

Designing an E-learning ESP Course: Possibilities and Challenges

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Abstract

The purpose of this paper is to report on a twofold experience in distance education, first as a designer of an e-learning ESP course for Internet and Multimedia Information (IMI) students at the Virtual University of Tunis (VUT) during the year 2004, and, second, as a participant in a ten-week online course on Teaching Critical Thinking (TCT) offered by the University of Oregon in October 2006. Drawing from the literature as well as the reality of the local context the possibilities that distance education offer for teaching languages, this paper will discuss the challenges that an EFL/ ESP teacher may meet when designing an online ESP course, and draw implications that may help course designers make informed decisions to improve the quality of e-learning courses and help teachers better understand ESP language teaching and learning.

Introduction

At the dawn of the 21st century, the escalating use of English worldwide by speakers of other languages, especially its use as the Lingua Franca of globalisation, and its acknowledgment as the language of science, technology, and business have led to an ever-increasing demand for English language courses that respond to the specific needs of different specialty-area groups of learners. On the other hand, improvements in Information and Communication Technologies (ICTs) have led to the development of new ways and tools for delivering knowledge across physical distance and time zones to reach people around the globe—of all affiliations, ages, cognitive and mental capacities, lifestyles and financial resources (Belanger & Jordan, 2000). The proliferation of e-learning institutions, synchronous/asynchronous online courses, as well as pre-packaged courses on CDs, may further indicate this new direction in knowledge distribution.

The teaching of ESP per se has already been documented as being fraught with difficulties, challenges, and controversies, particularly in contexts where teacher training programs could not keep abreast of current demands. However, increasing demands and requests— sometimes on newly-founded institutions such as the Virtual University of Tunis (henceforth VUT)—for making these courses available online have posed a double challenge for the ESP teacher: designing ESP materials, and then mastering the pedagogy of the new technology to provide courses that respond to the basic principle of accountability.

Background

The VUT was created in January 2002 to keep abreast with developments on the world scene, one of the objectives being "to introduce and generalize distance education, to produce innovating teaching materials and to make them available for university institutions, teachers, and students through the Internet, and to train users in the design and development of innovating applications and devices" (VUT website, at www.uvt.rnu.tn).

The VUT is not restricted to any area of study: many modules are offered in different disciplines in Fundamental Sciences (e.g., Maths, Physics, Chemistry, and Geology); Arts and Social Sciences (e.g., Languages, History, Geography); Economics, Legal Sciences, and Management; and Engineering. However, courses concerned with the teaching of languages remain underrepresented. At the time of writing, out of an overall number of 190 modules being offered online, there were only two modules of English, and the main institutions to benefit were the Higher Institutes for Technological Studies.

Being initially an ESP teacher, I had the opportunity in 2004 to design an online course for postgraduate students specializing in "Internet and Multimedia Information" (IMI). In the academic year 2003-2004, the VUT felt the need to offer IMI students a specialised English course. The idea was to offer students an English course to introduce them to the kind of English they would need to deal with in their target situation, as future engineers in multimedia information and the Internet. It was a completely new challenge.

We started our design process by taking into consideration the opinions of the primary subject specialists, as expressed in a questionnaire given 4 months before the process started. The results indicated a clear need for the development of reading skills and for accessing the highly technical terminology and literature in the specialty area on the part of potential users of this course. In a traditional situation, this would have been enough to start the design process. However, for the present course, which we called *Anglais Technique*, we still had to work on the online component. For us, using the technology was not an end in itself, it was a means that should be used in the best possible way to respond to needs, primarily to increase the accountability of the course, not only at the level of content, but also in terms of course features offering time flexibility in the use of the online course, quick communication with the tutor via e-mail and forum sessions, and less time attending classes.

