Afterword and Forward

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I write to find out what I mean.
Leslie Marmon Silko

Like Silko, we see the value of this project in helping us find out what we mean. Just as the relationship between writing and meaning is recursive, so too with this project: after working with thousands of faculty in hundreds of hours of faculty development workshops and new media institutes over the past few years, this volume has provided us the opportunity to look at that aggregate experience through the lens of these collected essays and their responses. And now, we hope, the patterns of practice visible in that experience allow us to envision the shape, in turn, that future exploration might take. We would like to use this closing space then not as a coda to what comes before but as a preface to what might come next.

In their essay on the scholarship of teaching and learning, Tom Hatch and Kim Austin suggest that the scholarship of teaching and learning be thought of as a broad range of activities, and not merely products, including:

> —Producing ideas and products and prompting discussions that stimulate and inform teachers' efforts to reflect on and inquire into their own practice.
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> —Developing methods of documentation and different kinds of products that can be used by teachers who wish to reflect on their own practice.
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> —Establishing the language and mechanisms that can support the review and exchange of the meth-

ods and results of inquiries of all kinds.

—Creating the institutional supports so that teachers can get the time and resources they need to reflect on and improve their practice.

—Building public understanding that teaching is a complex endeavor in which personal reflection as well as scholarly inquiry are essential to improvements in student learning and the development of effective teachers.

These precepts can be invaluable in guiding pedagogical innovation with new technologies. Using this list as a point of departure, we want to focus on three broad areas we believe need particular attention as the culture and history fields grapple with the integration of technology into collegiate teaching and learning:

(1) Support for **faculty development programs** based on principles of sustained support, experimentation, and reflection.

(2) Development of a more **focused classroom research agenda** tied closely to traditional and emerging pedagogical values in culture and history fields.

(3) Expansion of ways to **document, represent, and exchange** the scholarship of teaching and learning, especially utilizing new media environments.

In outlining these areas we want to highlight selected issues and questions raised previously as well as posit new questions and possible directions for the future.

Faculty Development

The experience represented by *Intentional Media* underscores the vital importance of faculty development to the successful educational use of new technologies. The faculty who generated case studies for this volume all took part in some significant way in faculty development programs designed by The Crossroads Project and the New Media Classroom program of the American Social History Project. In conversation, formal feedback, and written analyses, these faculty have repeatedly confirmed the pivotal role

of NMC, Crossroads and other faculty development experiences in advancing their capacity to use new learning tools and resources.

We are far from alone in drawing this conclusion. The importance of faculty development in this field has drawn increased recognition in the past 18 months. Research conducted by Kenneth C. Green and the Campus Computing Project reveals that college faculty and administrators nationwide place the need for effective faculty training among the most challenging and essential steps to further integration of educational technology. Yet the billions of dollars invested in "preparing schools for the 21st Century" have gone (and continue to go) overwhelmingly to hardware and wiring. Where faculty lack necessary training and support, computer labs frequently wind up gathering dust or being used as glorified typing labs. We would argue that meaningful progress in this field requires that funding for faculty development must be given equal priority with funding for hardware.

However, it is not simply a matter of the quantity of available for faculty development; it is also a question of quality. Typically, faculty development in technology focuses narrowly on building faculty technology skills or familiarizing faculty with particular software applications. The most common faculty development structure is a 2-4 hour "training workshop" led by technology support staff who are skilled in technical issues but relatively distant from the latest thinking about disciplinary content and teaching methodology. Feedback from our colleagues suggests the importance of developing a different approach, grounded in a professional development philosophy that links faculty development to the conceptual frameworks of classroom research and the scholarship of learning and teaching.

Based on our experience and our observations, we would encourage leaders in the field to create, nurture and support faculty development approaches that:

—*root themselves in the issues and experiences of everyday classroom practice*. The best faculty development with technology builds directly on faculty's expertise teaching in non-technological settings, and models ways to adapt their skills to a new context. It speaks to real classroom needs, helping faculty to find ways to use technology solve long-standing problems, do their work better, and more effectively reach their goals for their courses and their students. And it points faculty towards classroom implementation, testing and experimentation with real students in real classroom situations.

