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Conversation, Composition, and Courage: Re-envisioning Technologies for Education and Democracy

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Two dozen miles from our campus, a complex politics has been enacted over the past half dozen years. The conversations about a proposed bridge across a scenic river, which is also an interstate boundary, has involved government agencies at all levels, interest groups, community organizations, corporations, labor unions, and individual citizens in various types of intense exchanges. Few would characterize the exchanges as "substantive educational experiences," many saw them as a kind of tragic theater, and most heard the familiar sounds of "politics as usual." The politics included the typical elements: institutional positions, uneven resources, competing expertise, multiple experiences, a variety of visions, and a common impatience with the process. At a lengthy community meeting late last summer one tired and frustrated woman said, "Maybe there should have been some of us just plain folks in on all the planning—including being on the bridge
design team. After all, isn't this a democracy?" Two highway engineers across the room heard her and rolled their eyes in what seemed like practiced unison.

Two dozen blocks from our campus, an elementary public school teacher sat in front of one of a half dozen classroom computers the week before school began. Although there had been a few of the usual glitches in starting up again and installing new software, he appreciated the access to information technology, all the new machines, and the technical staff assistant who was helping him set up. His frustration was with the difficulty in adapting the software programs to the needs of his classroom and to his own teaching style. He mused out loud, "I'm almost as driven in my teaching by what this software requires as I am by the new programs at school this year or all the state-mandated student performance and graduation requirements. Maybe there should have been some teachers in the group that produced this stuff ... and maybe some student involvement all through the software design and testing!" The technical assistant looked away in disbelief.

The politics, contexts, and implications of these two bridging technologies are not dissimilar. The movement of goods and people and the transportation of ideas and values in a democracy require building many bridges and crossing many boundaries. Important connections among and possibilities for democracy, education, and technology are prominent features of our perennial analytic and advocacy discussions of public education. There are many voices distributed across time-space—some amplified through position or crisis, some muted and barely audible in the background. To whom do we listen? Many criticisms, stories, initiatives, and dreams are expressed. For what are we listening?

In this article we propose that re-envisioning democracy, education, and technology, and their complex linkages, requires transformative listening (Bickford 1996; Garrison 1996; Kurth-Schai and Green n.d.). The momentum of the dominant visual metaphor in calling for re-envisionment, although highly generative, could obscure the necessary fuller integration of all the senses in shaping political and educational reform. Just as many views are necessary in accountable educational technology designs and applications, many voices are required to support the teaching and learning necessary to sustain a democracy.

The Voices of Founders and Critics

Throughout our multilayered public education discourse, American thinkers and activists have analyzed, interpreted, and advocated particular relations between democracy, education, and technology. To whom have we listened and what have they told us? From Thomas Jefferson through John Dewey to contemporary commentators, highly problematic consequences, as well as promising possibilities for more just and productive social relations, have been articulated.

Many of the works of Thomas Jefferson reflect on foundational connections between education and democracy and raise at least four issues of continuing inter-
est. First, Jefferson expressed strong advocacy for mass public education. Second, he wrote about the challenges of structuring education to meet both the needs of the individual and the needs of a democratic society. He was particularly emphatic about the role of education in promoting broadly based public writing and its role in fostering thoughtful conversation to sustain and evolve democratic culture and politics. Third, he demonstrated a continuing struggle with deep tensions between his rural and somewhat aristocratic preferences (including his ambivalence over slavery and class) and the emergence of a dynamic urban, commercial, and early industrial social reality with newly incorporated participants and values that he found mostly threatening. Fourth, across much of his writing he touched on the many risks and uncertainties inherent within the democratic adventure (Burstein 1995; Ellis 1998; Lehman 1985; Malone 1948).

