

Enhancing Webquest for Effective ESP Learning¹

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Abstract. WebQuests are online activities especially suitable for a content-based ESP course aimed at developing learner's autonomy and multiliteracies. They are inquiry-based activities in which learners need to complete a task by interacting with and transforming information coming primarily from resources on the Internet. The goal of this paper is to suggest ways to enhance the WebQuest concept for effective ESP learning. For this purpose, the paper focuses on three objectives that the design of WebQuests for ESP should seek to meet: (i) helping students acquire the knowledge and develop the skills necessary to communicate effectively within their disciplinary community; (ii) helping students develop skills for lifelong and autonomous learning; (iii) fostering the development of new literacies and training students in the active and strategic processes of meaning construction that they will need in order to understand and produce the high variety of texts of society today.

Keywords. Webquest, ESP, learner autonomy, multiliteracies.

1. Introduction

WebQuests are inquiry-based activities in which learners interact with and transform information coming primarily from resources on the Internet (Dodge 1995)². Although WebQuests are not activities originally intended for language learning, several researchers have explored their potential for this purpose (Koenraad 2002; Luzón 2002; Richards 2005; Simina and Hamel 2005). An interesting project in this line is the LanguageQuest project³, aimed at adapting WebQuests to the specific requirements of SLA (Koenraad 2006) and using this format for designing realistic, content-oriented functional tasks for language learning. Researchers on the project have drawn on communicative approaches to develop a set of criteria for optimising the WebQuest concept for effective language learning, e.g. the task should promote use of the target language, the material needed for completing the task should be authentic, the task should be flexible (giving learners options) and provide opportunities for differentiation, the task should provide opportunities for reflection on the process and on the product.

The purpose of this paper is to offer suggestions on how to exploit the WebQuest format to design activities through which ESP learners can engage in meaningful language learning. I start from the premise that for ESP courses to be effective and address the current and future communicative needs of students, they need to be designed with a genre-based content-oriented approach to learning, aim at the promotion of autonomous learning and higher order thinking and focus on the development of multiliteracies. These three criteria can be used to inform the design of WebQuests for ESP.

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² One place to start getting familiar with this Web-based activity is *The WebQuest Page* (<http://webquest.sdsu.edu/index-2007a.html>), an Internet site by Bernie Dodge, the creator of this model for Internet-based teaching and learning.

³ For a detailed description of the project and the results, see the project website (<http://www.talenquest.nl>).

2. Challenges for ESP instruction in Higher Education

The workplace and educational scenes are undergoing radical changes which have particular implications for language teaching and learning. The students' mobility promoted by the Bologna process, the globalisation of labour markets and of communications and the emergence of new communication technologies, leading to the need to cope with new literacies, are rapidly transforming education and professional reality and will necessarily affect the way English for Professional and Academic Purposes is taught and learnt. When they access the labour market, students of ESP will need to use English to communicate effectively in authentic academic and professional situations, to act strategically to adapt to new communicative situations, and to become multiliterate to manage in a multicultural socioeconomic context where new types of texts and new forms of constructing meaning are constantly emerging. In this context, ESP courses should be concerned with three important issues: (i) empowering students with the linguistic knowledge and skills that will enable them to use English to communicate effectively with professionals of a specific discourse community; (ii) preparing students for lifelong and autonomous learning, so that they can cope in a world where communicative situations are constantly changing; (iii) helping students become multiliterate, and train them in the active and strategic processes of meaning construction that they will need in order to understand and produce the high variety of texts of society today (including electronic texts). We will look in more detail at each of these issues.

2.1 Communication within the discourse community.

As Bhatia (2001) states, "If the ultimate goal of LSP is to contribute to the development of students as competent professionals, discursive competence must not be viewed entirely on its own, but essentially embedded in professional practice". Learning activities should, therefore, be presented in context, which involves a genre-based task-oriented approach to ESP teaching and learning. ESP should be learnt in real contexts, with authentic and purposeful tasks, which are related to the students current academic needs (e.g., taking notes) or to their future professional needs (e.g., writing a report) and make use of materials from primary sources (see Johns 1997; Kimball 1998). Authentic tasks require students to interact with language and through language in a similar way as in real life. They, therefore, motivate students to develop competencies that will be necessary to complete the task, and to consider how they would need to use language in real communication.

