Webtasks for Learning Professional and Academic English: Adapting the WebQuest Model

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Abstract. Upon accessing the labour market many graduates need to use English to communicate in professional situations and act strategically to adapt to new communicative situations. They also need to be digitally literate and be able to use the new types of texts and new forms of constructing meaning that are constantly emerging on the Internet. The WebQuest format (Dodge, 1995) affords the design of learning activities that can be integrated in an ESP course to help meet these needs. In Luzón and Ruiz-Madrid (forthcoming) a model of webtask which draws both on SLA principles and on research on digital textuality and new literacies is proposed. The purpose of this paper is to show how this model can be used to help students of ESP develop: (i) the discursive competences they will need to function effectively in an ever changing workplace context, (ii) learning autonomy, and (iii) new multiliteracy competencies.

Keywords. Webquest, ESP, autonomy, electronic literacies

1. Introduction

European higher education faces the challenge to prepare learners for a dynamic workplace scene which requires the development of new competences. In this scene graduates will probably need to use English to communicate effectively in professional settings, to strategically adapt to new communicative situations, to collaborate in the construction of knowledge, and to manage in a multicultural socioeconomic context where new types of texts and new forms of constructing meaning are constantly emerging. In this context, courses of English for Professional or Academic Purposes should be concerned with three important issues: (i) empowering students with the knowledge and strategies 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).

WebQuests (Dodge, 1995) can be used as an integral part of a course intended to help students develop skills for autonomous lifelong learning and electronic competences. The WebQuest has become a popular web-based activity for language learning (see Koenraad 2002, forthcoming; Luzón 2002, 2007; Pérez 2006; Richards 2005; Simina and Hamel 2005). An interesting project in this area is the LanguageQuest project 1, 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. Along this line, the purpose of this paper is to show how the WebQuest format can be adapted to help students of other disciplines develop the discursive competences they will need to function effectively in an ever changing workplace context. I first examine the implications (i.e. the new challenges and new opportunities) of the new sociocultural, economic and technological context for the design of ESP courses. I then discuss criteria for the design of a Webtask that

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1 For a detailed description of the project and the results, see the project website (http://www.talenquest.nl).
places emphasis on the development of new competences and autonomous learning. And finally, I show how these criteria have been taken into account for the design of a webtask for the course “Technical English for Chemical Engineering”.

2. New challenges and new opportunities for ESP courses

In the first issue of the *Journal for Academic Purposes*, Hyland and Hamps-Lyons (2002: 2) claim that EAP (English for Academic Purposes) involves grounding instruction in an understanding of the cognitive, social, and linguistic demands of specific academic disciplines. This takes practitioners beyond preparing learners for study in English to developing new kinds of literacy: equipping students with the communicative skills to participate in particular academic and cultural contexts.

This statement of aims could be extended to apply to any ESP course: teachers should equip students with the communicative skills and competences to participate in particular sociocultural contexts. 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”. Bhatia considers that discursive competence includes the notions of textual competence, generic competence and social competence (Bhatia 2004: 144). Textual competence refers to an ability to both “master the linguistic code” and “use textual, contextual and pragmatic knowledge to construct and interpret contextually appropriate texts” (Bhatia 2004: 141). Generic competence is “the ability to respond to recurrent and novel rhetorical situations by constructing, interpreting, using and often exploiting generic conventions embedded in specific disciplinary cultures and practices to achieve professional ends”, and social competence “incorporates an ability to use language more widely to participate effectively in a wide variety of social and institutional contexts” (Bhatia 2004: 144). Therefore, in order to help higher education students develop the discursive competence that they will need to participate in professional communicative situations, it is essential to examine the features of the current workplace context.