—spotlight the relationship between issues of technology and issues of disciplinary content and pedagogy. Integrating technology skill-building with exploration of powerful issues of classroom content and practice makes the use of technology less alien and more engaging to faculty participants; it opens up questions of pedagogy (all too rarely discussed at the college level) in a timely and challenging fashion; and it helps faculty explore ways that different technologies and pedagogies can help students better address specific discipline-based skills, questions, and ways of knowing.

—structure and support a sustained and recursive process of teaching and reflection. Instead of one-shot workshops, effective faculty development with technology must unfold over time and provide multiple opportunities for faculty to move back and forth between initial training workshops, classroom testing, and reflective seminars where faculty can articulate and collectively analyze their experiments using new technology resources. Faculty need support and recognition as they move through a process of rethinking their classrooms and their courses—a process that we have found usually takes at least five semesters.

—build consciously and effectively on principles of respect and mutuality. In the best faculty development programs, everyone (leaders as well as participants) is a learner/teacher working in a supportive professional community. No one has all of the answers; everyone is learning together, figuring out ways to address the challenges of education in this new context. Integrating such principles into program design is more difficult than simply mouthing platitudes; when this is done successfully, however, the impact goes well beyond the affective. Building on the diverse skills that faculty bring permits the integration of multiple areas of expertise; if everyone is a learner, everyone also has something important to contribute, whether it be knowledge of recent scholarship, skill in using a particular technology or teaching method, or a question or problem that prompts discussion and contributes to the group's collective development. Developing workshop and seminar structures that center on, facilitate, and celebrate constructive teacher-to-teacher exchange is essential to our ability to move forward as a field.

This last point takes on increasing importance at this moment in the evolution of educational technology. For many years, the use of advanced digital technology has been confined to a small num-

ber of faculty, the "innovators" and "early adopters." These pioneers have developed increasingly sophisticated skills and approaches, but they have worked largely in isolation from the larger body of mainstream faculty, who for many years have regarded educational technology with a mixture of awe, skepticism, and alienation. The gap between these groups and the isolation of the early adopters, brilliantly analyzed in the mid-1990s by William Geoheogan, has long retarded the progress of the field. Now, however, growing numbers of mainstream faculty have begun to appear in technology workshops, bringing with them new questions, concerns, and attitudes.

It is tempting and intuitively logical to set up entirely separate introductory programs for these new participants. And while some degree of introductory programming is entirely appropriate and indeed essential, our experience makes us wary of professional development approaches that replicate and reinforce the isolation between technology pioneers and their mainstream colleagues. Without assuming that the two groups are the same (in fact, we would suggest that recognizing and working with their substantially different needs and trajectories is fundamental) faculty development leaders must create structures that support collaboration and respectful exchange between early adopters and the mainstream faculty now beginning to experiment with technology. Each group has to learn from the other, if the field is to advance. Linking technology innovators and mainstream faculty in constructive dialogue and joint projects creates opportunities for faculty to teach other faculty. Such a process will build broader recognition of the challenges involved in effective use of educational technology, expand the cohort of faculty ready to take on leadership roles, and help to ensure a more meaningful focus on concrete classroom needs.

Research Agenda: Understanding Learning in The Culture and History Fields

Faculty development organized on the principle that everyone is a learner helps faculty think of their classrooms as laboratories and their work with technology as part of a large collective research effort. Certainly such a widespread initiative is essential at this stage. To build meaningful understanding that can guide policy and practice, large numbers of faculty must engage in and benefit from asking increasingly sophisticated questions about the impact of technology-enhanced pedagogy in the culture and history fields. Here then we want to revisit some of the questions that have aris-

en from the *Intentional Media* process and might shape future classroom research and inquiry into curricular design.

