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Educational Telecomputing Projects: Interpersonal Exchanges

by Judi Harris

Your telecommunications account allows you to access an almost inconceivable amount and variety of online information. In mid-1994, for example, there were more than 2 million hosts (computers with unique addresses that allow users access to online services) on the Internet, and between 20 and 30 million people in 146 countries who could exchange electronic mail with each other (Calcari, [1994](#); Quarterman, [1994](#)). Within this vast array of possible connections, there are basically two ways that information can be shared online: *among people* and *between people and remotely-located machines*.

Internetworked computers can house publicly-accessible databases, file archives, and virtual environments. I call these *informational resources*. When using an informational resource, you are actually interacting with a computer program, using it to help you to locate and collect information. Computers on the Internet can also house user accounts, with which account-holders can communicate either privately or publicly with other users, sharing information person-to-person. The tools that allow us to make such interpersonal connections can be seen as *interpersonal resources*.

Both informational and interpersonal resources can be used to help students explore curriculum-related topics in precollege classrooms. In this month's column, six different types of *interpersonal exchanges*, or educational telecomputing activities that incorporate use of interpersonal resources, will be presented. For the next three months, "Mining the Internet" will feature examples of three different general classes of educational telecomputing activities: *interpersonal exchanges* (this month), [information collections \(in April\)](#), and [problem solving projects \(in May\)](#). Each genre of educational telecomputing activities includes five, six, or seven different *activity structures*, and each structure will be presented with at least one example activity that has been classroom-tested and shared by telecomputing teachers.

It is my hope that by providing you with *activity structures*, rather than a potpourri of lesson plans,

you will be empowered to design effective educational telecomputing experiences for your students that are curriculum-based and adapted to suit their particular learning needs and preferences. This idea (and earlier versions of these activity classes and structures) was first presented in the [May 1993 "Mining the Internet" column](#), then expanded in the [February](#), [March](#), and [April 1994](#) "Mining" columns. The following structures and examples are intended to serve as an update to that earlier work.

"Keypals"

The most popular types of educational telecomputing activities are ones in which individuals "talk" electronically with other individuals, individuals "talk" to groups, or groups "talk" with other groups. Since all teachers with telecommunications access can use electronic mail, many of these projects employ Email (sometimes via LISTSERV discussion groups) as the common context for exchange. Other teachers and students use newsgroups and Internet-connected bulletin boards for projects such as the ones listed below.

Keypal projects were the first educational telecomputing activities to be tested online. When an online activity is organized according to this structure, individual students in two or more locations are matched with each other so that they can communicate using Email.

For example, students at Burleson High School in Texas communicated with students from South Africa, Norway, Finland, Denmark, Peru, Russia, Estonia, Chile, Mexico, England, Iceland, Germany and Canada, exchanging information about their experiences living in the 14 different countries as part of a project called "The World at Our Fingertips." Their teacher, Brenda Yowell, arranged for these exchanges by posting a message to the KIDLINK discussion list. Diane Eisner of Lexington, Massachusetts, similarly arranged for her 85 seventh-grade students to discuss the books *I Am Rosemarie* and *The Cay* with electronic ["literature partners"](#) via electronic mail and synchronous discussions on IRC (Internet Relay Chat).

["Town Twinning" projects](#), in which students from towns with the same names in different countries communicate with each other, can also be conducted according to keypal activity structures. For example, students from Mano Talaiver's classes in Richmond, Virginia communicated with Mike Burleigh's students from Richmond-on-Thames in the United Kingdom, first answering the four questions that all participants on the KIDPROJ discussion list must address:

1. Who am I?
2. What do I want to be when I grow up?
3. How do I want the world to be better when I grow up?
4. What can I do now to make this happen?

Melanie Golding, a English teacher from a high school in northern New York, structured a six-week keypal project in which her 14 - 17-year-old students exchanged information about their families, town histories, schools, local geography and history, local and federal governments, and holiday customs. The educational goals for keypal projects in general are well stated in this excerpt from the

message that she posted to announce the availability of this ["Getting to Know You" project](#):

I hope that my students are able to connect with students from France, Germany or Israel because they have studied these countries this year in their history classes. My intention is to foster communication, technology, and cultural awareness. This can happen by merely letting the children talk. We can start this process by having the children write individually to one another.

Unfortunately, student-to-student keypal exchanges often involve more managerial work than many teachers have time to contribute. Group-to-group exchanges (called *global classrooms*, and presented in the next section), especially those with a particular study emphasis, can evolve into fascinating collaborative explorations without overwhelming activity facilitators with the transfer and processing of multiple electronic mail messages sent to and from a single account.