Current workplace has been described as focusing on transdisciplinary knowledge, which “includes a wider, more temporary set of practitioners, collaborating on a problem defined in a specific and localized context” (Gibbons et al.: 11–12). It, therefore, gives priority to multidisciplinary expertise (Bhatia 2008) and to collaborative teamwork and knowledge sharing (Hakkarainen 2009). In addition, the current workplace context, characterised by increasing mobility, makes it difficult to identify the situations in which students may need to use English. Thus, one of the most important capacities that students should develop is the capacity for autonomous learning that enables them to learn in constantly changing contexts (Blin forthcoming). Students need to be capable of grasping and mastering the specific textual and generic competences as they meet the need for them. Workplace has also become multicultural (Bhatia 2008: 170), hence the need to prepare students to cope in a multicultural environment.

The focus on transdisciplinary knowledge and the dynamic nature of contemporary workplaces is reflected on the complexity of the real world of discourse: discursive practices and genres are not static, but dynamic, hybrid (Bhatia 2004) and integrated into genre ecologies, where “intercoordinated genres intermediate each other and any change in the ecology (…) can change the entire dynamic” (Spinuzzi 2003: 119). As Bhatia points out (2004: 25):
In many of the existing analyses of genre one tends to focus on typically identifiable and largely ideal instances of genres; (...) the real world of discourse... is complex, dynamic, constantly developing and often not entirely predictable. There are regularities of various kinds, in the use of lexico-grammatical, discoursal, and generic resources; there are rhetorical situations, which often recur, though not exactly in the same form, or manner; there are expert and well-established users of language in specific disciplinary cultures who try to exploit, appropriate, and even bend generic expectations in order to be innovative and effective in their use of language.

A genre-based task-oriented approach to ESP teaching and learning, which takes account of the complexity of real life discourse, can help students develop multidisciplinary discursive competence. Devitt (1993: 577) describes genre knowledge in the following way: “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”. In order to achieve this purpose, genres should not be presented prescriptively, but as flexible cognitive structures that can be manipulated. 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”. Johns and Swales (2002: 25) provide some guidelines on what to teach, “from the very beginning of post-secondary education and perhaps earlier” for students to be “academically literate”, which can help to achieve this genre awareness:

Faculty in all classes needs to encourage student awareness of the texts, language, research questions, and methodologies of the discipline that the class represents. If possible, the pedagogical genres of these classes should be more disciplinary than school-based. Students should be assigned to research texts, practices, language, and other aspects of academic disciplines. They should learn to observe, analyse, ask questions, and if possible, negotiate their tasks to enhance their success. Within literacy classes, students should be assigned a variety of writing tasks, requiring a number of inter-textual and formal textual experiences. Students should be encouraged to write in different genres and under different conditions. We should encourage student meta-awareness of the social nature of genres.

Finally, learners also need to develop the new literacies of today society. They need 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". This involves becoming 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. Communication involves mastering the pragmatics of various forms of synchronous and asynchronous communication. Construction involves the ability to work individually or collaboratively to write and publish information on the Internet. 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. Thus, 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).

The WebQuest format provides ESP teachers with a learning tool which may contribute to addressing the concerns discussed above: helping students to communicate in
multidisciplinary workplace contexts and develop genre awareness, promoting lifelong and autonomous learning and fostering the development of new literacies.

3. Webtasks to develop learning autonomy and electronic literacy

Research on WebQuests for language learning has focused on the SLA criteria that they should meet (Koenraad 2002, Pérez 2006). The research carried out by the GIAPEL group starts from the assumption that in order to develop a framework for the design of language tasks in an online environment, it is necessary to look to Second Language Acquisition (SLA) principles (see González Lloret 2003; Koenraad 2002; Zhao and Lai 2007), but also to take into account the affordances and constraints of the new medium, the features of digital textuality (i.e. multimodality, hypertext, interactivity) and the type of new thought processes engaged in when interacting with and through online texts (Coiro 2003; Hampel 2006; Salaberry 2000; Shetzer and Warschauer 2000). Language teachers should devise ways to prepare students to learn, work, interact and communicate in an open, dynamic, hypertextual, multimodal, interactive and multicultural environment.

