

THE INTEGRATION OF WEB-RETRIEVED MATERIALS, IN TEACHING ESP

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ABSTRACT

The vast amount and great variety of current and readily available materials on Internet, can be exploited to integrate the different skills in ESP teaching. This research explored the integration of web-based materials in teaching ESP. It examined the opportunity offered by Internet to design significant activities to help learners take more control of their learning and promote attitudes which lead to autonomous learning and motivating teaching. The present research work was a case study of 2nd year engineering students. First, data were collected through a students' questionnaire and a teachers' interview to identify engineering students' needs and attitudes towards the integration of web-retrieved materials in teaching ESP. The analysis revealed that students needed to develop particular skills and strategies and to reinforce their linguistic background in English. In addition, the integration of web-retrieved materials in teaching ESP was positively viewed by informants. The results revealed a positive impact of an ESP course supplemented by web-retrieved materials on the development of the language with a progress in their content knowledge.

KEYWORDS: Content Knowledge; Engineering Students' Needs; English for Specific Purposes; Web-Retrieved materials

INTRODUCTION

English is an important and significant language in international, social, cultural and political activities, considered as a vehicle that is used everywhere and leads to various opportunities. Previous research in the field of engineering showed that the English language is important academically and professionally for engineering students. For this purpose, the researcher seeks first to know if Engineering students in the Faculty of Technology (University of Tlemcen, Algeria) are really aware and conscious of this importance.

In today's language teaching, Internet is used for different purposes but how it really concerns content-based ESP course. It is rather related to Internet assisted learning which is shown in students' searches seeking for various authentic materials in many English websites. In fact, Internet is a continuously updated source of materials which are useful for ESP learners in their studies. This autonomy of students in searching for particular information to carry specific needs or purposes and the widening role of online technologies have lately become the major property of language teaching at the tertiary level. Additionally, speedy technology necessitates many science oriented engineers for whom English is mainly a library language which should be well understood by students to have access to knowledge contained in textbooks, journals and magazines and thus they can extract information and keep in touch with the latest technologies. Moreover, they need to be able to understand specialized English language which is dealt with in international conferences, symposia and seminars.

In fact, ESP learners need to be able to read well, understand, learn about something specific, gather information and thus achieve academic and professional success. That is why; the researcher focuses on the reading skill because

proficiency in different language skills is very important to university students who have to cover a significant amount of reading materials. Indeed, the reading skill tends to be the priority in ESP teaching.

To develop reading, one of the most useful resources is the Internet with its large amount of varied and accessible authentic materials since English has become the established language of science and technology. The significance of Information Communication Technology (ICT) in all aspects of language teaching and learning process can hardly be ignored. For this reason, educators in general and ESP teachers in particular always tend to keep up with new developments since they belong to this era of information where the use of computers and Internet is becoming more and more frequent to facilitate teaching and improve learning involvement. Also, since Internet is blooming into a huge source of information accessed easily and freely by both teachers and students, the investigators attempt to investigate ways in which Internet and web-retrieved materials can be used to help engineering students to develop their reading skill in English. As a whole, ESP students should be able to practice their reading skill within an engineering context using Internet as a tool that increases the global access to engineering knowledge.

In the light of the problems stated above, the most important part of this research study is the practice of web-based activities to facilitate learning and make ESP students reading efficiently and more importantly motivated to learn. To do so, the researcher tackled some approaches dealt with in the literature to show the effect of integrating technology in ESP teaching.

This study explores the integration of Internet in ESP teaching in general and teaching the reading skill in particular. It examines how Internet offers opportunities for the students to develop their creativity and autonomy and determine the topics, read materials, and explore the readings themselves. It aims also at investigating the impact of Internet on ESP learning as well as the benefits of new technologies on both students and teachers. This research is set out to answer the following research questions:

- What are engineering students' English language needs?
- How do teachers teach ESP by integrating web-retrieved materials in the engineering English course?
- What are the teaching and learning difficulties encountered when using web-retrieved materials?

In order to answer these questions, a case study of 2nd year Master engineering students in the Faculty of Technology (the University of Tlemcen, Algeria) is designed. The researcher identifies their language needs using: a students' questionnaire and a teachers' interview, implementing an ESP course using web-retrieved materials. The results of the present work aim to guide ESP teachers when designing their courses informing teachers and institutions on how to make English language learning more effective and up dated through ICTs.