Considering discursive competence as part of professional practice also involves a genre-based approach to ESP, i.e. an approach which relies on the analysis of the social context in which communication takes place and seeks to get students familiar with the genres used by a specific disciplinary community. Devitt (1993: 577) describes genre knowledge in the following way: "Knowing genre means knowing such things as appropriate subject matter, level of detail, tone and approach as well as the usual layout and organization. Knowing the genre means knowing not only, or even most of all, how to conform to generic conventions but also how to respond appropriately to a given situation". For achieving this purpose, genres should not be presented prescriptively, but as flexible cognitive structures that can be manipulated. Chapman (1999: 473) defines three learning objectives with regard to genre: "learning genres, or widening students' genre repertoires, learning about genres, or fostering genre awareness, and learning through genres, or using genres as tools for thinking and learning in particular situations". Chapman suggests widening students' genre repertoires without teaching explicitly any specific genre and fostering genre awareness by presenting genres in social contexts. In the same line, Devitt (2004: 192) argues for the need to teach

“genre awareness”, i.e. "a critical consciousness of both rhetorical purposes and ideological effects of generic forms" which "may enable writers to learn newly encountered genres when they are immersed in a context for which they need those genres”.

2.2. Promotion of lifelong and autonomous learning

The promotion of autonomy and lifelong learning is of paramount importance in ESP courses, due to factors deriving both from the teaching and learning context (e.g. limited time devoted to ESP courses, which means that students will need to go on learning after completing the course, timetable constraints that sometimes hinder class attendance, high heterogeneity in learning styles and proficiency levels) and from the current workplace context, characterised by increasing mobility, which makes it difficult to identify the situations in which students may need to use English.

Fostering language learning autonomy involves giving learners the control of their own learning, that is, adopting a learner-centered approach that pays attention to aspects such as learning styles, proficiency levels and learning goals and needs, motivation, self-monitoring and self-assessment. An important role for the teacher is to help students learn strategies and activate cognitive and metacognitive processes. This involves encouraging them to reflect on their own learning, suggesting a variety of strategies and making them aware of which ones they are using for a particular task and why.

2.3. Development of multiliteracies.

When defining “multiliteracies”, Cope and Kalantzis (2000) refer to two closely related changes: the increasing significance of cultural and linguistic diversity, resulting in a wide variety of texts, and the influence of new communications technologies (e.g. multimedia, the Internet), where texts are often multimodal, combining written-linguistic modes of meaning with visual, audio and spatial modes. It is increasingly difficult to function in the worlds of education and work without mastering the new literacies of today society. Students need, therefore, to become multiliterate and be able to access and use information in different modes. Kasper (2000: 106) states that “to be considered multiliterate, students today must acquire a battery of skills that will enable them to take advantage of the diverse modes of communication made possible by new technologies and to participate in global learning communities”. She considers that in addition to acquiring linguistic competence in English, ESL students must become functionally literate (i.e. “able to speak, understand, read, and write English, as well as use English to acquire, articulate and expand their knowledge”), academically literate (i.e. “able to read and understand interdisciplinary texts, analyze and respond to those texts through various modes of written and oral discourse”), critically literate (i.e. able to “evaluate the validity and reliability of informational sources”) and electronically literate. Kasper draws on Shetzer and Warschauer’s (2000) concept of electronic literacy as the ability to use electronic tools for communication, construction, research, and autonomous learning. Being electronic literate involves engaging in new thought processes, in order to interact with new text formats (e.g., hypertext and interactive multiple media), new reader-related issues (e.g., new purposes or motivations for reading a text, high-level metacognitive skills) and new activities (e.g., publishing online, participating in online synchronous and asynchronous exchanges) (Coiro 2003). Therefore, ESP courses should provide students with the opportunity to engage in these processes, in order to help them develop the new literacy skills that they will need to successfully use and adapt to ICTs.

The WebQuest format provides ESP teachers with a learning tool to effectively address the three concerns discussed above: teaching students to communicate within the professional community, promoting lifelong and autonomous learning and fostering the development of new literacies.

