Using the Internet in International Educational Activities:
A Case Study

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Introduction

Distance education has a long tradition; from correspondence and extension courses in

mid 1800s offered to women and farmers in Europe and the US, to educational programs

offered via radio, TV, and cable TV. The distance education models based on traditional

technologies existed in the sidelines of mainstream education, which for many

generations took place in physical classrooms and involved face-to-face communication.

However, with widespread use of the Internet and the creation of the World Wide Web

(Web) in 1990s, e-learning has emerged as a new breed of distance education.

Similar to the concepts such as e-government and e-business, e learning encompasses a

range of activities facilitated by the processing of electronic information via the Internet.

While the Internet started as an exclusive test-bed for advanced academic and

government research, it has evolved into a backbone for provision of educational

programs to all categories of learners – from preschoolers to executives. E learning relies

on the Internet to transfer educational content in many electronic formats, such as audio, video, and multimedia. It also encompasses contacts among educational stakeholders (students, teachers, school administrators) via variety of tools for asynchronous and synchronous communication, such as email, electronic discussion lists, chat, and instant messaging.

E-learning challenges many traditional premises of institutional education and also creates the opportunities for the development of distance education programs that were traditionally faced with many obstacles. An example is a provision of cooperative educational activities across national borders. In the competitive job market of our ever-connected world exposure to international educational experiences is a very important asset for successful employment. There are various formal and informal ways students can add international dimension to their education: by getting complete degrees or taking individual courses in other countries, by taking advantage of "programs abroad" offered by their colleges, etc. These options are often limited to students' physical attendance at educational institutions. E-learning is an educational environment that has a potential to break the geographic and geo-political barriers and as such is a natural resource for international educational activities.

This paper describes an experimental e-learning project in which communication via the Internet was used to enhance the educational experiences of students in the U.S. and Croatia. The paper first introduces the context and technical aspects of the project. Furthermore, the paper presents the lessons learned and discusses the important issues

one should consider in the development of e-learning activities with international dimensions.

The Case Study

The context of the project was a graduate course in Business Information Resources (BI course) that is taught at the Graduate School of Library and Information Science (GSLIS) at University of Texas at Austin, in the U.S. This course familiarizes students with paper-based and electronic resources (e.g., books, online databases, web resources) that are commonly used in finding business related information. Students taking this course are future information professionals who will take positions in academic, corporate, government, and other information agencies. During the course students are introduced to basic business terminology and to the processes applied in finding different types of business information (e.g., company, marketing, investing) related to U.S. and international resources. A culminating learning activity in this course is a final project that requires students to integrate the knowledge gained through the course and to apply it to a problem from a realistic business setting. In this project students, while working in groups, research the assigned topic and present their findings to the rest of the class.

The BI course is an on-site course that meets once a week for 3-hour class meetings during a 15-week semester. Besides traditional face-to-face classroom activities, such as lectures and class discussions, the course also has a fully developed e-learning dimension that is facilitated via the course website. The functionalities of the website are provided via Prometheus (www.prometheus.com), a web courseware developed by the George

Washington University in Washington, D.C., and served from the U.T.-Austin web sever.

Through the class website students have password protected access to:

- Course resources: schedule, readings, and assignments;

- Tools for collaboration: electronic discussion lists, white board, chat, and

- File management: file posting and exchange among students and between students and the instructor.

The website also has a fully operational course management system that provides to the instructor various functions for students' performance tracking and grade posting. Because the BI course meets only once a week, outside the regular class meetings, the class website is a widely used resource for the students' mutual communication and for their contacts with the instructor.

During Fall 2000 thirty GSLIS students were signed up of the BI course. Their final project for the course addressed the following topic:

> *An aspiring entrepreneur is exploring the possibility of starting a web-based information service that would provide information on business opportunities in Croatia. This service is intended for potential investors and foreign business partners. In particular the client is interested to find out:*
>
> - *What information, relevant to foreign investments in Croatia is already available on the Web?*
>
> - *What are the business models of organizations that provide similar services?* and

- *What areas of Croatia's economy are the best candidates for being profiled by the service?*

Acting as consultants to the fictional entrepreneur, the students' task was to research the above questions, to write a report, and to prepare an oral presentation for their client. The time allotted to this project was 4 weeks.