LITERATURE REVIEW

English has become the internationally accepted language of almost all the fields of knowledge. ESP has emerged as one of the major areas of EFL teaching today. This study is a response to the growing need of ESP illustrating an approach to teach a course in one of the main sub-branches of ESP, known as English for Science and Technology (EST).

In fact, ESP is still a prominent part in EFL teaching. Johns & Dudley-Evans (2001: 115) state that "the demand for English for Specific Purposes ... continues to increase and expand throughout the world." Moreover,

Cook (2001: 164) confirmed that “internationalism of English seems to be increasing.” All in all, Brunton (2009: 2) states that “ESP has increased over the decades as a result of market forces and a greater awareness amongst the academic and business community that learners’ needs and wants should be met wherever possible.” That is why, needs analysis is ‘the corner stone of ESP and leads to a much focused course.’ (Dudley-Evan and St. John, 1998: 12). The importance of needs analysis has been acknowledged by a number of researchers and authors (Munby, 1978; Richterich and Chancerel, 1987; Hutchinson and Waters, 1987; Berwick, 1989; Brindley, 1989;; Robinson, 1991; Johns, 1991; West, 1994; Jordan, 1997; Dudley- Evans and St. John, 1998; Iwai et al. 1999; Finney, 2002). Needs analysis is and will be of a predominant importance in the field of ESP (Gatehouse, 2001 and Graves, 2000). It is, in fact, the first stage in ESP course development followed by course design, materials selection, assessment, and evaluation.

Innovation and technology applied in language learning has gradually taken form. The rapid development of computer technology was widely introduced in everyday life around the world and particularly in academic settings. For instance, faculty members and researchers communicate by e-mails, share their ideas and conceptions in web-based journals and online forums, create web pages, search for computer databases, and present and teach using computer based slide shows.

In fact, the purpose of the current study is to give an instruction to ESP students aiming to equip them with the language and skills they need in order to follow their academic course of English and to make the latter beneficial. For this reason and to accomplish this purpose, technology is used in performing this course to master this language as well as the study skills needed since computers are frequently used academically.

In the same vein, the combination between Computer Mediated Communication (CMC) and Computer Assisted Language Learning (CALL) offers an environment where learners share different ideas and exchange different messages. This combination includes communication by e-mails, bulletin boards, chat lines ... etc. Consequently, researchers need to explore how to integrate web-based learning into English courses, which is the focus of this research.

Computer Assisted Language Learning (CALL) is playing an important role in the pedagogical field of English as a Second Language (ESL) or English as a Foreign Language (EFL) or even English for Specific Purposes (ESP). Chaka (2009: 539) defines CALL as “an approach to language learning and teaching that uses the computer as an aid to presenting, reinforcing, and assessing the material to be used”. In fact, CALL resources provide the teaching of English with authentic materials, a way to master language skills as well as to communicate with others via Internet. As a result, these resources encourage autonomy and motivation of learners.

Earlier, the computer was viewed as a tutor that presents programs which “were designed to provide immediate positive or negative feedback to learners on the formal accuracy of their responses” (Warschauer and Kern, 2005: 8). This view of CALL, thus, did not stimulate teachers and learners so much since only one response was accepted in those programs which were based on repeated drilling on the same material. However, the conception of CALL developed to the focus on using forms and structures of English rather than repeated drills within the same structure.

Later on, the computer became a tool rather than a tutor. Emphasis became on the use of computers for communication in the field of education as stated by Warschauer and Kern (2005:11) who explain this new approach of CALL as: “Theoretically, there has been the broader emphasis on meaningful interaction in authentic discourse communities. Technologically, there has been the development of computer-networking, which allows the computer to be

used as a vehicle for interactive human communication.” This shift of conception of computers as being tools rather than tutors of communication comes into surface from the appearance of the social interaction within different stages of learning. These stages are facilitated by CALL through computer networking.

