Webquest – an effective web-based tool For teaching ESP to English non-majored students

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Abstract

This article evaluates effectiveness of WebQuest integrated in the ESP reading course to second-year students at the People's Police University (PPU) was in enhancing the students' reading competence. An action research which utilizes both quantitative and qualitative was used to fulfill the aims of the study. Data from questionnaires, pre-test, post-test and teacher's observation sheet were analyzed and discussed. It will be suggested that WebQuest is an effective way to improve students' reading competence. Thus, this study is of value to teachers interested in utilizing web-based tools in their teaching of English in general and the teaching of ESP in particular.

Keywords: ESP, WebQuest, reading competence

Introduction

The current globalization of trade and economy and the continuing increase in international communication in various fields have resulted in greater demand for English for Specific Purposes (ESP). Among all the four skills and knowledge integrated in ESP curriculum, reading skill is often the priority in the ESP curricula at universities throughout the country. Besides, reading authentic materials is of great importance for those who have the desire for further study and for their future careers as it is one of the best ways to improve their English, understand and use the information in up-to-date sources in their respective fields of study.

In reality, to develop reading, one of the most useful resources is the Internet, with a large amount of varied authentic materials and easily accessible. Furthermore, the Internet-based activities can take advantage of integrated teaching approaches. To illustrate, collaborative and cooperative learning occurs when computer-assisted language learning (CALL) is used in language teaching and learning, (McCabe, 1998). Learners use websites on the Internet to perform cooperative tasks with their peers to complete work assigned by the instructor. It is the learning and teaching on the Internet that enables the learner-centred approach (Kumari, 1998). Alexander & Elana (2005:129) also claimed, "The Internet helps to make ESP lessons more rewarding and encourages opening the new way to bring about creativity and enthusiasm for learning".

Additionally, the previous ESP-related studies in the context of Vietnam revolve mainly around paper-based syllabus designs, course designs, or syllabus valuation, etc. There has been a lack of researches on the integration of reading approaches and the Web to facilitate ESP learning. As an instructor of ESP for several years, the author is fully aware of the problems hindering the success of ESP teaching at the PPU which include lack of updated authentic materials, unsuitable teaching method, low-motivated learners, and teachers' insufficient utilization of Web-based resources and available teaching facilities in their teaching. This has challenged the quality of teaching ESP in general and reading skills in particular.

Thus, she feels the need and has the desire to integrate Internet-based projects in her ESP teaching. By integrating WebQuest in the ESP intensive and extensive reading course, the researcher's ambition is to make some renovation in her teaching in order to solve the prevailing problems of less effective teaching of ESP reading and low motivation of the students at the PPU.

Brief overview of related literature

1. The Internet and Second Language Learning

Over the past few years, the Internet has been widespread in numerous fields and domains. It has carried out great potentials for educational use, especially second language education. In this sub-division, the author wishes to focus on the benefits of employing the Internet in the second language learning.
Among the benefits of Internet use in the second and foreign language classroom, the most important are:

- Increased motivation and participation by students (Warschauer, 1996).
- More opportunities to interact with the target language and content area because students spend more time on task (Kasper, 2000b).
- Greater integration of reading and writing skills and opportunities to practice them in meaningful contexts.
- The possibility to implement pedagogy based on problem solving and critical thinking (Warschauer, 1999).
- More self-paced autonomous learning that is learner-controlled rather than teacher-controlled (Mak, 1995).

In addition to the benefits just cited, the Internet provides the resources necessary to carry out authentic projects and analysis, and thus develop the communicative competence of ESP students. Such resources allow teachers to design simulation activities and role-playing using authentic material. In this manner, the Internet facilitates the use of a specific language in an authentic setting. The Internet can also be used to acquire information from language resources for a variety of purposes. For example, students can access current information from countries around the world. They can obtain geographical, historical, social/cultural, economic, and political information from the countries in which the target language is spoken. Such resources allow teachers to design simulation activities and role-playing using authentic material. Kimball (1997) pointed out that "Internet-generated materials can be flexibly arrayed to engage students with topics and cognitive tasks relevant to students' professional futures."