3. What is a “real” WebQuest?

With a view to emphasising that a (real) WebQuest requires transforming information into a new understanding, March (2003: 43) provided the following definition of WebQuests:

A WebQuest is a scaffolded learning structure that uses links to essential resources on the World Wide Web and an authentic task to motivate students' investigation of a central, open-ended question, development of individual expertise and participation in a final group process that attempts to transform newly acquired information into a more sophisticated understanding. The best WebQuests do this in a way that inspires students to see richer thematic relationships, facilitate a contribution to the real world of learning and reflect on their own metacognitive processes.

As can be seen in this definition, the principles underlying WebQuests are those of constructivism: students learn by transforming information and constructing their perceptions of complex concepts.

WebQuests have the following components:

1. An introduction that sets the stage for the activity and provides background information.
2. A task that is feasible and interesting. It usually engages students in answering a complex open-ended question or solving a real world problem. Students need first to learn some basic background information about the issue. Then, working in small groups, they become “experts” on some aspect of the problem by analyzing the Web sites given to them by the teacher. Finally, they complete a real world activity by producing an output, e.g. a written report, an oral presentation, a multimedia presentation, a website.
3. A set of information sources needed to complete the task. Teachers usually pre-select a few websites which provide background information for all learners, as well as specific websites for each student's role.
4. A description of the process the learners should follow to complete the task. It may include a description of the different roles to play, with the tasks to be performed by the students playing each role. Resources may be embedded in the process section.
5. Evaluation, usually in the form of a rubric that sets the assessment criteria for the students.
6. A conclusion that closes the quest and encourages the learners to reflect on the process.

4. WebQuests for ESP

WebQuests are activities especially suitable for a content-based ESP course (Luzón 2002) aimed at developing learner's autonomy and multiliteracies. Through this activity format students can be asked to perform a real world task using a wide variety of online authentic discipline-related materials. Students engage in a scaffolded learning process that leads them to use higher order thinking in order to transform information. I will propose here ways to

enhance the WebQuest concept for effective ESP learning, starting from the three issues discussed above as relevant in ESP courses:

4.1. Training students to communicate effectively in their disciplinary community

For that purpose WebQuests should be authentic content-based tasks where students are given the opportunity to interact with documents and genres used in their discipline and therefore learn through genres. WebQuests can engage students in performing authentic simulation tasks by asking them to analyse varied and up-to-date information on a topic and use that information to write with a purpose for a real-world audience. That way, WebQuests promote learner motivation and skills in problem solving and decision making.

Although task authenticity is difficult to define, the ten characteristics listed by Reeves et al. (2002) are a useful guide for the design of authentic activities. According to these authors, authentic activities: (i) have real-world relevance, (ii) are ill-defined and require students to define the tasks needed to complete the activity, (iii) comprise complex tasks, (iv) give students the opportunity to examine the task from different perspectives, using a variety of resources, (v) provide the opportunity to collaborate, (vi) provide the opportunity to reflect, (vii) can be addressed across different subject areas, (viii) are integrated with assessment, (ix) yield products valuable in their own right, (x) allow diverse solutions and outcomes. These criteria might be used as guidelines when designing WebQuests for ESP.

For ESP WebQuests to have real-world relevance, they need to be based on the real-world tasks of professionals in practice. The task should reflect the kind of communicative situations in the students discipline, and engage students in cognitive processes necessary to manage these communicative situations, e.g. students will need to use their background knowledge of the discipline to assess the situation, identify problems, use a variety of primary sources to find and articulate solutions or answers, evaluate the relevance of these sources for their purposes, and synthesise and transform information to produce an output (e.g. a written report, a presentation) as a response to the situation described in the task. Both the information sources and intended output should reflect the communicative purposes for which the discourse community uses texts.

