knowledge to build exercises in an extremely quick and easy way. Authoring programs contain various preconfigured activity templates which teachers fill out in order to create CALL material, thus saving teachers' time and energy considerably.

CMSs (e.g. *WebCT, Blackboard, Moodle* or *Sakai*) constitute a subtype of authoring programs, which allow teachers not only to develop a whole course, but also to deliver it. Therefore, and from a functional point of view, any CMS should be at least both a content management system and a content delivery system. To illustrate, *Moodle* is described as follows:

> Moodle is an open source course management system used by universities, community colleges, K-12 schools, businesses, and even individual instructors to add web technology to their courses. (Cole & Foster, 2005, p. xiii)

Moreover, applications such as *Moodle* or *WebCT* are also learning management systems:

> Learning management systems differ from exclusive course management systems because they allow to present information to learners in small units, assess what they have learned, and based on the quality of their achievement branch out into additional review of material or move to the next level. (Brandl, 2005, p. 19)

Here lies one of the differences between CALLWB and other CMSs: CALLWB is simply a content delivery system which can be managed by both teachers and

students, but the application does not guide students through their learning process. Although not suitable for distance learning, CALLWB can be ideally used as an adjunct to face-to-face courses conducted in computer labs.

The other main difference is related to the technological issue. Nowadays, most CMSs develop their courseware to be published on the Web, where course content is displayed as template-based Web pages which are supported by facilities such as computer-mediated communication (CMC) tools. Since these applications are Web-based, they run on a server and therefore some computer training is required if you are engaged in a one-man do-it-yourself undertaking. For example, the "publication" of a *Moodle* course involves some hardware and software requirements on the server machine.[5] The computer must have installed an HTTP server (e.g. *Apache* for Linux or *Internet Information Server* for *Microsoft Windows*), the PHP scripting language and a database server (e.g. *MySQL* or *PostgreSQL*). *Moodle* should be set up and configured on a machine which the administrator can access, without forgetting to maintain both the Web site and the server securely. It is recommended to buy a dedicated server that handles *Moodle* and nothing else, because when there is a high number of concurrent users, "you may soon find yourself running into slowdowns or freeze-ups" (Robb, 2004). Therefore, without the assistance of technical support, teachers can be overwhelmed by problems resulting from a wrong configuration of the server, not to mention the human and economical[6] effort this likely scenario implies.

On the contrary, CALLWB facilitates the economical and immediate implementation of CALL courses, mainly because neither the container software nor the courseware require Web publication. Moreover, the management workload is greatly reduced. CALLWB courseware consists of (i) the course content, which is stored as off-line Web pages and audiovisual files, and (ii) the course structure, which is stored in an XML file. As shown in Figure 2, any user can easily manage the course content and structure through the Course Editor.

---

[5] Detailed information on how to install *Moodle* can be found at http://docs.moodle.org/en/Installing_Moodle

[6] Costs are even higher when implementing online commercial CMSs, which are licensed annually. For example, the Humboldt State University pays approximately $8,600 each year on *Blackboard* licenses (Bos et al., 2005).

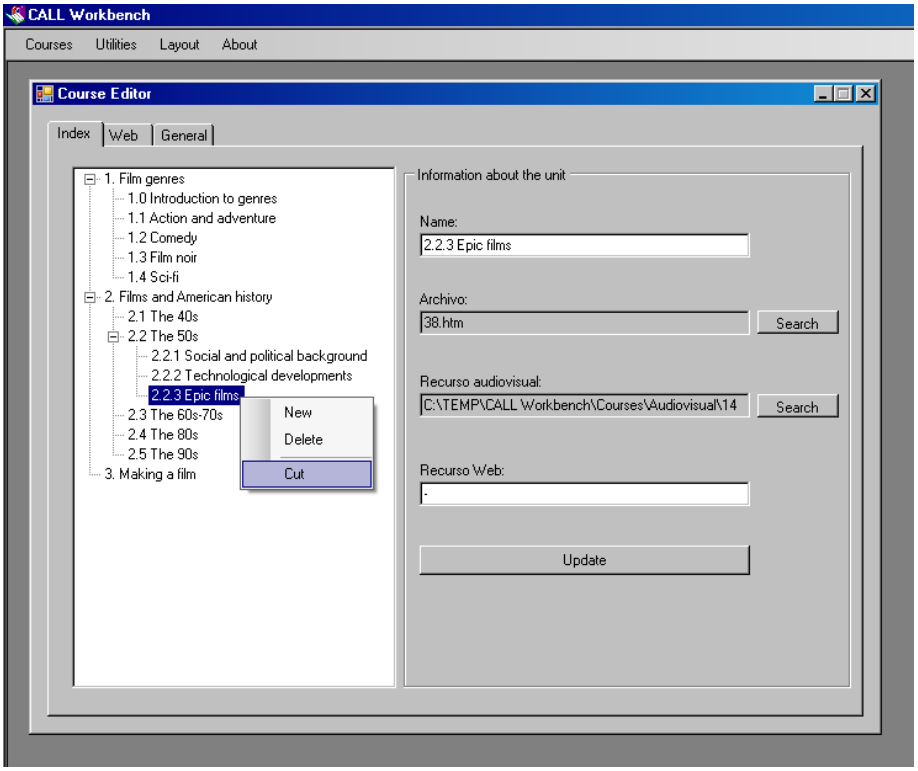


Figure 2. The Course Editor in CALLWB.

LAN Chat

LAN Chat is a synchronous CMC tool which lets members of a discussion group exchange messages through a local-area network (LAN). Therefore, this tool must be implemented in a computer lab. As shown in Figure 3, LAN Chat comprises two subprograms: Chat Server and Chat Client.

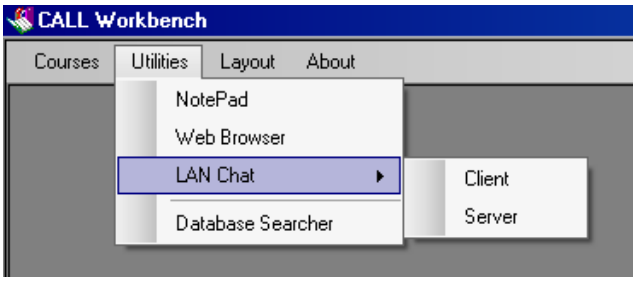


Figure 3. Opening LAN Chat.

Suppose that the teacher divides the class in several discussion groups, and each one of these groups wants to have their own separate chat room. Firstly, one member in

the group must activate Chat Server by entering the IP address[7] of his/her computer (Figure 4).

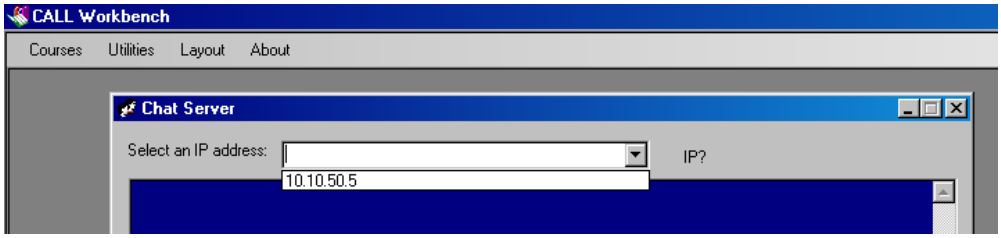


Figure 4. Activating Chat Server.

Secondly, in order to enter the chat room, all the members of the discussion group open their LAN Client subprograms and type their (nick)name as well as the IP address of the computer where Chat Server is running (Figure 5).