In this section I present a new model of webtasks which aims at the development both of linguistic and semiotic skills and high-order capabilities of information elaboration and management. The task described here is intended to develop the students’ *wreading competence*, which we define as the ability to understand the pragmatic, discursive and semiotic features of online texts, harness their affordances and interact with them in various ways, find relevant information in different semiotic modes within and across these texts, and relate and meaningfully use such information in order to achieve a specific purpose, complete a task or produce an output (Luzón and Ruiz-Madrid, forthcoming). In this new context, it is necessary to facilitate the development of specific skills where reading and writing competences meet to become an integrated wreading competence: i) linguistic and semiotic skills (e.g. the ability to understand the lexico-grammatical and pragmatic features of texts, the ability to relate different semiotic codes with different purposes), ii) cognitive and metacognitive skills of information elaboration and management (e.g. the ability to use search tools to locate valuable and relevant sources of information, the ability to evaluate the usefulness of online information in relation to one’s purpose). We consider that in order to design online tasks that help promote autonomous learning and electronic literacies, three aspects are of paramount importance: the task itself, the resources and the learning supports.

3.1. Contextualised and authentic tasks

Constructivist theory posits that successful learning occurs when tasks are authentic and contextualised within a framework of negotiated objectives and instructional goals, thus focusing on learning that is relevant for students. Proponents of content-based instruction (Brinton et al. 1989; Pally 2000), genre-based teaching (Johns 2002; Johns and Swales 2002) and teaching language as a situated practice (e.g. Belcher 1994) stress the need to embed linguistic material in the activities for which it is used to achieve disciplinary purposes.

ESP WebQuests 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

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Footnote:

2 The model of Webtask presented here is a result of the research carried out by members of the GIAPEL group for the CIBERTAAAL project (Cybergenres and technology applied to autonomous language learning) (HUM2005-05548). For a much more detailed description of the model see Luzón and Ruiz-Madrid (forthcoming).
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. 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 developing their genre awareness.

Since anchor in practice is, therefore, paramount to effective learning, Luzón and Ruiz-Madrid (forthcoming) regard the following three criteria as essential for language learning webtasks: (i) Students should interact with resources (and audiences) in the same way and for similar purposes as they would do in real life; (ii) students should engage in the same cognitive and metacognitive processes as those required by tasks that users of online media carry out in the real world (e.g. synthesising information from multiple texts, problem solving, evaluating information; (iii) The task should be functionally designed, and socially contextualised.

3.2. High quality input and rich resources

By “rich resources” we mean authentic resources, resources that reflect the textual complexity of the web and resources that promote interaction and facilitate sharing. The need to seek authenticity in materials and tasks is agreed upon by ESP researchers and teachers and is clearly illustrated by the use of case studies in ESP teaching (e.g. Jackson 2002). When teaching ESP, it is important to work with a variety of genres used by the discourse community and design tasks which involve “interactions that are consistent with the original communicative purpose of the authentic text” (Mishan 2004).

Resources should also reflect the textual complexity of the Web (e.g. multigenrelicity, hybridity, multisemiotics, multifunctionality, interactivity), in order to train learners to manage this complexity. Coiro (2003) characterizes digital 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”. Thus, training students into multiliteracies involves the use of resources which raise students’ awareness towards the complexity of digital genres, their intertextual links with genres in traditional media, the interactive affordances of digital texts, the multiplicity of semiotic systems and the multiplicity of languages and cultures that get linked and in the web.

Finally, resources should not only be presented as sources for information, but also as tools with which students can interact and do things. The potential combination of multiple media and the multifunctionality of digital texts implies that online resources take multiple forms and can be used to perform a great variety of actions. Thus, students should be encouraged not just to get information in a passive way, but actively engage in finding, assembling and repurposing content to meet their needs. It is necessary to show students the options for action that texts and tools offer and prompt them to interact with texts in such a way that they learn how to engage with these texts.

