

Telecommunication in the Classroom: Rhetoric vs. Reality

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### Abstract

Telecommunication exchange projects are currently marketed as curriculum supplements that conveniently satisfy three key K-12 educational reform objectives: better writing skills, enhanced multicultural awareness, and better job preparation for a rapidly expanding global economy. This paper analyzes the educational discourse surrounding telecommunication exchanges, and argues that much of the current research is contradictory, inconclusive, and possibly misleading. The paper also illustrates how the often overly optimistic claims about technologically-based projects are problematic in light of the larger, exceedingly complex role of technology in society.

## Telecommunication in the Classroom: Rhetoric vs. Reality

As more and more schools achieve Internet capabilities and as educational technology discourse increasingly promotes the necessity of technological competence and celebrates the promise of global connectivity, educators have been exploring ways to use--and rationalize the use of--the Internet in their classrooms. A growing trend during the past decade, beginning with the advent of email, has been the practice of global telecommunication exchange projects that encourage classroom connections between distant schools, oftentimes in different countries. As Berenfeld (1996) writes, "the ability for one class to easily and cheaply communicate with either another or many throughout the world was so powerful that educators developed a number of successful learning projects around email" (p. 76). Telecommunication exchange projects are often coordinated by individual teachers who locate distant partners on a number of education-oriented Internet sites. The majority of these projects occur in the public domain, where teachers are the sole organizers, but telecommunication exchanges are also sold to schools as hassle-free educational services provided by well-known corporations such as AT&T. Those who herald distant email exchanges see them as an optimum way to satisfy three critical educational objectives in the ongoing argument over urgent school reform:

- a) Skill Benefits: Exchange projects are said to enhance tangible writing and other skills,<sup>i</sup> and increase students' general motivation to learn.
- b) Social Benefits: Exchange projects are celebrated as enriching multicultural awareness and sensitivity to world and local cultures and environments.
- c) Economic Benefits: Exchange projects are considered ideal tools for preparing students to work in the global workforce.

This paper will consider the current discourse surrounding telecommunication exchange projects in terms of these three educational objectives and analyze how these various pedagogical claims are contextualized in research and theory. We argue that much of the current research is contradictory, inconclusive, and possibly misleading, and we will

attempt to illustrate how the often overly optimistic claims about technologically-based projects are problematic in light of the larger, exceedingly complex role of technology in society. Specifically, our perspective of the role of technology in general and of its place within educational discourse reflects Sussman's (1997) definition of political economy:

The political economy approach to understanding society starts with the power context in which decisions about the accumulation and distribution of wealth take place...political economy seeks to explain the historical and social changes from the focal point of capitalist enterprise and the private ownership of the means of production. (p. 8)

In essence, then, we argue that when examining the discourse surrounding the use of telecommunication exchange projects in our nation's schools, it is necessary not only to examine available research on such activities, but also to examine 1) the increasingly emphasized global perspective in American education as a response to mass globalization, 2) to consider the larger corporate motives behind email exchange projects, and finally, 3) to consider the assertions made by supporters of telecommunication projects in light of relevant discussions concerning the importance of local communities vis-à-vis global communities.

In reviewing relevant published material concerning this educational trend, we have found a good deal of optimism regarding the educational practice. A small number of studies have attempted to make sense of telecommunication exchanges as a potentially significant part of the writing classroom. Since the trend to use email exchanges in classrooms is a relatively new one, comprehensive, large-scale studies have not yet been conducted. Of the small number of relevant or related studies that have been conducted (e.g., Cohen & Riel, 1989; Cole, 1996; Cooper & Selfe, 1990; Gallini & Helman, 1995; Garner & Gillingham, 1996; Hartman, Neuwirth, Kiesler, Sproull, Cochran, Palmquist and Zubrow, 1991; Nielsen, 1998; Schriener & Rice, 1989; Schwartz, 1990; Selfe & Meyer, 1991; Spaulding & Lake, 1991; Sugar & Bonk, 1998; Vásquez, 1993; Yagelski & Powley,

1996), the focus tends to be limited to the possible, writing benefits of distant email exchanges.

Cohen and Riel (1989), Spaulding and Lake (1991), and Gallini and Helman (1995) all conducted audience-related experimental studies that looked at the impact of distant audiences in student writing and included treatment groups, coding, and regression analysis in their methodologies. Cohen and Riel studied two groups of seventh graders, with group A writing an essay exam for their teacher and group B practicing their topic online with distant peers before writing the same exam. Students from group A then were asked to write to distant audiences about their exam topics. Spaulding and Lake analyzed high school remedial writing students' essay writing before a telecommunication exchange project and then again after the work from that project was completed. Gallini and Helman randomly assigned students to three groups and instructed them to write an essay on the same topic for either a) their teacher, b) a self-selected classmate, or c) an online distant peers. In all cases, these researchers concluded that under the conditions they provided, writing to distant peers appeared to garner different (in their words, "better" or "improved") writing skills.

Other studies on telecommunication exchange projects centered upon individual cases, such as those conducted by Nielsen (1998), Garner and Gillingham (1996), Lai (1996) and Schwartz (1990), which looked at particular telecommunication exchange projects between distant peers and reported successes relative to failures relating to language learning. Instead of studying peer-to-peer communication, the case studies conducted by Yagelski and Powley (1996), Curtiss and Curtiss (1995), Cole (1996) and Vásquez (1993) focused on projects between undergraduates and K-12 students. Cole's the Fifth Dimension Project and Vásquez' La Clase Mágica are ongoing case studies organized by the Laboratory of Comparative Human Cognition at the University of California at San Diego. In these studies, telecommunication is one component of a much larger after-school learning activity, which also involves peer online interaction and a variety of computer

games. Additional relevant case studies by Chong (1998), Selfe and Meyer (1991), Schriener and Rice (1989), and Hartman et al. (1991) analyzed computer conferencing and teacher-student and student-student online talk. These four studies all focused on email exchanges between college students and professors or in the case of Selfe and Meyer, professional educators.

Again, the current research has focused more on writing than any other skill or benefit, with little attention paid to research methodology. A number of researchers (e.g., Cole, 1996; Garner & Gillingham, 1996; Schwartz, 1990; Sugar & Bonk, 1998; Vásquez, 1993) have been interested in analyzing the possible effects of telecommunication exchanges on the social aspects of learning, reporting that telecommunication projects may enhance equity in the classroom. Sugar and Bonk (1998) applied sociocultural and cognitive learning theory to an ambitious mentor/expert/peer telecommunication exchange in order to understand levels of participation, questioning, discussion, and mentoring. There is, however, little or no attention paid to larger theoretical questions about the monetary investments involved in launching such projects, or to whether or not such projects are actually needed in the overall pedagogical framework.

Further, while a number of books discuss the educational and global implications of telecommunication exchange projects, often as part of a larger conversation about education technology trends, the focus of these books is limited to technological promise and inevitable cultural adaptivity (e.g., Bonk & King, 1998; Cummins & Sayers, 1995; Garner & Gillingham, 1996; Handa, 1990; Harasim, 1993; Harasim, Hiltz, Teles & Turoff, 1995; Lai, 1996; Selfe & Hilligoss, 1994). We have found a few articles that critically analyze telecommunication exchange projects in terms of a larger political, economic, and social context (Dennee, 1993; Dimitriadis & Kamberelis, 1997; LeBlanc, 1994; McIsaac, 1993; Selfe, 1992; Selfe & Meyer, 1991).

The research described above is overwhelmed, however, by an additional non-research-based discourse that applauds email-based projects as a pedagogical requirement

for the 21st century. Much of this discourse appears in education and technology-oriented trade journals and tends to be conducted by technology scientists or curriculum coordinators who are loosely--or directly--affiliated with organizations such as the AT&T Learning Network or the Technical Educational Research Center (TERC) in Cambridge, Massachusetts. TERC is a nonprofit curriculum and software developer in Cambridge, Massachusetts that is funded in part by the National Science Foundation. Other discourse, presented in computer and technology-friendly journals such as The Computing Teacher and Educational Leadership, offers cursory and anecdotal views of telecommunication exchanges. While we do not argue against telecommunication projects as curriculum tools per se, we do call for a broader analysis of this educational trend, a critical awareness of the complex economic and political influences behind classroom technology, and a better understanding as to how distant peer communication can be used to the best of its potential.

### Defining Telecommunication Exchange Projects

Telecommunication exchanges can refer to any one of a large variety of Internet-based communication projects that promote email writing and reading as a primary objective. At their most basic level, they are informal email exchanges (often called keypal exchanges) between students in geographically distant classrooms. The purposes of these exchanges vary from “friendship,” to the study of foreign language (mostly English), to dialogues on specific themes. Teachers often organize these exchanges by posting “keypals wanted” messages on telecommunications billboards (e.g., NickNacks Telecollaborate!, Intercultural E-Mail Classroom Connections, Houghton Mifflin Project Center, and KidProj). Some keypal exchanges incorporate a more tangible component by mailing stuffed animals, postcards, care packages, culture kits or video letters between classrooms. Other exchanges stick to a particular theme--redefining the American dream, community history, current events, birthday traditions, baseball, a continuing story, collecting scientific data, weather patterns--and are often ongoing projects sponsored by one

teacher at a fixed site who encourages interested distant classrooms to jump in. A number of telecommunication exchanges connect classrooms with college students or adult experts. An online service called “Electronic Emissary,” for example, matches teachers with specialists in various fields.

A more complicated and structured form of telecommunication exchange, however, are projects involving a number of classrooms and a moderator, who coordinates dialogue and collaboration between classrooms according to a specific curricular theme. These projects, which are difficult to organize, are often marketed as educational services and sold to schools, or they are presented as free services with accompanying curriculum materials (at cost). The AT&T Learning Network, for example, coordinates classroom “learning circles” composed of six to eight classrooms and geared for grades 3-12 (see Cahall, 1994; Dimitriadis & Kamberelis, 1997; Donath, 1995; Gallini & Helman, 1995; Riel, 1992, 1995; Spaulding & Lake, 1991). Launched in 1996 with “a \$150 million commitment to help connect schools, libraries, and communities to the Information Superhighway” (Welcome, 1997), the AT&T Learning Network structures classroom collaboration around a curriculum area such as geography, social studies, or English. At the end of a six- to fifteen-week program, students combine their work in a collective writing journal. Even though American classrooms are most likely to participate in the AT&T Learning Network, AT&T tries to involve at least one classroom from outside of the United States in each circle for the much sought-after “global” exchange. For example, a learning circle might include classrooms from Alaska, California, Texas, Florida, Illinois, New York, Canada, and Germany.

Other telecommunication services include Apple’s Global Education Network, which forms unlikely partnerships between, for example, Eskimo and Arab schools; Global Schoolhouse, a non-profit organization affiliated with Microsoft and MCI (among other corporate sponsors), which facilitates, designs, and supports a variety of exchanges, including CU-SeeMe interactive video communication; the International Education

Resource Network (I\*EARN), which emphasizes worldwide humanitarian projects and links “more than 1000 schools in 25 countries ranging from China to Uruguay, from Kenya to Korea” (Copen, 1995, p. 44); WorldClassroom, a service that orchestrates exchanges between such countries as Argentina, Australia, Belgium, Canada, Denmark, France, Germany, Great Britain, Hungary, Iceland, Indonesia, Kenya, Lithuania, Mexico, Singapore, Taiwan, the Netherlands, and Zimbabwe (McCarty, 1995, p. 49); and National Geographic Kids’ Network, an international service established to stimulate student curiosity about science, geography, and social studies.