Global Classrooms

Using this activity structure, two or more classrooms (located anywhere in the world, of course) can study a common topic together, sharing what they are learning about that topic during a previously-specified time period. Currently, this appears to be the most popular type of educational telecomputing project.

For example, students from Barrow, Alaska posted the following message in mid-November, 1994, initiating [a simple and fascinating global classroom project](#):

Date: Thu, 17 Nov 1994 15:45:57 GMT
From: Maryann Holmquist <mholmquist@arctic.nsbsd.k12.ak.us>
Subject: sunset

Greetings from Barrow, Alaska, USA. It is pretty cold in the Arctic. We live in a desert but tomorrow (Nov. 18) when the sun dips below the horizon like a seal we will not see it again for 65 days. Sunrise is at 12:37 p.m. and it sets at 1:46 p.m. for a total of 1 hour, 9 minutes of day. The horizon will be a fiery orange. We will continue to ride on snowmobiles and go sliding and when we get cold we'll go inside.

Write to us and tell us something about the sun from where you live on this planet. How much sunlight do you get? Do you have a favorite sunset you remember?

From the Kids at Ipalook School

Students from Caribou, Maine organized a project through which several groups could explore [similar cultural roots](#) with this message:

Date - Mon, 12 Sep 1994 15:27:28 -0400 (EDT)

From - Paula Robertson <paularob@saturn.caps.maine.edu>

We are grade 8 students from Caribou, Maine, who have Acadian roots(French) and we want to compare our cultures and lifestyles with the Louisiana Cajuns. Is there anyone out there who may know of schools or individuals in the Lafayette, Breaux Bridge, Broussard and Iberia regions of Louisiana who have electronic mail capabilities with access to Internet? We are excited about this project and want to start as soon as possible. Please spread the word. :-)

Paula Robertson

Ruth Dionne

8-year-old students from New Zealand studied [villages \(including the Global Village\)](#) by asking other students from anywhere in the world to answer the following questions:

1. What do you think a village is?
2. Could your area be called a village? If not, how do you describe your area?
3. List some features of your village. (We're looking for similarities and differences here)
4. Do you know of any other kinds of villages?
5. Do you think our class could be part of The Global Village?

Here's a question in case none of the above questions appeal!

6. What do you think the Global Village means?

These students, with the help of their teacher, Sue Graham, offered their responses to the questions in this way:

We think a village is a place where families live. It is a group of houses and shops close together.

We live in the city of Dunedin, New Zealand, which is halfway between the Equator and the South Pole and we're the first country in the world to see the sunrise each day. Our shopping centre is called the Roslyn Village, which is on the top of the hill surrounded by very busy roads. We have lots of shops very close together. There are a number of old wooden villas, some big brick houses, some narrow steep streets, and not many open spaces.

The Maoris, who lived in NZ before the Europeans arrived, used to live in a fortified village called a pa. This was usually on the top of hill, with a fence to keep out enemies and a good view to see other tribes coming to attack.

We're not sure what The Global Village is, but we know that it has something to do with people living in our world.

What is your village like? Is your 'village' like ours or is it different?

Please note that global classroom projects are often more topically focussed than keypal projects, and involve groups of students, rather than individual students, communicating with each other. In one project, for example, technology specialist Enola Boyd from Amarillo, Texas, organized a collaborative exploration of local [nuclear facilities](#) among a half-dozen upper elementary classes. In Ms. Boyd's words, participating students "studied the functions and impacts of nuclear facilities on their surrounding communities."

While some global classroom projects are structurally simple and short-lived, others are quite complex and can involve students for one or more school semesters. [The "Desert and Desertification"](#) project, coordinated by Hannah Sivan, David Lloyd, and Oded Bar from Sde-Boker, Israel, is a year-long, four-stage interdisciplinary project for students from around the world who are interested in studying about deserts in the past, present, and future. It includes a rich array of activities, involving participants in discussion, online and off-line data collection and organization, sound and image collection and transmission, film viewing, subject matter expert interviews, literary analysis, desert field trips, simulations, roleplays, and environmental forecasting.

["The S.S. Central America - A Shipwreck to Remember,"](#) a similarly rich and varied four-stage, interdisciplinary, year-long project with historical and meteorological emphases, is being coordinated by Jamie Wilkerson of Rosewood Elementary School in Rock Hill, South Carolina. In this project, students electronically explore the voyage and sinking of a 272-foot wooden steamship, along with the weather conditions that led to its demise, in electronic consultation with members of the Columbus-America Discovery Group, the team of scientists and historians who are currently working to salvage the Central America's history and treasures.