3.3. Learner supports

When designing webtasks, appropriate support should be built in to help students manage the complexity of online information and resources and develop learner autonomy. Webtasks can be designed as 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. The flexibility of the hypertext enables the integration in webtasks of learning supports to guide learners and the design of feedback mechanisms which are responsive and sensitive to their individual needs (Luzón 2006; McLoughlin and Oliver 1998; Ruiz-Madrid 2005). Support should include linguistic support, technology and medium-related support and tools for cognitive and metacognitive strategy development.

When engaged in a webtask it is essential for the learners to get help to understand texts with unfamiliar vocabulary and grammar. Building linguistic support for an Internet-based activity where students are encouraged to follow their own paths and explore resources may seem quite a challenge. For this reason, rather than developing support for a specific text, it is important to provide background content and linguistic (lexical) knowledge on the texts they may use and to help students become aware of and use the support that Internet offers. In this regard, it is interesting to point out that many digital texts have elements that facilitate comprehension, including, for instance, visual and graphical aids, videos, links to online glossaries, links to easier texts on the same topic or to translations. In addition, other supportive elements can be embedded in the webtask: links to online dictionaries (both general and discipline/field specific), links to easy texts providing background information, etc. Internet collaborative and communication tools also provide great opportunities for teacher and peer support, which can be harnessed when designing the webtask. Opportunities for scaffolding at the micro-level, i.e. moment-to-moment interactional work (van Lier, 2007) can be created in the task by having students collaborate, comment and offer feedback on each other's work.

Students also need support to use new technologies and understand digital textuality. Webtasks could be designed to train students to work in a non-linear environment and interact with online texts in various ways, to use search tools (e.g. search engines, electronic databases) in order to locate valuable and relevant sources of information, or to use online texts as interactive resources to do things (i.e. searching for information, viewing videos, registering for services, participating in polls, collaborating in text construction, etc.). Students can also be provided with tools that help navigation and avoid disorientation problems, e.g. guides to evaluate the accuracy and reliability of online information, or guides to use specific Web2.0 tools that will be necessary for the task.

Finally, students need support to develop cognitive and metacognitive strategies. Appropriate activities to develop cognitive strategies are those that require, for instance, analysing, synthesising, comparing and classifying Internet resources, analysing different perspectives on an issue. deducing, generalising and drawing conclusions. Support may include tools that help students process information from different sources and in different formats (e.g. notetaking guides, organisation charts). 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 Webtask could ask students to: (i) set their own learning goals, (ii) plan how to develop the task and assign sub-tasks, (iii) select the resources in accordance with their objectives, (iv) reflect on whether they are following the right learning path and accessing the right resources while doing the activity, (v) evaluate both the learning process and the outcome of the activity and assess what they have learnt. Tasks should offer the students the opportunity to make choices and choose the most convenient path to complete the task. When students are more knowledgeable about a topic that their teachers (as is very often the case with ESP students) learners can be given the option of looking for, selecting and evaluating their own materials and resources in order to fulfil the learning goals of a task. Incorporating tools for self-assessment and reflection is also 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. The results of self-
assessment can help learners improve their work, reflect on their learning process and choose the most convenient strategies to achieve the intended outcomes.

4. “Writing up a recommendation report on environmental issues”: A webtask for English for Chemical Engineering

In this section, I describe how the WebQuest format has been adapted to design an online task for the course “Technical English for Chemical Engineering”. This is a course for undergraduate students in the 4th year of the Chemical Engineering degree at the University of Zaragoza. Existing course requirements include the submission of a writing assignment at the end of the course, after students have completed previous shorter writing assignments. The texts that students have to write for their final assignments are reports (in this case recommendation reports) because this is one of the fundamental genres of engineering writing. Students are also asked to deliver a short oral presentation at the end of the course. During the course students are exposed to different types of academic and professional genres, and they are asked to carry out different activities aimed at developing their genre awareness. Students enrolled in the course form quite a heterogenous group, with very different levels, from high-intermediate to low-intermediate. However, they all have a reasonably good level of computer literacy and also have a good background knowledge of the topic of the task (Environmental Chemistry). Students access the webtask in the online component of the course “Technical English for Chemical Engineering”, hosted in the WebCT environment. The course in the WebCT offers the students further material to practice different skills, files on different aspects dealt with in the course (e.g. information on various genres of technical writing) and assignments that can be downloaded from the site and submitted via e-mail.