Some exchange services organize communication between classrooms and teams of explorers for a more elaborate variation of the expert-oriented telecommunication exchange. These explorers travel to various cultures and post observations and photographs onto a World Wide Web page (e.g., Ocean Challenge, AfricaQuest, GlobaLearn, The Odyssey, World Forum). The Ocean Challenge service is a communication exchange between a select group of high school students, who travel around the world on a ship, and hundreds of participating classrooms, who follow the ship’s longitudinal and latitudinal progress around the globe and vicariously experience the high school students’ various on-shore activities. While the explorers communicate with distant classrooms who follow (and in some cases help determine) the direction of the explorers’ travels, most projects facilitate only a token number of email transactions,<sup>ii</sup> and thus do not represent the majority of email exchange projects. In many cases these project services operate as a jumping ground from which students investigate specific cultural themes. Like all telecommunication exchanges, they orient students towards the possibilities of communications technology.

#### Skill Benefits: Telecommunication Exchanges as Tools for Better Learning

Telecommunication exchange projects are generally celebrated as helping writing in two ways. First, as network-based learning tools, they are thought to provide a meaningful and supportive *writing context* by literally transforming the act of writing into a social act of

communication. Second, as computer- and email-based learning tools, they are thought to help the *writing process* by making student writing simultaneously informal, efficient, and professional. We will consider these claims in terms of the research they are based on, as well as alternative arguments in composition studies that suggest a more complicated framework with which to argue the relative success of telecommunication exchange projects. Finally, we will analyze the most concrete and thus most celebrated benefit to telecommunication projects--the widely purported claim that email exchanges motivate writing. Our aim is to point to the inconclusive nature of composition theory research, and comment on the one-sidedness of certain educational technology rhetoric that promotes telecommunication exchanges in the classroom.

### The Writing Context

Much has been made over the fact that students are writing to a real audience when participating in telecommunication exchanges. Arguing that a student writer needs an identifiable audience (other than the instructor) to construct a clear author's voice, Riel and others have conducted research that suggests distant audiences give purpose, and a sense of reality, to student writing (Duin & Hansen, 1994; Gallini & Helman, 1995; Garner & Gillingham, 1996; Guthrie & Richardson, 1995; Riel, 1992, 1995; Schwartz, 1990, Weston, 1997). The research indicates, then, that with a purpose to writing, students' writing improves. Gallini and Helman, for example, have analyzed the writing of students who write to distant peers, to their teacher, and to self-selected peers. They found that the distant peer group's writing was comparable to the teacher group's writing (and in some ways, better), but that the self-selected peer group showed significantly worse writing samples. Gallini and Helman's findings indicated that students' writing deteriorated when they had less purpose. Through their research, Riel and Cohen (1989) and Spaulding and Lake (1991) have similarly indicated that the quality of student writing improved when distant peer audiences were part of the writing exercise.

The notion of a real audience being a crucial component to motivated and “better” writing extends from composition theories that have examined the relative importance of audience in writing and reading discourse (e.g., Britton, Burgess, Martin, McLeod, & Rosen, 1975; Flower, 1979; Flower & Hayes, 1981; Mitchell & Taylor, 1979), and have questioned the traditional teacher role as sole reader of students’ work. Starting in the 1960s, James Britton (1975) and his colleagues advanced the view that most student writing was addressed to the teacher. In a major study in 1981, Applebee confirmed this trend, noting that “fewer than 10 percent of the teachers reported that student writing was regularly read by other students” (p. 47). The teacher as sole reader was reconsidered to be both an overly critical audience that inhibited student writing and caused students to write in fear, and one that was not critical enough because of a willingness to interpret what the student was saying. In the “artificial” construct of the writing classroom, evolving notions of the teacher as a potentially ungenue audience were advanced as perhaps impeding writing performance. In response to these studies, researchers such as Graves (1978) and Atwell (1987) began to promote the use of peer and/or “genuine” audiences in writing classrooms and to argue that such changes could improve student writing.

These studies on the significance of audience had powerful implications in terms of changing teaching practices, but they were quickly complicated in subsequent analyses. Ong (1975) and Long (1980) contended that there is no such thing as a “genuine” audience because writers inevitably fictionalize any audience, including the teacher as reader. Newkirk (1997) suggested the audience in student composition is a variation of what students themselves want to be, and others-queried whether-the teacher is always the ultimate audience in any discourse originating in the classroom (see Sperling, 1996, p. 65-66). Most importantly, however, the idea of the teacher being a fundamental impediment to student writing is being reconceptualized, with more researchers considering the context of the teacher-student relationship (as well as that between peers) as an important factor in fostering writing improvement (e.g., Dyson, 1997; Faigley, 1986; Finders & Graham, 1992;

Freedman, 1995; Lensmire, 1994; Luke & Luke, 1999; Nielsen, 1998; Ritchie & Wilson, 1993). Finders and Graham discuss:

the emerging notion that learning to read and write are meaning-generated, context-rich, and both personal and social processes rather than rule-governed, contextless, impersonal, and solitary tasks. Experience in such classes would also affirm the importance and complexity of the role of teacher and support a vision of teaching as relationship, dialogue, reading, writing, and continual learning. (p. 82)

These scholars understand the study of writing, in other words, as a complicated undertaking, and describe the factors that influence writing development as multifaceted and contextually based.

Much of the discourse of telecommunication exchanges highlights the importance of a distant peer audience to reinforce the relevance of such projects in the writing curriculum (e.g., Bradsher, 1996; Cohen & Riel, 1989; Gallini & Helman, 1995; Garner & Gillingham, 1996; Riel, 1995; Spaulding & Lake, 1991). The notion of audience in telecommunication exchange projects are considered especially consequential because unlike other peer writing situations, these audiences write back, sometimes even in real time. Rather than finite and self-contained, email texts are potentially interactive, and can evoke fluid and dynamic conversation. Writing in the environment of telecommunication exchanges is understood as both an individual learning process through which a student reads over his or her own writing and reworks particular, individual sentences for an eventual email post, as well as a potentially collaborative learning process where an audience provides feedback and analysis over a number of emails. “Writers shape their understandings of specific topics and their written texts,” Spaulding and Lake (1991) write, “by listening to others speak, by reading others’ writings, and by watching others respond to their own oral and written utterances” (p. 4). Rather than orienting projects around specific writing tasks, some exchanges emphasize freeform email discussions and the

social act of communication. With the advantage of immediacy, the student-based audience appears to be particularly genuine and non-judgmental.

This distant peer audience is also considered to be demanding to the extent of encouraging students to clarify their writing decisions, and requiring young writers to consider important details so that they ultimately hone their writing skills in reference to the reader. Riel (1995), for example, has observed that through the process of intercultural exchange, the AT&T Learning Network invites students to carefully define themselves for distant others, consider similarities and differences, and take into account the representational symbols around them (e.g., local monuments, tourist attractions, school buildings) in order to effectively communicate their environment (p. 234). Likewise, Garner and Gillingham's (1996) research, which investigates the telecommunication exchanges taking place between six separate classrooms in Illinois, California, Alaska, Pennsylvania, and Washington, suggests that there is a qualitative difference in writing to distant peer audiences. "Different rhetorical choices must be made less on the lines of 'what does she [the teacher] want to hear?' and more along the lines of 'What is he likely to know about X? How much background information should I provide?'" (p. 31). Both Riel and Cohen (1989) and Gallini and Helman (1995) have also reported improved writing abilities when compared with control groups not writing to distant audiences.

After observing students involved in telecommunication exchanges, other educators (e.g. Bradsher, 1996) have concluded that audiences become all the more demanding when language variance or difference is involved. For this reason, some exchange advocates are especially interested in coordinating exchanges between culturally diverse peer audiences. "When children in England wrote about their 'collection of rubbers,' [erasers]" Bradsher (1996) writes, "an American teacher wondered why they would horde galoshes, while her students assumed a different meaning of 'rubber,' recalling a discussion in an AIDS education class!" (p. 49). Accordingly, local peer audiences in this discourse, which have much support among educators (e.g., Freedman, 1995), are deemed inadequate, doing little

more than inspiring writing that assumes prior knowledge and degenerates into the colloquial (see Gallini & Helman, 1995).

Although most email exchanges occur between distant student peers, a few of the more interesting projects connect younger elementary or high school students with college-age students, and in a few examples, adult volunteers (e.g., Brush, 1998; Cole, 1996; Curtiss & Curtiss, 1995, 1995; Fey, 1998; Garner & Gillingham, 1996; Peha, 1995; Yagelski & Powley, 1996). Reflecting the Vygotskian model of capable adults guiding students, the more experienced adults take on a tutorial role, but the younger writers are encouraged, rather than evaluated, and correspond with individuals who have more advanced writing skills. In this situation, however, it's not the distance that seems to bear significance (in fact, Yagelski and Powley (1996) attest to distance severely complicating their task), but the quality of one-on-one instructional support that could help students, in Vygotskian terms, enter the "zone of proximal development" and thereby improve their writing.

One problematic issue that surfaces with regard to the value of distant audiences is that little or no attention has been paid to the topic on which students write. Both Gallini and Helman (1995) and Spaulding and Lake (1989) favor writing to distant peers over writing to classroom peers, but their studies disregard the importance of the writing subject as a basis for low performance. If a student has to write to his or her classmate about their shared environment, as in the case of the Gallini and Helman study, for example, it is not surprising that a student would not feel compelled to be thoroughly explanatory when writing about a familiar topic to a local classmate. Instead of positioning these students as exhibiting "worse writing," it might be just as useful to describe them as employing particular rhetorical strategies that fit particular writing situations. A different writing topic may have changed the findings considerably.

Most project descriptions in the current discourse are also vague concerning the amount of teacher involvement in students' writing constructions; it is not always clear if the external audience is used as a purely motivational entity for in-class writing under teacher

supervision, or if the audience is used to provide peer-to-peer revision advice, or to inspire freeform email dialogues. One might ask, then, if writing to distant peers, calls for little or a lot of instructional guidance? Both Spaulding and Lake (1991) and Schwartz (1990) report that the students they studied wrote their drafts and revisions before they posted them-- suggesting that teachers or classroom peers were involved--and used email as a “natural extension to how they viewed the computer as a writing and communicating tool” (Schwartz, p. 17). Gallini and Helman (1995) are less clear about teacher involvement: they apparently did not, for the purposes of their study, help their students work out the kinks in their writing before “publishing” the student essays, but did report typing many student essays themselves due to a lack of computer time. As such, how much does the instructional guidance before publishing the email replicate the familiar situation of teacher as evaluator?<sup>iii</sup> Wouldn't writing traditional letters meet the same goals, or does the technology itself play a significant role by facilitating the exchange? Is it the mixture of peer online talk and teacher-evaluated essay writing that make a difference in student writing? If so, this area would be a valuable one to study and clarify.

Correspondingly, without instructional guidance, how easy is it for writing exchanges to go astray? Batson (1988) notes that his computer project emphasized discussion and not “contrived solo writing exercises” (p. 32), assigning a “hands off” role to the teacher. If young writers find out their writing lacks clarity through responses that are incoherent or out of synch with the original message, does another's incoherence necessarily correlate to one's initial miscommunication? How often do students, as Batson notes, “feel almost too free to bring in irrelevant topics or items,” as well as insults and obscenities? (p. 33).

Further questions are left unanswered in the current discourse connecting distant audiences to improved student writing: To what extent do distant email exchanges motivate or intimidate student interaction? How much does the chosen topic impact whether distant exchanges are inclined to foster better writing than in-class, peer writing exchanges? Will

students be innately curious or brave to raise questions and clarify meaning online, or will only certain students be? To what extent might students be judgmental (and unfairly so) regarding their distant peers' writing (see Lensmire, 1994). And at what age and writing level do telecommunication projects start to make a difference in the writing classroom?

