COMMUNICATION SATELLITES AND INTERNATIONALIZATION

By Celia Wall

Truly, satellites are a man-made resource having a potential to reach and affect everyone. — Lawrence P. Grayson (1970)

Internationalization. Globalization. As the world moves each day closer to being a true global village, institutions of higher education in the United States, anxious that their graduates be able to compete in the new global marketplace, are seeking ways to internationalize curricula and to broaden their students’ outlooks beyond the narrow confines of their home country.

Colleges and universities across the United States support the idea of internationalizing their students’ education. Three-fourths (77%) of all four-year institutions responding to a 1987 survey and 46% of two-year institutions, almost half, offered at least one internationally oriented course as part of the general education requirements (Lambert, 1989). In addition, 14% of the four-year institutions and 3% of the two-year institutions offered other international courses. Approximately two-thirds of all four-year colleges and universities operate at least one study abroad program (Scott, 1991). Many others provide their students with the opportunity to study overseas through memberships in study abroad consortia.

Despite the tremendous variety of opportunities available to college students to study overseas, during 1989/90 only 70,727 students participated in any kind of overseas study experience. This is compared to more than 407,000 international students reported studying in the United States during 1990/91 (Zikopoulos, 1991). There are several reasons why the number of students studying overseas is so low. First, many American college students cannot speak a foreign language, avoiding taking language courses unless required to do so. The second deterrent to students studying overseas is financial. Most universities, in setting up study abroad programs, attempt to keep costs as low as possible for the students. However, even on the most economical study abroad program, the period overseas will cost the student more than the same period on the home campus, and financial aid for overseas programs is often unavailable. Add to this the fact that a semester overseas may well mean an extra semester of college, and the end result is that many students and their parents determine that study abroad is not feasible.

One result of this predicament is that colleges and universities have begun to look for ways to broaden students’ international horizons without the necessity of overseas travel. Colleges have been very creative in their efforts to bring the world to the campus. Efforts have been made to recruit international students to study at U.S. institutions, thereby bringing U.S. students into direct contact with other cultures, often on a very personal level. International faculty and scholars have been invited to spend time on U.S. campuses as guest lecturers and visiting faculty. U.S. faculty have been encouraged to participate in overseas programs (e.g., Fulbright), so that they can then return to their home campuses with a broader knowledge of other cultures to share with their students. All across the United States colleges and universities hold international film festivals, lecture series, bazaars, and buffets, all in an attempt to make their students and faculty more aware of the world outside.

However, potentially the most far reaching effort in this movement has been the attempt to internationalize the curriculum at colleges and universities.

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across the United States. All one has to do is look at the number of conferences and workshops held in the last five years on this topic to realize the high level of interest and commitment of institutions of all sizes to increase the level of international content in their courses. In looking for ways to accomplish this goal, a few institutions have begun to explore the use of communication satellites as a way of bringing the world into the classroom.

**Communication Configurations**

The use of communication satellites in domestic education projects is well documented. The question for educators is not whether this new technology can be used to help internationalize the curriculum, but how best can it be used. There are four communication configurations that have potential for an institution interested in setting up an overseas link:

1) **One-way, video receive only** — A source overseas transmits a program, either live or recorded, to a satellite; the program is then relayed to the receiving institution in the States. This configuration is being used for foreign language instruction in a variety of languages including French, Spanish, German, Japanese, Italian, and Russian.

2) **One-way video, two-way audio** — A source overseas or in the States transmits a live program, often a classroom lecture, to a satellite which then relays it to the receiver in the other country. This video is often supplemented by a two-way audio link or by low-band graphics which allow conference participants to add such things as electronic blackboards, facsimile, still-frame pictures, and slow scan television to their sessions (Bates, 1986). This is a common configuration used in teleconferences.

3) **Two-way audio** — Both the institution overseas and in the States have equipment which allows participants to talk directly to one another using a microphone or speaker phone. Such audio-conferences can be particularly effective when participants know each other. However, they have also been used successfully by groups whose members do not know each other, but who go to the trouble ahead of time to exchange pictures and letters of introduction. Participants also have the option of making use of the same supplemental technology used with two-way audio. This configuration is probably the most economical.

4) **Two-way video** — This configuration allows for full video and audio communication between two or more institutions. As can be imagined, this is the most expensive of the configurations, and therefore probably the least feasible option.

**Cost Considerations**

For most educational institutions these days one of the primary considerations in developing any new project or program is what the cost will be. In doing research for this paper, I had hoped that a general cost model could be developed for each of the communication configurations. However, that plan was soon abandoned, because in each case there are so many variables from institution to institution and from project to project.

Dozens of questions must be answered before costing can be done. Which of the four communication configurations will be most effective for the project planned? Must equipment be purchased or is it already owned? This question can encompass everything from a relatively low budget item such as a speaker phone for audio-conferencing to a classroom set up for interactive programming. Is satellite transmission/reception equipment owned or must it be leased? What are the costs for leasing time on a satellite? Are there ground transmission costs to be considered in either country? If either participating institution does not have access to reception equipment, the satellite signal can be received by a company that does and then transmitted by traditional ground communication methods to the institution. Transmissions can be handled the same way. Of course, there is a charge for this service. Who is covering the out-of-country costs, e.g., ground transmission costs, satellite-to-receiver charges, equipment needed by the overseas institution? In some Third World countries even the smallest equipment purchase will be beyond their means. Who will purchase the necessary equipment?

In addition to the obvious hardware and transmission costs, each project will have “software” costs that are often forgotten. For example, someone at the institution will be in charge of the project. Will this