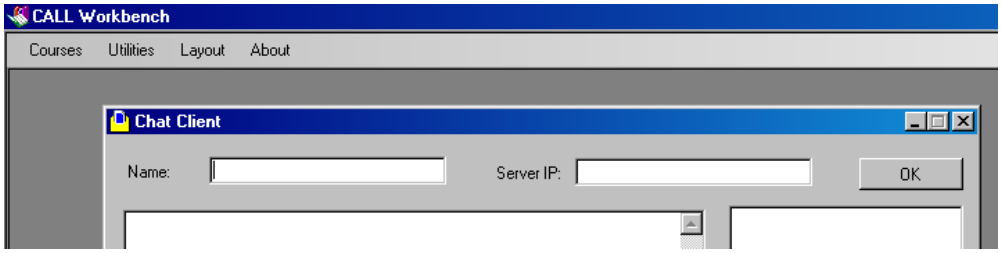


Figure 5. Activating Chat Client.

A message typed through Chat Client by any member of the discussion group is sent to Chat Server and then automatically rebroadcast to all participants in that chat room, i.e. to all Chat Clients connected to Chat Server. In Chat Client, all participants in the chat room are listed on the right side of the screen, and all messages are chronologically displayed on the left side. Likewise, the whole conversation within the discussion group is displayed in Chat Server (Figure 6).

[7] Every computer attached to a network must have a unique IP address, which consists of four sets of numbers separated by dots, where each set contains any value between 0 and 255 (e.g. 127.0.0.1). In our case, the IP address is used to locate the computer running as the server within a discussion group on a local-area network (LAN).

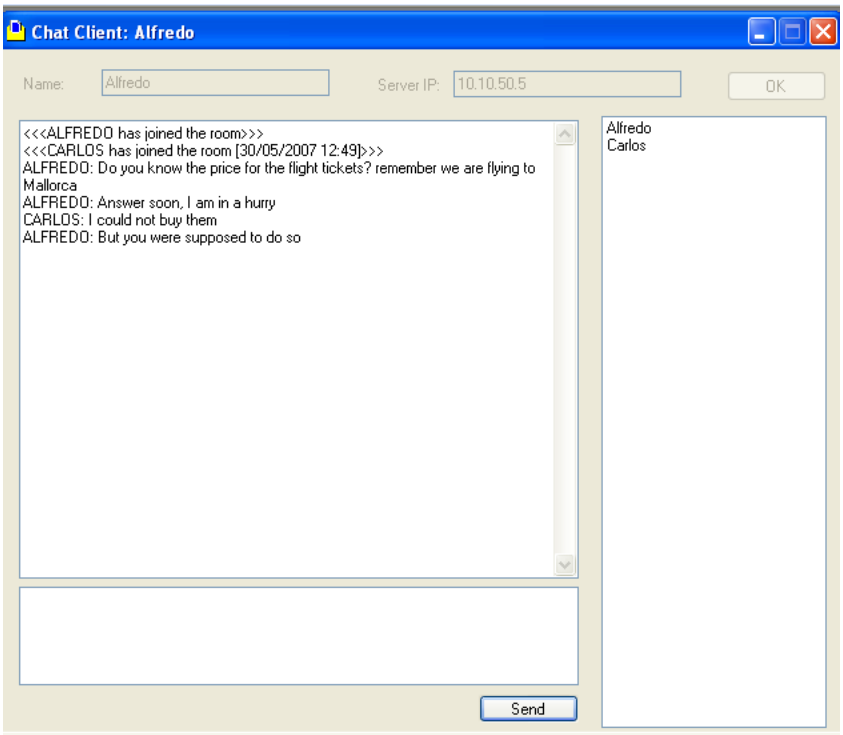
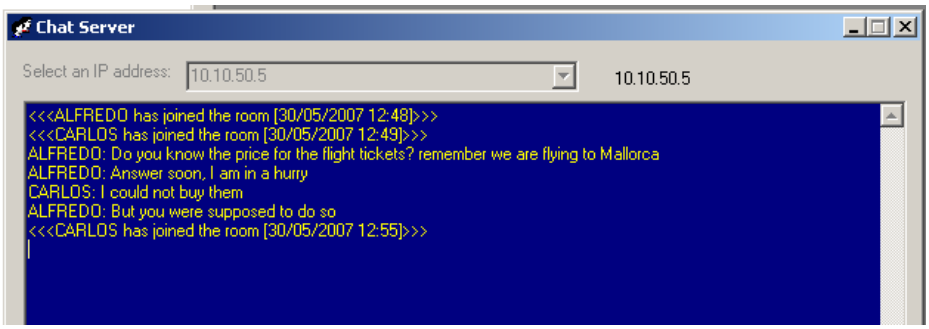


Figure 6. Communication between Chat Client and Chat Server.



Since these conversations can be saved as text-based log files, their *post hoc* analysis can provide useful data about the kind of interaction that takes place among language learners, how they respond to the medium or how their interaction is constructed and maintained, among others (González-Lloret, 2007, p. 225).

Special importance is given to the fact that Chat Client has a built-in spell checker for English. Before a message is sent, CALLWB checks the spelling of the text automatically; if a spell error is found, then a word list of possible solutions is presented. This tool is not only conceived to improve users' English spelling, but also to prevent them from sending messages written in their own language.

To illustrate how LAN Chat can be used in a computer lab, Figure 7 presents the hypothetical case where ten students are "virtually" arranged in three groups of two, three and five students. As you can see, those students who have Chat Server running on their computers must also have Chat Client activated if they want to send messages.

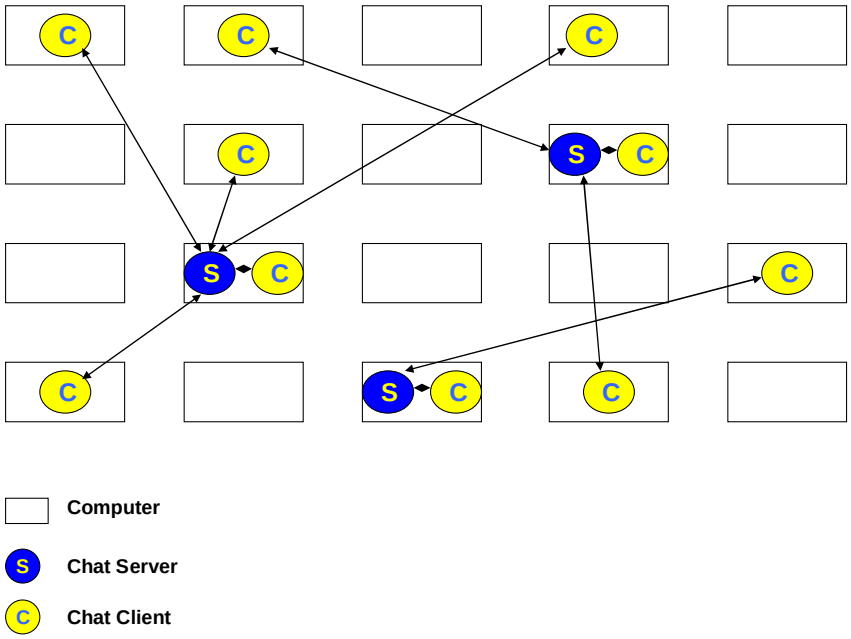


Figure 7. LAN Chat in a computer lab.

Unlike synchronous communication tools built into CMSs which are usually implemented in online courses, LAN Chat has been exclusively designed for face-to-face courses taking place in computer labs. The question is whether this feature of LAN Chat helps teachers and students to use this type of electronic communication more effectively.