A WebQuest designed with these criteria in mind can be nicely integrated within a genre-based approach to ESP, where emphasis is placed on getting students familiar with the values of the disciplinary community and with the genres used by such community. In this context it is important to take into account that it is impossible to pinpoint accurately the genres that students will need in the future, given that the genres used by a disciplinary community form a genre ecology (Spinuzzi 2004), a dynamic system that is constantly importing, transforming and hybridizing genres. Therefore, rather than focusing on teaching the forms and functions of specific genres, it seems appropriate to use genres for developing students' "genre awareness" and helping them notice how language choices are used by the writer to achieve communicative goals. This implies a focus on form⁴, which could be achieved in a WebQuest in several ways, such as input flood (i.e. presenting students with a great quantity of texts including features to which attention needs to be drawn), input enhancement (i.e. drawing the learner's attention to the target features through highlighting, animation, etc.) or corrective feedback on error, which can be provided by the teacher if students are given the opportunity to submit drafts on their work (Doughty and Long 2003). Genre awareness can also be fostered if the WebQuest resources provide access to texts illustrating a variety of genres used

⁴ Doughty and Long (2003: 64) define "focus on form" in the following way: "During an otherwise meaning-focused lesson, and using a variety of pedagogic procedures, learners' attention is briefly shifted to linguistic code features, in context, to induce "noticing" (...), when students experience problems as they work on communicative tasks".

in the discipline, which will enable students to see how language is used differently for different purposes.

Finally, another feature of WebQuests that can be exploited to develop students' discursive competence is their potential for collaborative learning. When completing a WebQuests students usually have to adopt different roles, explore a variety of resources providing both background knowledge and specific knowledge for each role, and produce a joint output incorporating different perspectives. March (2005) points out that "the individual roles prompt students to develop expertise in the subject from within a situated learning environment", something that should be addressed in ESP courses. This "cooperative format" has several positive implications for ESP learning: (i) working with others gives learners real-life experience of working in a group; (ii) students are provided with the opportunity to examine the task from different perspectives; (iii) assuming different roles to grapple a complex issue encourages interdisciplinary perspectives, similar to what students will find in a workplace context; (iv) the WebQuest can lead to diverse outcomes (rather than a single correct response), deriving from the discussion and the different views of all the members of the group. Additionally, although discussion and exchange of information between the different members of a group does not usually take place online, students could be asked to perform the last part of the group work (i.e. reaching consensus) online, to ensure that English is used for that purpose. This is a good opportunity to train students to use their communicative skills to produce a consensual output, as they will need to do in real life.

4.2. Helping students develop skills for lifelong and autonomous learning

As we pointed out above, lifelong learning is a 'must' for students to cope in today's workplace context. This type of learning will only succeed if learners are trained to become progressively autonomous and are eventually able to set their own aims, reflect on their learning processes and assess their learning progress. The development of such procedural and strategic knowledge is facilitated by scaffolded learning, where students are given support, which is gradually reduced, until they can apply new skills and strategies on their own. The development of autonomous learning and scaffolding are supported by ICTs, since they multiply the types and forms of interaction, offer new forms of mediation and advice and increase the types of supports (Villanueva 2006; Ruiz 2005). The challenge for the teacher is to integrate all these possibilities into an autonomising task which helps the students' own learning plan. In this respect, March (2003: 43) defines WebQuests as "a *scaffolded* learning structure.... that attempts to *transform* newly acquired information into a more sophisticated understanding". In this section I will be concerned with how to effectively implement scaffolding in WebQuests and how to promote higher order thinking skills which facilitate the transformation of information.

4.2.1. Implementing scaffolding

To give students control of their own learning in an online environment, the teacher must assume the role of "guide" and construct a supportive environment where students can accomplish learning, both individually and collaboratively. Well-designed WebQuests are activities for guided discovery, through which learners can make decisions on learning goals and the teacher can provide guidance as needed during the different stages of the activity. March (2005) points out that "such scaffolding is at the heart of the WebQuest model". Support can be provided in various ways in different parts of the WebQuest.

The introduction is the appropriate section to put the materials in context, by meaningfully connecting new information to prior knowledge and by tying in learning to future communication needs. Warming-up exercises can be included to help students develop the right mindset, making them familiar with the problem they have to solve or the situation they have to face, and to focus on form by presenting documents where the students' attention is drawn to the linguistic structures that they will need to complete the tasks. After the task has been presented, students could be prompted to reflect on the linguistic and discursive knowledge they will need for its completion and to set their own language learning goals.

