Multimedia Scholarship for the Twenty-First Century

Stephanie Barish and Elizabeth Daley

There is little argument that, in an era dominated by the Internet and ubiquitous satellite television . . . by the cell phone with voice activation, wireless Web access, e-mail, and PC interconnectivity . . . by the car with on-board GPS-enabled computer, satellite music, and radio . . . by the ever-expanding universe of electronic games . . . immersive environments . . . 3D simulations . . . not to mention the growing roles of the PC and the pocket-sized computer, we are connected to some form of media in nearly every aspect of modern life. Constantly expanding and merging multimedia carries the messages of society. Gathered together on screens and beamed through space, the resulting array of sounds, images, text, interactivity, and movement have become the building blocks of twenty-first-century communication.

In the past, we have advocated for an expanded concept of literacy, one that recognized this reality and acknowledged multimedia as a primary vernacular for today’s society. Our underlying premise was, and still is, that to be literate today one must understand how strategically chosen and juxtaposed
combinations of media enable the construction and dissemination of meaning in ways that bypass or enrich traditional text and the spoken word. We believe that one must not only be able to read such media but also to author it.

Today we ask you to further consider the potential of multimedia in academic scholarship to transform, expand, and bridge research, pedagogy, and publication. The questions we would like to address are twofold: What will it mean when multimedia is truly harnessed for the benefit of academic inquiry? And, are faculty positioned to lead this discourse and empowered to fully realize the potential of these rich media in their own work?

The Challenge

To date, much of the support for university faculty to use media has been directed toward technical services and basic pedagogical applications. Most colleges and universities have centers for technology in the classroom, which generally provide instruction in and access to software programs, software support, and ideas for enhancing pedagogy through, for example, Web boards or faculty PowerPoint presentations. The use of audio-visual materials in the classroom is encouraged, but the implications of its use, as well as the formal components and theoretical basis of multimedia, are not addressed. Technologies and their applications are presented primarily as tools in isolation from specific disciplines. In this context, multi-
Media is taught separately from the kinds of intellectual content appropriate to genuine scholarship.

The Solution

Such practical training for faculty is no doubt important in enhancing teaching and presentations; nevertheless, the time has come to focus on the ways in which multimedia enables true scholarship—research, analysis, and publication—within specific disciplines. The best multimedia pedagogical models and practices are realized in the classroom when they are organically and intrinsically connected to the research interests of faculty members and the disciplines they teach.

More than five years ago at the University of Southern California (USC) Institute for Multimedia Literacy (IML) we began working with faculty members from a variety of disciplines to integrate multimedia into their standard discipline-based courses. We started by simply attempting to familiarize faculty members with the basics of multimedia literacy and asking them to revise their syllabi and student assignments to include it. We soon began to observe a disconnect between a faculty member’s multimedia practices and his or her scholarly work. Our multimedia-trained teaching assistants were forced to become “second” instructors in these courses, not only teaching core concepts of multimedia but also making the connections between multimedia assignments and subject matter. It was apparent that our process did not fully empower faculty members to become flu-
ent in multimedia or to think through the complex intersections between multimedia scholarship and their academic objectives.

We quickly shifted our approach from merely introducing faculty members to the conceptual principles of multimedia to challenging them to conceive and create a piece of scholarship that would be intellectually stronger because of the use of multimedia. Now that we have worked with more than 100 faculty members, scholarly multimedia authoring has become the training ground for courses taught in affiliation with the IML. As a consequence, faculty members have been far more successful in the classroom once they personally and fully experienced the use of the principles of multimedia for their own work.

Scholarly Work Through Multimedia

An example of the kind of scholarship that multimedia literacy enables can be quickly illustrated by the work of a team of typical USC undergraduates in an entry-level archeology course. Based on her own experience using multimedia for her research, archeology professor Lynn Swartz Dodd developed a course in which the students were introduced simultaneously to both the core concepts of multimedia literacy and the disciplinary theories and practices common to archeology. Her assignments enabled students to have the experience of “doing” the discipline rather than simply writing “about” it. They became completely immersed, to the point that they continued to work on their projects over subsequent semesters, long after
the course was formally completed and they had received a final grade. They went on to explore the archives of the Getty Research Institute, translating materials to and from Greek, wrestling with complex and contradictory sources, and eventually creating a multimedia project that won an undergraduate research award.