Although much of Jefferson’s thinking is embedded in and relevant to our current discussions, educational policy discourse is more distinctively shaped by the voice of John Dewey. He provides for us a foundational analysis that identifies major risks as well as important potentials in his advocacy of explicitly democratic approaches to learning and civic life (Dewey 1984). Moving beyond Jefferson’s consideration of technology, Dewey proposed that “thinking is technological insofar as it utilizes tools and instruments: some of those tools are conceptual, some physical, some, the hardware that extends our limbs and senses” (Hickman 1990, 36). The intellectual and physical technologies we use in learning, deciding, implementing, and evaluating can shape the articulation of ends and often modify our goals as we proceed. Not only are ends affected by the means employed but “evolving ends demand the modification of existing tools” (202). Because technologies both shape and support processes of inquiry and political advocacy, Dewey asserts that our tools are no more ethically neutral than are plants, nonhuman animals, or human beings themselves. “They are interactive within situations that teem with value” (202). For Dewey, both obvious and subtle interdependencies among humans and their tool systems play significant roles in forming our democratic and educational ambitions. He framed his considerations of the possibilities for democracy, education, and technology in the language of his time—often embedded in the concept of industrial arts (Dewey 1984). It may be useful soon to conceptualize “postindustrial arts” and “postmodern arts” as valuable coinages in some contemporary exchanges in our continuous re-envisionment work (Zargori, Partick, and Coddington 1996). If information age talk alerts us to postindustrial realities, and critical deconstructions move us to new reinterpretations of modernity and its successors, then extending our enriched visions to include opportunities for artfully used technologies seems appropriate.

Contemporary educational commentators and critics help reveal the always unfinished portions of Jefferson’s (Ellis 1998) and Dewey’s (Festenstein 1997) visions as well as highlight many unproductive and often tragic features of the current interlocked systems of democracy, education, and technology. There is
lively reconsideration of democracy's general situation and prospects (Barber 1984; Bickford 1996; Connolly 1991; Lummis 1996; Sandel 1996) and of democracy's integral relations with education (Apple 1993; Barber 1992; Kahne 1996) with an important subset focusing on technological connections (Bowers 1993; Bromley and Apple 1998; Croft 1993-94; Kane 1999; Raboy and Bruk 1989).

These current commentaries also frame our project. We find such analyses sensitive to many forms of hyper-individualism (but perhaps providing an incomplete reading of the strengths and weaknesses of both a rights-centered social/political/economic paradigm and an embedded methodological individualism), persistent on the theme of pervasive consumerism (but perhaps with little ingenuity on ways and means to find alternatives), and attentive to the many constructions of American exceptionalism (but perhaps with some inattention to global resources and opportunities). These critical voices skillfully direct thinking toward the central problems of democratic and education practices in a late twentieth century, postindustrial global capitalism. Our task here is neither to summarize these provocative critiques nor to develop our reservations about some of these lines of analyses. We do, however, acknowledge our connection, note our gratitude for their insights and influence, and state our commitment to the necessity of continuing conversations.

There are also contemporary voices that speak to new opportunities (Burbules 1997; Egan 1997; Lanham 1993; Sclove 1995). Our teaching and learning tools need not be arrayed only as extensions of an individualistic consumer psychology and political economy. Responsible, participatory, and distributed technological development is a demonstrable possibility (Sclove 1995). Recent findings in cognitive science (Norman 1992, 1998; Schrage 1990) and related learning theory research (Callister 1994; Carroll 1997; Palincsar 1998; Schacter, Norman, and Koutstaal 1998) are in important ways continuous with Jefferson and Dewey. Much of this research features the need for continuous adaptation in human—technological interactions and flexible uses of information technologies. One broadly observant interpreter reminds us that we must understand the expressive context of our time as one in which the uses of technology to enhance data visualization and sonification are fundamentally creative acts that are both individual and social (Lanham 1993).

Transformative Listening

Carrying the many voices suggested in the preceding sections—from the voices overheard in the opening vignettes, through the foundational voices of Jefferson and Dewey, to the rich voices of current commentators and critics—there is much challenging listening to do. But to carry these voices and the others they represent, it is necessary to attend to more than the content of their particular stylized words.
A specialized form of listening is also required if we are to develop technologies that can support our efforts to transform education and democracy.

We suggest that this form of listening is defined through the complex interactions among five interrelated characteristics. Listening in order to create and sustain experiences of deep learning and democratic living is a radically social, creative, ethical, aesthetic, and exploratory process. Our experience has taught us that learning to listen in this manner can be supported through intensive engagements with specific pedagogies and their supporting technologies that we describe as conversational, compositional, and courageous. We further propose that the technology necessary to support this form of listening currently exists and is reasonably accessible. It is possible to begin the process of transforming education and democracy by first arraying and using available technology differently, then working to sustain the emergence of even more supportive ones.