There are in fact different means of networking communication. First, individuals usually used to send and receive messages through e-mails and more particularly, learners, via e-mails too, can share information such as word-process documents, sound files and pictures without necessarily being present during communication. In fact, electronic mail is defined as “a method of transmitting data, text files, digital photos, or audio-visual files from one computer to another over an intranet or the Internet” (Microsoft Encarta Encyclopedia, 2009). However, there are other means of networking communication where individuals send and receive messages instantly online. Another sphere of networking communication is linked to hypertexts, that is to say, the World Wide Web (WWW). At this range, learners can search through millions of files around the world in a few minutes in order to access authentic materials. They can search for an unlimited number of resources which seems so advantageous for their learning. That is why, Web Based Learning (WBL) is becoming a powerful source that increases the knowledge of learners and leads to a well-established input and output.

Some researchers argue that web-based teaching is not always the solution for every learning problem and considered as “the salvation of education” (Maeroff, 2003: 18). Another concern is that, new users might be discouraged because of technical difficulties. Lack of training and familiarity with computers and Internet, can lead to frustration instead of motivation. In this concern, Hannum (2001: 17) declares that, the web uses many features, such as e-mails, conferencing, chat and unexperienced users need training, before starting the web-based course. In addition, Students and teachers might still have serious problems to maintain or even get access to the Internet, so “slow connections have a bottleneck” (Hannum, 2001: 17), that limits enthusiasm among teachers, to build web-courses and students to learn using a web-based materials. Another problem is the inadequate use of the huge amounts of WWW resources. Moreover, to confirm the authenticity of students’ assignments is not an easy task, for the teacher with the learners’ use of “copy-paste” technique, which makes cheating easier. Hannum (2001: 17) wonders, how teachers can certify that, the examinations or work submitted are the effort of the learner and not a plagiarized work from Internet resources.

Internet is viewed as a tool, that develops authentic communication. The WWW reinforces and expands a greater potential which meets the students’ needs and interests as well as provides chances to increase multicultural contact and awareness. It also develops a kind of flexibility in performing activities that develop students’ autonomy and independence. The teacher’s role in this case is to provide techniques which “are related, in part, to the condition of autonomy, in that the more choices (autonomy) the students have, the more they need to interact, consult, or negotiate with their team members and class” (Egbert, 2005:55). This brings authenticity to WBL.

To conclude, authenticity and autonomy are dominant in WBL and there is no doubt that Internet plays a prominent role in the foreign language classroom since it has transformed communication around the world.

METHODOLOGY

The present study is a case study of second year Master Engineering students, in the department of Electrical and Electronic Engineering, at the faculty of Technology, University of Tlemcen. The purpose of this study is to explore the

integration of web-retrieved materials in teaching ESP and try to find solutions to the difficulties encountered during this integration. For this purpose, the study first aims at identifying the engineering students' needs.

Social scientists, in particular, have made wide use of case study research method to examine contemporary real-life situations as defined by Yin (1984:23) that it is "an empirical inquiry that investigates a contemporary phenomenon within real-situation context, in which multiple sources of evidence are used."

The researcher chose for her study two instruments of research which would lead her to answer her research questions and test her hypotheses. The tools used to gather data are a students' questionnaire submitted to the target group, i.e. Second year Master Engineering students and a structured interview addressed to ESP teachers. Additionally, each of these instruments was used at different phases of the study for different purposes. The questionnaire was designed before the course, for one part to investigate the students' attitudes towards the use of web-based materials and for the other part to know their particular needs through a needs analysis survey in order to take them into account when designing the course. For the teachers' interview, it takes the same time and purposes as the students' questionnaire with different participants.

The present questionnaire is divided into two main parts in addition to the background and profile information. The latter concerns the applicants' profile (age, gender, level of study, department and university). In fact, this information helped the researcher to know the sample population in order to analyse data afterwards. It is submitted to 30 students in the 2nd year Master in engineering discipline. The first main part of the questionnaire is a needs analysis survey based on Hutchinson and Waters' (1987) theory. It aims at identifying their English language. This part is also divided into three kinds of needs: necessities, lacks and wants.

The questions related to necessities refer to what the learner has to learn in order to communicate effectively in the target situation. They are in fact seven close questions where the respondents have to answer by yes or no or rather to check the appropriate answer. The researcher first wanted to know their awareness of the importance of English describing their attitudes towards learning. Then, she asked them about their opinion on attendance of English courses, followed by an inquiry of their content area in the future linked with the immediate purpose and reasons for learning English.