In short, the Internet not only helps students widen knowledge and outlook, strengthens experience but also enables them to live in a real world in which they are the creators rather than the receivers only. With the above mentioned advantages of the Internet, it can be concluded that the Internet is an appropriate learning tool in a content-based ESP syllabus.

2. WebQuest

2.1 Definition

Bernie Dodge - an American Professor of Educational Technology at San Diego State University focused on the design, implementation and evaluation of computer-based learning environments since 1995 and created a learning model which has been widely used as an effective Internet-based educational tool at schools, colleges and universities for over a decade and is now one of the most popular and most effective Internet–based project models/ approaches. This approach clearly describes the process of the partly

online learning experience which challenges, motivates and engages learners. In an early article about this method, Bernie Dodge defined a WebQuest as follows:

> An inquiry-oriented activity in which most of all of the information used by learners is drawn from the Web. WebQuests are designed to use learners' time well, to focus on using information rather than looking for it, and to support learners' thinking and levels of analysis, synthesis, and evaluation.
>
> (Dodge, 2001).

Educators thought that the original definition was not enough to cover the meaning and theoretical underpinnings of the WebQuest concept. March (2008), a co-creator of WebQuest, therefore conceptualized and expanded the definition of WebQuest as a scaffolded learning structure that uses links to essential resources on the World Wide Web and an authentic tasks 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. WebQuests motivate students to engaging the world in a well-informed manner.

In a WebQuest, learners work in groups, where members have to analyze and master a particular aspect of an issue. Each member becomes an 'expert' in their role, later contributing to an in-depth understanding of the given aspect of the final group task.

2.2 Structures of a WebQuest model

WebQuest should be designed with a purpose in mind for students to perform when surfing the net. For this reason, a typical WebQuest usually follows a structural pattern:

- **Introduction.** This stage is used to give a brief introduction of the WebQuest. It involves background information on the topic of the WebQuest and in the language context, often introduces key vocabulary and concepts which learners will need to understand in order to complete the task involved.
- **Task**. The task section explains clearly and accurately what the learners will have to do as they work their way through the web quest.
- **Process:** This part guides the learners through a set of activities and research tasks, using a set of Internet-based resources.
- **Resources**: The resource stage lists useful Web sites that will help learners to complete the task as well as widen their knowledge in the field of concern.
- **Evaluation**: This part explains clearly how the final outcome will be graded and evaluated. It can involve learners in self-evaluation, comparing and contrasting what they have produced with other learners, and giving feedback on what they feel they have learnt and achieved.
- **Conclusion**: This section helps to close the quest. It reminds the students about what they have learned, and perhaps encourages them to extend the experience into other fields (Gavin Dudeney & Nicky Hockly, 2007).

The structure of a WebQuest is flexible depending on the topic, the content, the subjects of the WebQuest and the author's purposes in designing the WebQuest.

2.3 WebQuests – a pedagogical perspective

A WebQuest combines the benefits of the constructivist approach, inquiry-based learning approach, project-based approach and cooperative learning.

Constructivist approach

A WebQuest is in fact a constructivist lesson format. Mary (1998) stated constructivism as 'both a philosophy and a theory of learning'. By changing the focus of the classroom from teacher dominated to student-centered using a constructivist approach we could yield positive results. Using WebQuest, learners have to activate the mental processing which results in understanding and the creation of meaning from their own experiences (Grand, 2002). It is the constructivist learning approach and the profound influence of technology on education that require the utilization of authentic activities to give the learning situation a purpose and meaning (Reeves et al., 2002; Matejka, 2004; Baccarini, 2004).

Inquiry-based learning

Torrus (2005) believed: "a WebQuest for teaching and learning a second language is an inquiry oriented activity placed in a relevant thematic context, in which the development of the task implies using web resources and developing high order thinking processes in a collaborative environment. At the same time, it provides the students the opportunity to learn and put into practice some linguistic skills, supported by a set of linguistic and procedural scaffolding.