4.1. Task

The course “Technical English for Chemical Engineering” is intended to get students familiar with the discourse practices in their discipline and the webtask is a tool to help achieve this objective. Students put into practice what they have learned in the course, but they also explore disciplinary genres on their own and have to engage in cognitive activities necessary to communicate in their discipline, such as synthesising, comparing, evaluating, etc. One way to develop the students’ awareness of disciplinary genres is to have students carry out research and write a text on a topic related to their discipline, and even encourage them to work on research papers/ reports that they have been assigned in other courses (Flowerdew 2005; Warschauer 2002). In this webtask students are asked to write a report on an environmental issue. All learners have already studied “Environmental Technology”, a compulsory subject where they study topics like water pollution, air pollution, waste, and so on. In this subject, students work on the contents of environmental technology, but not on the discourse they need to talk about these contents, or share the results of research.

The following paragraphs show how the task is presented:

You have to write a recommendation report on an environmental issue of relevance for your city, autonomous community or country. You can also report on research carried out for any other course, but you have to adapt it to the requirements of the assignment.

You work for a branch office of Green Life Technologies, Inc. (GLT), a new environmental engineering consulting firm. The regional government (DGA- Diputación General de Aragón) will get funding from the European Union to develop some environmental projects if they are approved by the European Commission. The DGA has commissioned you to prepare a report in which you present a problem/ need within the field of Environmental Engineering and make recommendations to solve it. You will also have prepare an oral presentation of the report.
Possible topics are offered as a way of illustration (e.g. a recycling plan for the city or for an institution within the city, water quality treatment, plan for hazardous waste management, environmental impact of the tram and of the underground, the closing down of nuclear plants in Spain), but students are encouraged to choose their own topic and to ask for the help of discipline teachers for this purpose. To make sure that the topic is relevant, at the end of the fifth week of the 15-week course, students have to send an e-mail to their instructor including the issue on which they are going to work, an outline of the steps they are going to follow and any question they may have. This way instructors make sure that this is a long-term project on which students start to work from the beginning of the course.

4.2. Resources

Since the ability to effectively search and locate relevant information is an essential component of electronic literacies, students are encouraged to look for their own resources and to make use of the high variety of resources on the Internet, not focusing only on written texts. However, they are given links to a few websites which may help them define the issue and start the research, with a brief description of each of these sites. The following fragment shows how one of these resources is described.

**EPA** (the website of the United States Environmental Protection Agency) ([http://www.epa.gov/](http://www.epa.gov/)). There is a section on new media, where you can explore different types of material (podcasts, blogs, video and audio files). Some sections of special interest are the following:

- “Learn the issues” where different environmental issues, with a high number of links to documents on these issues, are explored.
- “Resources: Scientists and researchers”. You will find here a great deal of resources for scientists and researchers in Environmental Engineering, including the “Science Features Archive”, where different projects and research are reported.

This is an excellent website for starting research on Environmental issues and problems. It includes a great deal of information, which can be accessed by selecting the audience at which the information is aimed (e.g. business and non-profits, concerned citizens, scientists and researchers, students and educators), multimedia (videos with the transcript option, photos, podcasts), interactive elements (e.g. polls), web 2.0. tools to encourage online sharing, and so on (see Figure 1).

Figure 1. Homepage of EPA website.