Based on our experiences in recent years, in our opinion the most important step toward developing multimedia scholarship is to work with faculty to help them conceive scholarly work that, from the beginning, not only employs but also requires multimedia. The problem, of course, is that most professors do not have knowledge of multimedia that in any way prepares them for such an approach. Although many scholars may be trained to critically analyze a variety of non-textual data and information, most have never had the opportunity to author a scholarly multimedia document in their own discipline—certainly not with their own two hands. If faculty members can become knowledgeable about multimedia literacy while gaining some experience in constructing with it, then they will be able to approach their work from the beginning with a broader set of tools at their disposal, identifying the attributes of multimedia most appropriate to their own disciplines.

Since form and content are inexorably connected in multimedia (in a way not necessarily present in print), one must first and foremost understand what different forms of media do and do not do. Otherwise, media elements tend to become merely decorative or illustrative, as opposed to integral to the argument being advanced or the text being explicated. But
while we have all been taught to construct and deconstruct text since elementary school, none of us has been taught the principles of media on such a level. The way in which one writes with this dialectical, time-based, nonlinear, and often interactive language is rarely studied in any depth outside of schools of film and multimedia and is certainly not seen as co-equal in importance to the written word. How can anyone be blamed when they use it in a superficial manner? It is not surprising that few attempts at multimedia creation exceed the standard PowerPoint that merely uses the screen to display text and illustrations. As we have pointed out previously, the greatest stumbling block of all may be the widespread assumption that nothing in multimedia deserves a deep level of study.

Fortunately, a number of faculty members affiliated with the Institute for Multimedia Literacy have been willing to devote considerable effort to discovering principles of multimedia that force them to think differently about their own work. In the words of medievalist Lisa Bitel, “I was learning things that I had never thought of learning before, and I was learning ways of learning . . . that I haven’t been exposed to since 10th-grade geometry, which I hated. So I was cast back into the role of a student, not only learning new things but learning new ways to learn things.”

Likewise, historian and former USC Academic Senate President Philippa Levine said,

I’ve published a number of books and none of them have pictures in them to date. The main reason was that I could
never understand pictures other than literally, as illustration—“this illustrates point X.” That always seemed not to be a very interesting use of images and pictures. I think now, going through the multimedia training and then teaching the courses, I’ve learned that maybe there are other ways in which I could in fact engage with images, but I do not think I could have done that until about a year ago. And even now I’m obviously very much a cadet.

Multimedia Scholarship: Faculty Projects

Many scholars actually use visual materials in the development of theory and argument, but then are unable to publish their work in a way that fully reveals their process and the underlying research. Limiting scholars to the printed page undermines their ability to fully share the knowledge they have gained.

Sociologist Rebecca Emigh, frustrated by the limitations set forth by her publisher and the conventions her colleagues reinforce, is publishing her statistical analysis of fifteenth-century peasants in Tuscany in her newest book, while simultaneously creating a multimedia document of her research data that composites a variety of visual and statistical data to create a more holistic picture of how she arrived at her conclusions.

Sixteenth-century historian Peter Mancall, upon completing his book after 10 years of research, realized that while he may have been able to write a book on the most effective promoter of the colonization of North America in Elizabethan England,
Richard Hakluyt, he could never actually demonstrate what was going on in the man’s mind. Since this revelation, he is now working to do so by creating a sequential video document called “8 1/2 Minutes with Richard Hakluyt.”

Political science professor Jefferey Sellers, in his international collaboration “Political Change in the Metropolis,” relies on large data sets to conduct his research. In particular, he looks at these data to try to find patterns that may make a difference in voting and other political behavior. Using multimedia approaches to visualizing this information, such as mapping, Sellers is attempting to show his colleagues and collaborators key connections between the analysis of data presentation and academic inquiry. For instance, by using attributes only available through multimedia, such as by animating his maps, Sellers is able to begin to address a bias evident in the literature—the spatial dimension. Through multimedia he and his colleagues can create new platforms for both analyzing and communicating their research.

Surgeon Randy Sherman, Chair of Surgery at the Los Angeles County USC Medical Center and Chief of the Division of Plastic and Reconstructive Surgery at the USC Keck School of Medicine, recently published an article in the New England Journal of Medicine discussing the current status of post-traumatic reconstruction of the lower extremity. As with most medical periodicals today, the journal’s traditional format allowed for only three pages of text and one drawing.