Project-based learning (PBL)

PBL is an instructional student-centered educational approach in which students work in teams to explore real-world problems and create presentations to share what they have learned. (Warschauer., 2000).
The following can be seen as reasons for using Internet-based projects in the classroom:

1. There are a structured way for teachers to incorporate the Internet into the language classroom, on both a short-term and a long-term basis. No specialist technical knowledge is needed either to produce or to use Internet-based projects. However, it is certainly looking around on the Internet to see if something appropriate already exists before sitting down to create your own project.
2. More often than not, they are group activities and, as a result, lend themselves to communication and the sharing of knowledge, two principal goals of language teaching itself. The use of projects encourages cooperative learning and therefore stimulates interaction.
3. They can be used simply for language learning purposes, but can also be interdisciplinary, allowing for cross-over into other departments and subject areas. This can often give them a more 'real-world' look and feel, and provide greater motivation for the learner.
4. They encourage critical thinking skills. Learners are not required to simply regurgitate information they find, but have to transform that information in order to achieve a given task.

(Gavin Dudenney & Nicky Hockly, 2007: 44)

WebQuest for Content-based Language Learning

WebQuests are activities specially suited to content-based language learning; students perform a real world task using authentic materials related to a topic within their academic discipline (Maria, 2002). According to Torrus (2005), WebQuests are activities that meet the requirements of the three essential conditions for language learning "exposure, use and motivation". March (1997) supported the point as saying that "The pedagogical principles of a WebQuest are to assign small groups of students with a challenging inquiry, provide access to an abundance of online resources, and scaffold the learning process to promote higher order thinking".

WebQuests can meet the four criteria for content-based activities below:

1. Learning activities should provide more than one perspective on the content area. This is met by WebQuests, which offer a large number of Web pages with information on different aspects of a topic (Marco, 2002).
2. Activities should present authentic content without oversimplifying it (Spiro and Jehng 1990).

3. Activities should incorporate visuals and other aids for making associations, since that facilitates deeper thinking (Craik and Lockhart 1972). The Web pages used in WebQuests contain not only text, but also pictures, sound, and even animation.
4. Activities should encourage the SQ3R formula: surveying, questioning, reading, recalling, and reviewing materials under study (Schmeck 1986).

2.4 WebQuest design

The process of designing a WebQuest is a thoughtful endeavour that does not require much computing skills or much detailed technical knowledge as numerous templates are provided. Also, it is relatively easy to produce a professional-looking and workable design using any modern word processor. The skillset for making a WebQuest is similar to that for planning Internet-based lessons, and might be defined as: *research skills, analytical skill* and *word processing skills*. (Gavin Dudeney & Nicky Hockly, 2007).

Mastering the above necessary skills, a WebQuest designer need to follow the basic steps in Webquest design and creation:

1. *First,* planning beforehand: it may be of great value for those who want to design a WebQuest to visit some already designed pages. WebQuest creation should start with the decision on a topic based on the students' needs or interests or just because it fits with their curriculum. Teachers should also be aware of the consistency of the online resources, indiscriminately gathering and organizing this raw material in a kind of inventory. Additionally, before beginning the WebQuest, the main question – the quest in itself- that lies behind the WebQuest must be posed.
2. *Second,* the first draft is produced in order to give the WebQuest a shape. At this stage, all the possible cognitive transformation tasks that could be involved in the quest are brainstormed even though the first step in the quest is simple information gathering. It may be highly useful to classify the web resources by means of a definite criterion (i.e. information classification into topics, job-roles, perspectives, levels, etc.) and rigorously examine them for educational purposes. It would be useful at this stage to revisit the web for better resources or to change the WebQuest topic in itself. Special attention should be paid to establish a basic knowledge of the subject so that students can engage
3. *Third*, the last step is actually writing the WebQuest. An HTML editor like FrontPage or Dreamweaver can be used. Creating a web page may be much easier when using a template that guides the teacher into the creation of the WebQuest. The most challenging aspect of this part is to ensure a really engaging introduction that catches students' attention and drives them naturally into the task/question. A general introduction should be clearly stated at the very beginning so that later on it may derive into more specific roles for students to develop. Transformative thinking tasks are better introduced after students have completed their assigned roles, that is, when students are prepared to share different knowledge. The conclusion also needs to pose a semantic sense that returns to the initial reasoning and engages learners into critical thinking of the skills developed through the activities they undertook.
4. Finally, once the WebQuest has been implemented and revised, a server needs to be found to deliver the final version of the quest. Alternatively, some web pages offer free space where the quest can be published or even saved in the hard disk of a central computer as a kind of intranet, when access to the net is inadequate or inexistent.