In the Introduction we proposed a three-part framework for the educational uses of digital technology. 1) Through inquiry-based learning strategies, faculty help students explore and make meaning from primary sources and multimedia environments available on CD-ROMs and the World Wide Web. 2) Using on-line writing and interaction, faculty can extend the time and space for dialogic and distributive learning, and join literacy with disciplinary and interdisciplinary inquiry. And 3) making student work public in new media formats can add depth to constructivist pedagogies through the creation and exchange of knowledge-representations, and the new opportunities for review by broader professional and public audiences.

Working within and across these categories, faculty have discovered a range of ways to use new media to enhance and transform their pedagogy, especially in the area of modeling and fostering *authentic* learning**.** These authentic activities—which follow on and build from the framework—include:

—**access to a wide variety of resources** that foreground the need for students to exercise choice and judgment over them;

—emphasis on **interpretation and adjudication among multiple sources**—including multiple media—as fundamental skills and building blocks to higher synthesis;

—exposure to the **apparatuses by which knowledge representations** are made, and the participation of students in the analysis of the apparatuses as intrinsic to cultural critique and the problem of building **narrative coherence out of multiplicity;**

—the use of **dialogue and conferencing as a means to "rehearse" interpretations** and explore idea-formation as a socially discursive act;

—the creation of **situated learning experiences** with an emphasis on the perspectival nature of knowledge;

—engagement in constructivist activities that emphasize **authentic collaborative processes;** and

—the capacity to participate in the shaping of reconstructed

learning spaces and the context **to develop a critical consciousness** about those spaces.

Intentional Media opens up each of these areas for fuller development and inquiry as to how they might be realized, in part, through new media environments, and highlights their potential role in advancing quality education in culture and history fields. More specifically, they at least suggest these focused areas of investigation:

Enhancing the Role of Primary and Secondary Source Literacies

The abundance of materials available in new media environments, especially on the World Wide Web, has underscored the importance of dealing more directly with the issue of literacy and facility with primary and secondary resources. We need a broader and more concerted effort to explore how using new media to foreground literacies can help reshape what it means to study culture and history. For web-based and more traditional archival materials, faculty confront similar questions about sources: How do you read a primary historical or cultural source? What is the difference between a primary and secondary source? What kinds of critical reading strategies need to be asked about different kinds of texts—literary texts as opposed to letters and diaries, oral histories or photographs or political cartoons? What makes an archive an archive? What is the difference between an archive and an exhibit? And what difference does it make when students confront these issues in a digital environment?

Similarly, we need to more fully integrate into the curriculum questions about the "politics of knowledge," including such critical questions as: How and who determines the legitimacy of knowledge? Can we draw the line between valid and invalid sources of knowledge? On what basis? Faculty and students using digital media (whether for critical analysis of constructed virtual archives and exhibits or using online writing to support the analysis of conflicting perspectives) almost inevitably confront such questions. Developing sophisticated stances toward sources, contextualization, corroboration, and conflicting perspectives is a critical part of the "intermediate cognitive processes" of expert learners. How might we use new media to bring these questions more to the foreground? How might the integration of new media-based curricular units in reading cultural and historical materials become a part of transformative pedagogy in culture and history courses?

Making Visible the Intermediate Cognitive Processes of Expert Learners

We have seen that new media technologies can help make visible what Sam Wineburg refers to as the "intermediate cognitive processes of expert learners," in part by helping students approach problem-solving and knowledge-making as open, revisable processes, and in part by providing tools to enable teachers—as expert learners—to build bridges to student thinking. How can we use new media to build an instructional focus on the process as well as the product of doing historical and cultural analysis? In what ways might new media, usually thought as a tool for speed, actually be used to slow down and make more conscious and explicit the methods for critical thinking and analysis? If we see students as "cognitive apprentices," what strategies would help faculty take advantage of the public and constructive nature of the Web to sequence a process of modeling and coaching, consciously structuring a multi-staged dynamic whereby students gradually take over the process for themselves?