As regards the resources provided by the teacher to complete the task, they should be carefully evaluated to ensure that they are relevant, that they provide the learners with appropriate input to develop the task, and that they are suitable for the students' level of competence and needs. When deciding which resources to include, teachers should try to create a learning environment which is eclectic enough to include the different needs of the students. There should not be so many resources that the learners feel overwhelmed by the options available, but, since learners are expected to take responsibility for their own learning and make their own choices, there should be enough links to enable them to evaluate the resources themselves and decide which ones to use in order to complete the tasks.

The activities proposed need to be structured in the process section, so that the learners who need support can see what steps to follow in order to achieve the goals, but they should also offer the opportunity to make choices (e.g. proposing alternative paths to follow or letting learners choose between different sub-tasks or alternative ways to perform the task). One way to help learners is to make them aware of when the different sub-tasks can be useful and relevant for their purposes, which implies providing explicit and clear instructions regarding the objectives that can be achieved with each sub-task. A framework which could be used to structure the process section and guide the students through the task is that provided by Eisenberg and Berkowitz (1990) (cited in Slaouti 2002: 120) for information problem-solving:

1. Task definition: define the problem and identify its information requirements.
2. Information seeking strategies: determine the range of possible sources and evaluate the different possible sources to determine priorities. Although WebQuest provide a list of resources, students can be encouraged to find more resources and evaluate the relevance of the sources provided for their individual roles.
3. Location and access: locate sources and find information within sources.
4. Use of information: extract information from a source (by reading, hearing, viewing).
5. Synthesis: organise information from multiple sources and produce an output.
6. Evaluation: judge the product (effectiveness) and the information problem-solving process (efficiency).

Along this process, students can be provided with different types of scaffolding tools. Dodge (2000) proposes three types of scaffoldings that can be used in a WebQuest: reception, transformation and production. Receptions scaffolds assist learners in understanding, gathering, organizing and recording information from the sources, e.g. listening guidelines, online glossaries and dictionaries to make it easier for students to understand texts with unfamiliar vocabulary, links to online grammars, timelines, note-taking guides, such as concept maps to help students organise their research. Learners can also be provided with files with information on linguistic structures (lexico-grammatical structures, types of genres, etc) that are important to understand the texts. Transformation scaffolds assist learners in transforming information into some new form. This transformation may require comparing and contrasting, brainstorming, selecting, inductive reasoning, analysing, synthesising, reviewing, etc. Examples of transformation scaffolds include cause/effect charts,

compare/contrast tables, guides to brainstorming, charts or templates to help students when they need to make an informed decision or judgment based on data they've gathered. Finally, production scaffolds assist learners in producing the output. Examples include samples and models, presentation or writing templates, useful when students need help in organizing their thoughts in a particular presentation format or in a particular written format, multimedia element and structures. Templates can be helpful tools to raise language and genre awareness.

A powerful scaffolding resource is the integration within the activity of communication tools (e.g., e-mail, forums, online chat, bulletin boards, collaborative workspaces) and of prompts that encourage the learners to use these tools to ask the teacher or peers for clarification and feedback. Through communication tools, teachers can act as facilitators, providing feedback as and when each learner needs it and thus engaging in a supporting dialogue with the learners. Teachers can also receive students' work and thus monitor their progress and provide feedback on such work. At some stages of the activity, students can also be encouraged to use communication tools to comment on their peers' work, provide feedback, and answer each other's questions. Research in computer-aided assessment has stressed the advantages of online peer assessment (McLoughlin and Luca 2006; Segers and Dochy 2001): it provides support for the learners and helps the learners who provide feedback to reflect on their own work; in addition since communication is authentic, students are motivated to engage in meaningful interaction. If peer feedback is proposed as part of the activity, it is necessary to provide the learners with assessment criteria or standards that can guide them when examining each other's work.

4.2.2. Promotion of higher order thinking skill

According to Bonk and Reynolds (1997) the promotion of higher-order thinking through online learning requires challenging activities that enable learners to link new information to old, construct meaningful knowledge, and use metacognitive abilities. To promote higher order thinking, WebQuests have to provide for learning that is meaningful for students and motivates them to interact with, contextualise and apply the information that they get through the technology.

In order to teach students to act strategically and raise their learning awareness, a WebQuest task needs to incorporate elements which prompt learners to use cognitive and metacognitive strategies. Appropriate activities to develop cognitive strategies are those that require analysing, synthesising, comparing and classifying Internet resources; analysing different perspectives on an issue; deducing, generalising and drawing conclusions; building one's own solution and reflecting on the process followed to complete the task.

