WEB-BASED SIMULATIONS FOR ESP

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Simulations are goal-oriented activities in which students use language to perform authentic relevant tasks in a rich communicative environment. This is a useful activity for ESP students, since it requires students to produce language in similar contexts and conditions to the ones in which they will need to use English in real life.

Simulations have been widely accepted as a suitable activity for ESP (see the volume edited by Crookall and Oxford (1990), where some of the papers deal with the use of simulations in ESP). They increase students' motivation and involvement by helping students perceive the activities in the language classroom as relevant and related to their real communication needs. When taking part in simulations students learn by doing and they can see the results of their actions. Learners can, therefore, practice language in a realistic safe environment, which reduces their anxiety. In addition, simulations help ESP students develop skills that will be of great importance in their future: critical thinking skills, problem solving and decision taking skills, team working skills, social skills.

The Internet offers new and promising possibilities which enhance the benefits of using simulations for teaching ESP:

1. the Internet can be used as a tool to enable genuine communication between the students taking part in the simulation;
2. it can provide a context closely resembling real-life;
3. it allows access to a great amount of discipline-related and up-to-date resources to carry out the simulation. The hypertext capabilities of the Internet also enable teachers to select the appropriate resources and incorporate them, by means of links, into the simulation activity;
4. the Internet makes it possible to carry out simulations without time or space constraints. In contrast with oral interaction, in an asynchronous Internet exchange students have time to reflect on their own use of language.

Simulations vary in length, complexity, and number of participants. While some simulation tasks are designed for individual students, most involve collaborative learning. One type of online simulation involves the use of Computer-Mediated Communication (CMC) to connect several separate (groups of) students, in the same classroom or in different places, who

collaborate in performing a task. Each student or group of students plays a role in the simulated world and has to engage in genuine communication with the other students taking part in the simulation. This is an activity which can be used with business students to practice real business correspondence. Student pairs (or teams) can be assigned different roles, such as customers and suppliers, and they can be asked to exchange simulated business letters through e-mail. E-mail also enables international simulations where groups of students in different universities are assigned a role within the simulation. An example is the project ICONS (The International Communication and Negotiation Simulations) (http://www.arts.cuhk.edu.hk/~cmc/research/summary.html), where student teams represented their own countries and negotiated solutions to global problems with teams from other countries. Other similar simulation projects are described by Feldman (1995) and Mak and Crookall (1995).

There are other simulations where the computer is not used as a tool to communicate with others, but rather to get the information students will need to play their role in the simulation. The Internet allows students to access authentic documents and find up-to-date information on a variety of topics. Simulations of this type can be found in the site *Decisions, Decisions Online* (http://www.tomsnyder.com/ddonline/). Students role-play legislators faced with a critical situation, which stimulates discussion about controversial social issues.

In some cases the computer only provides the context for the simulation. This is the case of activities based on the decision maze format: a situation is presented and the student is offered a series of options. Each option has consequences (a new situation or problem), which result in new options to choose from. An example of this type of activity is "Business meetings", (http://www.celt.stir.ac.uk/staff/HIGDOX/VALLANCE/Diss/FP1.HTM) by M. Vallance. The context is a meeting where students have to play the role of members of the construction project team of a hotel and discuss the decoration of the hotel with the other three members of the team.

There are also simulations where a software program has been used to create a virtual world so that students can perform simulated activities related to their disciplines. The task that students have to perform usually involves modifying variables to observe the consequences of their actions. The *InvestSmart Stock Game* (http://library.advanced.org/10326/market_simulation/) belongs to this category. This is an Internet simulation where students have to decide how to invest 100,000 virtual dollars using real stock and mutual fund delayed quotes from the major US exchanges. A simulation which could be used with engineering students is *Spacecraft Design*

(http://stardust.jpl.nasa.gov/classroom/jason/d2.html). Students are asked to adapt an existing spacecraft to protect the Space Station from orbital debris.

As simulations are complex activities, there are some aspects that should be taken into account for a simulation to be successful.

The first step when constructing a simulated environment for ESP is to decide the skills and type of language that students need to practice and to set a goal for the simulation which enables students to practice these skills and language. The learning environment must provide a meaningful context related to the students' discipline, and it must also provide all the communication tools and online resources that the students will need to perform the activities involved in the simulation.

Before beginning to work with the computer, it is important to do some off-line preparation. The goal of the task, the process the students have to follow to complete it, and the expected outcome should be clearly stated. Students need to be made aware that they have to adopt the role they have been assigned and act accordingly. It is also advisable to pre-teach the language (structures, functions, vocabulary, register) students will need when carrying out the simulation.

During the simulation students need appropriate feedback and scaffolding. For instance, they may be given WWW links where they can look for specific language information (e.g. the format of inquiry letters in a business negotiation simulation). Students can also be asked to turn in copies of their work before the end of the activity so that the teacher can monitor their progress.

After the simulation it is important to devote some time to evaluate whether the goal of the activity has been achieved. Students should also learn to evaluate their performance and to examine the problems they came across when using English to complete the task. This will help them to know what they have to improve in order to cope in a real situation. Students can be provided with a self-assessment form, where all the criteria for the evaluation are clearly stated. It is also advisable to do some follow-up exercises which help students practice the aspects where they found problems.

Examples of simulations

- *The InvestSmart Stock Game*; http://library.advanced.org/10326/market_simulation/

- *Design Paradise*; http://library.thinkquest.org/2111/. A simulation game where the student is assigned the role of a CEO of a major development company. He/she must balance the need of industry, environment and population to create a stable economy.

- *Amazon Interactive: the Ecotourism Game*; http://www.eduweb.com/ecotourism/eco1.html. A simulation based on the decision maze format.
- *The EFL/ ESL Negotiation Module*; http://interneg.org/interneg/training/esl/module/.

More information on web-based simulations:

- *Educational telecomputing activities: Problem solving projects*; http://www.ed.uiuc.edu/Mining/May95-TCT.html
- *Simulations links*; http://www.sandiego.edu/~mruiz/simlinks.html
- *Instructional simulations*; http://www.edb.utexas.edu/projects/mmdesign/fall96project/Why/real/sims.htm
- *The SIMULAB concept*; http://oyt.oulu.fi/tsimulab/what.html

More information on simulations in Languages for Specific Purposes:

- *La page pédagogique des Internautes*; http://www.sandiego.edu/~mmagnin/PagePedagogique.html. See "The Building: a global simulation to teach language and culture" (http://www.sandiego.edu/~mmagnin/simulation.html). The page also includes activities and links for the simulation "The Hotel". Although this is a simulation to teach French for Tourism or French for Business, it is a good example of the use of web-based simulations in Languages for Specific Purposes.

References

Crookall, D., Oxford, R.L. (eds.) (1990) *Simulation, Gaming, and Language Learning*. New York: Newbury House.

Feldman, M. (1995) "Import/Export E-mail Business Simulation". In M. Warschauer (ed.): pp. 363-364.

Mak, L., Crookall, D. (1995) "Project IDEALS: social interaction and negotiation on the Internet: Cross-cultural simulation". In M. Warschauer (ed.): pp. 225-228.

Warschauer, M. (ed.) (1995) *Virtual Connections: On-line Activities and Projects for Networking Language Learner*. Honolulu, HI: University of Hawai'i, Second Language Teaching and Curriculum Centre.