In light of our work at IML, Bob Stein, a fellow at the Annenberg Center and designer of TK3, a multimedia software,
worked with Dr. Sherman to reconceive the article for electronic publication. This approach introduced the exciting possibilities of providing links to clinical images, radiographs, illustrative designs, and patient interviews. Hyperlinks to other papers, texts, bibliographies, and more in-depth studies were just a mouse-click away. By approaching the question in this expanded format, the underlying data becomes immediately available to the reader, making it possible to transmit an entirely new dimension of understanding of the subject matter at the moment of interaction.

For other scholars, research can only be conducted through digital technologies. Religion professor Bruce Zuckerman’s expertise is deciphering ancient Aramaic texts, many on stone in remote locations. Truly effective methods for doing such work only became possible with the advent of digital tools that allow him and his colleagues to better analyze these inscriptions by enlarging and layering them; they have changed drastically over time. Zuckerman’s work needs to be viewed on a computer through which one can access and interact with the database and manipulate the images. Zuckerman has shot them from different angles and under different lighting conditions. The reader can explore the database and study Zuckerman’s conclusions; by having access to the actual data, the reader can evaluate it, form his or her own opinions, and even annotate it.

A number of the faculty members with whom we have worked are engaged in developing, at the very least, a scholarly multimedia companion to their traditional publications. For
these scholars, a particular element or certain elements of their work simply do not fit into the format and preconceptions of books in their fields. Our interest now is enabling them to consider the appropriate uses of multimedia at the beginning as they conceive their research projects.

It is also important to note that the effective use of multimedia literacy for publication requires clarity not only about the work’s objective but also about its audience and mode of distribution. No doubt such factors are also considerations for text, but the presentational capacities inherent in multimedia confront issues of audience and distribution much more directly. Scholars may in fact choose to make their work more accessible simply because there is the real possibility that they will no longer only be read by colleagues in their own discipline. In fact, publishing or presenting academic scholarship in a networked environment allows for this work to have a potential impact upon those outside a specific discipline or even outside the academy itself. Among faculty engaged in multimedia scholarship we see an awareness of and true excitement about considering and reaching a broader audience. English professor Viet Nguyen, after beginning his scholarly multimedia work, said,

Teaching multimedia literacy has affected my own scholarship. With the students, I always stress the question of audience: Who are they making these projects for, do these projects speak to people, and can they be understood? So, now
I’m thinking about this question of audience in my own writing, in my own research, and how to address larger audiences.

The exploration of the implications of multimedia on a professor’s own scholarship and field of study, from his or her own perspective, is one of the IML’s primary research objectives. We have collaborated with faculty members from across a wide range of disciplines as they explored a variety of multimedia forms including games, interactive narratives, visualizations, and video ethnographies. Recently, some of these faculty members have worked with us to articulate what they consider to be important advantages of multimedia scholarship:

- Visual and audio elements can be used to construct complex arguments that could not be constructed with text alone. Such arguments appeal to the aesthetic and the emotional, for instance, offering the potential for a wide range of sensory experiences and thus a deeper comprehension of the material. Multimedia facilitates the examination of nonverbal and nonlinear modes of thought that have been central to postmodern analysis.
- Material can be layered, and the receiver can participate in acts of construction and manipulation. Issues can be examined from multiple perspectives simultaneously or near simultaneously.
- Data can be observed in action rather than simply reported. Video and audio often demand that the person
doing the data collection and documentation be face-to-face with the actual situations or subjects. A project cannot be abstract at the level of mere data analysis.

- Multimedia allows the author to shift elements and recombine them to create new meanings.
- Multimedia enables the author to detect, determine, and test meanings and trends embedded in complex or voluminous data by developing visual representations such as maps, charts, and graphs of that data.
- Multimedia invites experimentation with modes of interactivity and online communication not only to present scholarship but also to engage the audience as participants in scholarship.
- Multimedia encourages the author to think about ways to present scholarship that avoid the disciplinary jargon likely to be alien to interdisciplinary audiences.