Since it is necessary to show students the options for action that texts and tools offer and encourage them to interact with digital texts in various ways, the Resources Section in the webtask includes some activities that help students reflect on the nature of Internet resources. In the first one they are asked to go the EPA page (http://www.epa.org) and explore it in order to evaluate its relevance for their research and to analyse how they can use it most efficiently. For that purpose they have to answer questions like the following: What modes does the text use (e.g. oral/ written)? Is the text in this page linear or non-linear, interactive or non-interactive and does it affect the way you access the information? Where in this page can you find relevant information for your research? What do you need to do to get that information?

In the second activity, they are asked to access the official blog of the EPA (http://blog.epa.gov/blog/) and one of the following wikis (Envirowiki: http://wiki.envirowiki.info/Main_Page, Greenlivingpedia: http://greenlivingpedia.org) and answer questions that help them reflect on their knowledge of texts (see Anstey and Bull 2006), e.g. Have you seen a text like this before? What was it used for? How did you use it? What characteristics of that text are similar or different to this one? If this text is similar to other texts (both online and offline) you have seen or used, how might that help you use this text? How could you use the blog/ the wiki for your research?

In addition to providing links to some websites where students can find useful information, the Resources Section also provides links to (and information about) tools that students can use to interact with others to get and share information and complete the task (e.g. blogs, Diigo, Google docs).
4.3. Learner support

4.3.1. Linguistic support

Since the topic and the resources for the webtask are selected by the students, it is difficult to provide linguistic support for specific tasks. Linguistic support is, however, provided in different ways.

First, the activity draws on the content of other subjects of the students’ discipline. Students are, therefore, familiar with the concepts and, since they have to read bibliography in English for these courses, they are also familiar with a large part of the vocabulary they will find in the texts. In addition, the activity is fully integrated into the “Technical English for Chemical Engineering” course. Designing the webtasks as an integral part of the course is essential to contextualize it, and, additionally, helps to the comprehension of the input. That way, many of the linguistic elements that students will need to understand the input (and also to produce the output) have already been studied in the classroom before completing the task. In the course students work with several texts dealing with Environmental Technology and they study the vocabulary in this area. They also receive instruction on the writing of recommendation reports and on the preparation and delivery of oral presentations. Students’ attention is focused on the communicative purposes of these genres, their structure and their lexico-grammatical features.

The webtask “Writing up a recommendation report on environmental issues” is hosted in the WebCT course “Technical English for Chemical Engineering”, an online companion of the classroom course, where students can get extra practice and materials. The WebCT course includes two components that are especially useful for the task and that are dealt with in the course practical sessions: Online Dictionaries (including links to different types of online dictionaries and information/activities on how to use them) and Oral Presentations. In the webtask students are encouraged to use these components of the online course when necessary.

Other supportive elements are embedded in the webtask, e.g. links to online dictionaries, links to information on genres that they are likely to encounter when completing the task, links to real examples of recommendation reports. For instance, in the first step of the process, after telling students that the websites in the resources section can help them to choose a topic and identify a problem, they are reminded to use electronic dictionaries if they do not understand any word and they are provided with two links to general dictionaries and two links to environment dictionaries. Step 6 of the process, where students are asked to write the first draft of the report, includes a link to a document on the WebCT course with information on the rhetorical structure and the language used in recommendation reports. They are also provided with links to sites with information on how to write recommendation reports. Finally, since previous research (Flowerdew, 2005) has stressed the need to have students analyse the genres of their discipline, students are asked to compare two recommendation reports on the same issue, i.e. the convenience of redeveloping Nobby’s Lighthouse (Australia), which can be accessed online.

Collaborative and communication tools are also used by students to get teacher and peer support. Collaborative apprenticeship (where students provide scaffolding for each other) is a form of learning highly facilitated by new technologies (Warschauer 2002). In this webtask students are encouraged to use Google Docs to provide feedback and collaborate in the joint construction of the recommendation report.
4.3.2. Technology and medium-related support

The webtask includes scaffolding to help students work in a non-linear environment, search for and evaluate the relevance and usefulness of information, and use tools that will be necessary for the task.