Electronic "Appearances"

Electronic mail, newsgroups and electronic bulletin boards can also "host" special guests, with whom students can correspond. A series of such "electronic events" is held regularly in *Academy One* on the National Public Telecomputing Network's *Cleveland Freenet*, coordinated by Linda Delzeit (xx141@nptn.org). One event connects students with authors of children's books, such as Sheri

Cooper Sinykin, who wrote *The Buddy Trap*, *Slate Blues*, and *Next Thing to Strangers*, and who answered students' previously-submitted questions in a public conferencing area during the month of May, 1994. Authors also share "background information, a little about what they have written, and insights on the writing process" while participating in this "[Authors Online](#)" project, according to Ms. Delzeit.

An historically-focussed electronic appearance activity, hosted by Academy One, is currently in progress. The "[50th Anniversary of D-Day](#)" project helps students to explore World War II by asking electronically for participants' memories. The project was summarized online as follows:

The Dept. of Defense has a World War II Commemorative Community Program surrounding the 50th anniversary events. Fact Sheets from the DOD are posted on various facets of WW II. A special panel of WW II survivors are available for students to ask questions. Some memories have been posted from these survivors that make interesting reading and research. As part of the Commemorative Community Program you can sign up your community, school, and community computer system as Commemorative Communities. Each community that registers will receive a Commemorative Flag authorized to be flown on poles just below the State Flag, and each member of the committee will receive a special lapel pin.

Also, NPTN now hosts a multi-national "[Career Panel](#)," which calls upon a large number of adults who work in many different kinds of jobs to share details of their responsibilities, employers, work schedules, tools, and educational/professional preparation with interested students.

Electronic appearance projects usually allow students to communicate with locally, nationally, or internationally-known people for relatively short periods of time. When exchanges with subject matter experts become more extended, and an "electronic apprenticeship" forms, the activity structure can be called *electronic mentoring*.

Electronic Mentoring

Internet-connected subject matter specialists from universities, businesses, government, or other schools can serve as electronic mentors to students wanting to explore specific topics of study in an interactive format on an ongoing basis. For example, a "matching service" called the *Electronic Emisary*, based at the University of Texas at Austin, helps volunteer subject matter experts from all over the world and teachers and their classes find each other, structure a mentoring project, and share what they learn together by communicating with electronic mail.

Students can also serve as mentors to other students. Philip Sandberg's undergraduate geology

students at the University of Illinois (Urbana- Champaign) served as mentors to precollege teachers and students as part of their requirements for their "[History of Life](#)" course. Professor Sandberg described the intent of the project as follows:

I am looking for classroom teachers (with access to a network connection for their class) who are interested in participating in an electronically mediated science education project with me and my students in Geology 143 (The History of Life) this semester. Interested students in my geology class are receiving training in e-mail, news groups and network (Internet) information search and retrieval. I want them to develop skill in electronic communication by linking electronically with elementary and middle school classroom teachers and students and serving as information brokers in support of instructional modules, in those classrooms, on the history of life (dinosaurs, mammal evolution, extinctions, etc.) and history of the earth (origin of the Appalachians, opening of the Atlantic, etc.), and the functioning of the earth (plate tectonics, etc.).

In order to accomplish this, we need participating classrooms with students and teachers interested in advancing their understanding of the earth by collaborating with me and my students. Because a very large number of my students (over 90) originally indicated their interest in participating, we need quite a few classrooms. I anticipate that teams of 3-5 students will work with each participating classroom, searching out answers to the classroom questions, either over the network, or through the library resources here on campus. That information would then be transmitted to the classroom, along with its source, including how to navigate to it, if it came from over the network.

Using another activity structure that has recently emerged, students' contacts with subject matter experts is brief; only as long as is necessary to have their questions answered.

Question-and-Answer Services

In the fall of 1994, the U.S. Geological Survey made an exciting new service available to Internet users. "[Ask-A-Geologist](#)," coordinated by Rex Sanders of the USGS Branch of Pacific Marine Geology, allows precollege students to submit questions that are answered by professional geologists. The service was described, in part, like this:

Date: Wed, 26 Oct 1994 23:30:57 GMT

Ask-A-Geologist - US Geological Survey offers new Internet service

Have you ever wondered about why California has so many earthquakes, and New York does not? Why is there so much oil in Texas, but not in Wisconsin? What are the deepest canyons in the United States? (The answer might surprise you!) While the answers to many of these questions might be as close as an encyclopedia, some questions are difficult to answer without checking many sources.