Most CMSs require that teachers need to create and manage chat rooms for their students: typically, one chat room for the whole class (i.e. class chat), or a separate chat room for each group of 3-6 students (i.e. group chat). In the case of class chats, electronic communication has sometimes proved not to be so effective when multiple conversations occur simultaneously:

> Course management systems such as Blackboard continue to develop increasingly sophisticated tools that provide greater control over chat sessions. However, these controls require the instructor to grant or deny access repeatedly for each individual as he or she signals the desire to participate. As a result, instructors typically spend much of their time acting as traffic cop […] (Smith, 2006)

Then, a key issue for successful class chat sessions is moderation (Cole & Foster, 2007). But apart from the use of CMS moderation tools, which may become burdensome, another approach is to set some rules of courtesy and respect, also known as "chatiquette" in the Internet community. For instance, Smith (2006) has developed a protocol that his students must comply with when chatting; one of his guidelines is presented as follows:

> When participants have a comment or question, they should type "!" for a comment or "?" for a question.

Thus, some shortcomings of chat communication in e-learning can be overcome by students' self-monitoring, however, this demands further initial chat training and practice under supervision. In the case of group chat, teachers' workload dramatically increases before the class, without dismissing the possibility that some of the above problems can also appear if groups are not very small.

A different scenario occurs with a non-Web-based CMC tool such as LAN Chat: the computer lab becomes a controlled language learning setting, so there is no need for the teacher to set up chat sessions for their students, because they do it themselves. Therefore, this tool can be even used as a "pair chat", i.e. unmoderated but monitored chat sessions where two students can spontaneously "speak" at any time. In conclusion, although LAN Chat's functionality is very basic, it allows EFL teachers to use technology more productively.

Standard LanguageQuests in CALL Workbench

The key of success in the incorporation of technology into the FL classroom is primarily based on neither the hardware nor the software but on humanware, i.e. our human ability to plan, design and implement educational activities efficiently (Warschauer & Meskill, 2000). Instead of trying to automate everything, computers should be used to humanize the educational process by fostering creativity, exploration, construction and collaboration. A type of activity which best embodies all these features when being accomplished is the WebQuest. WebQuests have become very popular in the recent years with thousands of teachers using them in their classrooms and, in fact, this kind of activity offers a variety of attractive advantages for the learning process (see Fiedler, 2002 and Dunnagan et al., 2002). Bernie Dodge — one of the creators of the WebQuest

— defines it as "an inquiry-oriented activity in which most or all of the information used by learners is drawn from the Web" (Dodge, 1995). A WebQuest is usually considered as an activity taking the form of a problem to solve or a project to complete in which students use their critical-thinking skills by analysing a variety of Web resources in order to derive solutions to the problem or accomplish the project. Although WebQuests were not originally conceived as a task for language learning, several researchers have explored their potential for this purpose (Koenraad, 2002; Luzón, 2002; Richards, 2005) and indeed, there are studies (Koenraad & Westhoff, 2003) trying to establish the specific features WebQuests should present when they are designed for learning a FL. In such cases, WebQuests are sometimes given the name of LanguageQuests. Obviously the term "WebQuest" suggests that you have to search for something on the Web — an idea reinforced by classical definitions such as Dodge's. However, this same definition is broadened to highlight that WebQuests are designed to "focus on using information rather than looking for it, and to support learners' thinking at the levels of analysis, synthesis and evaluation" (Dodge, 1995). To this respect, we would rather use "LanguageQuest" for the sake of coherence with the content of our work, since it could be a paradox to talk about implementing WebQuests in a non-Web-based setting.

Suppose that your students are going to work with the LanguageQuest "A week in London",[8] whose introduction is as follows:

> You and three of your friends have won the equivalent to 3,100 pounds in a TV contest and you have decided to spend it on a one-week trip to London. Now it's time for planning and making decisions in order to make the most of this special city. However, you are not living in the same city this year and therefore you have to communicate through LAN Chat. Remember that you have to spend a minimum of 2,900 pounds and in no case more than 3,100.

This LanguageQuest is structured in six parts, following Dodge's guidelines (1998):

> The *Introduction* of a LanguageQuest is the scenario for the project, including the central question around which the LanguageQuest revolves. The objective of the introduction makes learners work with a goal in mind, what helps to develop

[8] This LanguageQuest was designed for second-degree students in Tourism in Universidad Católica San Antonio, Spain.

an important autonomous skill, since autonomous learners are able to manage their own learning (Holec, 1981, p. 3) and that includes the setting of objectives.

The *Task* consists of a description of the final product of the students' work and in this sense March (1998) highlights the increase of students' motivation when faced with LanguageQuests, where "realistic tasks" are presented by using "real life" resources.

The *Process* can be described as a step-by-step guide about how students will accomplish their task. It is important to mention that a LanguageQuest should be a task providing students with the opportunity "to do things" with the information and not just to find answers to specific questions or copy the information on the screen: "copy and paste and print are the worst enemies of understanding" (Adell, 2004, p. 2). This matches perfectly with our sample, where one student will look for information concerning flights and accommodation, two students will be in charge of sightseeing, and the other student will collect information about full-day tours in order to create a well-organised travel plan.

The section *Resources* usually contains a selection of useful web sites to help learners find relevant information.

The *Evaluation* consists of a description about how students' performance will be evaluated. In our sample, the two main aspects that will be taken into account are the final travel plan and the messages exchanged through LAN Chat. At the same time, learners should be encouraged to carry out a process of self-evaluation that will activate the use of metacognitive strategies (see O'Malley & Chamot, 1990) when they analyse and evaluate the process and the result of the task performed.

The *Conclusion* in a LanguageQuest usually includes a final statement that sums up the project and reviews what the students have learned.

These last three sections, i.e. task, process and resources, are likely to activate a series of cognitive, socioaffective and communicative strategies (see Oxford, 1990). For example, having to plan the project, learners have to organize the information and set a working plan and a methodology. In the same way, they have to negotiate certain aspects of the work being carried out such as the distribution of tasks and roles. Consequently, LanguageQuests can be said to promote the use of learning strategies and autonomous skills.

As you can see in Figure 8, each part of the LanguageQuest can be linked to a question to which learners should be able to find an answer when reading the indications given in such parts.