An important aspect here is training in metacognitive strategies (i.e. skills used for planning, monitoring and evaluating the learning activity) which enable learners to be aware of their cognitive skills and use these skills to learn. To develop metacognitive strategies, a language WebQuest could ask students to: (i) set their own learning goals, (ii) reflect on what they already know and the knowledge they can use to achieve the goals, (iii) reflect on what they need/want to know to complete the task, (iv) plan how to develop the task and assign roles, (v) select the resources in accordance with their objectives and with their assigned roles, (vi) choose between alternative learning paths (the hypertextual structure of the web can be used to suggest different reading paths, to adapt to the students' diverse needs and levels of proficiency), (vii) reflect on whether they are following the right path and accessing the right resources while doing the activity, (viii) evaluate both the learning process and the outcome of the activity and assess what they have learnt.

Incorporating tools for self-assessment and reflection is a form of metacognitive scaffolding which helps learners to link the learning process to their objectives and thus motivates them to take responsibility for their learning. Self-assessment and self-evaluation can be incorporated in a WebQuest in several ways (Luzón 2006), e.g. by embedding self-assessment in learning materials, by means of which students may be asked to stop and reflect on what they have done, with online forms (McLoughlin and Luca 2006) where students can assess their effectiveness in completing a task and reflect on the difficulties they have found, the reasons for these difficulties, and how they have solved them. A useful tool for reflection is an electronic journal, where learners can increase their self-awareness by recording their thinking throughout the learning process.

Students also need to be provided with tools to evaluate and improve their drafts. This can be achieved with checklist documents presenting criteria that a document should meet so as to be accepted by the disciplinary community. This will enable students to develop skills for evaluating the effectiveness and quality of their own writing, so that they can use these skills when writing in the workplace.

4.3. Fostering the development of new literacies

Coiro (2003) puts forward WebQuests as appropriate activities to train students into multiliteracies. She considers that “In terms of new literacies, these Web-based inquiry projects demand fairly high levels of thinking and collaborative problem solving that may surprise readers used to more traditional reading tasks”. Students search for, locate, read and evaluate information guided by a particular purpose (as opposed to simply "surfing the Internet") and they work collaboratively to construct a new understanding of the information. The creators of the WebQuest format have also stressed that this is a format intended to take advantage of the Web's capabilities and so develop electronic literacy. Dodge (2001) claims that “A WebQuest that's fully flexing the model is one that could not be accomplished easily on paper” and March (2005) states that “(WebQuests) take advantage of the Web's ability to present resources that might be interactive, media-rich, contemporaneous, contextualized, or of varied perspectives”.

Shetzer and Warschauer (2000) have categorized electronic literacies into three areas: research, communication and construction. Research encompasses a range of navigation, reading, and interpretation skills, including how to effectively search the Internet, how to evaluate information that you find, and how to critically consider multimedia information. Communication involves mastering the pragmatics of various forms of synchronous and asynchronous communication, both in one-to-one interaction and "many-to-many" electronic discussion forums. Construction involves the ability to work individually or collaboratively to write and publish information on the Internet, and includes mastery of hypermedia authoring. Although completing a WebQuest both requires and promotes research skills, several elements can be incorporated in the design to facilitate the development of all three types of electronic literacy skills.

Electronic research skills can be developed by designing WebQuests that enable students to be aware of and learn how to take advantage of the features of online texts. Coiro (2003) characterizes these texts as “hypertextual networks” that explore a variety of new formats and have features which require new thought processes for making meaning: “Web-based texts are typically nonlinear, interactive, and inclusive of multiple media forms”. Therefore, WebQuests could be designed to train students to: (i) work in a non-linear environment and interact with online texts in various ways; (ii) use search tools (e.g. search engines, electronic databases) to locate valuable and relevant sources of information; (iii) evaluate the usefulness

of online information in relation to one's purpose and follow links effectively to amplify such information, (iv) evaluate the accuracy of online information; (v) understand multimodality; (vi) use online texts as interactive resources to do things (i.e. searching for information, booking and purchasing products, viewing videos, registering for services, participating in polls, collaborating in text construction, etc.).