Methodology

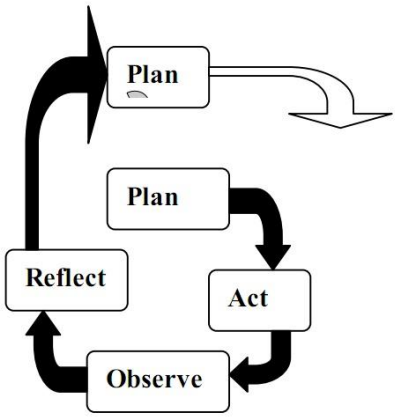
3.1 Research Questions

In order to fulfill the research aims, this study is conducted based on the following questions:

1. Does the utilization of WebQuest help improve reading skills of second-year students at the PPU?
2. What is the students' attitude towards the WebQuest-based learning and teaching of ESP reading?
3. What are the difficulties of the students and teacher at the PPU in the employment of WebQuest in the reading course?

3.2 Research method

The action research in this study was guided by the combination of Kemmis's model and Beatty's model which will be shown in the figure below.



The model of *Action Research in this study*

In the research, the author played the role as the practitioner who designed the WebQuest, guided carried out the ESP program, observed and reflected it. The action research was carried out at the PPU involving the use of WebQuest in the teaching of ESP reading to second year students. The pre-questionnaire was delivered among 398 second-year students four months before the course. 44 students in Class B2C1-D18 among these 398 students were randomly chosen for the research. Based on the students' background, Internet and computer experience and skills as well as their needs and expectations concerning ESP obtained from the pre-questionnaire, the WebQuest-based reading syllabus was designed using intensive and extensive reading approaches. All 44 students involved in the study took the pre-test before the course. These students are equally divided into two groups: Control Group and Treatment Group. After 75 periods (6 weeks) of employing the Web-based course, the post-test and online survey was administered to 22 students in the Treatment Group to collect information for data analysis in order to answer the research questions.

The action research, especially the process of designing and implementing the ESP reading program with the integration of WebQuest was a hard job as it required great time and efforts on different steps. Hence, it is necessary to give a brief description of all the instruments and participants in each step of the study.

Instruments	**Participants**	**Number of participants**	**Steps in the action research**
Pre-questionnaire	2nd year students in the academic year of 2009-2010	398	Planning

Pre-test	Treatment group	22	Planning
Post-test	Treatment group	22	Reflecting
Observation sheet	Teacher/ researcher	1	Acting/ Observing
Post-questionnaire	Treatment group	22	Reflecting

Figure 1: *A summary of all instruments and participants used in the action research*

Step 1: Planning

In this sub-part, students' learning goals and objectives together with their needs and expectations were taken into consideration based on the pre-questionnaire. The pre-questionnaire was administered four months before the Web-based course to all 398 second year students at the PPU in the preliminary research. The questions revolve around the students' background of English, learning habits and hobbies, computer and Internet experience, etc. It was also essential for the teacher to discover possible problems in the class and find out the remedy to these problems beforehand. In short, the job of planning involves preparing materials and methods.