Beginning Monday, October 4, 1994, the USGS will offer a new, experimental Internet service - Ask-A-Geologist. General questions on earth sciences may be sent by electronic mail to the Internet address:

ask-a-geologist@octopus.wr.usgs.gov

All electronic mail to Ask-A-Geologist will be routed to the geologist of the day. The geologist will reply to your question within a day or two, or provide referrals to better sources of information. Please include an Internet-accessible return address in the body of your message.

Kay Corcoran, a middle school teacher in Mendocino, California, helped her students to form questions for historians who participate in a number of scholarly electronic mail discussion lists on [ancient history to answer](#). The basis for this project is rich and educationally sound. As Ms. Corcoran stated in her project summary,

To enliven and engage the middle school learner, project-based units based on guided research are a popular feature in the History/Social Science curriculum. Typical research projects utilize the resources of school and community libraries, and students need to learn to read information closely and thoughtfully. With the availability of telecommunication resources for research on chosen topics, they soon discover that historical fact is open

to interpretation, contradiction and occasional controversy.

As a culmination activity to their research project presentations, those students who have been critical readers, who have recorded inconsistencies, who have exhausted their resources and have unanswered questions may utilize listservs to provide clarification.

A variety of history listservs abound, and the discussions cover a wide range of topics. Not only will 6th and 7th graders see that ancient history is alive and well, but that historical fact is open to interpretation based on evidence. History listservs provide an excellent opportunity for middle school students to observe the give and take of inquiry and to dialogue with the experts.

Conversations with others online can also take on more fanciful characterizations, as in the case of *impersonation activity structures*.

Impersonations

Impersonation projects are those in which any (or all) of the participants communicate with each other "in character." At the University of Virginia, for example, educational history professor Jennings Waggoner "became" Thomas Jefferson via electronic mail for several local elementary classes studying Virginia history. His work is now carried on for a much larger number of precollege students who use Virginia's PEN (Public Education Network) by a team of docents at Monticello, Mr. Jefferson's home. Students who use the Elementary Book Conference on VaPEN can communicate with characters from children's literature, such as Winnie the Pooh, Willie Wonka, and Ramona Quimby. These exchanges are coordinated and studied by Jeradi Hochella, from James Madison University, and Jan Stuhlmann, from Louisiana State University.

Following the popular example set by Kurt Grosshans' advanced placement chemistry students in Virginia with their "Ask Mr. Science" project, participants in the Geometry Forum at Swarthmore College offer the services of ["Ask Dr. Math"](#) in the following way:

```
*****
*                               *
*           Ask Dr. Math       *
*                               *
*           Have a math question? *
*       No problem's too big or too small *
*   Want to talk to someone who loves math? *
*           Let's do some math together! *
*****
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*
*                               *
*           Write to:         *
*   dr.math@forum.swarthmore.edu *
*
*****
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If you are a student in elementary, middle, or high school, write to us! We can't wait to get some really good problems from you. All of the Ask Dr. Math letters are answered by members of "The Swat Team," math students and professors here at Swarthmore College. Ask Dr. Math is a project of the GEOMETRY FORUM, an NSF-funded program housed at Swarthmore College in Swarthmore, Pennsylvania, USA.

Clearly, this is a rich and motivating way for students to use telecomputing tools to help them to explore many curriculum-related topics in dynamic, interactive contexts.

An Educational Telecomputing Archive

Would you like to learn more about any or all of these innovative educational telecomputing projects? If so, there is an Internet file archive subdirectory made just for you. Use the ftp command from your Internet account, or the ftpmail gateway service via electronic mail (both presented in ISTE's [Way of the Ferret: Finding Educational Resources on the Internet](#)) to anonymously access [the Texas Center for Educational Technology's server](#) at address **tcet.unt.edu**

Once connected, look in the subdirectories contained inside **pub/telecomputing-info/ed-infusions** to find additional details on the activities mentioned above, plus descriptions of telecomputing projects from these and other "activity genres."

In the [next "Mining the Internet" column](#), I will share examples of educational telecomputing projects that can be classified as five different types of *information collections*. Until then, if you would like to share *your* examples of successful telecomputing activities with visitors to the **tcet.unt.edu** archive, please send your activity descriptions, via electronic mail, to me at the address listed below.

References

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[Other "Mining the Internet" columns](#) are available on the [Learning Resource Server](#) at the College of Education, University of Illinois, Urbana-Champaign.