Understanding Distributed Cognition: Writing, Dialogue and Knowledge Building

An integral part of making knowledge visible is the *layering* of public and collaborative discourse. We have seen that there can be a productive relationship between the small group email conversations (as the "rehearsal" space for ideas) and the class discussion list, where more synthesized (and increasingly sophisticated) ideas are aired. One promising direction for further classroom research is to do more systematic studies of the way that ideas emerge and develop in distributive classroom conversations: what resources prompt the development of key terms or concepts? How can they be made visible and prominent? How do key ideas get transferred and disseminated among other class members? How do ideas stall or disappear? How might digital tools be used to provide the scaffolding that will make such processes most productive of enduring growth?

Understanding Student Empowerment: Values and Knowledge

How might we—as a community of investigators—systematically foster and assess this powerful form of learning, in which students connect with academic issues of culture and history through such affective dimensions as seeing themselves as "potential agents of change" and "social actors in contexts of racialized, gendered, class-based differential relations of power"? How might we cap-

ture the essential connections between student empowerment and learning rubrics for sophisticated cultural analysis? How do we foreground this development in curriculum design, as well as the design of on-line learning environments? What sorts of investigative and assessment tools—such as benchmark reflection—might we use to better understand what kinds of learning activities and environments can help us realize the interdependencies between values and knowledge in the culture and history fields? These constitute another important set of questions for taking these intimations of powerful possibilities to the next stage.

Studying Collaborative and Constructionist Activity as Extended Processes

Collaborative and constructionist activities are another authentic approach for making visible the apparatuses of the creation and construction of knowledge. One of the research challenges for further experimentation is the problem that many questions of student understanding and development are not measurable in the span of a single course, but across several courses, or even a course of study. And as such courses become less anomalous in the curriculum, we need to ask systematic questions about the impact of constructive activities in virtual spaces—whether it is MOO space, Web-based hypermedia environments, or whatever new technology offers next. The isolation of constructionist innovation in the curriculum speaks to still yet another area of research challenge, which responds to the phenomenon identified by Melinda de Jesus, who observed that collaborative student work was "edgier, riskier, and more interesting: not necessarily better written, but it engaged in the material and the subject in often deeper, different ways." We need to keep developing better profiles of good practice—and data on the causes of positive outcomes—to capitalize on the "edgier, riskier, and more interesting" nature of collaborative cultural projects, while also raising our expectations and student performance at the analytical and compositional quality of those performances.

Researching and Documenting Hybrid Approaches to Learning

The future of technology-enhanced education is not merely in the judicious use of technologies, but more significantly in the powerful combinations of technology-enhanced approaches with other kinds of approaches. Indeed, technology aside, optimum learning environments are most probably those that balance *instructional* (teacher-delivered) approaches with *discovery* models of learning. One of the most valuable kinds of "pedagogical con-

tent knowledge" revealed in these pages, then, are the lessons learned about balance and combinations of approaches, and the hybrid character of new learning spaces. The nature of this hybridity is quite varied and yet only touched upon in the rich reflections in this volume. And yet we have very little systematic information regarding *combination* approaches to learning—whether combinations of instructional and discovery models of learning or combinations of virtual and face-to-face interaction (and the relationship between the two). Such research is most interesting not for the purpose of proving the superiority of one over the other, but for discovering effective combinations and identifying the patterns of good practice for adapting combination approaches to the contingencies of local contexts.

