

## AN UPDATE ON A US-SLOVAK COLLABORATION

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**Abstract** – At the previous ICEE conference in Oslo, we reported on a project aimed at improving technical communications and cultural understanding between Slovak and United States (U.S.) students. This program is continuing and we have just completed the third year. Participating were Ph.D. candidates from the Faculty of Materials Science and Technology (MtF) at Slovak University of Technology, and senior-level baccalaureate students in a two-semester capstone design sequence in Electrical Engineering Technology at Purdue University. The Slovak students were enrolled in a course entitled "English for Specific Purposes" (ESP), thereby facilitating communication in English. Student pairs exchanged CVs, biographies, and technical works. Throughout each eight-month project Internet cameras facilitated online meetings. Because of the different disciplines of the participants, concise communications was required and both groups benefited by reading, writing and speaking through correspondence and online meetings. We suggest some ways to improve participation and highlight some challenges. In addition, we describe recent developments and plans for future years' projects.

**Index Terms** – Collaboration, English for Specific Purposes, International, University

### THE PROJECT

In previous forums we have reported on the details of our project [1-3]. To summarize, we have Purdue students enrolled in a yearlong, final design course in the Department of Electrical Engineering Technology (EET). These students must choose and develop a working design prototype of a system. After building and testing their prototype, they demonstrate their system and submit their findings to the faculty through oral and written reports.

The Slovak University of Technology participants are Ph.D. candidates specializing in various topics within the Faculty of Materials Science and Technology. They are required to have a proficiency in a foreign language before completion of their studies. Those participating in the project are enrolled in a course entitled "English for Specific Purposes" (ESP). Upon completion of the ESP course, they are expected to understand written and spoken English. Exercises include translating professional texts, describing a product, process or company, writing a technical report, and designing and creating a scientific poster and business presentation.

It should be noted that both groups are located on smaller, remotely located campuses of large universities. Participation in the project is invaluable for the Purdue students who generally find employment with an international company. As Slovakia seeks membership in the European Union and as more U.S. and western European

**Table I**  
**PROJECT TIMETABLE**

Activity	Time
Pairing students, exchanging e-mail addresses, exchanging autobiographies	September
Group internet conference to meet partners	September
EET students submit design proposal to their MtF partner	September
MtF students provide feedback and questions about EET design proposals	October
MtF students submit an abstract of research work to their EET partner	October
EET students provide feedback and questions about MtF students' abstract	November
Students exchange resumes (CVs)	November
Both groups exchange posters of their projects / research	February
Students provide feedback and questions about posters and discuss posters	March
EET design presentations broadcast to MtF using PolyComm conferencing system	April
Final group Internet conference, issuing certificates, evaluation of project	April

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corporations move into the region, fluency in English may improve their employability as well. As Andersen and Hansen [4] write: "Future professional candidates of Engineering, Business and Technology will be accustomed to working in multidisciplinary and cross-cultural teams. They will be able to apply and keen to use their broad range of transferable skills and their ability to benefit the society, the profession and them selves."

In the three years we have had this collaboration, we have developed a timetable for activities shown in Table I. Throughout the year, students exchange information and have Internet meetings to discuss their work and writing. Students are paired based upon interest where possible. The primary advantage of our project over traditional study abroad programs is the availability for all students to participate. For most of our participants, study abroad or even brief exchange programs are not economically feasible.

### **GOALS**

Our primary goal of our project was to improve both groups' ability to communicate using professional English. Day [5], in his text on scientific writing, exemplifies this goal: "clear certain meaning should apply to not just the peers of the author, but also to students just embarking on their careers, to scientists reading outside their own narrow discipline, and especially to those readers (the majority of readers today) whose native language is other than English." Since our cohorts come from different technical backgrounds, we feel that they will benefit by explaining their research and projects to persons outside their discipline. A further objective was to provide our students with an international experience while avoiding the expenses and time required for travel.

### **OUTCOMES**

Considering the limited number of students who have participated, our assessment of the project is anecdotal and the long-term benefits are difficult to benchmark. One goal was to provide an international experience while avoiding the expenses and time required for travel. This was achieved using limited travel, however, we believe that more involvement would be beneficial.

We have seen some gains in understanding and appreciation of the cultural differences between the two groups. Comments from Slovak participants at the end of the project emphasized the opportunity to improve their English and a way to meet new friends. Many were fascinated with the technology of the Internet meetings. U.S. students were surprised at the difference between educational systems and found the Slovak CVs interesting.

Another goal was to improve the participants' oral and written communication in English. The EET students have

become sensitized to their use of idiomatic phrases and, at least when communicating with the MtF students, are learning to express their thought more clearly. Through their involvement, the MtF participants have demonstrated improvement in their English skills. Slovak coauthor and ESP language instructor, Emília Mironovová noted that the participants performed better on their ESP exams. Further, she felt that more care was taken in preparation of their research posters.

Finally, participation on the project has raised the visibility of the Language Department as evidenced by support for Dr. Mironovová to attend ICEE 2002 and other conferences. Additionally, Purdue University has supported travel for Professor Taylor to maintain the collaboration.

### **SUGGESTIONS FOR COLLABORATIONS**

Having completed our third year, we have several suggestions for those considering a similar collaboration. First, you must motivate the students to participate. This is simple if it is included a part of a course requirement. If this is not possible, extra credit or even pizza may be used to entice students to participate. As previously mentioned, pairing students with similar interest may help. One thing we have observed that piques the interest of the participants is a personal visit from one of the other participants. While this is expensive, a one-week exchange by two students seems to make it more personal. Even a visit from the instructors can be beneficial.

Once you have the students involved, make sure they understand your requirements. Plan Internet conferences to best utilize their time. Expect the first meetings to be awkward especially using the Internet communications. If they are evaluating their partner's work, have them prepare questions or comments prior to the meeting and where possible, have them email their questions beforehand. Occasionally Internet meetings will make discussion difficult due to a poor connection (especially severe echoes). Written communication prior to the meeting may help to avoid miscommunication. This is especially important for our design presentations where PowerPoint slides are sent beforehand.

Finally, make sure to plan your activities well before starting. Schedule class meetings that fit the time differences. In our case, we are six hours different in the winter, and seven hours different in the summer. Maintain regular communications between instructors to coordinate assignment deadlines and Internet meeting dates.

### **OTHER DEVELOPMENTS**

During the past (2001-2002) year, we were able to foster collaboration between another English language teacher in Slovakia and a 2<sup>nd</sup> and 7<sup>th</sup> grade classroom in the U.S. The

2<sup>nd</sup> graders traded “Flat Stanley” [6] caricatures and shared where they took the puppets. The 7<sup>th</sup> graders exchanged emails with greetings and personal information (birth dates, favorite music, hobbies, extracurricular activities, etc.). We have also attempted to foster collaboration between another U.S. institution and a one in Ukraine. The status of this effort is unknown. Finally, through a relationship with a Computer Graphics Technology professor at Purdue, we were invited to the Institute for Computer Graphics at the Technical University Vienna to present and demonstrate our project at a faculty colloquium.

### **FUTURE PLANS**

At Purdue, a PolyComm conferencing system is used for Internet meetings. Thus far, we have been unsuccessful in obtaining funds for a second PolyComm system for use in Slovakia. For the 2002-2003 year, we will be involving undergraduate MtF students in the hopes of increasing participation. Finally, through our respective contacts, we hope to facilitate formation of similar collaborations between U.S. institutions with capstone design courses and other institutions offering ESP courses.

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