Let us now take a look at three pedagogical styles with supporting technologies that might be integrated to promote transformative listening.

**Conversational Pedagogy and Supporting Technology**

Speaking and listening have always been important features of democratic life in schools and communities. In his classic work, *Democracy and Education*, John Dewey defined criteria still useful today for judging the quality of our efforts to promote inclusive, goal-centered conversations and the role of technology in supporting these. Dewey proposed that the quality of a community’s ability to learn and to live together is measured by how fully and freely its members interact around numerous, broad, and varied interests (Dewey 1984). He regarded conversation as perhaps the most important method of social interaction (Garrison 1996).

Following Dewey’s lead, in an undergraduate educational policy course titled *Re-envisioning Education & Democracy*, we ask our students to grapple with the complex task of orchestrating the collaborative design of an urban middle school centered in the theme of educating for democracy. We begin by posing questions concerning whose voices must be heard. In order to hear each other’s voices—and those of middle-school teachers, parents, students, community representatives, policy players, educational researchers, analysts, and activists—we employ technological support in the form of a variation of the Delphi method.

Although the Delphi technology originated as a quantitative technique for acquiring expert opinion to produce technological forecasts, its potential to support intensive and broad-based conversations concerning complex issues soon became apparent. Adaptations of the technique for use in a wide range of social settings, including education, demonstrated the utility of the Delphi in supporting policy analysis, design, and evaluation (Cogan and Derricott 1998; Kurth-Schai 1991; Patrina and Volk 1992). Our interest in this technique centers on recent variations developed to support collaborative social inquiry and systems design. These method-
ological innovations enhance the utility of the Delphi as a social technology capable of assisting members of a community first in developing a shared vision of possible, desirable, and sustainable futures and then in identifying feasible strategies that might be used to enact that vision.

The Delphi process is distinctive as a conversational technique in that it provides opportunities for clarifying and evolving opinion and commitments in a socially interactive setting while carefully protecting personal privacy. Participants are asked to respond anonymously to a carefully developed forced-choice questionnaire over a series of rounds. Because the questionnaire must provide an accurate representation of the complexity and controversy of the issue or task under consideration, varied techniques are used to ensure that diverse resources and perspectives are reflected in its design. Between rounds participants are given statistical summaries of the group’s response so that they might reconsider and possibly revise their initial judgments in light of the opinions of others. Response in the form of open-ended commentary is also invited, analyzed, and shared. The process is continued until a predetermined level of agreement regarding key design priorities is reached.

Students enter the complex conversation necessary to support middle-school design by working together to develop a Delphi questionnaire. They explore and interpret contemporary opinion and research embodied in the assigned course reading. Later they incorporate insights gained through carefully prepared interviews with college faculty and middle-school teachers, administrators, and students.

When we read foundational thinkers and current commentators with our students, we encourage a conversational approach to reading in several familiar senses. We urge our students to consider the context that shaped each author’s work and advocate author–reader interactions that attempt to go beyond that necessary but insufficient reflex: What does the author mean here? We hope to have students ask, for example, Whose voices and what experiences might have influenced the authors? What silences do the authors leave? What further inferences, generalizations, or other connections might be appropriate? We also have them converse with their colleagues and with us in ways that bring their experiences, perspectives, and their hopes and fears to the surface on and in their own terms.

During the interviewing phase, we encourage students to move beyond a script/list interview format by establishing an informal, interpersonal connective style. This in-course conversation is broadened and deepened as students assume responsibility for drawing out, clarifying, and eventually providing responsible representations of and advocacy for others whose voices are often quite different from their own.

Perhaps the most significant conversational challenge is that of negotiating the content and wording of the statements that will appear on the final Delphi questionnaire. Over a period of several weeks, the students work intensively together in
small groups to revise, combine, eliminate, and prioritize possible statements. This process continues until the range of issues and voices raised are responsibly reflected in a series of clearly worded, reader-friendly response items. From the hundreds of insights gained through careful consideration of the readings, interviews, and personal preferences, approximately fifty are included in the questionnaire to which the interviewees, course members, and other targeted individuals respond.

This initial phase of the design conversation culminates as questionnaire results are tabulated and shared. Statements most frequently selected as highest priority recommendations can then be used to guide the middle-school design. These ranked preferences provide both an initial glimpse of the Delphi respondents’ shared vision and a means through which our course members are held accountable to their varied constituents as they move on with their design tasks.