In 2006, still, via the VUT, I benefited from a unique experience by taking an online course in critical thinking. During the ten weeks of the course, around 30 participants from different parts of the world (23 finished the course), came together in a virtual asynchronous classroom. We were involved in readings, reactions to readings, discussion, assignments consisting of analysis, interpretation, and synthesis of information in those assigned readings, comments on each others' work, reactions to peers' positions (the instructor insisted on maintaining polite discourse between the participants as part of the evaluation was on the formulation as well as the content of our ideas). Another feature of the course was the possibility for continuing education; indeed, once the basic principles and premises have been established, through links to other websites the course offered the possibility to continue reading and researching on the topic as we had access to articles, tips, lessons, and lesson plans. The best part of it was when by the end of the course, we were gradually left to our own devices, creating a better lesson plan for teaching critical thinking in our contexts, and working on our project for developing a Program for

teaching this component in our own departments. Overall, this experience enabled me to come back with "new eyes", see distance education from the perspective of the learner, and have the first-hand experience about those features of pedagogy that make learning online an enjoyable and beneficial experience.

This paper evaluates this initial experience of distance education in the local context; it highlights the possibilities that online courses offer, particularly with ESP students; it also covers the potentially problematic areas that need to be addressed (e.g., cultural, pedagogic, changing roles of universities and teachers, etc.) if courses are to take maximum advantage of this new medium.

Possibilities of Distance Education

The literature on the use of technology in education, in general, has established a list of possibilities for technology-/computer- /multimedia-/hypermedia-based educational programs (words to be used interchangeably). First, in terms of presentation, multimedia combines text, audio, visual, graphic, and dynamic elements, such as animation and video, and hence offers more ways of representing knowledge than simple written texts or speeches.

Educational technology also enables nonlinear access to a massive amount of information (Nielsen, 1995), offers the possibility for in-depth, on-demand exploration of information for users through hyperlinks and connections to other pages (Collier, 1987), captures and engages the attention of users (Jonassen et al., 1995), and represents knowledge in forms which are similar to those in the human mind (Delany & Gilbert, 1991).

Second, the use of technology in education helps develop the growth of the learner's psycho-motor and intellectual skills, including problem-solving, decision-making, and collaborative-learning skills, and has the potential to facilitate access to and flexibility of learning. It is also increasingly acknowledged that the use of multimedia technologies has the effect of transforming the structure of traditional classrooms, resulting in the possibility of reaching new markets, for example, the lifelong learner market. Dryden (1994, p. 284) says :

Learning in the twenty-first century will be increasingly bound up with work and everyday life. It will be required on demand and will be organized in such a way that it fits the lifestyle and needs of individuals.

Today it is generally agreed that e-learning provides several desirable options: first the fact that students can access their class at any time from anywhere they want; second, the possibility for students to repeat the instructions as many times as they need to review the contents; third students may also benefit from one-to-one instruction and individualized/personalized support by an instructor or tutor through e-mail correspondence and chat sessions. Furthermore, on-line courses provide students with the opportunity to expand their knowledge and skills by interacting with students with different profiles and experiences.

Challenges

Changing Roles for Learners and Teachers

For many learners, learning English online may be interesting, beneficial, entertaining, and flexible. Many studies show that online learning offers students an opportunity to learn at their own pace and to escape from exposing their low level or lack of proficiency in English in front of their peers and their teacher (Thang & Bidmeshki, 2006; Lefever, 2004; Coll, 2004; Azizah et al., 2004; Thang & Olaybay, 2004; Koo et al., 2005). Many other studies indicate that, overall, distance learners lacked autonomy in language learning and were unaware of the processes involved in language learning (Thang, 2005; Thang & Azarina, 2004).

According to Lebrun (2005), to be successful e-learning should involve problem-solving, cooperative, project-based, and contextualized learning. This has implications for both teachers' and learners' roles. Learners are today more than ever required to work independently, they are supposed to clarify concepts and terms, define and analyze the problem, formulate objectives, collect information, and synthesize and transfer information for use in other situations.