Instead of highlighting writing skills *per se*, a number of telecommunication exchange advocates place less emphasis on the textual exchange and more on the social exchange (e.g., Cole, 1996; Cooper & Selfe, 1990; Costanzo, 1994; Curtiss & Curtiss, 1995; Hartman, et. al, 1991; Reiss, 1995; Schriener & Rice, 1989; Vásquez, 1993). Reiss (1995), for example, asked her students to post formal and informal email letters to each other to help them explore literature more deeply (email just facilitated this process). Batson's (1998) students used chat software to explore topics and eventually develop a writing exercise. Schwartz (1990) describes how letter writing became the heart of an informal-formal writing exchange. "Writing is not so much a solitary act as much as a gesture of communication," Costanzo (1994) writes. "Teachers and researchers alike have commented on the social nature of electronic writing, linking it to the pedagogy of cooperative education" (p. 14). Indeed, work in composition studies has increasingly focused on cooperative education and peer response groups and has linked improvement in writing to socially constructed writing activities (for a complete discussion, see Sperling, 1996, Emig, 1981). "Following Vygotsky and others," Sperling writes, "much research emphasizes writers and readers in dynamic interaction. Just as speakers communicate by coconstructing meaning in interaction with interlocutors, so students may learn to write effectively through real-time, contingent conversation with readers" (p. 67).<sup>iv</sup> With the notion that peer talk improves writing, a number of advocates of telecommunication exchanges believe that students participating in email-based projects are ideally able to write, self-reflect, and evaluate each other's communication much in the way peer response dyads work in classrooms (see Dipardo & Freedman, 1988, Hartman, et. al, 1991; Reiss, 1995). "Learning is not just an intra-individual affair, but at least as much an inter-individual one,"

Solomon (1998) writes. “Meaning is said to be socially appropriated; it is assumed to be embedded in social activities, even claimed by Vygotskians to be the source (rather than outcome) of cognitive development” (p. 6).

These theories begin to question whether the actual purpose of teaching writing in elementary and secondary schools is to learn writing forms in order to satisfy a set of basic skills, or to use writing to satisfy broader concepts of discourse and learning. If the overall goal of collaborative-based telecommunication projects is still to encourage traditional concepts of better writing (instead of collaboration or critical thinking, for example), it should be noted that a number of researchers have argued that socially constructed writing exchanges and peer response approaches may not by themselves guarantee language learning (Dipardo & Freedman, 1988; Forman, 1994; Lensmire, 1994). Some educators have further questioned whether all students can benefit from coconstructed learning and socially-based interactive learning environments (e.g., Delpit, 1995; Walkerdine, 1998). Dale (1998) makes this point about a particular telecommunication project, which had both positive and negative responses from students:

for some students and teachers, Global T.H.I.N.K. has been their worst nightmare. They have found it difficult to accept the lack of structure. They have difficulty in accepting the fact that there is no “one correct” answer. For other students this concept has empowered them: for once they have stated that they felt their opinion was important. These students have been able to accept the lack of structure and create some structure. Teachers, when they saw how these students react, felt great that they gave their students the opportunity to experience something new. (p. 64)

The value of community is emphasized, but it is not yet clear whether a high level of community, and thus a high level of learning, can be achieved with the distance and invisibility of email interaction. A number of telecommunication exchange projects have been organized to maximize knowledge about, and friendships with, students in distant classrooms by sharing photographs and videotapes, and in some rare cases even visiting

peers (Christy, 1998; Copen, 1995; Curtiss & Curtiss, 1995; Dyrli & Kinnaman, 1996a; Quesada, 1996). Visits tend to come at the end, rather than the beginning of exchanges, however, as a sort of reward, or reality check, verifying what life beyond the email messages is really like. Other projects are organized around the completion of a final task, such as a collection of student stories that students agree to include in an Internet publication. Online community building is minimal in the latter type of activity, however, as students generally write the stories as solo performances. Still other projects use the novelty of telecommunication to foster collaboration within the local classroom. The telecommunication projects that appear to inspire the most collaborative classroom work are science-based projects such as those organized by the NGS Kids Network. Students gather data on water purity, weather patterns, or household pets, for example, input the data on the computer network, and draw region-specific conclusions from the pooled information. Although students are assigned to “research teams,” these act more as “extension activities”: letters may be exchanged, for example, to clarify the definition of “pet” and understand why the pet data from distant classrooms is not always comparable. In effect, most (or all) significant interaction takes place among peers in a face-to-face context. The purpose here is to use writing to learn, not necessarily to learn writing, and connects with larger bodies of educational research from writing across the curriculum (e.g., McLeod, 1998) and situated studies of writing (e.g., The New London Group, 1996; Luke & Luke, 1999).

Consequently, even as proponents of telecommunication exchange embrace the idea of an improved writing context and socially constructed learning, they may do well to make the distinction that talking about written work or data is completely different than writing as talking (and learning), or that much of the sought-after talking takes place on the local level (i.e., between peers and teachers in the same classroom). Future research would also benefit from asking deeper questions about the nature of the writing context to help us get a grasp of more concrete learning benefits that can and do happen in telecommunication exchange

projects. Most crucially, educators should recognize that depending on the project, the students, and the context of the project, telecommunication may not be a significant factor to a successful classroom writing project and may, in fact, unnecessarily complicate the task at hand (see Yagelski and Powley's 1996 account of a telecommunication writing exchange between college students and high school students; LeBlanc, 1994; Nielsen, 1998).

### The Writing Process

In addition to purportedly creating a positive social context for writing, telecommunication exchange advocates argue that such projects improve writing by better facilitating the act of writing. Because dialogue-centered email exchanges often foster a style of writing that is more conversational (and therefore more informal), students are believed to “relax” as they write. Relaxed, first-impulse writing is regarded by some to promote better writing. Perl (1979) and others conducted research that investigated the ways editing and reworking text can be debilitating for student writers:

Editing is primarily an exercise in error-hunting. The students are prematurely concerned with the “look” of their writing; thus, as soon as a few words are written on the paper, detection and correction of errors replaces writing and revising. Even when they begin writing with a tentative, flexible frame of mind, they soon become locked into whatever is on the page. (p. 38)

Perl's research continues a line of inquiry from the 1960s which attempted to link evaluation using strict grammatical standards to student writing inhibition (Braddock, 1974; Braddock, Lloyd-Jones & Schoer, 1963; Hartwell, 1985; Perl, 1979). Email exchange advocates have correspondingly embraced revision and grammar research and applied it to their testaments that informal email writing encourages students to write more fluidly and avoid the potential traps of editing, revising, and grammar angst (e.g., Batson, 1988; Reece, 1980; Wright, 1992).

While some have inferred that the informal, conversational style (which network communication often encourages) is ideal for writing students, a few have noted that the email writing style could just as well be considered an impediment to learning writers, allowing them to relax to the point of sloppiness (Hawisher, 1992; Schriener & Rice, 1989), or that writing could easily go off-task (Dyrli & Kinnaman, 1996a; Kremers, 1988). As Schriener & Rice (1989) have noted, “We make no claim that all of the writing on CONFER was “academically useful”” (p. 474). Kremers (1988) describes one writing class experience, for example, that deteriorated into chaos. “When their exchanges finally descended into pornography, all I could do was switch off their screens” (p. 72). Besides the informal atmosphere of email exchanges, students may not only write with a casual attention to grammar, but may read the inexperienced and grammatically incorrect writing of their peers. The claim that “A good letter writer generally receives good letters” (Peha, 1995, p. 19) may just as easily become “a bad letter writer generally receives bad letters.” It is not clear, then, from these project descriptions, where the quality control is actually coming from, especially when the teacher’s role is often minimized in the exchange process.

Besides focusing on the informal email style, the rhetoric of email exchanges also celebrates the computer itself, describing it as an ideal writing tool for revision and professionalism (Guthrie & Richardson, 1995; Marcus, 1989). Interestingly, we have noted how some researchers have interpreted incessant revisions as an impediment to good writing. Other telecommunication exchange advocates borrow from research on computers and composition that has investigated the nonlinear and clean quality of computer writing as potentially helping students change their minds easily and more quickly, thus allowing them to write more clearly. “[The computer] teaches people about the composing process,” Marcus writes. “Words are no longer ‘carved in stone’ but written in light, sometimes flashing, disappearing, reappearing, sliding, or rippling” (p. 18). Costanzo (1994) discusses the “seamless evolution” between computer-produced drafts, and how students using a computer are able to distance themselves from the screen and approach a piece of

revised text as a fresh document (p. 14). Revising in this camp is thus considered a positive in inducing better writing.

Although these two lines of discourse seem to contradict each other, it is ultimately the informality of email interaction that seems to bring these opposing views to common ground. While students can get bogged down with continuous revision choices on a tool that actually encourages revision, the potentially conversational style of email writing itself is thought to be more fluid and impulsive, satisfying the claim that students who write well must retain a flexible frame of mind.

Email exchanges seem to offer (and reconcile) yet another contradiction. While continuing to induce informality, word-processed documents are thought to make students feel more professional. In its monthly newsletter, the educational Internet service Classroom Connect attributes the fact that exchanges are typed, not handwritten, to motivating students with bad handwriting. “Poor penmanship can be a point of embarrassment for some students and encourage students to improve their penmanship,” the newsletter states. “Writing messages and stories electronically can take that embarrassment and pressure off the students, so they are free to concentrate on their grammar and composition” (Using, p. 4). That students “publish” to a potential world-wide audience is also thought to stimulate professionalism. Ironically, the informality of email exchanges with distant peers are both said to relax students and free them from writing/grading angst, all the while allowing students to create a more professional-looking document. While it’s not conclusive if the writing style or the writing tool enables better writing, and while better writing remains a highly subjective concept (Faigley, 1985), a number of researchers have observed that students using computer networking technologies seem to write more.

### Writing more

One of the reasons this benefit is so often discussed in the current discourse of telecommunication exchange projects is that it extends from both the writing context and

writing process of such exchanges. The social, rule-free nature of the email environment and the encouragement of self-selected topics, the efficient nature and professional-looking text of word processors, the informal style of email communication and the fun of learning using the newest technology are all thought to motivate students to write. Exchange advocates share their excitement at seeing young students take to the computer and write to distant peers (Christy, 1998; Guthrie & Richardson, 1995; Hiltz, 1990; Leu & Leu, 1997; Peha, 1995; Riel, 1995; Schrinier & Rice, 1989). “When students were involved with peers in cross-classroom collaboration,” Riel writes, “they showed a marked increase in writing motivation and performance” (p. 232). Guthrie and Richardson describe students’ eagerness to use the computer and relate how their compositions grew longer and better (p. 16).