Regarding the respondents' lacks, the researcher wanted to know what they already know and examine an evaluation of the quality of ESP instruction provided at their level and also to proceed objectively and accurately in the present experimentation. 11 close questions were asked to identify their lacks, answering by yes, no or grading. The first question inquired about whether they were satisfied or not with their previous ESP course. With this starting point in mind, the researcher started to think about remedies and changes. The next two questions aimed at revealing their opinions about the weekly time allocated for the English course. Then, a multiple choice items of the following questions sought information about some skills to be developed in previous courses, aiming to know the occurrence of the reading skill; pursued by a question inquired about whether some activities were previously done. The two remaining questions of this sub-part concerning applicants' lacks, aimed at rating their proficiency level in English in the different language skills and whether they were tested on assessing one or all those skills.

Paving the way to examining the respondents' wants to know exactly what their needs are and what they wanted to be really done in their current instruction and thus, helping the researcher to recognize what should be done afterwards (when designing the course). Multiple choice questions sought information about what they wanted to study English for,

rating after on the usefulness of some types of class works. Related to the teaching of the reading skill which is a key element in the study, an inquiry about the skills they wanted their teacher to focus on during her teaching seems necessary. She looked for their strength and weaknesses in reading as well as the most favourite sub-skills of reading to be used.

In order to know the ESP teachers' points of view on the integration of web-retrieved materials in teaching the reading skill for ESP students, the researcher has chosen the structured interview because it ensures that participants have similar chances to provide information and are assessed accurately and consistently. It was conducted after a preliminary analysis of the students' questionnaire results since it was necessary for NA. There were areas in the questionnaire results which needed explanation, so the interview filled the gap by providing further explanation and allowing triangulation. The interview turns around the three research questions. All the participants teach ESP and each teacher has his own method of teaching and his own point of view about students' needs.

Eleven teachers were interviewed. They teach ESP to students of different specialities. The researcher explained the purpose of the structured interview in identifying their use of ICT and web-retrieved materials in their teaching practice especially with ESP students as well as their strategies in teaching the reading skill. Then, she explained how it would be conducted. Teachers were reminded that their responses would remain confidential. The language of the interview was English. The structured interview was composed of two rubrics in addition to the teachers' profile: Needs Analysis (necessities) and Present Teaching.

After examining the teachers' profile and background, the researcher divided the structured interview into three parts: The first one is concerned with a needs analysis. Though the researcher designed this instrument of research for teachers who have taught ESP, she confirmed by the first question about whether they taught it or not. The second question dealt with the time allocated for teaching English and its sufficiency to raise students' proficiency level in the language meanwhile the researcher wanted to inquire about this to know time adequacy for the current course design. It was followed by an inquiry about the implementation of a needs analysis survey in order to design their courses. Then came time to ask about Internet availability in their University with a good or bad connection if it was offered as well as what they used the Internet for at University giving them the choice between a group of items. This question is highly related to the purpose of the study on designing courses using Internet. In fact, all the questions of the first part are close ones since the respondents had to answer by yes or no.

The second rubric of the structured interview is related to the respondents' present teaching of reading. It is first composed of a key question about the focus on the reading skill in their teaching. The next question which is related to the reading strategies implemented as well as the frequency of using them. This question seems so important since the investigator used them in her experiment; followed by an open question about the materials used to adopt those strategies. The purpose after the questions of this rubric helped the researcher to investigate the methods and strategies that should be taken on as well as the materials needed to do so.

The third rubric which is considered as the key stone of the present study since it deals with an inquiry about the teachers' attitudes towards the integration of web-retrieved materials in teaching ESP in general and in designing their courses in particular. Because of the paramount importance of this rubric to provide answers to the research questions, it contains the biggest amount of questions, both close and open so as to have a clear idea about the current situation. The researcher introduces this part of the survey by asking questions about the availability of personal computers and the time of their occurrence as well as rating their computer proficiency. These questions aim mainly to know the interest of

the applicants for new technologies. An open-close question followed by ticking on the available ICT tools in their University and stated others if existed. The next question of whether they used the tools mentioned in the previous question was followed by a series of five other questions if the answer was positive, that is to say, they confirmed using all or some of them. To know about the tools (previously dealt with) used in their teaching and the frequency of using them, the researcher asked an open then a close question. In addition to the inquiry about their computer proficiency earlier, another question about their ability to use ICT tools and the manner they learned to use them seemed necessary. This leads to an attempt to generalize the investigation.