The class was divided into 6 groups of 5 students. To facilitate the use of non-English resources about Croatia and its economy, each group was also assigned one or two students from the Department of Library Science, University of Zagreb, Croatia. A total of 7 Croatian students participated in the project, 5 located in Zagreb and 2 in Osijek. They were recruited with the help of a library science professor from University of Zagreb who encouraged her students to use the project experiences for their seminar papers. In the invitation to participate in the project Croatian students were informed about the nature of the tasks expected from them as project collaborators. Their primary function was to contribute "local expertise" to their groups' research activities, and especially to help with translation, explanation of relevant terms, and review of relevant literature not accessible online.

Each group was provided an area for collaboration on the class website. In this area the students had a number of options for synchronous and asynchronous communication via the Internet. The most often used tools included e-mail communication, electronic discussion list and file posting. Through evaluation of the student postings on the website the instructor noticed that each group had a unique approach to the use of

collaborative tools. For example, groups 2, 4, and 5 did not use the electronic discussion list at all and instead relied on direct email exchanges among the group members. All the groups used the file-sharing tool. Group 1, for example, had a record of 15 postings, including slide presentations, text documents, and annotated lists of website with URLs. Some groups, such as Group 6, demonstrated a creative use of the file-sharing tool. Students in this group took a digital photo of all the group members and posted the photo file for their Croatian member to see.

During the duration of the research portion of the project none of the groups used the tools for synchronous communication. This could be attributed to 7-hour difference in time zones between the U.S. and Croatia, as well as to the lack of the need to have an immediate response from Croatian students. The time zone difference actually proved to be a source of important experience for the students in Austin. Some groups were fascinated with the benefits of the around-the-clock communication with Croatian students. They would send the e-mail requests for assistance at the end of the workday, and have responses the first thing in the morning very next day.

Not all the groups, however, reported smooth collaboration with their Croatian group members. Two groups complained to their instructor about the slow pace of feedback from their Croatian group members. After examining this situation the instructor learned that one of the students in Croatia had difficulties with daily access to the Internet. This was, however, the only technical problem reported during the research portion of the collaborative project. Some other problems were related to misunderstandings about the

substance of the project and the project logistics. For example, one Croatian student believed that primary research was needed, and delayed the responses to the group members in Austin while collecting data.

After the project was completed each group posted the final report and the document with the text of group presentation on the class website. On the day of final presentations each group was provided an opportunity to spend up to 10 minutes in real time communication with their Croatian colleagues. In order to facilitate this, with assistance from the information technology (IT) team at GSLIS, UT-Austin, and with the IT support from Croatian Academic Research Network (CARNet) centers in Zagreb and Osijek, two separate computer systems were set up for videoconferencing via Microsoft NetMeeting. With the help of visual, audio, and chat communication the groups were able to take turns in exchanging greetings and brief comments with their Croatian members.

Following the group exchanges the course instructor gave a 30-min long presentation summarizing the educational goals and outcomes of the project. This presentation was broadcasted via MS NetMeeting as a live PowerPoint presentation to Zagreb, and from there to Osijek. The original plan was to use the Microsoft NetShow, which has capabilities to provide simultaneous broadcast to multiple locations. Due to the problems with system installations in Austin, however, this option was abandoned.

Lastly, U.S. students gave presentations about their project outcomes. These presentations were not broadcasted live; instead, they were digitally recorded for later distribution via streaming video on the class website.

Lessons learned

The project described above was an experimental attempt to use the tools of e-learning for a project involving the collaboration of students from two different countries. During the preparation of the project a considerable amount of time was devoted to evaluation and testing of the technical resources intended to facilitate communication among the students. Thus, many of the lessons learned refer to the technological issues. Just as relevant, however, are the lessons that relate to the subject content and socio-cultural aspects of e-learning in international cooperation.

Lesson 1: Adjust the e-learning tools to the scope of the educational tasks

The tools of asynchronous communication on the Internet (e-mail, file sharing, discussion lists) proved to be a very useful and reliable way of collaboration during the research process. In contrast, synchronous tools were used only in the final project presentation to provide the "personal touch" to the group experience. While the group communication worked well, the logistical and technological issues involved in synchronous one-to-many communication that was encountered during the instructor's presentation were very demanding for the scope of the project.