Most of the current discourse focuses on particular projects, and explains them as motivational tools and publishing forums to support conventional essay-like documents. “Writing more” means being engaged by the chance to communicate with a distant audience and feeling compelled to dispatch lengthy, descriptive compositions. Students craft their communications with pencil and paper or on a word processor and then post them on the Internet, sharing their polished pieces with their distant peer audiences, and in some cases, receiving feedback which may encourage additional writing (see Cohen & Riel, 1989; Gallini & Helman, 1995; Leu & Leu, 1997; Spaulding & Lake, 1989; Schwartz, 1990). Other educators have documented how some teachers use the stimulation of the Internet exchange in reverse--as a brainstorming process to shape ideas, which would then be reconfigured into traditional school-based writing (e.g., Bartholomae, 1993; Bump, 1986; Chan, 1997; Moran, 1991; Neuwirth, Palmquist, Cochran, Gillespie, Hartman, & Hajduk, 1993):

The students’ chat transcripts can be copied into a word processing document in Aspects or into another word processor such as MS Word. The printed chats can be used by the students as reference material for developing composition ideas. As

a means of appraisal, the printed chats can be used by the instructor to evaluate the performance of individuals and groups in terms of topic, fluency, accuracy, and logic. (Chan, p. 3)

Still others view informal email as a means of writing to communicate about other projects (Cole, 1996; Vásquez, 1993). In doing so, students are thought to “unsuspectingly develop their literacy and language skills” (Vásquez, p. 206). “Writing more” in these scenarios means engaging in healthy online debates, humorous discussions, and collaborative decision-making via email to work towards a specific project goal.

Additionally, a number of educators see the often informal style of email writing as a necessary skill in and of itself, and see telecommunications projects as a way to help students get comfortable with telecommunication (Ferrara, Brunner & Whittemore, 1991; Garton, 1997; Reinking, 1997; Tuman, 1992). “Writing more” in this context means practicing the writing style of the future workplace, developing a new consciousness, and encouraging students to find their own voices in the medium. “This is authentic communication,” Garton (1997) writes, “complete with fads and various features of the email genre, including vigorous slang and email abbreviations” (p. 4). Similarly, Tuman discusses the need:

to recognize that as composition teachers we are really in the business of teaching students not to write five-paragraph essays, but to communicate effectively within their world, and by extension, that as English teachers we are in the business of imparting a broad cultural heritage involving multiple forms of communication and not just a narrowly defined literary tradition. (p. 116)

According to this perspective, it doesn't matter so much what students write, but that they are oriented towards the writing styles, digital maneuvering, and hypertext language of future literacy practices.

Proponents of both—those who see email as a way to complement traditional print-based literacy models, and those who see email as a way to support new literacies—are

excited at the notion that email exchange projects induce students into writing more because it suggests real learning is taking place. Rather than conclude that writing more of any style improves “writing,” there is instead a growing area of inquiry in composition studies that considers the mode of instruction, the classroom environment, the specific goals of individual projects, the amount of time given to such projects in lieu of other classroom activities, the complicated mix of classroom talents, ages, classes and genders, as well as other cultural and political conditions as factors in determining literacy objectives (e.g., Dyson, 1997; Faigley, 1986; Finders & Graham, 1992; Freedman, 1995; Lensmire, 1994; Luke, 1997; Luke & Luke, 1999; Ritchie & Wilson, 1993). “The lesson from recent ethnographic, historical and sociolinguistic research,” Luke writes, “has been that literacy is not first and foremost an individuated and individual competence or skill but consists of socially constructed and locally negotiated practices,” (p. 144).

Consequently, when claims such as “improvement in writing” are made, it would be beneficial to both discern what kind of writing and to situate the kind of writing in the ongoing debates in composition theory (Faigley, 1985, Luke, 1997). Overall, we found that while many of the reported skill benefits to telecommunication exchange projects are drawn from established educational research efforts, much of this research is inconclusive and evolving. Yet in optimistically positioning telecommunication exchanges as an ultimate tool in writing instruction, advocates loosely apply such research as to present perceived benefits as fact, with rarely a reference to previous research or alternative investigations.

Telecommunication exchange advocates should also clarify what they mean by email—is it a style or a tool?—to help us understand in clearer terms how the varied functions of online communication can meet education goals in progressive and accessible ways.

With many favorable reports about increased writing proficiency and exciting learning opportunities, it is not surprising that telecommunication exchange projects have become increasingly popular educational activities. Leu & Leu’s Teaching with the Internet: Lessons from the Classroom (1997), for example, is punctuated with upbeat

teacher testimonials that rave about language acquisition and other learned skills as a result of telecommunication participation. “Try a collaborative project,” a teacher explains in one example, “I am certain it will excite your students and lead to important learning experiences!” ( p. 101). As a final word about research that exalts the benefits of more writing brought on by telecommunication exchange projects, a troubling theme throughout (and too quickly dismissed), however, is the relatively high drop-out rate among participating classrooms, a problem that seems to increase with age level (Nielsen, 1998; Peha, 1995; Riel, 1995; Ritchey, 1997; Sugar & Bonk, 1998). Quoting a dissatisfied teacher, Peha conveyed that “there is nothing worse than getting a project organized or planning one into your lesson plans and then no mail arrives from your partners or people start dropping out” (p. 22).

Drop out rates occur for a number of reasons: poor organization, disparate timelines, lack of time, or uncooperative students. As Ritchey (1997) reported, “My schedule called for ten different preps daily...I couldn’t keep up with the program and my other responsibilities” (p. 43). Highly structured services such as the AT&T Learning Network claim to effectively manage individual projects and help prevent loss of interest by grounding communication within specific cultural themes and supplying a moderator to maintain focus (Bowen, 1994; Riel, 1995; Wresch, 1994). Even so, Riel reports that AT&T Learning Circles rarely have complete reciprocity with an eight-member Learning Circle:

While complete reciprocity characterizes only a subset of the Learning Circles, most projects receive response from 4-6 classes. Students are encouraged to experiment with strategies to motivate distant students to complete the project requests.

Knowing how to motivate others to meet deadlines is an important workforce skill. (1995, p. 228)

The high school students in the “Learning Connections” project, organized by Lorri Nielsen and John Willinsky in the early 1990s indicated that students wanted to be online, but not necessarily online with the keypals their teachers had in mind. “Fascination with

the technology was not a strong enough force to sustain an ongoing connection between school sites,” Nielsen (1998) writes. Observations of failures to motivate student writing (according to exchange project goals) are rare in the current literature, however, with advocates optimistically describing malfunctioning exchanges as solvable hurdles or as valuable exercises in cooperative learning.

### Social Benefits: Telecommunication Exchanges as Tools for Cultural Understanding

Besides attaining writing skills, a number of telecommunication exchange projects are celebrated as a means for fulfilling another educational goal--educational equity and multicultural sensitivity. In our overview of existing research on telecommunication projects, we found quite a few project case studies that seemed to implement a culturally relevant curriculum that tapped into students' multicultural resources (Cole, 1996; Vásquez, 1993; Cummins & Sayers, 1995). Most examples of telecommunication exchange projects in the current discourse have the best intentions with regards to education and multiculturalism with themes of equitable peer-peer collaboration, global unity, the celebration of difference, and exciting adventures to “exotic” places. As we will argue, this discourse can be overly optimistic, and can easily simplify cultures to the point of reinforcing the notion of Western dominance and the educational legacy of imperialism.

### Educational Equity

One aspect of multiculturalism argues that educational equity comes from equalizing classroom participation and embracing a plurality of classroom voices (Nieto, 1996). Accordingly, some research on telecommunication projects has postulated that the social inequalities (in gender, class, ethnicity, etc.) that riddle traditional classroom interaction can be in part resolved through networked communication (e.g., Cole, 1996; Fey, 1998; Hollenbeck, 1998; Lai, 1996; Leu & Leu, 1997; Riel, 1992; Vásquez, 1993; Wahlstrom, 1994). As part of a six-team research consortium, Cole and Vásquez have been reworking

telecommunication exchanges within the larger Fifth Dimension project. According to Vásquez, “the goal of the research is to develop across-the-board, high-level literacy skills in a highly pluralistic, multicultural society in ways that induce and sustain intellectual excellence while at the same time supporting the diversity of America’s people” (p. 204). Through constant redesign, Vásquez explains how her team was able to create a learning environment that reflected students’ cultural and linguistic experiences and encouraged them to perform “in a wider zone of proximal development” (p. 221). The care and organizational effort that has gone into these ongoing projects has been immense, with Vásquez noting that “teachers cannot do it alone” (p. 221). She also notes that as voluntary after-school activities, the Fifth Dimension projects are untested in normal school environments.

In their detailed study of a World Forum telecommunication exchange whereby students conversed with experts, mentors, instructors, peers, Sugar and Bonk (1998) attempted to identify how instructional design could influence “the levels and types of cognitive and social processing activity that students might engage in when involved with the online project” (p. 150). They reported that while the project provided numerous avenues for scaffolding between participants, the mentors fell short of modeling a more productive collaborative framework for the students, who tended to work in isolation from each other. In short, their findings, like those of Vásquez, indicated that while a project may be set up to inspire an equitable and collaborative environment, these goals are not reached by project design alone, and rely on careful project redesign and teacher training.

Most of the discourse regarding equity, however, focuses less on instructional design and more on the notion that the invisible online environment is more comfortable (and equitable) for participants because traditional social cues are masked. “In a face-to-face interaction such as in a small group discussion, it is often difficult for people to have an equal chance to contribute, especially when the interacting persons are of unequal status,” Lai writes. “In CMC [Computer Mediated Communication], however, because of the lack

of social cues, it is more likely that people will pay more attention to the content of the message, thus creating an environment of equal opportunity and reciprocity in roles” (p. 3).

Riel (1992), who has investigated the potential of distant audiences on student writing and classroom participation, sees even further possibilities for encouraging an open and equal online community with the installment of a moderator, such as those found in the AT&T Learning Circle projects. The human and technical support systems behind Learning Circles, she argues, remain invisible to other participants while offering students help with their work and making it “easier for diverse groups to work together” (p. 478-79). Such a monitor is present in Cole’s and Vásquez’ Fifth Dimension Project, where students correspond with an anonymous and gender-flexible Wizard (played by a number of undergraduate students) who answers queries about the project and asks provocative and often humorous questions. Vásquez (1993) has reported that the Wizard’s presence seems to equalize role relationships between adults and children in the classroom and facilitate communication across diverse groups of students.

While these findings show possibilities, other researchers have pointed to the inequities brought on by CMC exchanges. Selfe and Meyer’s exploratory study on the presence of gender and power in online conferences has indicated that email-based communities can become easily dominated by certain communication styles. Indeed, the assumption that CMC masks social cues may be based on a faulty notion--that all social cues are identifiable only through seeing and hearing. We would further argue that one’s literacy skills as displayed through email messages can also serve as a social marker. Finally, just as telecommunications technology is credited with promoting multiculturalism, it has also been blamed for increasing existing inequities on a broader scale. A large body of research from sociology, technology assessment, education and cultural studies fields indicates that Eurocentric and masculine frameworks are perpetuated with the application of computer technology in the classroom (e.g., Damarin, 1998).

Even the promising assertion, that anonymity equals equitable communication, is not without limitations and contradictions. Because the anonymous quality of networked conversations is generally positioned as a way to foster harmony and access among communicators, project advocates often overlook the important benefit of discord in multicultural education, an aspect of cross-cultural communication that diminishes in a non face-to-face discussion. Indeed, if discussions of difference are made “easier” without the complexity of live, face-to-face interaction, then avoiding the problematic inequalities that arise from face-to-face communication may be avoiding real life itself (see Berland, 1998). Even if, as we believe, anonymous emails can and do promote discord, the notion of peers or moderators positioned to “stir up” or pacify students can be problematic if these individuals don’t see the immediate effects of their probing (Sugar & Bonk, 1998). As Stoll (1995) points out, “[The Internet] is only a metaphorical community. Much of what happens over the networks is a metaphor--we chat without speaking, smile without grinning, and hug without touching” (p. 43). Furthermore, while the asynchronous nature of such communication may mask participators and equalize social differences, the distance and informal nature of the exchange can also alleviate any sort of incentive to participate (see Nielsen, 1998). Clearly, claims of multicultural benefits that arise from the technology itself can quickly become complicated.