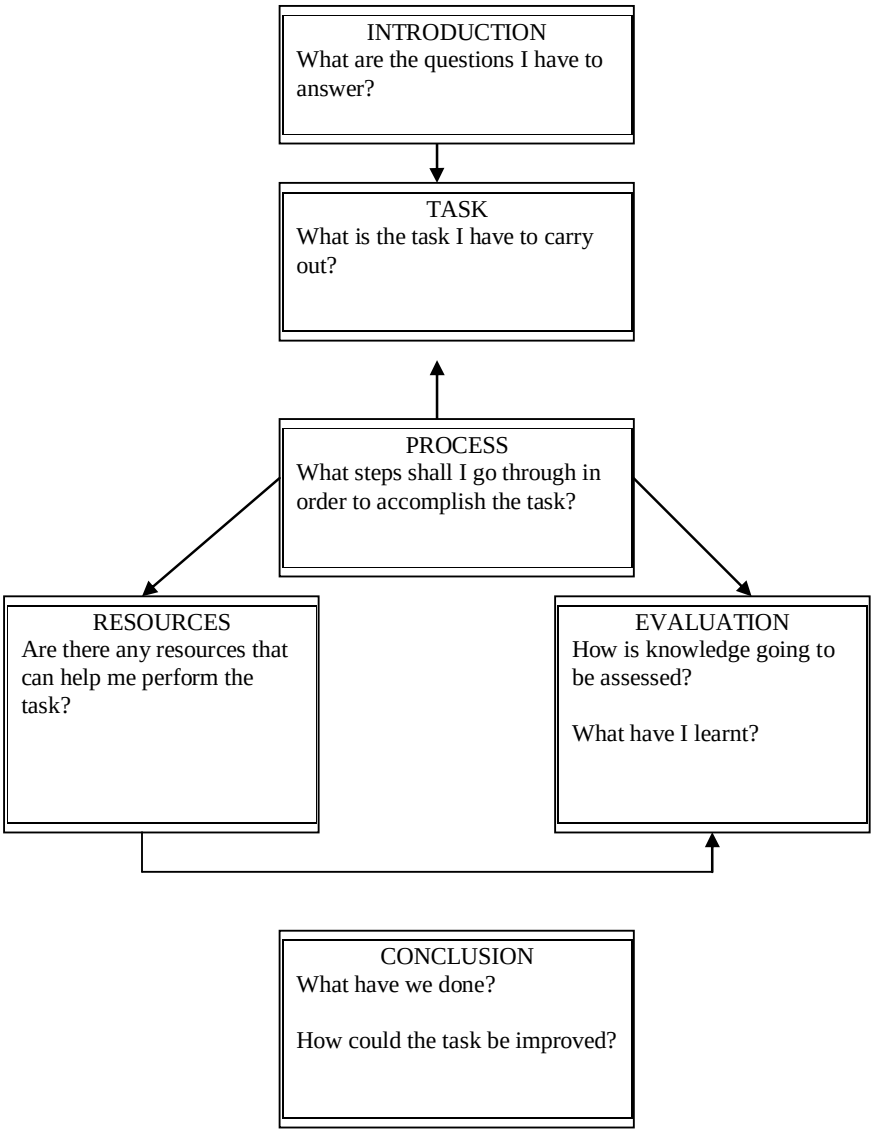


Figure 8. The structure of LanguageQuests.

As we have just seen, the different parts of a LanguageQuest are very likely to trigger a strategic behaviour which could be dealt with from a socioconstructivist[9] and autonomising perspective. As Pérez (2006) indicates, LanguageQuests:

(a) allow students to construct knowledge from the resources offered and from their own previous knowledge,

(b) promote a learner-centred learning,

(c) activate reflection, analysis, synthesis and evaluation processes,

(d) promote interaction, and

(e) involve collaboration and cooperation among students and/or the adoption of different roles.

In general, good LanguageQuests provoke high-level cognitive processes which can be developed by learners with the help of the scaffolding learning structure this task presents.

As far as implementation is concerned, a CMS can be regarded as an ideal setting to include LanguageQuests, since it is important to link them to previous and subsequent activities, so that the LanguageQuest is not an isolated experience disconnected from the rest of the syllabus. To illustrate, Figure 9 shows how the various sections of our LanguageQuest can be easily located within a CALLWB course:

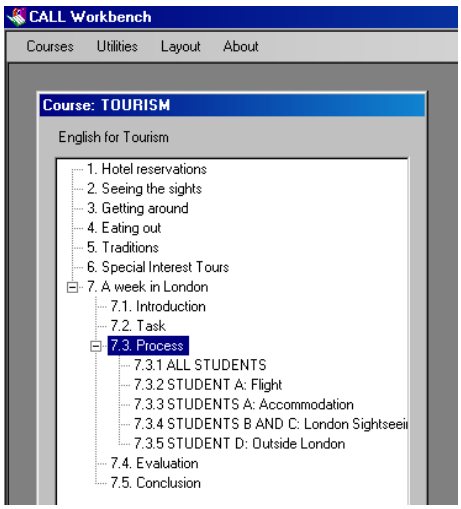


Figure 9. Searching the LanguageQuest *A week in London*.

[9] Socioconstructivism refers to the importance that should be placed on the social aspect of language (see Vygotsky, 1978). In this sense, it is necessary to learn or acquire a language not only in context but also in interaction with others.

As you can see in Figure 9, the CALLWB course is structured like a textbook, i.e. a hierarchical list of chapters (e.g. “7. A week in London”), sections (e.g. “7.1 Introduction”, “7.2 Task”, “7.3 Process”, etc.) and activities (e.g. “7.3.1 ALL STUDENTS”, “7.3.2 STUDENT A: Flight”, etc.). To illustrate the interface of this LanguageQuest, Figure 10 shows one of the activities in the Process section.

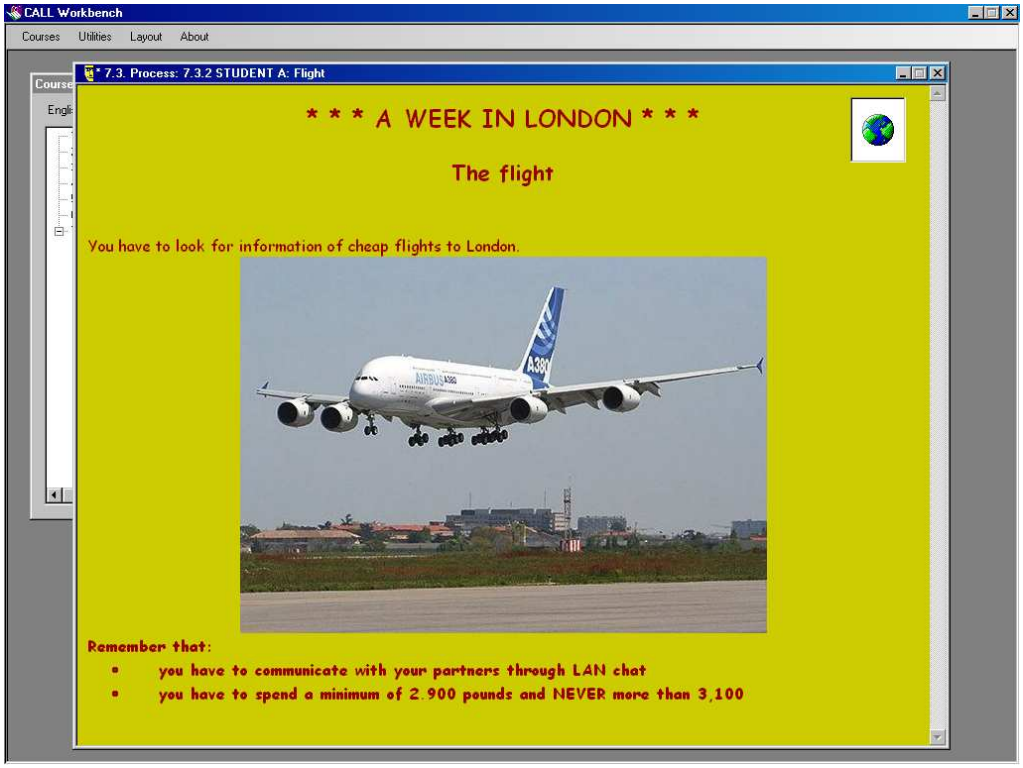


Figure 10. Inside the LanguageQuest.

In the upper right corner of this window, the icon gives access to the website previously linked by the teacher to facilitate students’ work — in this case, a low-cost airline website. When the button is clicked, students can immediately view the website through CALLWB Web browser (Figure 11).