Lesson 2: Provide the participants a choice of e-learning tools

In this project students were provided a selection of tools for synchronous and asynchronous communication. Each group identified the preferred set of tools and found creative ways to use them. By not prescribing one required mode of communication it was possible for students from both U.S. and Croatia to define their own common denominator in the use of e-learning tools. The differences in the choice of tools seem to be influenced more by the group dynamics and cohesiveness than by the international constituency of the group.

Lesson 3: E-learning activities should build upon the international nature of the student learners

The technological resources for e-learning provide merely an infrastructure for the educational objectives and experiences intended for the students. When the student body involved in e-learning is international, a considerable amount of time needs to be devoted to the preparation of learning activities that emphasize the original contribution of each student. In our experimental project students from the U.S. and Croatia depended on each others' work and contributions in order to accomplish assigned task. The instructor observed that the originality and soundness of the final group project was positively related to the amount of interaction between the students from two countries, as demonstrated by the intensity of use of e-learning tools. American students who collaborated more with their Croatian group colleagues performed better in the project.

Lesson 4: Count on and accommodate the cultural differences in educational experiences among the students involved in e-learning.

Students from different countries bring with themselves habits and expectations learned in their own educational system, such as a sense of how much student participation is expected; how and when the instructor should be approached with question and problems; and how students should communicate with each other, etc. The experiences from their original educational environments will with no doubt transpire when students from different countries participate in e-learning. For example, the U.S. students in this project, accustomed to daily email contacts with their instructors, were inclined to send immediate email alerts about perceived problems. The Croatian students, on the other hand, were more cautious and reserved in e-mail communication with the instructor and attempted to resolve the problems first on their own. Instructors need to be aware of such differences and have to alleviate their impact on the students' learning experiences.

Issues to consider when creating e-learning programs with an international dimension

When technology in e-learning doesn't work it is easy to notice the failure. Therefore it is common for the creators of e-learning programs to assign priority to technological issues in program development. However, it is true for any e-learning experience, and especially for those with an international dimension, that important ingredients for the success of e-learning programs are also educational content and educational differences of participating students. Lessons learned from the experimental project reported in this paper can be summarized as two issues:

- It is important to select e-learning activities that involve original contributions of international students, and

- It is important to adjust e-learning to the unique educational culture of international students.

Beyond the balanced coverage of technological and international aspects of educational issues in e-learning, one should also keep in mind the overall model within which an international e-learning program is developed. In the project profiled in this paper Croatian students participated in an e-learning activity that supplemented the on-site course offered in the U.S. Many other models of education across international borders are possible, involving various degrees of combinations of e-learning and on-site learning. The model selected will help determine the most appropriate information technologies needed. For example, in the model where instruction from one country is performed over distance to a group of on-site students in another country, the efficient synchronous communication between the instructor and the group of students may be more important than asynchronous communication between individual students themselves.

Finally, an equally important issue in the organization of successful e-learning experiences for students from different countries is an efficient logistical support available to both instructors and students. When e-learning is provided to a group of students from one country, foreign instructors with a limited knowledge of the language and local educational issues will especially benefit from having the support of local

assistant-instructors. These instructors are native speakers who are familiar with the local educational environment and the general content of the course provided via e-learning. They could assist with the localization of educational content, facilitate students' use of local resources, and resolve any logistical issues that may emerge. A successful example of this approach has been the e-learning program in library and information science offered to students in Mexico via collaborative program between the Technological Institute of Monterrey, Mexico (ITESM) and GSLIS, University of Texas at Austin.

Final thoughts

E-learning is a new frontier for education with no boarders. The case study reported in this paper was an initial, experimental attempt to explore this new frontier with students from the U.S. and Croatia. The project enriched students' learning by exposing them to international educational content and by providing them a practical experience in using tools for electronic collaboration via Internet. The project also helped the instructor gain a better sense about the technological, pedagogical, and logistical issue involved in planning and providing e-learning with an international dimension. Some of these issues are common to any e-learning process, by many can be attributed to the unique nature of cross-cultural education.

Many variables should be considered in the design and implementation of international e-learning programs and there is no one prescribed way in which to organize them. Willingness to experiment with new technologies and to make a considerable time commitment is essential for institutions and individuals interested in organizing these

activities. The potential rewards of such efforts are numerous, from enriching the

existing on-site education with international content to providing educational

opportunities to a broad audience of international students.