Keeping concerned with the third rubric which is the longest and the most important for the study under investigation, the researcher asked a question about what they used ICT for, providing a selection of choices and individual proposals. By this question, the investigator wanted, indeed, to know if ICT was used to design their course without needing a connection in the classroom, or rather used to be practiced in the classroom with access of Internet. After the five replies following the question asked previously about whether they used some listed tools or not came turn of the negative answer about not using those tools followed by a rely on Internet in the design of teaching materials. On the same line of a positive reply came three other questions to examine the frequency of using Internet in designing courses, selecting the criteria for choosing web-based materials or even proposing others not offered and finally to have an idea on the websites used which may help the researcher in her investigation.

RESULTS AND DISCUSSIONS

The teachers' interview and the students' questionnaire aim to identify Master students' needs to learn English and explore both teachers' and students' attitudes towards the integration of web-retrieved materials in teaching reading. With these objectives in mind, the researcher tried to verify the first, second and third hypotheses.

Regarding the first hypothesis, the results revealed that ESP students were really aware of the importance and immediate need of English for their studies including research as well as for their future careers and had a favourable attitude towards learning this language and claimed that the attendance in English courses should be obligatory. Students needed English to develop particular skills such as developing academic writing skills, fluency and accuracy in reading and writing and oral abilities to participate in discussions and debates. In addition to their need to increase their English vocabulary and read with grammatical correctness so that they reinforced their linguistic background in vocabulary and grammar, they also needed to develop some reading strategies which seemed important to teachers as they were concerned with developing many of them. The students also highlighted the necessity of developing some reading sub-skills such as reading course handouts, reading technical articles in journals, reading technical manuals and reading study notes and texts on Internet through activities on reading for information especially for specialist information. Since they were generally assessed on reading and writing skills, they needed to raise their English proficiency level as they rated themselves as average in reading. With all these needs realized, they could recover their lacks. In addition, from the expectations of students related to their wants, they claimed their desire to have access to information via Internet and to be able to read notes and texts on Internet too, collect information from journals and comprehend information in context. However, they did not really want to focus on the reading skill and they stated themselves somehow strong in reading for context whereas weak in reading with grammatical correctness but teachers in the interview claimed the contrary. Additionally, students required using web-retrieved materials in their English learning which will improve their reading skills and enrich their vocabulary considerably. As a whole, all those results confirm the first hypothesis.

Concerning the second research hypothesis, the results revealed that teachers adopted various reading strategies in their teaching through various materials used as dictionaries, data show, PC and so on. They also showed a positive attitude with regard to integrating web-retrieved materials in teaching ESP in general. According to the results obtained, teachers use some ICT tools, some websites and Google search engine to develop their students' reading comprehension. On the other hand, the students also approved the use of the Web in their learning since they wanted the delivery of instructional materials not only face to face but also using Internet and multimedia based materials. It was found that students desired using a combination between various web materials and showed a positive attitude towards web learning without forgetting that they found web materials beneficial in performing activities dealing with reading for specific information and choosing their own texts through interesting web sites. Teachers explained the necessity of using ICT tools in reviewing resources and producing materials for their course design as well as in contacting colleagues via e-mails in order to exchange ideas concerning their teaching. Therefore, one may deduce that the findings related to the integration of web-retrieved materials in engineering English course seem to confirm the second hypothesis.

Dealing with the third hypothesis, the results were very informative. Students in the questionnaire claimed the insufficiency of the time allocated to English courses since they wanted more time for those courses without forgetting the teachers' point of view on this concern which proved to be similar. Another difficulty which faced teachers in integrating web-materials in their teaching was the inaccessibility or the low speed of Internet. Lack of ICT tools was also highlighted by teachers as well as lack of training among teachers and students. Thus, the third hypothesis is also confirmed.

CONCLUSIONS

Internet is a powerful tool used to teach foreign languages in general considered as an aid to better understanding, effective reading and successful learning. The present study provided the integration of new technologies in teaching reading for ESP students, particularly engineering ones in order to raise their English proficiency level and integrate them in the increasing development of technology in this era of information. ESP practitioners may benefit from the current investigation despite its limitations. However, ESP practitioners should be necessarily innovative and perform a variety of needs assessment tasks developing computer-based programs and authentic tests. Whatever its direction, ESP will remain central to ESL and EFL teaching throughout the world.

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