Another issue concerns what is referred to in the literature as 'multimodal learning' (Al-Seghayer, 2005), that is to say, the use of complementary communication channels in language learning. Many studies have demonstrated that adding modes such as sound, picture, and video to the text facilitates reading comprehension (Chun & Plass, 1996a, 1996b; Cohen, 1987; Hanley et al., 1995; Oller, 1996; Secules, Herron, & Tomasello, 1992). However, the generative theory of multimedia learning (Mayer, 1997), cautions us against making generalizations concerning how learners learn from these different sources as processing both visual and verbal modes of information is moderated by the individual differences L2 readers bring to the task of reading.

The implication of these findings is clear for the design of online courses: in the absence of the traditional teacher who will supplement information needed to understand the text by giving explanations, definitions, and gestures/facial expressions, the course designer is expected to investigate the group as well as individual learning styles and provide the learners with a variety of learning sources for the same item so no student will be disadvantaged by the availability of information in one mode and not another. Al-Seghayer goes further to suggest that 'learner-controlled options' should be provided to maximize learning. He summarises this point in the following way:

Designers should consider developing their multimedia reading programs with the assumption that they are addressing varying individual learners' preferences. Therefore, programs should include graphics or videos that meet the preferences of visual learners, sound recordings to meet the preferences of auditory learners, and textual information to meet the preferences of verbal learners. The intended multimedia reading programs should also, assuming that L2 readers need help in both or one of the levels, provide assistance and support at the macro-level (reading comprehension) and micro-level (word level) of reading (2005).

As for teachers, the appearance of the "tutor" in distance education translates the important change in the roles of teachers. Tutors pose questions, help students explore situations and set objectives, foster exchanges among students and reflection over the process, and the context of learning, in addition to the possibility of giving individual coaching for students with specific needs or problems. However, the general background

of traditional face-to-face teaching and learning in Tunisia is still the norm rather than the exception in many contexts around the world, and in settings where the teacher-centered approach for teaching English is widely accepted, a lot of teachers and learners remain skeptical about the possibility of teaching and learning a language via the computer. Furthermore, the early attempts at designing English courses for online use lacked interactivity and the use of multimedia modes, which made them rather look like traditional textbooks. These courses failed to convince the different parties about the benefits of taking them; this may also partly explain teachers' and students' preferences, even today, of in-class contexts.

Technology, Pedagogy, and Training

With the introduction of technology, the challenges of training have doubled in the sense that training programs should be concerned with both technical and pedagogical training and also with the habilitation of both teachers and students:

a) Technical training: To ensure the success of the distance education project, both learners and teachers need a high-tech training to familiarize themselves with the possibilities technology offers for teaching and learning and to exploit its potential to the full. Moreover, new technologies and possibilities for using them are continually emerging and developing, and this may make it difficult to establish a fixed set of objectives and outcomes of an educational program and to evaluate them. In the local context, some of the challenges on the variability in technology-related skills among instructors and learners, for example, some students may still need keyboarding training to be able to cope with the online course.

b) Pre-service and in-service training: It is generally agreed today that the success of technology-based teaching and impacting learning and learners will greatly depend on teaching and the strategies of instruction. Brackett (2000, p. 29) contends that "it is the pedagogy, not the technology that is the key." Grabe and Grabe (1996) support this view "Just remember: in most cases effective teaching with technology is effective teaching by any means". However, many believe that established classroom practices cannot be readily and automatically be transferred to CALL (Chapelle, 2001), The implication is that faculty (designers and tutors) need to be prepared to teach via the technology by providing them pre-service and in-service training in e-learning pedagogy. This is an essential asset for teacher development and quality online ESP instruction (Littlemore, 2002; Wilson & Stacey, 2004).

Research has indicated that training should not be restricted to course instructors and tutors. Indeed, learners can greatly benefit from a component in how to learn better by employing a wide range of key language learning strategies (Oxford, 1990; Embi, 2000; Cohen 1998). Embi (2000) proposes a model for learning English called SMART, which groups strategies of learning widely recognized for their fostering of effective and efficient learning:

S - Social Learning Strategies: strategies for learning English with others.