Perhaps the most marked findings with regards to equity and telecommunications are the studies that have suggested email-based learning projects provide new roles between teachers and students in the local classroom. Through their analysis of a number of projects, for example, Cummins and Sayers (1995) have concluded that the potentially student-centered nature of telecommunications projects allows for collaborative inquiry between teachers and students, and offers opportunities to scaffold learning under the framework of transformative pedagogy. It must be noted, however, that while co-constructed learning may benefit from telecommunications technology, it is not dependent on it.

### Exploring Difference

Besides reporting that network communication fosters instructional equality, much of the discourse surrounding telecommunication exchange projects supports the idea that such projects can foster equality in general by providing students with an opportunity to explore both the differences and commonalities that exist between people from different communities and countries (e.g., Cummins & Sayers, 1995; Baugh & Baugh, 1997; Garner & Gillingham, 1995; McCarty, 1995). One vein of this discourse relies on a form of conservative or pluralistic multiculturalism that endorses the notion of a shrinking world and the creation of a united global community (McLaren, 1995; Nieto, 1995). Although not all projects link disparate cultures (e.g., rural, white students from Iowa communicating with students from Mexico or Japan), it is clear from the discourse that such connections (from the point of view of project organizers and a number of educational researchers) are desirable.

On one level, the projects are seen as a way for students to identify the universal values and cultural similarities they share with their distant peers. Identifying universal values, the assumption follows, allows students to develop a sensitivity towards all aspects of difference since “we are all the same under our skin” (e.g., Baugh & Baugh, 1997; McCarty, 1995). Much of this discourse does not involve research but anecdotes. Writing an enthusiastic testimonial in Educational Leadership, principal Paul McCarty remarked at the unexpected and welcome similarities students discovered in a global exchange between his Utah elementary students Russian counterparts. “Jennifer’s amazement that Tatyana liked pizza, Nintendo, and cute boys, too, opened her eyes to the fact that a child on the other side of the globe shared similar feelings,” he said (p. 48). A similar example is provided by Baugh and Baugh (1997), who describe exchanges between New Zealand, Kentucky, Australia, and New York schools:

The students also compared favorite television shows. They found they often viewed the same shows. When discussing their favorite music performers, they

found that they often listened to the same ones. Experiences such as these increased the students' understanding of their global perspective of the world. (p. 40)

Despite the fact that cultural similarities, in these scenarios, are due to an increasing American cultural and Western influence across the globe, both McCarty and Baugh and Baugh see opportunity--via technology--for young students to connect and bond with other cultures in a shrinking world.

On another level, telecommunication projects are promoted as a way to recognize cultural differences in order to celebrate them (e.g., Quesada, 1996; Schwartz, 1990). While still forwarding the "it's a small world after all" sentiment, this brand of multiculturalism argues for an extension of the existing curriculum beyond the "limitations of school structures" and for allowing students to encounter new multicultural experiences (Dyrli & Kinnaman, 1996b, p. 65). In doing so, it is argued, students will ostensibly develop a firmer appreciation for difference among all cultures and become socially aware world citizens. The result is mutual understanding and a peaceful, productive, and shrinking world. In discussing various telecommunication exchanges between distant school cultures, for example, Garner and Gillingham (1996), consider the positive ramifications of cultural border crossing:

Many of the conversations--full of wit, intimacy, grace, fear, bias, and joy--could have occurred in the playground or at the mall. What is quite different, however, is that the children of Joliet, Illinois seldom meet Yup'ik Eskimo children on the playground, and adolescents going to a mall near La Center, WA rarely meet peers with a wide range of experiences and diverse views on topics such as gays in the military or evolution. (p. xiv)

Diversity in this context is considered an exciting and valuable resource to enhance cultural and global perspectives, with telecommunications technology acting as the means for such discovery (Riel, 1995). Diversity, or brushing with "the other," is also portrayed, however, as a benefit for white middle class students (i.e., the status quo), and not the other way

around (see, for example, Garner & Gillingham, 1996). In the Yup'ik-Joliet project mentioned above, for example, the Eskimo students refined their English language skills while the La Center students explored multiculturalism. Accordingly, to enhance greater discovery, "interesting" student combinations such as Alaskan-Illinois exchanges are prized in much of the telecommunication project discourse (e.g., Wresch, 1994). A specific goal of the AT&T Learning Network, in fact, is to include one "foreign" classroom in every Learning Circle. By foregrounding discussions of difference as a key element of the exchange strategy, educators hope that harmful stereotypes--such as Eskimos living in igloos--can be washed away.

However, as Garner and Gillingham (1996) also point out, the exchanges alone were not enough to dispel myths Illinois children hold about their Yup'ik friends. Indeed, Illinois children held firmly to their stereotypical beliefs about Eskimos (e.g., that Eskimos wear furs and live in Igloos), regardless of the information provided through email exchanges with the Yup'ik students. It was not until they viewed a video prepared by their Yup'ik friends several months later that their stereotypes were finally dispelled. It is likely that if the teachers in the Midwest had directly used the students' exchanges to talk about stereotyping, their students would not have had to wait several months to understand what their Yup'ik friends had been telling them from the beginning of the exchange project. Garner and Gillingham neglect to speculate what kind of learning may have taken place if the students just watched the video, or to suggest how such a discussion would have provided an opportunity to explore the existence and impact of stereotypes within their own community. Indeed, scholars of multicultural education, like Nieto (1996) and Rivera and Poplin (1995), assert the importance of teachers challenging or engaging students in critical deconstructions of stereotypes.

A more problematic area within the discourse of multicultural-based telecommunication projects involves exchanges that incorporate the concept of philanthropy. In these projects, students are believed to not only learn about difference, they go to task to

address world concerns and help mitigate inequity. Both Copen (1995) and Cummins and Sayers (1995) discuss the privately funded (and philanthropy-oriented) global network, I\*EARN, which encourages K-12 students to collaborate on worldwide social and environmental projects. In highlighting a humanitarian project I\*EARN sponsored during the 1993-94 school year involving Maria, a 10-year-old girl in Nicaragua, the authors explain how I\*EARN first published Maria's predicament--that she couldn't go to school because she had to walk eight kilometers a day to fetch water for her family--in the organization's electronic newsletter. According to the posting, Maria's village needed a simple \$300 pump to prevent contamination in local wells. An email exchange, made up of elementary, middle, and high school students in Washington, New Mexico, Texas, Oregon, Massachusetts, and Barcelona, Spain, joined together to help Maria's village. Besides focusing their curricular studies on Nicaragua and Central America, they held spaghetti dinners, sold coloring books, charged entry for haunted house tours, and sponsored plant sales. Ultimately, the students collectively (and collaboratively) managed to raise \$10,500, which was turned over to a non-profit organization in Managua and used to supply wells to 24 villages, including Maria's. In return, the students received an email response from Maria (from an Internet node in Managua), who was now back in school, thanks to the international help of "her new friends." Copen, who heads the I\*EARN organization, writes that "if today's students learn that they can make a meaningful difference in the health and welfare of people around the world--and work together in the process--they'll be better prepared to handle the challenges they'll encounter as adults" (pp. 44-45).

Just as Cummins and Sayers and Copen laud the project's efforts to empower Western students (who are asked to induce global equality one individual or situation at a time), they neglect to evaluate how the project avoids the underlying reasons for Maria's economic disparity (e.g., capitalism, globalization, imperialism, etc.), and masks the complexity of Maria's situation by a quick and easy solution. Such simplification is typical in the current discourse. McCarty (1995) relates another instance of youth philanthropy via

email. During a WorldClassroom (1991) project that linked American and Soviet students, the Soviet Union had a counter-revolutionary crisis whereby independent radio and TV stations were immobilized. As the crisis suddenly became “their crisis”, McCarty says his students found they could help by downloading the KSL TeleText 5 electronic mail news service and email Moscow-related news stories to the Soviet teacher. This teacher, in turn, passed copies out to Yeltsin supporters, and thanked the students for the “words of help and daily news reports.” McCarty writes, “The events of these four days may have taken place four years ago, but the former 6th graders who participated in them believe to this day that they helped change the course of Russia’s history” (p. 48).

Both the Nicaraguan project and the Russian project descriptions position American students as good-willed philanthropists who easily--and handily--appear to have contributed to the solution of a global problem. What was really being learned here, however? With regards to Nicaragua, American students may have been shaken up by Maria’s misfortunes to reflect on the complexities of cultural difference, but could have just as easily reflected on their wealthier nation status and their corresponding ability to assist (or not assist) other less fortunate countries. Similarly, McCarty’s testimonial seemed to suggest that American students can be repositioned as activists within a tumultuous social and political movement, and that the Internet can be characterized as an communication ideal tool for both progressive and conservative social reform. Instead, however, McCarty chose to emphasize how his students were brought “face to face with the demand to rethink American democracy” (p. 46). Here is a lesson on how easily such projects can be (and are) easily fashioned to reinforce the superiority of American democracy, the powerful ideology of capitalist enterprise, and the common-sense message of Western solipsism, both in terms of the way they are related and very possibly in the way they are conceived and conducted.

Even as the Internet holds the potential to link classrooms to exchange cultural information and critically address various problems, researchers of such telecommunication exchanges, we believe, must carefully investigate such philanthropic projects in terms of

their ability to encourage students to see the world through an imperialist lens. According to McCarthy (1998), this critical perspective is difficult to cultivate as it continues to be very much reinforced in current U.S. textbooks:

The U.S. imperial presence in Latin America is often narrated in a highly mythological discourse in which the United States emerges as the good Samaritan. The natives of South America cannot do without “our” help. U.S. paternalism is not only what the Latin Americans want, it is what is needed “down there” to keep hostile foreign powers from swallowing up the region and threatening “us.” (p. 115)

The above examples of telecommunication exchange discourse illustrate that unless researchers and educators address the historical and cultural context of dominance within many of these projects, real pluralism can easily be overlooked as one political and economic system and communication culture is unilaterally favored over another.

A current trend in multiculturalism scholarship in fact suggests that students need to be taken beyond celebrating difference as a fact of life and towards an understanding of how difference has been, and continues to be, constructed (e.g., Byrnes, 1997; Kincheloe & Steinberg, 1997; McCarthy, 1998; Willinsky, 1998). One of the most forceful proponents of this kind of multiculturalism is John Willinsky (1998), who argues that the very notion of global unification has dangerous imperialistic implications. According to Willinsky, since the educational legacy of imperialism has been used in the West to divide and categorize the world, we now need to use education to deconstruct these deeply imbedded Western understandings of culture and difference:

We need to learn again how five centuries of studying, classifying, and ordering humanity within an imperial context gave rise to peculiar and powerful ideas of race, culture, and nation that were, in effect, conceptual instruments that the West used both to divide up and to educate the world. (pp. 2-3)

One type of telecommunication exchange that may be relevant to study is the kind that follow teams of adults (representing multiple nationalities and language backgrounds) to places as “remote” as Xi’an, China and as “familiar” as the U.S. (e.g., The Odyssey World Trek and GlobaLearn<sup>v</sup>). While other projects in this genre celebrate the travel and adventure aspect of different cultures (e.g., Ocean Challenge, AfricaQuest<sup>vi</sup>, World Forum), these two project services make a great effort to extend cultural exploration beyond tourism or the fascination with the “other” to help students understand economic, political, social, and imperialistic pressures on different world populations. Odyssey teams live in a culturally significant city (e.g., Antigua, Guatemala; Cuzco, Peru; Harare, Zimbabwe) for six-week periods while working for local grassroots organizations. GlobaLearn teams explore a specific region or continent (e.g., South America, Trans Asia, Black Sea nations) for half-year periods and gain entree into local communities via a host child they meet at every location they visit. Although interaction with the global student audience is minimal (the teams respond to only a few token emails), and the multicultural discovery happens from reading email postings and viewing uploaded photographs, the adult team members often try to challenge students to tackle bigger questions that may or may not come up between student-to-student interaction (which tends to focus on friendship and unity) or to question adventure projects that invite a tourist’s gaze. The Odyssey World Trek to Mexico, for example, included the Zapatista’s Declaration of War and an explanation of NAFTA’s impact on environmental regulations on the project web site. Furthermore, among the ten themes explored throughout the project are “wealth and poverty,” “the environment and development,” and “the Internet and society.”<sup>vii</sup>

Cultural misrepresentation and the imperialist lens are inescapable, however, even in these exemplary projects, because team members tend to be first-time visitors in many of these countries with no ties to the local cultures. To illustrate, a number of the journal entries in The Odyssey project to Mexico (1998) deal with the “unwillingness” of indigenous people to talk to team members, and ask the student audience to consider why

this is the case. While these questions are certainly a way to encourage critical thinking, McCarthy (1998) rightly argues that even “radical educators continue to remain oblivious to the ways in which third world social actors define for themselves the conditions in which they live” (p. 42). He recommends students read provocative literature from post colonial cultures that “produces discontinuity and disquiet for the colonizer” (p. 149), not interactive email exchanges.