Through our engagement with the Delphi technology, we work at developing with our students a practiced sense of the radically social and ethical character of listening. The central intention is to discover meaningful and surprising connections across many and varied perspectives. A glimpse of this style at its best would demonstrate the nonhierarchical, interactive, expressively developed inquiry features required to refine the art of compromise and to revitalize contemporary democratic practice.

Although the sharing of diverse and at times controversial positions is best initiated and sustained within the context of trusting and respectful interpersonal relationships, information processing technologies can play a significant supporting role. Now, more than ever before, we need to develop skills in processing and prioritizing diverse and extensive sources of information. Given appropriate technological support, large numbers of ideas can be gathered, disseminated, integrated, synthesized, and interpreted in dynamic and interconnected ways. Information technologies can also be arrayed to address ethical concerns. By separating specific opinions and recommendations from their source at key points in social planning and decision-making processes, we strengthen our efforts to protect privacy and confidentiality while encouraging full participation regardless of social status (e.g., socioeconomic class, race, gender, age, or level of expertise). In each of these ways, full and free interaction around diverse issues and interests can be extended and enhanced.

**Compositional Pedagogy and Supporting Technology**

Students and teachers are always composing. Our traditional emphasis on the individually written composition with its appropriate literary forms can obscure the potential for collaborative composition and the central role of listening. If we are successful in becoming more inclusive in our conversational inquiries—as we turn to composition—we will need to know what we should listen for.
The word *composition* implies not only the inclusion of carefully selected elements but also their creative arrangement in an aesthetically pleasing manner. Beyond the ability to hear and to respectfully incorporate diverse voices in social inquiry and systems design is the capacity to listen artistically for those very special connections that integrate purpose and beauty into an inspirational whole. This is significant because it is the inspirational quality of a communal vision that guides and motivates imaginative attempts to translate shared dreams into educational and democratic realities.

For our students, the results of the Delphi questionnaire are informative but not typically inspirational. There is a tendency to interpret design priorities in a manner that constrains ethical and pragmatic response rather than opening new possibilities for principled thought and action. There is a risk of narrowing in on surface understandings of the mean or the majority opinion and then settling for the safety of familiar solution paths. Further support is needed to develop the aesthetic and creative dimensions of transformative listening.

The lives of middle-school students provide perhaps the most moving source of inspiration for middle school design. A variety of techniques are used to support the quality of listening necessary to gain insight into the social, emotional, physical, and intellectual worlds of urban youth. Throughout the semester, service learning projects are used to ensure regular interaction with young adolescents. Upon completion of the Delphi, we ask our students to integrate on-site experiences with recollections of their own middle-school years and contemporary research findings into a narrative account written from the point of view of a middle-school student. A relevant symbolic expression (music, poetry, visual imagery) is also required. The narratives are submitted on Nicenet (www.nicenet.org)\(^1\) a course documentation and conferencing tool available for use free of charge on the Internet. What results is an on-line collection of pointed vignettes with connections to virtual constituents that can extend interactions and compel design creativity and accountability in ways that even the consensually generated priority statements cannot.

Students carry the voices represented in these individually composed narratives on into the next phase of the design process during which time small groups collaborate on key design tasks. Strategic storytelling supported by www.nicenet.org is used again, this time to push the evolution and integration of specific design features. Group members determine which design components should be explored and then develop for each other narrative projections written from the perspective of individuals (students, teachers, parents, school administrators) experiencing the component in action.

As these stories are woven across continuing design conversations within and among small groups, we move on to the most challenging level of communal composition: the negotiation, arrangement, and presentation of a coherent and compelling middle-school proposal. The proposal is posted on the World Wide Web in the
form of an executive summary supported by numerous appendices (elaboration of specific design features, supporting research and bibliographic references, Delphi questionnaire and findings, state curricular guidelines/graduation standards). We also include in the appendices the course members' narratives that form one dimension of the design context.

Compositional processes and possibilities can then be made visible, expanded, and enlivened through use of hypertext and hypermedia software. Engagement with the aesthetics of more conscious linking of standard policy descriptions of school features with the planning narratives, related symbolic expressions, and other external resources and responses can be improved. All who participated in the design process, as well as interested others, are invited to enter an on-line conversation. Through the interchanges that ensue, new opportunities for artistry and accountability can be opened.