Multimedia-Literate Publication

As our faculty members have become more invested in building models for their colleagues, practical issues have accompanied our need to demonstrate the viability and importance of this type of scholarship. Such issues include:

- Where can these works be peer-reviewed and published?
- What in fact does it mean to publish?
How does one extract the equivalent of an article from a multimedia piece and cite it?
How can these works count as evidence of academic scholarship?
How will one’s colleagues evaluate these works?
How can something that can impact one’s colleagues be built?
How can these types of works be sustained?

There are several barriers to widespread usage of multimedia for scholarship; traditional publication models and rules for scholarly evidence are certainly among the most serious. While it has always been acceptable in academic publication to illustrate scholarly text with images, diagrams, or charts, visual elements continue to play a secondary or supportive role. Moving images, sounds, and interactivity are not even an option in conventional publishing. Given these limitations and the lack of examples of scholarly work created with multimedia, a good many faculty simply do not consider using multimedia—even in cases where the work may be about digital media or combinations of communication forms or where it is inherently dependent on media.

While ensuring the academic rigor of multimedia works, we need to begin modifying our traditional requirements to grant non-print-based scholarship the same status as that we accord print. We are in some ways faced with the proverbial chicken-and-egg problem. While researchers in many fields
may be ready to acknowledge that they could vastly extend the scope of their scholarship through multimedia, nearly all fields lack refereed journals that would allow publication in multimedia formats that would count for promotion and tenure.

Realizing that junior faculty in particular have no place to publish such work, the IML is developing a refereed journal, *Vectors*, which will not only offer a place for digital, electronic publication of multimedia scholarship but also will examine the underlying principles that will be most important to such scholarship. The first issue was launched in spring 2005 and is available at http://www.annenberg.edu/vectors.

We founded *Vectors* because we were convinced that academia must actively confront, participate in, and embrace contemporary media culture, investigate new modes of expression and new ways of constructing meaning, and create new points of contact between the arts, humanities, and sciences. *Vectors* is designed to engage readers across traditional disciplinary boundaries and beyond the borders of higher education. *Vectors* emphasizes process, mutability, and collaboration. It will encourage live dialogues, active archives, and innovative forms of interactivity framed by a continual questioning of the role of emerging media in a developing digital era. *Vectors* is positioned at the intersection of culture, creativity, and technology and committed to an examination of changing modes of expression and knowledge formation in the twenty-first century.

The institute’s Faculty Fellows nominated Tara McPherson, chair of the Critical Studies Department of the USC School of
Cinema-Television, as editor in spring 2003. The first issue of *Vectors* is devoted to a broad reconsideration of the notion of evidence and its multiple transformations in contemporary scholarship and digital culture. Clearly, if multimedia scholarship is to advance, we will need to redefine everything that we now believe provides evidence of academic value, from citations and footnotes to publication and editions, all ideas rooted in the permanence of printed text. We will need to establish ways to archive not only the scholarly work itself but also the support materials that underpin it. Web sites disappear and databases change quickly; with social software such as wikis and blogs where others annotate work, the “published” version no longer has the same meaning. It is almost as if we are taking snapshots at a certain point in the development of a piece of scholarship, knowing that it will change as others engage with it.

Within this dilemma lurk some of the great opportunities inherent in digital academic publishing. In a rapidly changing knowledge landscape, a two-year publication cycle with no opportunity to quickly revise may mean that the scholarship is badly dated by the time it appears in print. In addition, the current system of publication in and of itself may be showing signs of strain; a recent article in the *Chronicle of Higher Education*\(^1\) noted that it might be necessary for humanities faculty to contribute to the costs of the publication of their work and that therefore universities might need to subsidize these faculty. The problem may not be that we need to help underwrite the work of academic presses, but rather that we need to be creating opportunities for faculty to publish in a different way.

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But for the time being, as long as only text in a bound volume counts as true scholarly publication, then sound, image, time, and interactivity are effectively ruled out as scholarly tools—a strange choice in a world that uses these media attributes as the primary method of communication. At other crucial points in history, academia has been forced by the realities of technology, economy, and efficacy to alter its time-honored conventions. Today, as forms of communication rapidly transform and expand, academia will need to once again transform if it is to retain its relevance and dominance as society’s primary engine of knowledge creation and the arbiter of literacy. We hope that Vectors will provide an example of the kind of academic publication possible with rich multimedia.