Indeed, a number of scholars would argue that stressing that knowledge is not neutral or fixed but always negotiated and changing is an important multicultural strategy. However, when multiple perspectives are presented uncritically, one result can be accepting all perspectives as equal (even perspectives like the Holocaust never happened). “An uncritical multiplicity of perspectives might very well result in our students believing that there is neither truth nor ethics, except on a personal or purely relative level” (Nieto, 1995, p. 198). According to Nieto (1995), strategies like that used by the teacher in Indiana are often used by educators who “are not prepared to explore or challenge simplistic beliefs about racism. Although they may indeed understand the necessity for confronting the privilege, they may conclude that any form of multicultural education will automatically ‘take care’ of racism” (p. 195; see also Weinberg, 1990).

Besides lacking a critical perspective, the current discourse on telecommunication exchanges (and the projects it enthusiastically endorses) may also gloss over important discussions about diversity and power on a local or national level. One particular project celebrated in technology journals and the American news media was a keypal exchange between Indiana and Tanzania students--the school’s answer to a disturbing local KKK rally. After finding out that Tanzanian students didn’t have the same computer capabilities, Quesada (1996) relates how students proceeded to raise money from local businesses, buy a computer, and with the teacher and a handful of students, take it to their new African friends. Rather than explore how the complexities of difference (and racism) at home, Quesada saw the project as a means for students to celebrate cultural difference abroad.

Similarly, Cahall (1994), Cangemi and Aucoin (1996) Dennee (1993) and Lai (1996) advance that telecommunication exchanges that promote cultural acceptance and global sensitivity of distant cultures will ultimately transfer into an acceptance of difference in students' own communities and classrooms. Such awareness, these researchers hope, will in turn enhance the overall learning environment and inspire real social or political engagement at home. "The study of the cultures of other people aids in understanding the multicultural fabric that is woven in our own diverse society," Cangemi and Aucoin write (1996). "Accepting and caring about these multicultural differences can free us from the bigotry and racism that often find their way into the lives of even young Americans" (p. 80). Whether students actually develop sensitivity on home turf after engaging in global telecommunication exchange projects, and to what degree, is a matter of speculation, however, and a potential area of future research.

The overall emphasis of most exchanges simplistically remains on unification (e.g., promoting a collaborative global community and developing a "sensitivity for humanity" and teamwork on a worldwide scale) rather than on self-reflection and critical understanding of difference. Nevertheless, perhaps a useful question to investigate is how telecommunication exchanges can encourage students to personalize difference through reflection on their own cultural background and racial identity development. According to Derman-Sparks and Phillips (1997), Tatum (1992), and Young and Laible (1998), this can be a powerful anti-racist strategy because students are actively exploring the origins and development of their beliefs as well as how their own racial identity has been constructed. Cummins and Sayers (1995) describe the I\*EARN's Holocaust/Genocide project, which asks secondary school students throughout the world to study the Holocaust by speaking with survivors on a listserv and producing a magazine of student reflections. They also report how an exchange between San Francisco and New York elementary schools allowed students to investigate the variances in their own bilingual programs, and, according to Cummins and Sayers, helped break down racial isolation and prejudice. The simple act of

communicating with students from different language and cultural backgrounds is unlikely to achieve either an understanding or appreciation of cultural difference, however (e.g., Cahall, 1994, p. 19). In the end, understanding and critiquing difference at the local level is not a primary goal of world-connecting telecommunication exchange projects.

Dimitriadis and Kamberelis (1997) point out that beyond sidestepping cultural diversity at home, multicultural-oriented telecommunication exchange projects also promote a sanitized world utopia that de-emphasizes “the differential distribution of power within the current American ethnoscape, the effects of this differential distribution, and the contestation of those effects” (p. 143). Their critique is a rare example of critical analysis within the current discourse. Considering that telecommunication exchanges are most often conducted between more affluent schools that can afford the technology, project services, and project support, Dimitriadis and Kamberelis argue that while students in affluent schools are discovering other (mostly affluent) cultures via intercontinental exchanges, urban centers are reflecting new kinds of diversity and extreme economic immobility (p. 142). These voices, they say, are generally absent from most telecommunication exchange projects.

Cahall (1994) describes one exceptional example of Internet access in a seriously underfunded Ohio inner city school, where a “generous private donor” enabled a class to log onto the AT&T Learning Network and become the much-prized “other” classroom in a Learning Circle project. The students in this class, many of whom live without cars, phones and food outside of school, connected with other classrooms throughout the United States and Canada. “The biggest difference the children discovered,” the teacher wrote, “was that most of the other classes were Caucasian. Our class is 50% African American and 50% Caucasian. The other schools were primarily rural and ours is urban” (Cahall, 1994, p. 19). While Cahall reported that the Learning Network experience was a positive one for her students, it is not clear from the project description whether or not the overwhelmingly white, rural majority of students on the Network grasped either their dominant identities

within the multicultural framework of their own country in the same way the urban children did, or the vast inequities within the American educational system. Perhaps, as other projects indicate, they were instead rewarded with the “challenge” of communicating with a culturally (and economically) different student group, and with the notion that difference can be overcome with a friendly exchange of email.

Given the above review and critique of research and practice, is it possible to use telecommunication projects to move beyond the less critical forms of multicultural education currently prevailing in education? We believe it is possible. However, in order for telecommunication projects to cultivate more critical and political sensibilities among students, two things must occur. First, the multicultural education theories that currently inform telecommunication projects must be replaced with theories that move beyond romantic notions of the foreign or cultural “other” to critical multicultural theories and pedagogies that relate the content of telecommunication projects to students’ individual and collective lives, that analyze broader social and political issues, that demonstrate the relevancy of such issues and analyses to students’ lives, and that engage students in critical discussions of ways in which social realities can be transformed through individual and social action. Critical multiculturalism as discussed by McLaren (1995) and Sleeter and McLaren (1995) and critical pedagogy as discussed by Rivera and Poplin (1995) and Shor (1993) could inform a re-articulation of telecommunication projects. As Nieto (1995) argues, “we do all of our students a disservice if we simply follow the same tired model of ethnic cheerleading” (p. 208, emphasis in original). Second, changes must be made in teacher training and professional development. If teachers have never been exposed to a critical form of multiculturalism, and if they have never experienced transformative pedagogies in their own lives, then it is unlikely that they will be prepared to move these exchanges beyond Western solipsism (Rivera & Poplin, 1995).

If or telecommunication projects are informed by a more critical version of multicultural education, and if our teachers are provided with the skills to enact this more

critical version, then, we believe, telecommunication projects can offer important opportunities for complex multicultural conversations to happen. Teachers, then, will be prepared to a) go beyond the limited goal of joining opposites, b) forsake the naive ideals of global (and national) harmony, and c) ask difficult questions and invite discord as part of telecommunication pedagogy. An ongoing project titled “Re-defining the American Dream” developed by teacher Marty Sierra-Perry, for example, asks students to discuss the status of the American Dream as a national ideal. Another project forum, Global T.H.I.N.K., developed by Lloyd Christopherson, asks students to take on the perspective of individual countries, conduct research on specific topics (i.e., hunger, population control, toxic waste), negotiate positions in Newsgroup discussions, and participate in two real-time simulated “international conferences.”<sup>viii</sup> In these cases, the premise of the overall exchange sets the tone for potentially complex, multicultural conversations among distant, or not so distant peers.

In part because these projects are still new, there is little or no research on the effects they have on multicultural awareness or on the kind of enriched discussions between keypals that occurs. Advocates of such projects confidently assert, however, that multicultural awareness is happening. We are not arguing that an intercontinental peer connection or a post about travel through Tanzania cannot challenge a student’s assumptions, expand a student’s idea of the complexity and diversity of world cultures, and resonate in a student’s mind for years to come. But such projects, as we have just illustrated, can just as easily reinforce notions of Western imperialism, evoke a certain kind of imperialism themselves, and go against the entire premise of multiculturalism. Indeed, unless telecommunication exchange projects are contextualized and historicized in the framework of power and dominance and unless students are asked to tackle provocative questions, it is unlikely that this tool (telecommunication projects) will cultivate more critical or political sensibilities.

### Economic Benefits: Telecommunication Exchanges as Tools for Job Preparation

The third advantage of telecommunication exchange projects highlighted within the educational discourse is an economic one. Advocates argue that intercultural exchanges provide necessary preparation for the increasingly competitive global workforce, especially as multinational corporations continue to expand their operations to various third world countries overseas (e.g., Burke, 1997; Cummins & Sayers, 1995; McChesney, Wood, & Foster, 1998). Email exchange services have corresponded nicely with the current push to globalize education and the building consensus that collaborative learning across distances corresponds with the way business will be increasingly conducted. Cummins and Sayers (1995) see this type of education as both necessary and urgent:

In the world of the twenty-first century, decision making and problem-solving in virtually all spheres--business, science, community development, government, politics--will depend on electronic networks that span diverse national and cultural boundaries. Students whose education has provided them with a broad range of experience in using such networks for intercultural collaboration and critical thinking will be better prepared to thrive in this radically different communications and employment environment than those who have not been provided with access to cross-cultural awareness and problem-solving skills. (p. 12)

Along with writing skills and multicultural benefits, the preparation of students for the global market place provides another rationale for implementing telecommunication exchange projects in schools. As Cummins and Sayers note, those students who emerge from school with collaborative communication skills may gain a competitive edge in the globally-oriented job market (see Kenway, 1998, p. 76). Indeed, multinational corporations have lately voiced a keen interest in developing a cadre of high-skilled, management-level employees oriented towards global communication (see Ashton & Green, 1996). Business schools and corporations also suggest that email has dramatically altered the workplace due to an international emphasis on global teams working on collaborative projects across time

zones (Molpus, 1999). “Nearly everyone needs to master email, if they haven’t already,” Molpus reports. “Workers at AT&T produce up to 1 million email messages a day, and managers there believe it is more efficient than the telephone” (p. 2).