Electronic literacy is necessary to navigate the hyperlinks in ways that enable to construct meaning with a purpose in mind. Hyperlinked resources in WebQuests can be used to train students to use inferential reasoning skills and context clues to discern which information may be found at a hyperlink on a webpage. This can help them determine whether or not a hyperlink will contribute to or disrupt their search for relevant information. Students could be asked to note down their reading path through texts and reflect on the strategies they have used in selecting links.

Being able to evaluate information on the Internet (i.e. evaluate the accuracy and usefulness of resources, distinguish fact from opinion, assess the purpose and the ideology behind online texts) is another essential skill for ESP students (Slaouti 2002). This skill can be promoted through WebQuests by selecting resources which include a wide range of discipline-related texts, with different viewpoints, different purposes, and different degrees of authority support. It might be useful to provide students with documents including criteria or guidelines to evaluate information.

Through WebQuests students can also be trained to construct meaning from multimodal, multimedia texts. Documents on the Internet are often multimodal and have multiple-media formats which integrate diverse elements: written text, animation, graphics, interactive tools, audio and video. As Coiro (2003) points out: "For readers, these multimedia representations demand new ways of thinking about how to access, manipulate, and respond to information". Therefore, the resources selected for the WebQuest should, as far as possible, reflect this multimodality and take advantage of audio, video, and images on the Web when appropriate. The presentation of information in different modes does not only prepare students for multimodal literacy but also accommodates individual differences in learning style, helps comprehension and facilitates transfer to long-term memory. Additionally, since online texts are interactive and include multiple elements to enable interactivity (e.g., dialogue prompts, pull down menus, warnings and cautions, action buttons), a high degree of interactivity could be a criterion to select resources, in order to train students to manipulate, interact with and use online texts.

WebQuests can also help ESP students acquire electronic communication skills by providing them with practice in using communication tools effectively. For instance, students can be asked to take part in forums related to the WebQuest topic and use the discussion in the forum as a source of information. The sub-tasks and roles proposed in the WebQuest could require students to communicate with each other or to ask discipline experts through e-mail in order to complete the task. The WebQuest could incorporate tools for online debating when the kind of activity proposed requires or allows for this element. Dodge (2001) suggests using the QuickTopic site (<http://www.quicktopic.com/>) as an easy way to add an interactive forum to a WebQuest.

Finally, electronic literacies which involve understanding how to construct or design online documents and upload information onto the Internet can be promoted through WebQuests by setting tasks whose outcomes are documents intended to be published online and shared with others: a webpage, a digital presentation, a blog, a wiki, etc.

5. Conclusions

ICTs afford ESP students new, more relevant, richer and more complex learning opportunities than traditional media. However, these opportunities may be missed if tasks are not carefully designed according to sound pedagogical criteria and considering the specific learning and communicative needs of ESP students. Technology is most successful in leading to learning when it is used to engage students in meaningful, relevant and authentic activities with open-ended software and the Internet (Jonassen 2000). The WebQuest format has been proposed here as appropriate to design authentic tasks which can meet some of the challenges of ESP instruction: helping students acquire the knowledge and develop the skills necessary to communicate effectively within their disciplinary community, training students into autonomous, active and lifelong learning and promoting the development of new literacies.

Taking these three concerns into account, WebQuests for ESP might be expected: (i) to be authentic, purposeful and related to the students' discipline; (ii) to develop students' genre awareness and get students in touch with genres used in the discipline; (iii) to be adaptative of the students needs and individual learning goals and lend students control over their learning (allowing different learning pathways, catering to different learning styles); (iv) to include the necessary support to assist students in understanding and transforming information and in producing output; (v) to promote higher-order thinking skills; (vi) to offer interactive, multimodal, hypertextual resources, and to prompt students to perform tasks involving online communication and interaction with, manipulation and construction of online texts; (vii) to encourage students to reflect on the strategies they use to navigate the Internet and interact with online texts, and to train them to use these strategies flexibly, since new forms of literacy are required as technologies change; (viii) to motivate students to self-assess their learning process (i.e., the efficiency of the strategies they have used to achieve their learning goals) and the learning output.

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