M - Metacognitive Learning Strategies: strategies for managing English language learning.

A - Affective Learning Strategies: strategies for lowering anxiety when learning English.

R - Remembering Strategies: strategies for memorizing English language materials.

T - Test Preparation Strategies: strategies for preparing for English language examination

Another important question related to the interconnection between pedagogy and technology relates to how technology interferes with pedagogy. It has generally been accepted that two-way face-to-face communication between the teacher and the learners has a significant impact on the quality of learning particularly where content is language itself. This poses a real challenge for designing language courses online as it involves the design of activities and modes of interaction to sustain communication and the creation of a sense of community within the group to support quality learning (Swan, 2002). In this context, Black states that "dialogue and academic discourse are necessary features of education that must be assured in distance education to achieve quality" (Black, 1992, p. 208). Part of the answer to this question resides in taking advantage of existing communication technologies and computer-mediated technologies such as audio and video teleconferencing, forum and chat sessions, virtual guided visits, and emails to maximize interaction (Garrison & Shale, 1990), and paradoxically also part of the answer consists in encouraging the learner to be more independent and self-reliant in the learning process.

In the TCT online course, we had weekly assignments where we were expected not only to consult the readings put on the platform, but also to post in response to discussion questions required by the instructor, and then to reflect on and post feedback to peer' responses. However, as weeks went by, we noticed that a sense of community was emerging in the group and relationships between us getting stronger, and our feedback to each other was getting more frequent, extensive, and immediate. So, in distance education, students need to understand that interaction within the group is expected: this could be maximized by giving scores for quality and quantity of interactions via posts.

Access to Technology

Other challenges pertained to two main infrastructure problems consisting of a) the difficulty in accessing the online component (connection failure) and b) inaccessibility to computers particularly when students are away from university premises and for some students who have to take the course from far-off regions in the country.

One of the most important challenges for the VUT project with university formation is not only acquiring the equipment but also ensuring an equitable distribution of equipment and its integration in the curriculum. As far as the VUT is concerned, apart from server room laboratories of digital content production, videoconference centres, several access centres are installed (10 functional centres and 25 centres are in progress). This equipment is set up to facilitate the transition of in-class courses to online courses. However, outside the institution, some students may still not have easy access to the Internet either because of the unavailability of cybercafés nearby where they live or because they lack the means to stay online for long periods. In either case, many students have indicated to their tutor in an informal interview that they prefer to download a PDF

copy of the course, the answer key to the activities and work with the documents in a traditional way. Another option for this question may be in providing a CD for every student to work within an asynchronous way.

Assessment/Evaluation Frameworks and Procedures

Accountability

Given the increased time and money-consuming effort being invested in technology, evaluation of the technology program planning phase should indicate whether decision-makers are clear about the place and scope that computers should have within the curriculum. According to Rockman (2000), it is important for the continuity of the program that decision-makers express outcomes of technology in more precise terms than to "improve problem-solving capacity", "increase collaboration", or to "help students become independent". This is all the more evident in ESP where new methods to demonstrate the effectiveness of having an ESP course online rather than in traditional classrooms need to be developed (Simonson, 1997).

Learner Assessment

Two main issues that emerged hand in hand with the integration of technology in education concerned what to assess and how to assess. Indeed, there is some evidence today that technology-based courses foster deep understanding and inquiry skills among learners. So, it might be interesting to explore whether there is congruence/ or lack of congruence between these learning goals and the content of traditional /conventional standard tests. Some authors believe there is a need to develop assessment procedures that go with this new reality; for them, it is important to assess technology skills as well as language skills (Means et al., 2001). It is also important to investigate how technology is affecting the way students solve problems during learning and find ways and procedures to assess this capacity; that is to say, is technology helping or hindering the overall process of learning?