While the typical discourse surrounding telecommunication exchange projects notes that these particular telecommunication skills can lead to perhaps tantalizing economic benefits for participating individuals, they stop short of investigating the larger implications of globalization and the very agendas of ever-involved and ever-expanding multinational corporations (see Apple, 1998). These agendas, we will argue, while also promoting global connectivity, seem to contradict, or at least overshadow the other purported benefits of telecommunication exchange projects discussed in the above two sections. As Sussman (1997) states, “Much of the excited rhetoric about the glorious future of the information society does not take into consideration the material and personal interests of the private institutions and governments that actually dominate it” (Sussman, p. x). As with the positive discourse that overwhelmingly advances telecommunication exchange projects as an important educational tool, we suggest that beyond writing skills, multicultural plurality and decent, well-paying jobs lies a number of distinct corporate agendas that span from the marketing of curriculum services and materials to a broader corporate push to wire the world for maximum profit and public support.

### Telecommunication Projects as Employee Training Grounds

One effect of technology in the spread of global capitalism is enabling large companies to instantaneously communicate over long distances and more efficiently manage shifting capital and a global workforce. “Companies now rely more and more on networks, consultants, business service providers, and suppliers; vertical integration is no longer regarded as, in itself, the best option for coordination of economic activity,” Meiksins (1998) writes. “As companies have moved in this direction, however, they have had to learn to coordinate the activities of growing numbers of often physically distant providers over

whom they lack direct, bureaucratic control” (p. 154). Not surprisingly, telecommunication exchange projects serve as global training grounds for this new technologically-enhanced economy.

Among others, Apple (1998) has documented the “exceptionally close linkages...between computers in schools and needs of management for automated industries, electronic offices, and ‘skilled’ personnel” (p. 316). While potentially preparing students for inevitable (and seemingly neutral) technological developments, learning cross-cultural telecommunication skills in school also provides a number of benefits for communication-dependent companies and organizations.

First, instructional technology and education for the world’s high-skilled employees is big business. According to the International Data Corporation, the costs for these services were projected to reach \$12 billion in 1998, up from \$10 billion only two years earlier (Global, 1996). In the interest of defraying such costs, it is not surprising that corporations and organizations prefer to leave such training up to schools.

Second, even though such rapid global communication technology allows for greater decentralization, Harrison (1994) explains how economic power still remains highly concentrated; those who are at the physical or cultural center of these communication networks tend to have more economic control. An important element of this communication centrality is language. Eighty percent of the world’s computer-based communications takes place in the English language. Indeed, Microsoft and the British publisher Bloomsbury Publishing plans to release the *Encarta World English Dictionary* in 1999, which would “reflect English ‘as the language of the world’” (On Line, 1998).

Global telecommunication exchange projects, which are overwhelmingly conducted in English, reflect English’s existing status as the language of international business (Bradsher, 1995)<sup>ix</sup>. The case can be made that in using a common language, more understanding, equity and overall communication can take place to a positive end. The unsaid logic in global telecommunication exchange project discourse, however, is that

students in non-English-speaking countries are meant to use the projects to improve their English, while fluent English speakers presumably improve their writing skills and have eye-opening “multicultural” experiences (see, for example, Donath, 1995). Bradsher (1995) writes, for example, that “receiving [messages in broken English] reminds American children to write especially clearly, avoiding slang in their replies--and to have more empathy for kids in their own school whose command of English is limited” (p. 42). Meagher (1995) represents the other side: “When Mexican students studying English linked up with their peers in English-speaking countries, their language skills grew, and so, too, did their insights into their own culture” (p. 88).

That non-English-speaking students are learning English via telecommunication exchange projects bodes well for multinational corporations, who claim to be starved for high-skilled international workers trained in English and skilled in negotiating and managing an expanding array of consumer markets worldwide. While such workers have traditionally been expatriates or native speakers trained in American universities, educational practices such as telecommunication exchanges allow many students to learn corporate communication conventions and practices without leaving their own countries. Willinsky (1998) aptly warns that the hegemony of English is such that non-English speaking people scramble to learn English and then take an active role in their own “post” colonialization:

What is important is the manner in which English is accorded this special honor, and how it reflects or moves beyond the fulfillment of an earlier imperial mandate that had something of the same presumption. English may well dominate in scientific literature, air traffic control, and the business correspondence of many multinational corps. However, we have to watch whether the promotion of English as a world language carries within it the cultural, racial, and national legacy that I am associating with imperialism, and we have to insist that this legacy be explicitly addressed as part of a valuable and missing lesson for an

education in language that is intent on not reproducing the colonial frame of mind. (pp. 205-6)

Looking at the imbalance of telecommunication exchange project goals in another way, non-English-speaking children learn the homogenized language of commerce, while English-speaking children gain positive reinforcement: their language is also their economic advantage. Just as scholars like Willinsky point to the imperialistic tendencies of English (as evidenced by current telecommunication exchange practices), recent studies have also suggested that non-English languages are becoming increasingly common on the Internet, with “marked increases in the use of Portuguese, German, Japanese, Chinese, and Scandinavian languages, among others” (Marriott, 1998, p. E3)<sup>x</sup>. The international marketing firm Global Reach has documented a huge rise in non-English-speaking Internet users in a study released in 1999, especially Spanish and Japanese (Is the Web, 1999). As more people from various countries explore Internet capabilities, we can look forward to a complex mix of language and cultural styles affecting the Internet environment. English continues to reign as the default language of global commerce, however, so it is therefore important to consider the significant (and some would add debilitating) influence of Western business and American entertainment culture on indigenous populations worldwide. It may also be worthwhile for educators in English-speaking countries to try to avoid the easy default use of English and instead explore the possibility of conducting telecommunication exchanges in other languages.<sup>xi</sup> This would of course be dependent on more intense language learning in schools, an area that is often, not coincidentally, dropped in the curriculum because of the high demand (and high cost) of computer technology.

Telecommunication exchange project advocates recognize current American and Western dominance in such educational practices by asserting that educators need to bring “high quality learning environments [such as telecommunication exchanges] to all students” (Roberts, Blakeslee, Brown, & Lenk, 1990, p. 206). Since these projects are meant to economically (and educationally) privilege everyone, it seems fit to call for their

widespread assimilation into all schools, worldwide. Realistically, however, it is already well documented that alongside the economic possibilities that technology offers, technology has also divided the world as fast as it brings the world together (e.g., McChesney, Wood, & Foster, 1998). Indeed, many scholars have persuasively argued that the new labor environment under fast capitalism and globalization creates increasingly drastic inequities, with the comparatively small minority who profit via technological expertise, and do so at the expense of the non-high-tech majority (e.g., Apple, 1998; Dimitriadis & Kamberelis, 1997; Kenway, 1998; Luke, 1992; Noble, 1998; Selfe, 1992; Sussman, 1997; Wahlstrom, 1994).

Luke (1992), for example, observes that the economic and social context of global computer use suggests stark inequalities in both non-industrialized and industrialized countries--mostly women, ethnic minorities, the urban poor and indigenous people who are not reaping technological benefits brought on by Internet communication and high technology in general. "New elites, as well as new underclasses, have developed," Dimitriadis and Kamberelis (1997) write, "often in complementary yet discontinuous ways. Indeed, we live in a time when both industrial and postindustrial forms of labor practices can exist side by side at the very same work sites" (p. 137). It is not surprising, then, that there is a spate of participating classrooms from urban America, or that the typical African school involved in a telecommunication exchange is not an indigenous classroom but an English-speaking embassy school made up of "foreign" students--the privileged children of diplomats. Accordingly, along with other computerized activities, global communication networks both stimulate and serve the growing global labor market, which is largely managed afar by well-educated, Internet-savvy Americans, Europeans, and the privileged few in developing nations. Those mostly affluent students involved in global exchange projects and enjoying technological access are experiencing mobility, both metaphorical and economic.

Other students (and individuals) without technological access are correspondingly immobile. “Although we talk about the network’s ability to extend literacy to excluded individuals,” Wahlstrom (1994) writes, “the reality is that the more technology is brought into our systems, the more chances exist for financial, cultural, and social exigencies to limit access” (p. 175). Wahlstrom further comments that students developing computer literacy skills--such as those advanced by telecommunication exchange projects--may be prepared to fit into an economic and social structure that is nothing but exploitative--for them and for others (p. 184). Ironically, telecommunication exchange projects are celebrated for enhancing multicultural understanding, just as they help to define current and future labor inequities.

#### Telecommunication Projects as Public Relations Tools

In pursuing the economic angle of telecommunication exchange projects, it is also necessary, if not crucial to understand “access for all” under the scope of the broader corporate agenda: fostering public acceptance and dependence on Internet-related technology. It is also important to understand the market forces that dictate the purported relevance of telecommunication exchange projects in education. As we mentioned above, the majority of telecommunication exchange projects occur in the public domain and are organized and coordinated by individual teachers. The can-do atmosphere that typically embraces Internet-based school technology seldom reveals, however, that the more ambitious (and thus the most highlighted and researched) telecommunication exchange projects are often sponsored, coordinated, or conceived by telecommunication and computer corporations (Dyrli, 1996a; Trentin, 1997). For example, AT&T supports the AT&T Learning Network; Microsoft Corporation (along with the National Science Foundation, NBC and ABC World News, MCI, and other businesses) supports the Global SchoolNet Foundation; and Sun Microsystems sponsors AfricaQuest. Other project sponsors often include universities and non-profit groups. Without these services, according to Trentin

(1997), telecommunication projects “are often limited to a narrow range of activities like international correspondence, relatively unrestricted setting up of Web sites, data exchange, discussion of specific topics, etc.” (p. 19). Similarly, Nielsen (1998) describes the difficulties of organizing and managing a successful telecommunication exchange without technical and managerial support.

Although a few researchers, such as Cummins and Sayers (1995), note that these exchange project services are “promoted by profit-taking commercial concerns such as Microsoft and giant telecommunications industry companies, costing anywhere from \$300 to \$1000 per class each year” (p. 20), there is scarce mention in the current discourse about larger corporate motivations to provide and promote such projects. Besides an obvious source of revenue (most projects come with additional curriculum materials) (see Dyrli, 1996a; Kenway, 1998, pp. 75-80), these project services serve as part of aggressive marketing and public relations schemes.

In conjunction with its AT&T Learning Network and related telecommunication project support services, AT&T has established the AT&T Learning Points Program which, according to AT&T, “brings FREE educational technology to schools” (AT&T Learning, 1997). In the same spirit of collecting Campbell’s Soup can labels, the program requires that families and other community members switch over to AT&T and contribute “points” to a school technology account every time they make a long distance call. The more community members a school can sign up, the more points the school can collect, and the more “free” equipment they can order from the Learning Points catalogue, all of which helps to facilitate telecommunication exchanges and other Internet-oriented projects, and all are eventually billable to AT&T. To help schools “spread the word about Learning Points,” AT&T offers ready-to-use press releases that applaud the school’s involvement in distant telecommunication exchanges, as well as other suggestions for rallying support (AT&T Learning, 1997). Not surprisingly, local newspapers print the press releases (e.g., Seebacher, 1997), which often mention the AT&T Learning Network and its goal of

providing lifelong learning and critical awareness skills to students via technology (see Kenway, 1998). In the end, AT&T looks philanthropic, telecommunication exchange projects (and other technology applications) get celebrated, and community members switch over to AT&T.