The students' needs and expectations were taken into consideration in order to have a practical and applicable Web-based reading program. The findings from the pre-questionnaire, therefore, helped to ensure the validity and reliability of the program.

Step 2: Acting

The design of the WebQuest named ENGLISH FOR POLICE in the reading course

With full awareness of students' learning goals and objectives together with their needs and expectations for the ESP reading program based on the information from the pre-questionnaire, the researcher designed and a Web-based reading course in which was integrated. Designing the WebQuest-based course, the author's ambitions are to: *(1) improve their reading competence both intensively and extensively as well as the understanding police-related terms; and (2) have students get used to the use of WebQuest with the availability of authentic materials.*

In this research, the WebQuest was considered as the teacher's website, which consisted of five components: **Introduction; Task; Process; Resources;** and **Conclusion**. A brief overview of the course was presented in page **Introduction***;* reading tasks were given in page **Task**. Step-to-step directions for each task were shown in page **Process** and the links needed to refer to read both intensively and extensively were suggested in page **Resources**. Page **Conclusion** closed down the reading program and asked students to do the online-questionnaire. There were totally six units in the reading course corresponding to the six specialized topics: *(1) The police; (2) Crime Prevention and Protection; (3) Criminal Procedures; (4) Criminal Investigation and (*5*) Traffic Policing.* With each unit, the students could link the above five components in the WebQuest to see what and how they had to do their tasks.

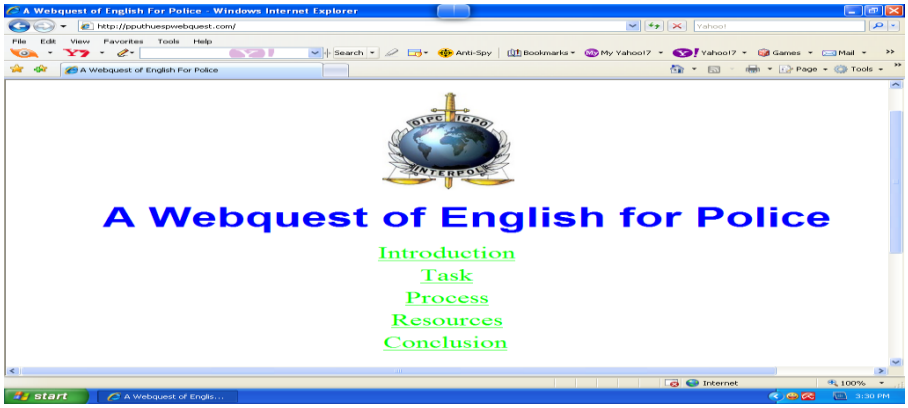


Figure 2: The screenshot of the WebQuest's homepage

Intensive Reading (IR) and Extensive Reading (ER) program in the course
IR and ER were incorporated in this course.

To improve students' IR skills, not only in-class activities but also out-of-class ones were carried out on the hope of having students work in teams to fulfill the tasks. The students, as team members, downloaded the worksheet of each topic's instruction from the WebQuest. Reading the worksheet, students individually identified the purposes of the reading by highlighting the key words and phrases needed searching for in the texts. After that, they began to survey the texts to find out their organizations, headings, sub-headings, etc so that they could skim the texts for main ideas and scanned the texts for answers to the questions in the worksheet. The students could easily find out the definitions and methods of surveying, skimming and scanning which were hyperlinked in the WebQuest. After finishing individual work, students worked in teams to compare the answers with other team members to finally decide on the team's worksheet before sending to the teacher's email by the deadline.

To practice ER, as a home assignment, each team chose a topic that they were interested in from the *Lists of topics for extensive reading* in the WebQuest. The team could visit relevant websites in page

Resources in the WebQuest or surf the Internet to read about the topic. The team members then worked together to make a PowerPoint presentation on the chosen topic and prepared for the in-class presentation in the next meeting.