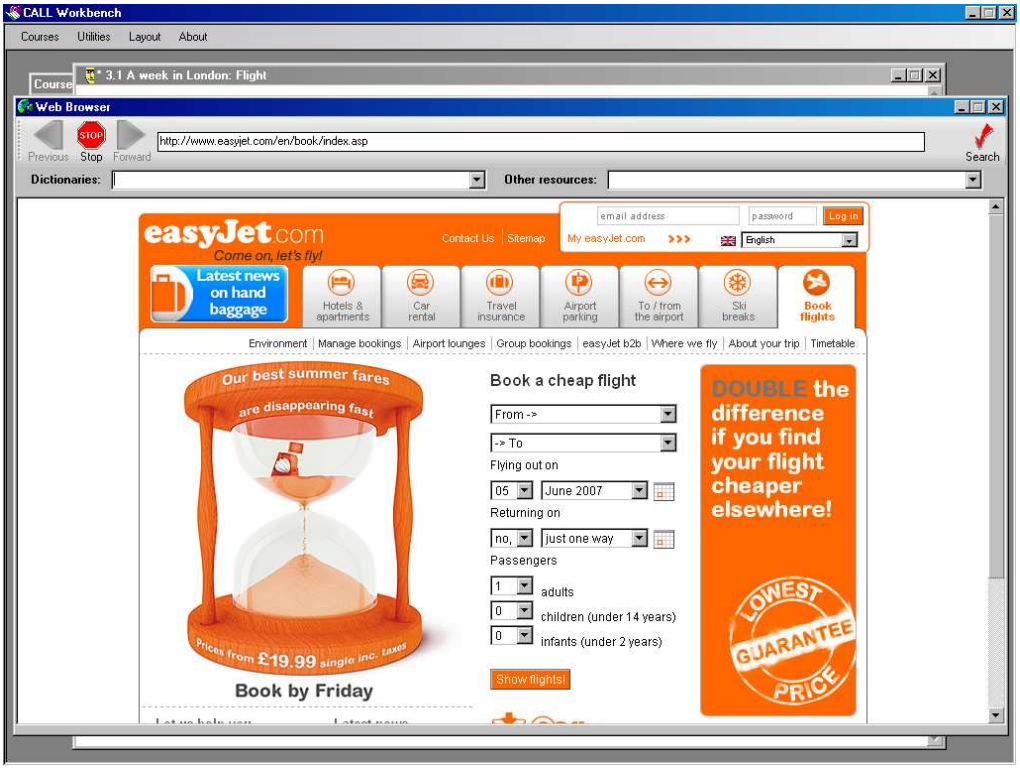


Figure 11. Web browser in CALL Workbench.

Taking advantage of the Internet-based utilities shown in Table 1, students are expected to use four CALLWB tools to carry out this LanguageQuest successfully: Web Browser, NotePad, LAN Chat and E-mail. Firstly, the Web Browser is intensively used in the process section, where students are provided with the set of websites necessary for the inquiry task. Secondly, the NotePad is used for two main roles: note taking and travel-plan writing. Thirdly, students form discussion groups to share relevant information through LAN Chat; they have to reach an agreement concerning the different aspects of the trip in order to design a well-organised travel plan. Finally, the students e-mail their teacher the travel plan and the conversation in LAN Chat — both of them for evaluation.

In this section, we have demonstrated how standard LanguageQuests can be perfectly reproduced in an off-line computer-based setting. Next section presents a comparative analysis for three different learning scenarios where LanguageQuests can be implemented through the computer, pinpointing strengths and weaknesses in each one of them.

Benefits of LanguageQuests in off-line computer-based settings

One of the most serious problems that some teachers face with using LanguageQuests is technology, not only regarding the computer-based setting but also their own computer literacy (see Foell, 1983). Technically speaking, two possible scenarios can take place when a LanguageQuest is implemented in a computer room: (a) Internet set-up is adequate, or (b) there is no Internet access, or bandwidth is very low. Obviously, scenario (b) dramatically affects the potential of LanguageQuests in Web-based CMSs. On the contrary, CALLWB allows teachers to design and develop effective LanguageQuests for any of these two learning settings.

You have just been shown a sample LanguageQuest (Figures 9-11) in which Internet connection is required. Now suppose that you want this LanguageQuest to be implemented in CALLWB within scenario (b). According to Dodge (2001), WebQuests, and hence LanguageQuests, should be designed to fully exploit the medium, i.e. the Web. Not just the selection of Web pages, but audiovisual resources as well as CMC should also play a predominant role. According to Tuzi (1998), the main advantage of using audiovisual resources taken from the Web is that students can listen to real speech (i.e. discourse aimed at native speakers — e.g. a news bulletin) as well as spontaneous speech (i.e. discourse produced without a script — e.g. a chat show). In addition, CMC focuses on some of the most remarkable features of a successful cooperative learning environment, such as positive interdependence, promotive interaction and group processing (Johnson & Johnson, 1994). Although being an off-line virtual learning environment, CALLWB is able to simulate a Web-based setting, in which students can resort to Web pages, audiovisual resources and CMC. For example, a repository of relevant off-line Web resources can be stored in the hard disk, or any other type of storage medium, and the functionality of a Web-based search engine is emulated by Database Searcher (Figure 12).

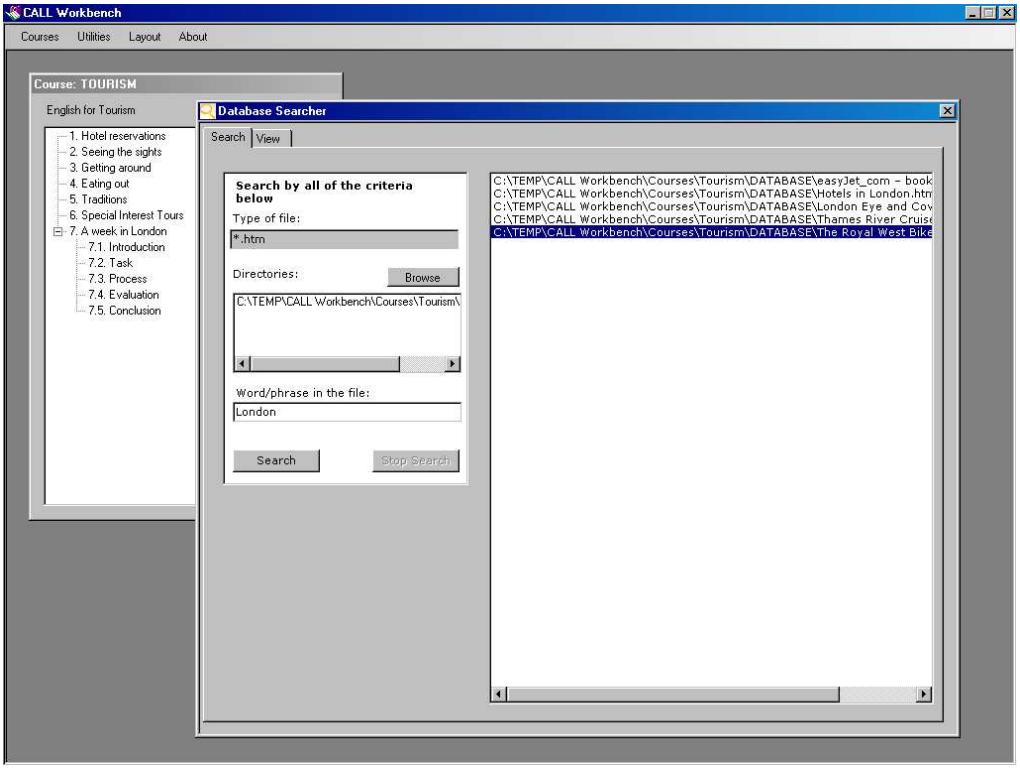


Figure 12. Search tab in Database Searcher.