Since in this webtask students have to look for their own resources they need strategies for effective searching. Students are in the 4th year of an Engineering degree and most of them are, therefore, quite familiar with search tools. However, there are two aspects on which they need training: the choice of search terms (or keywords) and the evaluation of information. In step 4 of the task they are told to search for relevant information which helps them solve the problem/issue they have proposed and evaluate websites. As Figure 2 shows, they are asked to reflect on the right search word and to take several criteria into account when evaluating information.

Search for relevant information and evaluate websites. You will need to find information on the following aspects:

1. Places where they had the same problem or a similar problem
2. How the same problem/ or a similar problem has been solved in other places
3. Advantages and disadvantages of the possible solutions

**Searching for information.** Be careful when choosing search term(s).

- a. Think of the topic you want information on. What key concepts is it a part of or related to?
- b. What key words do you think will appear on the site you want?
- c. You need to restrict your search. Think of compound nouns and collocations (e.g. “water treatment”, “oil spill”, “domestic water”, “waste management”) that will help you to restrict your search.

**Searching for multimedia files.** If you want to find multimedia documents go to “Play Audio Video” ([http://www.playaudiovideo.com/index.htm](http://www.playaudiovideo.com/index.htm)), a multimedia search engine.

**Evaluating information.** You have to be careful to use relevant, accurate, reliable and current information.

- Authority: Is there an author? Is the author qualified? An expert?
- Accuracy: Is the information reliable? Is there an editor or someone who verifies/checks the information?
- Objectivity: is the information biased?
- Currency: is the page dated?
- Coverage: which topics are covered?
- Relevance: is the information on the page relevant for your purpose?

The following documents will help you to evaluate the webpages.

[Evaluating websites: net.tutor](http://www.net.tutor)
[Evaluating webpages](http://www.net.tutor/evaluating)

Keep careful notes on each of the resources you use, with the following data clearly indicated:

- Authority.
- Currency.
- Coverage: summary of specific details and information relevant for the task.

Figure 2. Step 4: Search for and evaluate information.
When students are asked to use a Web tool for a specific purpose in the completion of the task, they are given information on how to use such a tool. For instance, in step 5, after students have searched for and evaluated information, they are asked to share their information in order to find the best solution to the problem. Diigo is suggested as a tool to exchange information on their resources. Students are asked to go to the Diigo website, explore the tool, and answer questions such as: Have you used this technology before? How could you use it in this task? In case they are unfamiliar with the tool, they are provided with links with information on how to use it, both in English and Spanish. Similarly, when students are told to use Google docs or to design a PowerPoint presentations they are offered links with information on Google docs and, since they all are already familiar with PowerPoint, on how to design an effective presentation.

4.3.3. Development of cognitive/ metacognitive strategies

Although autonomy is promoted by giving students control on important decisions (e.g. the choice of topic and of resources, the procedure to carry out research and the distribution of tasks among the group members), this is not an unguided activity. The Process Section provides a detailed guide on how to proceed to complete the activity, with the different steps to follow. Support also includes tools that help students process information from different sources and in different formats. For instance, the webtask includes a notetaking guide and a model of comparison chart, which will help students when analysing, comparing and synthesising information.

In order to develop metacognitive strategies, students are asked to (i) choose their own topic for research, which reflects their own interests, (ii) plan how to develop the task and assign work, (iii) select the resources in accordance with their objectives, (iv) evaluate both the learning process and the outcome of the activity and assess what they have learnt.

Self-assessment and self-evaluation have been included in several ways. In step 7 all the members of the group are asked to proofread the document for correct grammar and structure. Students are also provided with two evaluation charts (one for the recommendation report and one for the oral presentation) with the criteria that will be used to evaluate their output, and that they should use to revise such output (see Table 1 below). The use of Google docs is proposed to help students produce a joint document.