Tackling Multimedia Illiteracy Among Faculty

As the possibilities inherent in multimedia scholarship continue to grow and be recognized, the chasm is widening between the multimedia-literate and those who have not been exposed to its possibilities, creating a critical “digital divide.” The challenge for universities will be less a function of providing hardware, software, and technical skills than one of facilitating and encouraging the critical understanding of this new environment. A complete comprehension of multimedia scholarship, an integration of pedagogy, research, and publication, needs to happen on both an individual and institutional level—a digital divide is opening between institutions just as between
scholars. As faculty and students begin to put pressure on their institutions to support multimedia work, major systemic challenges will emerge.

Ultimately, to be competitive, universities will need to move beyond merely supporting faculty to “teach with technology” and begin to enable and provide incentives for real multimedia scholarship. To develop competency with multimedia is no small undertaking, and faculty will need support. Not to do so will come at the risk of irrelevance in a society increasingly dominated by online presentation, material that exists only on screens, the research possibilities of vast and dynamic databases, and newly dominant social software.

New forms of publication and new models for dissertations and theses are among the most important frontiers. Others include the acceptance of collaborative work rather than the traditional insistence on the “single author,” the willingness to grant faculty time to learn how to use multimedia, and interventions with foundations and other funding agencies to get a broader acceptance of grant proposals for projects that are not print based.

Multimedia Literacy Across the Curriculum

It is our firm belief that in the near future colleges and universities must make a commitment to multimedia literacy for all their students. In the words of Ed McCann, president of the USC Academic Senate and professor of philosophy,
What you’d like is to have students realize that they can take any given representation, whatever its problem is, whatever its character, and really just step back and critically ask what’s behind this representation. In a way you’re just reminding them of their obligation to themselves as reflective, self-aware individuals, to be able to see depths and complexity where there is a lot that militates against that sort of questioning. In a certain sense it’s harder for students who are raised in a visual environment to do that. Multimedia is not really any different from any of the more traditional tools and devices and strategies of classical liberal education. But it connects with students in a certain way and it enables them to help build bridges between the kinds of critical attitudes you can have from the more traditional liberal art materials and the visual environment in which they live and are going to continue to live their daily lives. I think multimedia tools have a distinctive contribution to make in terms of the final outcome of a traditional liberal education.

Having spent the past five years working with more than 3,000 students, the IML has been in a unique position to address these challenges for undergraduate education and scholarship. A year and a half ago the USC Provost’s office asked us to expand multimedia literacy more broadly across the curriculum. In response, we developed an experimental four-year honors program to give undergraduate students the genuine depth of knowledge about multimedia that they need for scholarship. “Honors in Multimedia Scholarship” was launched September
2004. Students in this program will have an opportunity to approach their discipline(s) of study through the critical application of multimedia.

Over the four-year course of the students’ undergraduate experience, the program will gradually expose them to the history, theory, and practice of multimedia scholarship within a range of disciplinary and interdisciplinary contexts. Each course within the sequence is designed to develop students’ facility with the theory and practice of critical multimedia scholarship and to provide opportunities to develop skills in authorship, group learning, collaboration, leadership, and creative thinking. Honors students will progressively develop these abilities, complementing their disciplinary knowledge and traditional scholarly writing with the capability to create effective arguments using interactivity, audio-visual integration, non-linear narratives, visualization of information, and screen language appropriate to their majors and minors.

The real objective of all of our work in higher education at the Institute for Multimedia Literacy is to further academic scholarship. The paradigm has no doubt changed. The question is, will academicians be willing to do the hard work needed to embrace this new world of digital media in scholarship, research, publication, and teaching?

Professor Selma Holo, Director of the Museum Studies Program at USC, summed the issues up in the following way:

In the end, this isn’t about technology. In some very strange way it’s about yet another kind of translation—of your
research, of your content, of how you teach—into another language. And the shocking thing to me was coming to understand that if we don’t take charge of our own translations of our research and our teaching into the higher technologies and use them to allow us to think differently, about even the content, then other people who don’t understand what we’re doing are going to do it. So, the transformation for me has been to say, “Look! You’re the captain of, in a way, the future life of your own research and work in the twenty-first century.”

NOTE


**Stephanie Barish** was founding Director of the Institute of Multimedia Literacy at the University of Southern California’s Annenberg Center for Communication and is currently Senior Partner of the Creative Media Collaborative.

**Elizabeth Daley** is Executive Director of the Annenberg Center for Communication and Dean of the School of Cinema-Television at the University of Southern California.