In contemporary voices, we hear echoes of Dewey's thoughts suggesting that the essence of teaching/learning (and political advocacy) is captured in acts of "prophecy and poetry," whereby what is needed "to meet the needs of needful times" is "called into existence" (Garrison 1997; O'Riley 1996) that teachers/learners (and responsible citizens) are moral artists, whose work is enhanced by collaborating with others in developing and acting upon an evolving capacity for moral imagination (Johnson 1993). Through our engagement with varied forms of compositional technologies, we strive with our students to create opportunities to directly experience and mindfully attend to those connections between power and beauty and between ethics and aesthetics that are capable of transforming our social, political, and educational lives.

**Courageous Pedagogy and Supporting Technology**

The achievement of an imaginative, accountable composition—a design for an urban middle school—is a moment of pause and silence. Akin to a musical rest, this moment provides a break to contemplate all that has been accomplished and to anticipate what is to come. Whether the outcome is consensus on a blueprint for a new charter school or agreement on a particular set of policy guidelines, this is a crucial juncture in the life of any democratic project. It is at this point that the listening often stops. There is a strong temptation (often for good reason!) to hold tightly to the hard-won consensual vision in its purist form, uncontaminated and uncomplicated either by the chaotic music of new voices or the jarring sounds of democratic ideals colliding with bureaucratic realities.

For the students, upon completion of the middle-school proposal design, the academic semester comes to a close. As they leave the college classroom, we know that many will continue to enact and evolve their commitments to democratic policy and practice as teachers, school administrators, youth workers, community ad-
vocates, policy analysts, politicians, and parents. How can we prepare them to continue listening through all that lies ahead?

Just as completion of a democratic design can signal a time for focusing inward both to celebrate achievements and to anticipate the challenges of implementation, it can also be a time to reach out again to gather new perspectives, a time to join together in exploratory listening to the future. However, this is not an easy task. Moving on, from and through conversation and composition requires courage—a courage that is at once individual and social.

To explore is to act creatively within the context of an often unknown and challenging world. Exploration is dependent upon a radical sense of openness—the willingness to seek out and then listen intently to new voices that continually re-open even the most inclusively and artistically composed personal convictions and social visions to further consideration, compromise, and change.

As the process of exploration moves beyond openness to action, we are called upon to live with the complex consequences of engaging in bold constructions of education and democracy. Those who propose new approaches to democratic learning and life quickly find themselves immersed in a myriad of high stakes situations that require experimental and unprecedented responses. Repeatedly, they must summon the courage to persist in the face of uncertainty, ambiguity, felt inadequacy, and pressures to revert to education and politics "as usual."

Experience has taught us that such efforts, though valiant, far too often result in tragic tales of the increasingly isolated and alienated individual or very small group that struggles against all odds to sustain an instantiation of the answer within an oppressive, at times openly hostile, environment. Defensive and oppositional political strategies soon prevail, justified by a growing and ultimately paralyzing sense of victimization (Kurth-Schai and Green 1997).

There Must Be Another Story

As we look to the future, we propose that a contemporary technological metaphor, that software genre, the "adventure game," might be further developed to assist us in moving the ways in which we have come to understand, experience, and interpret collaborative inquiry and design. The metaphor provides some possibilities for evolving pedagogical strategies to support and sustain shared exploration and risk taking. We also have a sense that the adventure game metaphor is one that most students of any age find accessible. Computer-based adventure games provide platforms for exploratory interactions across multilayered narrative frames. These games' relatively open architectures support varied event sequences, action time-spaces, and decision paths. Their hierarchical yet capacious structures support experiential learning—more creative and complex responses are required in the face of surprising and ever more challenging contexts. Multimedia representations heighten sensory and aesthetic engagement. Navigational tools are often in-
corporated to assist players in mapping their journey, thereby providing connections across time, events, and places. There are even systems of accountability to track resources used and report progress made. Perhaps most important, the concept of gaming shapes emotional and intellectual engagement, encouraging playful, often novel responses; whereas the concept of adventure anticipates, even welcomes, uncertainty, ambiguity, and challenge.