Indeed, the Search tab in Database Searcher is similar to *Microsoft Windows Explorer* built-in search utility. The students indicate the folders which are going to be searched and type some keywords in the query textbox. The program searches for words or phrases that are inside HTML files located in the target folders. Search results are displayed in the form of a list of the paths of files containing those keywords. When double-clicking any list item, the program switches automatically to the View tab, where the contents of the target file are displayed (Figure 13).

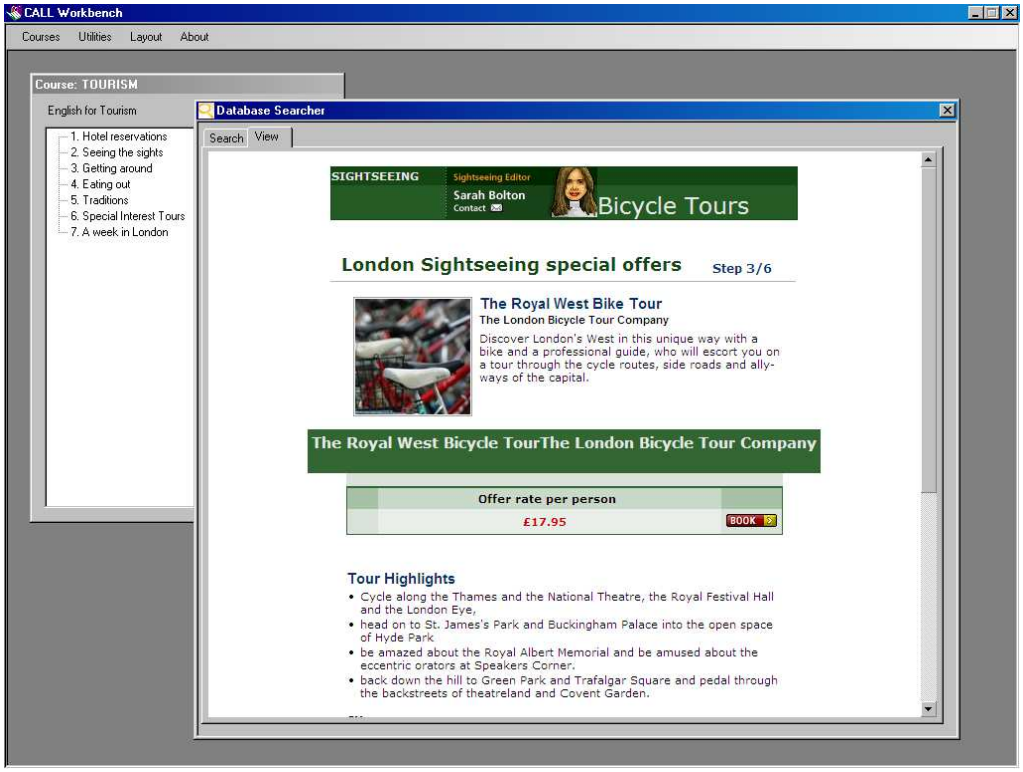


Figure 13. View tab in Database Searcher.

A question may arise from this panorama: which computer-based setting turns out to be more beneficial for LanguageQuests? In an attempt to offer an answer to this question, we have selected ten criteria we consider highly relevant for our purpose. In the next sections, those criteria will be dealt with in detail and reference to three different computer-based settings will be made. We do not intend to present an exhaustive inventory of descriptors, but those we consider sufficiently representative so as to achieve relevant results in this comparative analysis. The representativeness of our criteria is justified in view of the fact that they focus on the main components of the computer implementation in the classroom: the courseware (e.g. resource availability, accessibility and suitability), the application (e.g. CMC, Web publication, monitoring, usability and portability) and the teacher (e.g. dedicated computer/FL training).

Resource availability

Web-based applications provide learners with a substantial amount of resources. However, as there is much more information available in the Web than learners really need, they should be guided towards what to read, leading to an implicit delimitation of Internet navigation. As Kasper (2002) states, "controlled hypertext provides students

with guided practice that takes them step-by-step through a hypertext document and helps to facilitate their acquisition of the cognitive strategies necessary to navigate and comprehend nonlinear texts". On the other hand, handling off-line Web resources overcomes one of the inherent problems of the Web as a repository of information, i.e. the inactivity of relevant hyperlinks for the inquiry task.

Resource accessibility

Materials are more easily and quickly accessible when they are stored on a hard disk, or on any other type of storage medium. This is particularly advantageous when learners interact with an audiovisual resource, whose size usually increases download time dramatically. For example, video streaming allows users to access large audiovisual files without saturating the buffer memory and to browse the resource in just a few seconds instead of having to wait for the complete download; however, interruptions in the streaming because of "traffic jams" and sluggish computers become the major inconvenience. In short, the interaction of students with computer-based teaching materials can be easier in CALLWB than in Web-based applications, since you can enhance both the availability of and accessibility to the courseware by combining effectively the benefits of different learning settings.

Resource suitability

When learners get access to the Internet, three typical problems can arise concerning the suitability of resources to the LanguageQuest:

(i) Learners can unexpectedly find some web sites where a considerable amount of the project's assignment is already done; unfortunately, in these cases most students will succumb to the temptation of plagiarism.

(ii) Some controversial non-educational materials are not desirable to be available to learners — especially to young ones: e.g. pornography, violence, racism, sexism, etc. Parental-control software such as CyberPatrol[10] allows teachers to monitor and filter the accessibility to websites of some particular domain, but the problem is that this type of program also "blocks out more information than may be intended in the first place" (Hargittai, 1998), besides the fact that "filtering software installed is not always foolproof" (BECTA, 2007a, 2007b).

[10] http://www.cyberpatrol.com

(iii) There is plenty of information on the Web that is incorrect or out of date, and "students believe that what they read online appears to have as much authority as the printed word" (BECTA, 2007a, 2007b).

These problems are non-existent when learners work with a huge repository of relevant off-line web pages previously selected by the teacher, while they can still display navigation strategies and enjoy the advantages hypertext offers such as the promotion of discovery and explanation through its rhizomatic[11] structure or, again, the promotion of cognitive flexibility to integrate and consolidate knowledge obtained from different sources (Spiro et al., 1992).

Computer-mediated communication

Any of these three learning settings provides students with CMC tools, thus enhancing learner's performance on individual tasks or fostering positive group dynamics in collaborative projects. However, in spite of the advantages of LAN Chat over standard chat utilities, a deficiency is found in an offline setting: learners cannot communicate with other learners outside the classroom, losing the chance to get in contact with peer native speakers as well as their cultural diversity.

Web publication

Web publication of learners' final assignment (or some part of it), in the form of a web page or a message posted in a forum or blog, may improve the quality of the assignment itself, since learners are aware that their work is going to be made public to the whole world, giving also a sense of reality to the work carried out in the classroom. This sense of reality can be said to be part of the main objective of the so-called integrative CALL. Such an objective is what some authors have called "Agency", which has been defined as "the satisfying power to take meaningful action and see the results of our decisions and choices" (Murray, 1997) or "the power to construct a representation of reality, a writing of history, and to impose reception of it by others" (Kramsch et al., 2000). Agency is really what makes students so excited about using computers in the

[11] The term "rhizome" is used to describe theory and research that allows for multiple, non-hierarchical entry and exit points in data representation and interpretation.

classroom: the computer provides them a powerful means to make their stamp on the world (Warschauer, 2000).