Exploring the Relationship between Successful Integration of Technology, "Standards" and Mandated Standardized Testing

At the K-12 level, the push for "higher standards" has in many states devolved into a growing emphasis on standardized testing. History and English teachers (and their principals) are increasingly being evaluated by student pass rates on state mandated examinations, which vary widely in their focus and quality. Teachers interested in experimenting with new digital tools are constantly asked, "Can you *prove* that technology increases student scores on standardized tests?" Perhaps more interesting and productive questions might include: How does the integration of different kinds of technology-enhanced learning activities affect student performance on different kinds of tests? Under what conditions and with what kinds of students are we likely to find significant relationship between technology and improved student performance? More broadly, what can we say about the kinds of learning measured by different kinds of tests? How should we, as community of teacher/researchers interested in student-centered and teaching-for-understanding methods, interpret the results of standardized tests? And how does the pressure to "cover" a standardized curriculum and prepare students for state-mandated tests affect teachers ability to successfully undertake the process of integrating technology, inquiry activities, and distributed learning approaches? While these questions and issues are most germane to K-12 teachers, particularly high school teachers, they must be of significant concern to any "vertical field" at the collegiate level, or any courses and courses of study that are at least in part preparing students for various qualifying exams, such as the GRE or in teacher education programs. In these contexts, such issues are affecting the

whole field of education, and the evolution of educational technology in particular.

Documentation, Represesentation, and Exchange

The dialogue around the scholarship of teaching and learning can serve as an important tool in focusing and addressing the questions of classroom research and faculty development with new media. Conversely, the movement to consciously explore educational uses of new media can serve as the occasion for advancing the scholarship of teaching.

The kinds of activities that Hatch and Austin posit as key elements in the scholarship of teaching are all directly applicable to the questions of technology-related faculty development and classroom research. Their list of essential steps to pursue can easily be reconfigured to incorporate technology issues:

—Producing intellectual products and prompting discussions that stimulate and inform teachers' efforts to reflect on and inquire into their own evolving classroom practice, as they integrate various combinations of new media resources;

—Developing appropriate methods of documentation (including web-based publication and exchange) that can be used by teachers who wish to reflect on the impact of technology integration on their own practice and on student learning;

—Establishing the language and mechanisms (including web-based review) needed to support the exchange of the methods and results of inquiries into the classroom uses of specific kinds of media resources with selected teaching strategies and curricula;

—Creating institutional supports so that teachers get the time and resources they to need understand and test the potential of educational technology and to reflect on ways it might change and improve learning and teaching in their classrooms;

—Building public understanding that teaching with technology is a complex endeavor involving experimentation, risk-taking, and scholarly inquiry as well as rethinking of personal and institutional practices, all undertaken as part of a larger process essential to improvements in student learning and the development of effective teachers.

The application of scholarship of teaching approaches to the issues of technology integration (and vice versa) is already underway, and can serve as foundation for future efforts. As a medium for dialogue and exchange, new media environments have been essential in providing a space for faculty to test ideas and draw on the resources of wisdom distributed throughout a community of practitioners. This has been true of the New Media Classroom and the Crossroads Project, as it has of communities like the Alliance for the Computers and Writing (ACW-L) discussion list, Megabyte University (MBU), and RhetNet. As powerfully as new media spaces have been used for dialogue, support, and for listing resources, however, we have only just begun to experiment with ways to use new media to foster reflective and scholarly representation of teaching, as well as make possible the exchange and peer review of teaching. We need tools, protocols, modules, rubrics, and case studies, that can link communities of practice to dynamic resources for systematic investigation. Much more is needed to use new media environments to create electronic course portfolios, hypertext analyses of course outcomes and contingencies, multimedia to create reflective examinations of teaching, to the peer review of teaching analysis and course materials.

The use of new media environments to advance the scholarship of teaching helps make knowledge *visible* in the context of professional development, just new technologies and pedagogies make knowledge visible in course contexts. Ultimately, the visibility and accessibility of the *pedagogical content knowledge* generated by classroom research and the scholarship of teaching and learning is key to the evolving sophistication of our questions and understandings. So too is communication across all fields. We will have to find ways to build on each other's knowledge and perspectives—within and across fields—if we are to realize our intentions.