Of course the multiplayer, real-time, socially interactive version of Adventures in Education and Democracy does not exist. Without such a game on the shelf, we attempt to support our students in moving from conventional situational assessments and implementation assumptions to more imaginative and innovative approaches by asking them once more to develop strategic narratives. We present small working groups with a specific implementation challenge that is relevant both to their school design and to their service learning experiences. We ask them to converse and then compose first a short story and later a one-act play.

In the short story challenge, the small groups need to draw directly from their prior experiences in anticipating likely implementation problems and then formulating narrative solution paths. Typically, participants will anticipate familiar blockages and enact response strategies featuring politics and pedagogies that are initially promising but then prove difficult to sustain. After these stories are shared and discussed, the one-act play is assigned. This time, the group members are asked to imagine themselves within the context of an adventure game and to construct a short scenario to be performed in class. For the students, this assignment raises several new challenges. First, their deliberations are complicated by their experiences in developing and analyzing their recent short story narratives. Second, the one-act play assignment requires more advanced conversation and composition skills (and courage for those wary of dramatic performance) in that the groups must consider physical settings, positioning, and movement; tone of voice and facial expressions; scripting the words their characters will speak; and determining the response strategies to be explored. Third, specific constraints of the adventure game are imposed, including conflicting advocacy positions extended from their short stories; intensive accountability pressures; rapidly shifting resource configurations; and new implementation crises. Perhaps most challenging is a central gaming logic that disallows oppositional, nonegalitarian, and deferentially hierarchical approaches to problem solving.

We expect several outcomes here. Adventure game composers and players will encounter new challenges and glimpse new possibilities for analysis and action. They will inevitably experience considerable onset frustration around the demands posed by the developing situations and the novel game logic. Yet they will also find in their previous strategic experiences, some existing and buildable bridges that can be used to reach desired locations in the evolving environment. Our strongest hope is that in drafting the adventure scenarios together our students
will discover that they do possess the resources necessary to initiate and to sustain collaborative risk taking.

For us, the adventure game metaphor is helpful in shifting our imaginations from defensive stories of individual heroics in the face of uncaring, seemingly unassailable bureaucratic systems to more proactive tales of communal inquiry, innovation, and change. Using the technologies of transformative listening, metaphoric thinking, and daring social composition, we can deepen and extend our experience and expression of social courage and resourcefulness.

Further, although we do not need state-of-the-art information technologies to recast collaborative work in education and democratic politics, we can imagine and advocate for advances in hardware and software design and configuration that could enhance and extend our efforts (Kurth-Schai and Green n.d.). We can work together to shape a collaborative transition from current conferencing and simulation software toward systems that encourage more inclusive design premises; support interactive strategic narratives; and integrate deep planning scenarios to facilitate exploratory listening and creative, responsible social action. Over time, our experience as postindustrial, postmodern artists can lead us toward collaborative development of new technologies more supportive of the radically social, ethical, imaginative, aesthetic, and exploratory forms of education necessary for maturing and sustaining democracy.

Two dozen months from now, I can envision the alumni of our course coming back on campus to work with the current students, community members, and a team of software developers on pieces of an information technology. Most of the participants want to ease access to the resources for imagination, make communication as seamless as possible, and lower the technical thresholds for multimedia presentations. Conversations are bounded by what the participants have experienced. Current students are struggling with the demands of the course and are a bit annoyed with this seemingly ambiguous task. Most of the educational community members, still connected to their struggles with conferencing systems, multimedia software packages, and even with their e-mail and word processing, are challenged by this shared design opportunity. The software team is still tentative in its interactions. They are confused by this radically new client relationship but intrigued with many of the items of the wish lists that are emerging. The course alumni seem more comfortable with the ambiguities and risks in this challenge, a bit more facile in spinning "what if" scenarios, and are very attentive listeners in the many conversations under way. It is apparent that significant exchanges are taking place. The classroom is noisy and somewhat disordered. There is an exciting air of uncertainty and unresolved tension about the work. It seems to be a moment for re-envisioning technologies for education and democracy.
Note

1. Nicenet is one technology that provides versatile and dynamic possibilities. It is used widely in kindergarten through twelfth grade and higher education settings. We have deployed it in many different courses over the past three years to post documents and course rosters; to provide conferencing, scheduling and personal messaging; and to note connections to course-relevant Web sites. We have used it not only to extend our classroom time but also to include community members and other consultants in course conversations and project development processes.

References


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