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Foreword

When Robert Taylor brought together the now classic collection, *The Computer in the School: Tutor, Tool, Tutee*, he felt compelled to write about “the chaotic range of activities” (p. 2) included within the realm of computing and education. The articles in that collection, originally published between 1965 and 1980, described roles for the computer that ranged from the expert that presents well-organized material on a particular topic to the assistant that carries out calculations or edits a text to the student that learns from its human tutor. Even among a small set of authors, there was a wide diversity of visions about what computing in the schools might or should become.

Now, roughly two decades later, it’s worthwhile reflecting on how classroom use of computers has evolved. Following the evolutionary metaphor, we might ask whether Taylor’s “chaotic range” was analogous to the rapid speciation that occurs when organisms are introduced into new ecosystems. How did these species evolve? Are particular ones surviving in greater numbers and spreading to new locales? What are the trends; where are we headed? What is technology in the classroom becoming?

This book by Ruth Garner and Mark Gillingham does not promise any grand evolutionary tale, but only to “tell half a dozen stories...about teachers and students who... are able to move ideas...across time, space, and culture.” Each story is particular, and hardly “typical.” A quick look at Kathy Nell’s World Wide Web site tells anyone that her classroom’s use of computers goes far beyond the ordinary, or what anyone could in good conscience ask a teacher to do. Kathy Plamondon’s KIDCAFE opens up classroom communication in ways proscribed in many classrooms. Daniel Wilcox and Hugh Dymont find ways to expand the communication possibilities for both themselves and their high school students, just as Ruth Coleman and Chris Meier do for their elementary school students. In fact, all six of these classrooms embody visions that both realize and extend the possibilities for computer-mediated communication in extraordinary ways.

Moreover, the classrooms are atypical when considered independent of their computer practices. The obvious cases are those of Chris Meier and Hugh Dymont, who teach in Tununak, Alaska, a village with only 325 people. But one could also say, without in any way diminishing the hard work and creativity the teachers have shown, that each teacher is unusual in having found supports that many other teachers do not find, from parents, researchers, an administrator, the community, Learning Circles, or people on the Internet.

But as soon as we attempt to specify how these classrooms are special, we are made to confront the question of what a typical classroom would be. What constitutes the typical group of students, the typical teacher, the typical set of resources? What is the typical sociocultural context for learning? The stories here show why the typical

classroom is chimerical, both in the sense of being imaginary and in the sense that if we were to find it, we'd undoubtedly discover that it is a unique and fascinating creature representative of only itself. As these teachers and students work to define what technology means for their classrooms, they find themselves drawing upon their own histories, using the technology to amplify who they are and what they value. The details would vary greatly between one of these classrooms and any other we might pick, just as they vary among the six classrooms. But the process of constituting the technology through situation-specific practices is a constant.

Beyond this, the situations of classrooms do have much in common. Ruth and Mark highlight these similarities when they identify patterns in the Internet communication—the telling of stories, the maintenance of social relations, the naturalizing of technology, and the importance of teachers. These are patterns in any classroom, which are simply realized in distinctive ways, and perhaps, expanded, through Internet communication.

Thus, despite having only six cases, and special ones at that, this book does far more than it promises. Yes, it tells intriguing stories, with wonderful examples of students' writing. But it also begins to answer those questions about where classroom computing is evolving and what it might become. It provides a multifaceted answer that might be surprising, especially to the familiar, but contradictory claims that the computer is either a revolutionizing force or only a passing fad.

One facet that I see in their answer is that we cannot talk of just the computer's role, as Taylor did in 1980 (and as I have done in other works). The computer-mediated communication we see here is not simply added to the classroom like a school assembly program. It is deeply embedded in the value systems and social practices of the students and teachers. When Chris's Yup'ik students write, they construct email as an opportunity to tell about their families, to build the connections through kinship that can form the foundation for further conversation, as they know from oral interactions. This is not the email constructed in the corporate world or even in most other classrooms. Indeed, Chris's suggestion to edit the messages reflects his awareness that email is a different technology in other settings and that shorter messages would promote the intercultural communication they seek. But then Ruth and Mark point out that the editing may deny aspects of the children's language and cultural identity.

The discussion is a fascinating one and I doubt that any of the participants, children or adults could be totally confident about any prescription for this classroom, much less for another setting. But what is clear is that the very conception of what email is for, how it should be used, and what role it has in the classroom, cannot be separated from the teacher's pedagogical goals, the cultural norms prevailing in the classroom and surrounding community, or the student's purposes for writing. Email, the tool, does not come into the classroom with its role and uses predetermined, but rather is assimilated into daily practices. That's one reason the approach taken here is so important: It seeks to make sense of the daily life of six classrooms, in which Internet communication is just one integral part.

A related facet of the answer these stories provide is that we need to reconsider what we mean when we say that a particular technology is in use in a classroom. These classrooms have moved very far from the ideas of programmed instruction or the book on a computer. But what technology are they using? We can say “Internet communication,” and if we did not have the richness of the six stories before us, that might prove satisfactory. But as soon as we begin to enter into the diverse and complex worlds of these classrooms, we see that Internet communication itself has diverse and complex meanings.

To take just one example out of many, when Tununak teenagers in Hugh’s class use email to talk with adults who have left the village, their experience of schooling is expanded beyond any simple notion of developing writing skills. To say that they are using email or a file transfer program might be technically correct, but would trivialize the profound meaning that this “conversation between equals” can have. Moreover, that sort of conversation has very different personal and pedagogical implications from the intercultural exchanges between Ruth’s and Chris’s classes or the teacher to teacher dialogue between Hugh and Daniel. These examples make abundantly clear that an account of technology in terms of circuits and processors alone is sorely lacking. We have to have the kinds of detailed and sensitive accounts that stories like these provide if we are to understand what the technology is and what it means for education.

A third facet of the answer that I noted, and the book provides many more, is how this close look at technology, with its emphasis on the Internet, the World Wide Web, electronic mail, virtual communities, and so on, brings us ineluctably back to questions of teaching, learning, thinking, communicating, and caring. The strengths and weaknesses of computer-mediated communication have little to do with technical features of the new technologies. It’s true, of course, that being able to easily share texts across time and space creates possibilities for sharing across cultures that were not afforded previously. But the fascinating exchanges recounted here arose when teachers allowed students to write about things that mattered to them and when teachers worked hard to support students’ learning. And the limits many educators have encountered are not primarily in the technical realm.

This is why when we ask about what’s happening with new information and communication technologies in the schools we find the question is not so simple as it seems. We can look to see how many schools are connected to the Internet, but it is much more difficult to see whether and how students’ and teachers’ lives are changed. To do the latter, we find ourselves inquiring into social relations, political values, and teaching goals, not just modem rates. Ruth Garner and Mark Gillingham tell us stories that provide contexts for those inquiries. Thus, they show in a beautifully-written book that the question about computers is ultimately a question about ourselves.

Reference

Taylor, R. P. (1980). *The computer in the school: Tutor, tool, tutee*. New York: Teachers College Press.