In addition to the AT&T Learning Network, AT&T also supports the AT&T Virtual Classroom service, another “online cultural exchange between foreign language students and native speakers of the language” for elementary, junior, and senior high schools. Unlike the programs spawning from the AT&T Learning Network, however, these services are free, but there is a catch. As AT&T’s documentation reads: “During or after the program participants may be requested to be interviewed by print or TV journalists that wish to find out more about the program. We hope you will assist as much as possible” (AT&T Virtual, 1998). Once again, telecommunication exchange projects become public relations tools. Indeed, such projects and their peripheral marketing campaigns are only a small, but comprehensive, part of what Douglas Noble (1998) calls the “regime” of technology in education. Noble reveals how educational efforts on behalf of equity, empowerment and access for all--the very discourse of telecommunication exchange projects--serves to facilitate technological colonization:

Seductively aligned with [educational efforts on behalf of equity, empowerment and access for all], in rhetoric if not also in practice, is an array of corporate promoters and technologists whose agendas, ultimately have less to do with issues of equity or even of education, broadly conceived, than with furthering technological development (and potential profit) through research and development in the public arena, through the merchandising of hardware and software, and through the reshaping of educational systems both to facilitate their technological colonization and to ensure the training of a reliable cadre of adaptable “problem solvers” and technicians. These agendas come with an abundance of resources--both financial

and political--that dwarf those available to progressive educators unwilling to adorn their efforts with technological or vocational trappings.” (p. 269)

Just as schools adopt new technology and acquire Internet hook ups, the demand for constantly updated software, hardware, and monthly Internet services not surprisingly has schools strapped for funds and making hard choices between technology and other curriculum areas (Nussbaum, 1998).

Furthering technological development, of course, means going beyond the local markets of the United States, hence the emphasis on such educational practices as global telecommunication exchanges. Multinational telecommunications corporations like AT&T have interests and holdings in nearly every developed and developing country. More important than ensuring that international students acquire more high tech skills to satisfy global employment needs, then, is the need to create public demand for and dependence on hardware, software and telecommunication services in markets world wide. Once again, promoting telecommunication services at the school level is one small part in a complex economic process. With such powerful companies gaining more and more control over global markets, some worry that local cultures are increasingly unable to manage their own economies and natural environments, and that these global developments encourage a kind of global homogeneity (see, for example, Taylor, Rizvi, Lingard, & Henry, 1997). Others describe multinational corporations as nation states unto themselves, with no governmental forces regulating their expansionary practices (Kenway, 1998).

Telecommunication exchanges only one small part in a larger push for classroom Internet and computer use. Even so, in the rush to embrace these projects, the complicated developments of globalization and the downside to high tech assimilation have not been adequately recognized much less addressed in educational discourse. Consequently, despite the best efforts of many educators to use telecommunication exchange projects to enhance writing skills, create an equitable learning environment, and prepare students for future jobs, the discourse--indeed, the rhetoric--of technology in schools can be misleading in light of

powerful corporate schemes. We are not arguing that telecommunications services fail to bring important insights and educational stimulation to areas starved for information. Furthermore, students could potentially generate email discussions that might expose corporate imperialist practices. Students might even generate such discussions within projects that are sponsored by companies like AT&T, Microsoft, and Hewlett-Packard. We also don't deny that those engaged in collaborative learning projects over email are developing technical skills that can help students function in their adult lives. Regardless, we believe that in the effort to position telecommunication exchanges as a useful and necessary learning tool, the many levels of corporate involvement and the entire question of necessity must be better understood and exposed.

### Conclusion

Telecommunication exchanges are lauded by educational researchers and industry experts for enhancing writing and collaboration skills, increasing multicultural awareness, and expanding future economic possibilities. As we have seen, however, many of these expected benefits are inconclusive, overly optimistic, and even contradictory. Like much scholarship on educational technology, many researchers are quick to enter discussions about skill, social, and economic benefits without considering the scholarly, historical, or industrial context of their claims (Kenway, 1998).

With regard to skills, we need to extend the discussion of telecommunication exchange projects from overgeneralized and often nebulous claims about skill benefits and focus on the content of particular projects, why they hold promise, and how they can be used to meet specific educational goals. Depending on the writing assignment and age level, emails to distant peers may not have significant educational value, despite the fact that students happen to be writing (at least initially) more. With regard to social benefits, exploring a different culture with the purpose of "appreciating differences" could just as

easily imbed notions of American or Western superiority just as it might alter a student's mindset about the world's complexity.

While the Internet and projects such as telecommunication exchanges can offer a great deal in terms of broadening the curriculum and tapping into alternative ideas, voices and cultures, they are also dependent and rooted in a technology (like all technologies) that operates with private interests, not specific educational skills or pedagogical democracy, in mind. Because of this reality, we need to consider telecommunication exchange projects beyond such terms as technological access and ask ourselves, as Kenway (1998) does, "access to what?":

What is the quality of the information and the 'interactions' offered to students by interactive technologies? What sorts of knowledge are they offered? Whose knowledge is it and what does it say to them about who they are, how they should behave and what they should value? How can education, on- and off-line, produce informed, critical and compassionate global citizens who will advocate for social justice in the new techno-cultural landscape? (p. 88).

Consequently, we need to locate and highlight those projects which encourage young students to go beyond "seeing the world" as electronic tourists from the safety of their computer screen and a dominant American perspective. We need to celebrate those projects that ask troubling questions about local inequities, and even the economic role and impact of telecommunications on indigenous communities. We need to help students ask questions that consider why the sixth grade girl from the Midwest might never end up net-chatting with the same-age girl in Indonesia who may have sewed her overpriced Adidas tee-shirt or Nike shoes.

In this case, we can't expect young students to "guide their own learning"; instead, we must help them understand--and understand ourselves--the complex role technology plays in our lives. As Kenway aptly puts it, "In order for teachers to teach their students to

*use* technology, to teach *through* and about new technologies and to do so in the most competent and creative ways, they must be skilled, informed, and critical users themselves” (p. 83).

Additionally, with all the excited, technologically deterministic rhetoric about globalization, global communities, and the possibility of interacting with distant cultures, the current discourse tends to marginalize locally-inspired telecommunication exchange projects and their commitment to making connections within local communities (see, for example, Cole’s work with the Fifth Dimension Project, 1996; Brush, 1998; Christy, 1998, Vásquez, 1993). As world-expanding as global exchanges may be, they inherently trivialize local human relations (Berland, 1998; Striebel, 1998). Perhaps the most important “distant cultures” for children to first understand may be the ones that are in the next school district or municipality, just a few minutes’ drive from them, or even within the same classroom and school building. Even as public education inevitably reflects larger social trends, however, we must even further question the emphasis on virtual communities in place of establishing “a care for physical place, presence, and community” (Striebel, p. 36). As we have noted, a number of projects address these issues and many inspire local classroom collaboration, but the emphasis in the written discourse still remains on global connectivity.

In the end, school administrators and teachers must ask what skill, social, and economic needs their students have and how a financial and curricular commitment to global telecommunication may either help or perhaps exacerbate these problems. They must ask whose interests are exactly being served by telecommunication projects and if there are any more affordable and less corporate-dominated alternatives that can achieve the same educational goals as those purportedly met by certain kinds of telecommunication. While distant learning activities may appear to be magical education experiences, all educators must first step back, critically evaluate the inevitably enthusiastic rhetoric, and attempt to understand the complex contextual framework behind the push for telecommunication exchange.



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<sup>i</sup> The current research highlights writing skills as a potentially positive outcome for telecommunication exchange projects. Some research also mentions enhanced collaboration (which could be also considered a tool), content area learning, research, data collection, cultural analysis and critique (to a scant degree), creative problem solving, listening, speaking, and foreign language skills. The lack of empirical research in these areas make analysis difficult, however. Other notable skills which may be enhanced by telecommunication projects but are not mentioned in the current research include reading skills and argumentation.

<sup>ii</sup> World Forum projects, as described by Sugar and Bonk (1998), are an exception, potentially encouraging a great deal of peer-peer and mentor-student interaction.

<sup>iii</sup> Teachers in our perspective resemble what Aronowitz and Giroux (1985) termed “transformative intellectuals.” We see teachers as knowledgeable and experienced individuals who use their knowledge and expertise for the benefit of their students. That is they use their knowledge and expertise to assess, plan, and implement experiences for scaffolding student learning. They also engage themselves directly in classroom learning experiences as challengers and creators of knowledge with their students. This approach to teaching not only takes into consideration student knowledge, experiences, interests, and strengths and provides an opportunity for the student to move forward bridging their current knowledge to new knowledge, it also allows students and teachers to be co-constructors and challengers of knowledge. Depending on the subject matter, activity, and/or student need, teachers can determine the degree of teacher or student centeredness needed in the learning experience.

<sup>iv</sup> While Vygotsky has indicated that learning takes place when a more able peer helps a learner achieve a level he or she could not achieve independently, other researchers such as Cazden and Forman have concluded that peer talk in and of itself can provide “an impetus for self-reflections encouraged by a visible audience” (quoted in Dipardo & Freedman, 1988, p. 133)

<sup>v</sup> The Odyssey World Trek: <http://www.worldtrek.org/odyssey/index.html>; GlobaLearn: <http://globalearn.com>.

<sup>vi</sup> AfricaQuest, for example, tracks a team of mountain bikers (fitted with laptop computers and a small satellite dish) along the 1,500 mile Great Rift Valley. Project promotional material reads: “We’ll

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chronicle the rigors of African travel as we overcome disease, physical hardship, and at times a troubled political landscape” (AfricaQuest, 1998, p. 11).

<sup>vii</sup> In order to take full advantage of these sophisticated Web sites, participating schools need advanced computer hardware and software.

<sup>viii</sup> Re-defining the American Dream is sponsored by Global SchoolNet and can be accessed at <http://archives.gsn.org/pr/0598/0018.html>. Global T.H.I.N.K. is sponsored by the Community Learning Network, and can be accessed at <http://www.cln.org/think/countries>.

<sup>ix</sup> For an example of an American-based projects that is geared toward foreign language acquisition, see Rankin, W. (1997). Increasing the communicative competence of foreign language students through the FL Chatroom. *Foreign Language Annals*, 30(4): 542-46.

<sup>x</sup> See also Global Reach, [http://www.emarketer.com/estats/031599\\_multi.html](http://www.emarketer.com/estats/031599_multi.html)

<sup>xi</sup> Cummins & Sayers (1995) describe a more equalized partnership between a Maine and Quebec school, where the Maine students wrote in French and the Quebecois students wrote in English. Vásquez (1993) also explains how the Spanish language was used to empower students in a multilingual environment during the after school activity, La Clase Mágica.

(Photo: The Quint). Delhi Budget: Rhetoric vs Reality. Shakti Sinha Updated: 02.04.16. Business5 min read. The budget is almost completely silent on the specific projections made in the last budget in the different sectors, choosing instead to list completely different priorities this year. And does not address implementation issues at all. The Education Sector. In education, the total plan (development as against recurrent) allocation this year is Rs 4645 crores as against Rs 4570 crores, a reduction in real terms. Last year, he hoped to recruit 20,000 teachers; this year he does not refer to this figure but says that the recruitment of 5500 teachers is at final stages. In both years, he promises Reality: The Lilly Ledbetter Fair Pay Act, signed by President Barack Obama in 2009, was an important step forward in the fight to end pay discrimination, but its purpose was to regain lost ground and return to the status quo. It did not go beyond current law to bolster existing Equal Pay Act protections or to identify new strategies to close the wage gap.<sup>10</sup> Rather, it responded to the controversial 2007 U.S. Supreme Court decision in Ledbetter v. Goodyear Tire & Rubber Co.<sup>11</sup> In order to meet the needs of working families, policymakers must reject the myths and rhetoric used to deny the persistence of pay discrimination and the gender wage gap, and instead support robust policies to strengthen the law.