Step 3: Observing
The job of observation in this research was done during the employment of the reading course. Participant observation was used in the study by the teacher/researcher to record impressions and reflections on the ways in which the students were related to the WebQuest in their ESP learning. The teacher's observation focused on finding out the students and the teacher's difficulties in this Web-based course. The researcher also took field notes on the attitude, feelings, participation, activities, and possible problems of each individual and the five teams in the Treatment Group.

Step 4: Reflecting
In this action research, while observing the implementation of the Web-based course, the teacher reflected on the student's participation and attitude towards the program, the difficulties and obstacles hindering the

teacher and the students, the level of effectiveness of the program and the outcomes. These were recorded in the observation sheet. It was then followed by the revising steps in which the teachers found out solutions to the difficulties and obstacles so as to have better preparation for the next circle of the action research.

Summary of the findings

From the pre-test and post-test

The data of the pre-test and post-test analyzed by SPSS software reveal that the students who were employed in the Web-based ESP reading course made much improvement in their reading competence. This proves that the integration of the WebQuest in the teaching of ESP reading at the PPU was effective.

From the post online questionnaire

The findings were also enhanced by the positive feedback of the students towards the use of WebQuest through the online survey carried out after the course. The responses to the post-questionnaire show that the majority of students had positive attitude towards the newly-designed reading program and were satisfied with it as: *the course was useful and interesting; the WebQuest was rich in content and well-designed; the Web-based course helped the students improve their reading competence and Internet skills, enriching their vocabulary and specialized knowledge, and motivating the students to read extensively.* In addition, they also gave some suggestions for a better integration of WebQuest in the ESP teaching of reading at the PPU such as: *the time for the course should be longer.* They also revealed that that would continue to use WebQuest after the course and tell others about it and expected to have more WebQuest-based programs for learning other subjects at the PPU. The responses also indicate certain difficulties encountered by the students during the course. These can be listed as: *difficulty in reading long texts online; lack of time in fulfilling all the tasks; and problems with Internet access*

From the observation

The difficulties found out from the teacher's observation sheet were generally in accordance with those discovered from the students' responses to the online questionnaire. These difficulties were described more specifically in different stages of the course because the observation and reflections on the students, the program and the role of the teacher were recorded weekly. The observation sheet and the online survey also helped the researcher to investigate possible problems facing the teachers during the employment of the Web-based reading course. However, these problems are not so serious and can be avoided in the future research in the field.

Discussions

During the acting step, the researcher/ teacher made great efforts in playing different roles at the same time as an observer, a facilitator, and an advisor while keeping an eye towards the students' participation, encouraging students by giving them complements on their efforts or reminding them to finish the tasks on time, or giving them support or suggestions involving their difficulties in their learning of ESP reading. However, there exist some weaknesses revolving the job of the participants, the design and the employment of the course during the four previous stages in Cycle 1 of the action research. These can be the lack of support from colleagues in designing the WebQuest and difficulties in dealing with the students' problems and managing the whole course. In fact, the students were sometimes overwhelmed by the burden of work they had to finish each weak; in reality, the reading texts were sometimes too long. Several students who are not used to reading long texts online felt hard to concentrate on their reading. The researcher/ teacher could not foresee the possible problems which would happen to the quality of the Internet. Thus, in order to have a better cycle of future action research, importance should be attached to the cooperation among colleagues in designing and implementing the WebQuest-based course, the length

of the reading texts, time budget, the quality of the Wi-Fi system at the PPU in all the stages of the second circle of the action research, especially the planning stage.

Conclusion

The integration of WebQuest in the teaching of ESP reading helped to increase students' motivation and participation; improve students' Internet skills; provide students with more opportunities to expose authentic materials, interact with the target language and content area; enhance students' problem solving and critical thinking; and develop students' self-paced autonomous. And most importantly, the Web-based reading course, as a result, improves students' reading competence, enriches their vocabulary and specialized knowledge, and motivates them to read extensively. WebQuest, thus, appear as a very suitable integration to immerse the students in the teaching and learning of ESP reading and in a real professional in which a whole project involving technology is done.

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