<table>
<thead>
<tr>
<th></th>
<th>Beginning 1</th>
<th>Developing 2</th>
<th>Accomplished 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Introduction and background</strong></td>
<td>No real introduction. Unclear purpose or purpose undefined. Background is not relevant.</td>
<td>The introduction is adequate, although it could have been better developed. The background is relevant but too general/ vague or too long</td>
<td>The introduction clearly states the purpose and the outline. The background is very relevant to audience interests/ needs</td>
</tr>
<tr>
<td><strong>Body of the report</strong></td>
<td>The body is too short. The points have not been fully developed. The different solutions are not compared.</td>
<td>The body contains some good points, but they have not been fully developed.</td>
<td>The body contains good points that are well developed. It is very well structured with relevant ideas well connected.</td>
</tr>
<tr>
<td><strong>Conclusion and recommendations</strong></td>
<td>There is no conclusion or recommendations or they are not based on the findings presented in the body.</td>
<td>The conclusion and recommendations are adequate, although they could have been better developed.</td>
<td>The conclusion contains a good summary of the main points and provides recommendation based on the data.</td>
</tr>
</tbody>
</table>
There are many mistakes in spelling and grammar, and there are no transitions. Difficult to follow and errors interfere with coherence.

There are some mistakes in spelling but they do not usually interfere with communication.

Grammar and vocabulary choice is usually accurate. Comprehension is not impeded. Wide range of grammar and vocabulary.

<table>
<thead>
<tr>
<th>Grammar and Structure</th>
<th>Other criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are many mistakes in spelling and grammar, and there are no transitions. Difficult to follow and errors interfere with coherence.</td>
<td>The resources used should be accurate, objective, current and relevant. Use of different types of media (sound, transitions, graphics, pictures, video).</td>
</tr>
<tr>
<td>There are some mistakes in spelling but they do not usually interfere with communication.</td>
<td>Provide a list of all the pages/online resources that have been used with a brief description of each page. AVOID PLAGIARISM. The texts should not include sentences or fragments from other texts.</td>
</tr>
<tr>
<td>Grammar and vocabulary choice is usually accurate. Comprehension is not impeded. Wide range of grammar and vocabulary.</td>
<td>When handing in the report, each student will include a page outlining his/her contribution</td>
</tr>
</tbody>
</table>

Table 1. Criteria to evaluate the recommendation report.

Finally, in the last step of the task, students are asked to evaluate their learning process by reflecting on several questions (see Figure 3)

- State the main problems you faced while tackling the assignment. Were you able to overcome these problems? If so, how? If you were not able to overcome these problems, what would you need to do it?

- Evaluate your own learning by deciding how well you were able to...
  - find relevant information on the Internet, including multimedia information
  - understand the texts that you needed for your research
  - understand audio and video information
  - share information with the other members of the group
  - write the report
  - prepare the oral presentation

Figure 3. Self-assessment of the learning process.

5. Final comments

In this paper I have attempted to illustrate how the WebQuest format can be adapted to design webtasks that help students of other disciplines develop the literacies they will need to function effectively in an ever changing workplace context. This format can be used to design tasks that: (i) teach students to understand, respond to, and produce different types of disciplinary texts, (ii) prepare them for autonomous and lifelong learning, and (iii) train them in the strategic processes of meaning construction that they will need to work in a digital environment. In order to design online tasks that teach students electronic literacies and help them to get familiar with the discourse practices of their discipline and to develop strategies for autonomous learning, careful attention should be paid to the task itself, the resources and the learning supports. The webtask presented in this paper is intended to have students explore disciplinary genres and engage in cognitive activities necessary to communicate in their discipline. Space for learner autonomy is created by letting students choose their topic or research, find relevant resources, decide their learning pathway and evaluate the outcome and the learning process. Sufficient scaffolding is provided so that students can complete the task.
and develop autonomous learning and electronic literacies without feeling overwhelmed: the
task integrates different types of linguistic support, technology and medium-related support
and tools for cognitive and metacognitive strategy development.

6. References

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