Monitoring

In general, the more controlled the learning setting, the easier the monitoring in the classroom. We are aware that the word "control" used in a learning context usually has a negative connotation but in this case the setting we are referring to is the one in which both teachers and learners have access to all the steps that are being taken throughout the learning process, which can then be assessed from a qualitative perspective. In this sense, it is very relevant to have the opportunity to follow learners' navigation process in order to have a close idea of their Web literacy skills. Teachers should then be encouraged to facilitate the development of learners' linguistic, semiotic and (meta)cognitive skills, which help them become more efficient Web users. On the other hand, teachers and learners can also "analyse" the written language that has been used while communicating with LAN chat. In this case, the possibilities are endless, since such analysis can be done from a wide variety of perspectives useful for research purposes. In conclusion, monitoring can be carried out by both teachers and learners but the latter should be especially encouraged in order to start gaining confidence and thus become more independent language learners.

Usability

Web-based applications are dramatically less interactive than stand-alone applications, which are usually provided with a richer user interface and direct manipulation capabilities. More particularly, in stand-alone applications more attention can be paid to some cognitive features of the interface design, which can be articulated on three different levels: structural, constructive and dynamic (Zaccagnini, 1994). Firstly, the structural level deals with the visual composition of the interface, i.e. the distribution of information on the screens and the type of objects used to display that information. The aim is to facilitate legibility and content understanding, so features such as consistency of screens and density of information are very important. On the one hand, it is fundamental that the design of all screens should look like very similar, since the lack of continuity in the interface can make learners lose their way. On the other hand, if controls are suitably spaced and positioned in the interface, the application can become more user-friendly. Indeed, the "spacing effect" is a key factor in the effectiveness of

educational applications (Bennett, 1999). The immediate consequence of this theory is that the screen should only display information strictly relevant to the successful accomplishment of the task users are carrying out, but with complementary information ready to be retrieved when learners request (McCarthy, 1993). Secondly, the constructive level refers to the criteria with which meaning is assigned to the information displayed to users. The aim is to make this information available at the right moment, so that it can help learners in their next actions. Features such as error messages or help items are better taken care of in desktop applications. Thirdly, the dynamic level deals with the way in which the system navigation is designed. Windows-based controls such as buttons and menus facilitate learners' movements through the application.

Portability

In general, web-based applications are much more portable than stand-alone applications. HTML pages are viewable in any web-browser, regardless of the underlying operating system or hardware. However, differences are evident between browsers and their different versions when running more complex content (Mikkonen & Taivalsaari, 2007). On the other hand, CALLWB requires *Microsoft Windows* to run properly.

Dedicated computer training

Typically FL teachers use Web editors such as *Microsoft FrontPage* or *Dreamweaver*, or authoring programs such as *InstantWebQuest*[12] or *PHPWebQuest*,[13] in order to create a WebQuest[14] or even to modify an existing one. In case that teachers want to create web pages beyond simple text documents with limited interactive capabilities, then dynamic web programming is required, demanding the mastery of some scripting language (e.g. Javascript). Moreover, WebQuests usually require to be published on the Web when included in CMSs.[15] The root of this technological problem lies in the fact that governments invest a lot of money in setting up Internet connection in classrooms but few funds are allocated to teachers' computer training.

---

[12] http://www.instantprojects.org/webquest/main.php
[13] http://eduforge.org/projects/phpwebquest/
[14] Moreover, WebQuests can be created from a template or from scratch.
[15] This is the reason why you are not recommended to create Web pages using *Microsoft Word*, since resulting HTML files would contain a lot of unnecessary code that could probably increase the size of these files as well as causing incompatibilities with browsers other than *Internet Explorer*.

On the other hand, you can succeed in developing a CALLWB activity with just working knowledge on *Microsoft Word*. Therefore, regardless of the two possible scenarios where WebQuests can be implemented in CALLWB, no dedicated computer training from teachers is required in our program, so they can feel more comfortable working in a stand-alone setting.

Dedicated FL training

Reading hypertext cannot be compared with reading traditional printed text mainly due to the huge amount of possibilities opened by the non-linear and rhizomatic structure of the former. Indeed we cannot expect our students to make good use of the Web, which can be considered unexplored from a pedagogical perspective. Training becomes necessary to promote learners' critical thinking regarding Web pages so that they develop reasonable criteria to examine and evaluate online information. It is true that in the three settings we are dealing with, learners are able to carry out navigation processes and we don't need to mention the advantages of having access to the Internet, such as a wide variety of multimodal material available. However, a more reduced environment like the one CALLWB can offer without access to the Internet is a "safer" start for learners, especially for those with a low level of metacognition, who "tend to become disoriented in the web-based learning environment" and so "they are likely to forget what they have to do and where they need to go for their next tasks" (Lee & Baylor, 2006, p. 345).

Once these ten criteria have been carefully dealt with, Table 2 can be useful to have a quick representation of the comparative analysis that has been carried out, where the last two columns correspond to CALLWB.

Table 2. Comparative analysis of computer-based learning settings.

	- …… control on the setting …….+		
	Web-based	**Stand-alone**	
		with Internet access	**without Internet access**
1. Resource availability	**	***	**
2. Resource accessibility	**	**	***
3. Resource suitability	*	*	***
4. Computer-mediated	***	***	**

communication			
5. Web publication	***	***	*
6. Monitoring	*	**	***
7. Usability	*	***	***
8. Portability	**	*	*
9. Dedicated computer training	**	*	*
10. Dedicated FL training	***	***	**

***: high **: medium *: low

Conclusions

The ideal environment for the implementation of WebQuests is that which benefits from the advantageous of different computer-based settings. Taking into account the results of Table 2, the following main conclusions have been reached concerning the implementation of LanguageQuests through CALLWB:

(i) Teachers should keep in mind the most convenient allocation of the courseware. Some resources are displayed by the Web Browser, i.e. on-line lookup (e.g. those in which information is regularly being updated: price lists, catalogues, etc.). Other resources are located by the Database Searcher — i.e. off-line lookup (e.g. those which are presented as finished work: articles, book chapters, etc.). Moreover, if graphical or audiovisual materials are to be used, they should be stored in the learner's computer or in media such as CDs or DVDs.

(ii) If there is the slightest possibility that students could end up browsing websites which could negatively affect their educational experience, then the Database Searcher should be used instead of the Web Browser.

(iii) LAN Chat has been suitably devised for information exchange among the members of a discussion group within the classroom, but Web-based electronic tools can also give learners the opportunity to communicate with native speakers outside the classroom.

In conclusion, technical features in CALLWB bring many pedagogical benefits to the language learning process by combining the best of Web-based applications with the best of stand-alone ones.

References

Adell, J. (2004). Internet en el aula: las WebQuest. *Edutec: Revista Electrónica de Tecnología Educativa, 17*. Retrieved July 7, 2006, from http://www.uib.es/depart/gte/edutec-e/revelec17/adell_16a.htm

Aydin, S. (2007). The use of the Internet in ESL learning: problems, advantages and disadvantages. *Humanising language teaching, 9 / 1*, 1-3.

BECTA (2007a). *Signposts to safety: Teaching e-safety at Key Stages 1 and 2*. Retrieved March 10, 2008, from http://publications.becta.org.uk/download.cfm?resID=32422

BECTA (2007b). *Signposts to safety: Teaching e-safety at Key Stages 3 and 4*. Retrieved March 10, 2008, from http://publications.becta.org.uk/download.cfm?resID=32424

Bennett, F. (1999). *Computers as Tutors: Solving the Crisis in Education*. Sarasota: Faben.