As far as how to assess is concerned, McNabb et al. (1999, p. 4) note that although standardized tests scores are generally considered as an accepted measure for policymakers and the public to evaluate the accountability of the educational system, there is increasing evidence that these test scores do not provide valid measures of the types of learning which use computer-based tools (see Russell & Plati, 2000 for a review of some of this evidence). Many researchers advocate the development of new assessment instruments, others suggest that other methods for examining student learning be employed (Heinecke et al., 1999). However, it is believed that evaluations of technology programs must go beyond current standardized test scores to examine the impact computer-based tools have on student learning and that multiple instruments and methods should be employed to collect data and investigate the impact of using technology for educational purposes from different angles.

Evaluation Frameworks of Distance Education Projects

Evaluation should be an essential component of any educational program. According to Hudson (1989), "continual" evaluation is necessary in language programs and should be an ongoing process covering the different stages of the curriculum to meet curricular goals and to achieve accountability.

Evaluation is all the more necessary in technology-based or-assisted programs because of the intervention of a host of variables associated with the use of technology and which may complicate the picture even further. As far as distance education is concerned, Russell (2001) proclaims that the evaluation of a distance education project involves a number of criteria such as students' technology skills and computer-based instructional tools in addition to the criteria examined within the framework of face-to-face teaching and learning. Arbaugh and Benbunan-Fich (2005) argue that evaluations of distance education should focus on three essential contextual factors: (a) the individual instructor and course, (b) the technology used, and (c) the organization through which the course is offered. As far as Alessi and Trollip (2001) are concerned, setting standards and carrying out an evaluation at the levels of Planning, Design, and Development could only be beneficial for technology-based projects if they are carried out consistently throughout the project and on an iterative basis.

Cultural Factors

The introduction of e-learning courses as fully-fledged courses that may one day replace in-house traditional courses brings with it a new vision of how learning should take place; it also creates a new reality. It leads to new roles for learners and teachers/tutors and requires them to gain new skills and competences. In short, a new culture is emerging, and to cope with the rapid increase in technology use for educational purposes, we must explore and understand this culture. When taking an e-learning course, the learners are viewed not as recipients of knowledge but as taking part in knowledge construction (Fujiike, 2004), a process that occurs within the group through social interaction, collaboration when learning together, and doing activities, tasks and projects together. Gunawardena et al. (1997), in their "Interaction Analysis Model" for examining the social construction of knowledge, based on a theory of social constructivism, investigated how the on-line interactions could be qualitatively assessed, and on whether negotiations between the participants would generate the construction of knowledge.

An investigation of how knowledge could be constructed taking into account the specific national, cultural, educational, linguistic backgrounds and the individual learning styles of the learners in the local context needs further exploration to ensure the success of e-learning courses. Also, more work should be invested in developing this sense of community culture at both micro and macro level, where interaction at micro-level refers to the interaction among the participants in a specific online course, and macro-level interaction refers to the development of this sense of collaboration for co-construction of knowledge within the wider community.

Conclusion

This paper has presented an overview of the Tunisian experiment in distance education in ESP, and although the comments need to be further supported by empirical, data-based research, certain recommendations already emerge. They highlight the need for:

- setting standards and clear objectives for a distance education program based on needs analysis;
- designing course contents to respond to those specific needs, and their integration into distance education programs;
- developing a complementary support system (e.g., available and easy-to-reach tutors, a copy of the course on CD) to lower the level of anxiety, and to make this experience as comfortable as possible for students;
- developing new assessment instruments that move beyond current standardized test scores to examine the impact computer-based tools on student learning;
- developing a sense of community culture that would facilitate the achievement of e-learning course objectives;
- ongoing cyclic evaluation of the courses at the levels of planning, designing, and implementation;
- further pre-service and in-service training of course designers, tutors, and teachers, and the development of technology skills for both teachers and students.

These recommendations provide a basis for further research and development as the approach is introduced more widely to language learners and teachers.

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