Bos, B., Munoz, K. D., & Van Duzer, J. (2005). *Blackboard vs. Moodle. A comparison of satisfaction with online teaching and learning tools.* Humboldt State University. Retrieved March 7, 2008, from http://www.humboldt.edu/~jdv1/moodle/all.htm

Brandl, K. (2005). Are you ready to Moodle?. *Language Learning & Technology, 9/2*, 16-23.

Cole, J., & Foster, H. (2005). *Using Moodle: Teaching with the Popular Open Source Course Management System*. Sebastopol, CA: O'Reilly Community Press.

Dodge, B. (1995). Some thoughts about WebQuests. Retrieved May 4, 2006, from http://webquest.sdsu.edu/about_webquests.html.

Dodge, B. (1998). Building blocks of a WebQuest. Retrieved May 4, 2006, from http://projects.edtech.sandi.net/staffdev/buildingblocks/p-index.htm

Dodge, B. (2001). FOCUS: Five rules for writing a great WebQuest. *Learning & Leading with Technology, 28/8*, 6-9.

Dunnagan, E., Hifner, G., Miller, R., & Wheeler, C. (2002). *Action research: WebQuests and their effectiveness in the classroom*. http://imet.csus.edu/imet2/hifnerg/E-Portfolio/actionresearch.pdf .

Fiedler, R. (2002). *WebQuests: a critical examination in light of selected learning theories*. http://www.msfiedler.com/wq/fiedler.pdf .

Foell, N. A. (1983). A new concern for teacher educators: computer literacy. *Journal of Teacher Education, 34*, 19-22.

Hargittai, E. (1998). *The pros and cons of implementing the Internet in the classroom: Making sense of the hype*. Retrieved June 16, 2006, from http://www.princeton.edu/~eszter/edu/toc.html

Holec, H. (1981). *Autonomy in Foreign Language Learning*. Oxford: Pergamon.

Johnson, R. T., & Johnson, D. W. (1994). An overview of cooperative learning. In J. Thousand, A. Villa, & A. Nevin (Eds.), *Creativity and Collaborative Learning: A Practical Guide to Empowering Students and Teachers*. Baltimore: Brookes Press.

Kasper, L. (2002). Building literacy in the age of information: Technology as a tool for sustained content study. *The Reading Matrix, 2/2*. Retrieved February 18, 2004, from http://www.readingmatrix.com/articles/kasper/index.html

Koenraad, A. L. M. (2002). TalentQuest: WebQuests for modern languages. In J. Colpaert, W. Decoo, M. Simons & S. Bueren (Eds.), *CALL Professionals and the Future of CALL Research. Proceedings CALL 2002* (pp 159-168). Antwerp: University of Antwerp.159-168

Koenraad, A. L. M., & Westhoff, G. J. (2003). Can you tell a LanguageQuest when you see one? Design criteria for TalentQuests. *2003 Conference of the European Association for Computer Assisted Language Learning*. Limerick.

Kramsch, C., A'Ness, F., & Lam, E. (2000). Authenticity and authorship in the computer mediated acquisition of L2 literacy. *Language Learning & Technology, 4/2*, 78-104.

Lee, M., & Baylor, A. L. (2006). Designing metacognitive maps for Web-based learning. *Educational Technology & Society, 9/1*, 344-348.

LeLoup, J. & Ponterio, R. (1997). *Internet Technologies for Authentic Language Learning Experiences*. Washington, DC. ERIC Clearinghouse on Languages and Linguistics.

Luzón, M. J. (2002). Internet content-based activities for ESP. *English Teaching Forum, 40/3*, 20-25.

March, T. (1998). Why WebQuests? An introduction. Retrieved May 4, 2006, from http://tommarch.com/writings/intro_wq.php

McCarthy, B. (1993). Developing CALL materials for the foreign language classroom: Ideals and practicalities. *ON-CALL: The Australian Journal of Computers and Language Education, 7/2*, 2-9.

Mikkonen, T., & Taivalsaari, A. (2007). *Web applications — Spaghetti code for the 21st century*. Technical report TR-2007-166. Sun Microsystems Labs. Retrieved July 16, 2007, from http://research.sun.com/techrep/2007/smli_tr-2007-166.pdf

Murray, J. H. (1997). *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. Cambridge: Cambridge University Press.

O'Malley, J.M., & Chamot, A.U. (1990). *Learning Strategies in Second Language Acquisition*. Cambridge: Cambridge University Press.

Oxford, R.L. (1990). *Language Learning Strategies: What Every Teacher Should Tecknow*. Rowley, Mass.: Newbury House.

Pérez, I. (2006). WebQuests: Habilidades cognitivas. *Jornadas de WebQuests*. Barcelona.

Periñán-Pascual, C. (2007). To program or not to program (I)CALL software: Is that our question?. In C. Periñán-Pascual (Ed.), *Revisiting Language Learning Resources* (pp. 25-42). Cambridge: Cambridge Scholars Publishing.

Richards, C. (2005). The design of effective ICT-supported learning activities: Exemplary models, changing requirements, and new possibilities. *Language Learning and Technology 9/1*, 60-79.

Robb, T. (2004). Moodle: A virtual learning environment for the rest of us. *TESL-EJ, 8/2*. Retrieved February 20, 2008, from http://writing.berkeley.edu/TESL-EJ/ej30/m2.html

Rouet, J. F., & Levonen, J. J. (1996). Studying and learning with hypertext: Empirical studies and their implications. In J. F. Rouet, J. Levonen, A. Dillon, & R. J. Spiro (Eds.), *Hypertext and Cognition*. Mahwah: Lawrence Erlbaum.

Smith, C. W. (2006). Synchronous discussion in online courses: A pedagogical strategy for taming the chat beast. Innovate, 2/5. Retrieved March 13, 2008, from http://www.innovateonline.info/index.php?view=article&id=246

Spiro, R. J., Feltovich, P. J., Jacobson, M. J., & Coulson, R. L. (1992). Cognitive flexibility, constructivism, and hypertext: Random access instruction for advanced knowledge acquisition in

ill-structured domains. In T. M. Duffy, & D. H. Jonassen (Eds.), *Constructivism and the Technology of Instruction: A conversation.* Hillsdale: Lawrence Erlbaum.

Tuzi, F. (1998). Real audio to augment real listening in the ESL classroom. *The Internet TESL Journal, 4/3*. Retrieved March 7, 2004, from http://iteslj.org/Techniques/Tuzi-RealAudio.html

Vygotsky, L. S. (1978). *Mind in Society*. Harvard University: Cambridge.

Warschauer, M. (1996). Computer-assisted language learning: an introduction. In S.Fotos (Ed.), *Multimedia Language Teaching* (pp. 3-20). Tokyo, Japan: Logos International.

Warschauer, M. (2000). The death of cyberspace and the rebirth of CALL. *English Teachers' Journal, 53*, 61-67.

Warschauer, M., & Meskill, C. (2000). Technology and second language teaching. In J. Rosenthal (Ed.), *Handbook of Undergraduate Second Language Education*. Mahwah: Lawrence Erlbaum.

Zaccagnini, J. L. (1994). El diseño de la interfaz de usuario. In P. Adarraga, & J. L. Zaccagnini (Eds.), *Psicología e Inteligencia Artificial*. Madrid: Trotta.