

LIVING IN OUR WORLD: A DIGITAL BRIDGE IN PROGRESS

JIM CLARK
JIM ALCHEDIAK
JULIE DUMONT RABINOWITZ

These are the times that try our digits—our fingers and toes, our computers and cameras, and our educational bottom lines. Thomas Paine, an American revolutionary and pamphleteer of the eighteenth century, found that the revolution through which his writings steered our colonial ancestors put both their souls and his on trial. However, even after being vilified by his former countrymen, this revolutionary patriot and little known inventor sought to remain connected to the continent. To do this, Paine designed a pier-less iron bridge that he hoped to promote in the new American states and, perhaps even abroad. Today, we also understand the importance of remaining connected to others near and far, and thus have embraced the digital revolution to further social studies understanding and curiosity for North Carolina public school teachers and their students in grades four through seven. Like a pier-less bridge designed to move people, our digital work online as well as in printed texts and video productions was designed to move the minds and imaginations of North Carolina's public school students by connecting them with global information about cultural geography beyond the borders of their towns. What follows is an account of how the best laid plans, digital and otherwise, can remain unrealized if they do not receive administrative support.

The catalyst for what became the publication of the textbook entitled *Living in Our World* was the disintegration of the Soviet Union and the response to this series of events by Prof. Joseph P. Mastro, a North Carolina State University political scientist and Sovietologist. Mastro also co-directed the Humanities Extension Program at North Carolina State. His staff and team of selected North Carolina classroom teachers produced a sixth-grade textbook entitled *Living in Europe and Eurasia*. They collaborated with Prof. Jim Alchediak, also of North Carolina State, in the production of supplemental educational videos. As a result, North Carolina sixth graders and their teachers received up-to-date materials about Russia and some of its neighbors when public schools opened in August 1993.

Through the leadership of Orange County Rep. Anne Barnes in March 1993, the North Carolina General Assembly mandated a social studies textbook project for HEP at North Carolina State. The funding that accompanied this unprecedented legislation provided for the purchase of new computers that HEP's expanded staff and faculty could use to create and transmit digital files for fourth- through-seventh-grade textbooks that could be printed in time for the 1997-98 textbook adoption cycle. New video production equipment and funds for the requisite worldwide travel were also included in the appropriation. And so, digital bridge construction was well underway. This approach to state-based textbook and ancillary resources production enabled North Carolina teachers in these grades to adopt materials that were completely aligned with North Carolina's standard course of study. In other words, Mastro's 1993 sixth-grade package had become the model for fourth- through-seventh-grade materials in the next cycle. No longer would North Carolina's students in all four grades be at the mercy of corporately produced textbooks that usually reflected the standard courses of study of Texas, California, or Florida. The first edition of the mandated, state-specific social studies materials were in North Carolina classrooms by the fall of 1998. Mastro, however, died unexpectedly in December 1993. Consequently, veteran history textbook author and professor Burton F. Beers joined the project as chief executive editor

of the four-grade-level *Living in Our World* series. As director of HEP, soon to be renamed Humanities Extension/Publications, Jim Clark would lead the project

As the process evolved, plans were made for second editions, and the faculty and staff assigned to the project were committed to keeping up with the changing digital world, the dynamic global environment, and the state's evolving curriculum. About fifty classroom teachers worked as paid consultants to the project. Many of these teachers were computer savvy from the start, and others learned the rules and routines of digital work and play as necessary. Whether for new video productions, personal educational enrichment, or grant-supported study by in-service and preservice teachers, national and worldwide travel was another part of the team's experience. Clark personally spent valuable time on the project in Ghana, Central Asia, and Russia.

An English professor with a record of statewide extension and engagement work in the humanities, Clark also read the successive issues of *Technos*, published by the Agency for Instructional Technology at Indiana University, as well as books by Daniel Burrus; to include *Technotrends: How to Use Technology to Go Beyond Your Competition*, coauthored with Roger Gittines—a gift from Nancy McAllister, the first production manager of a multicycle project.

Two components of North Carolina State University's revolutionary undertaking in social studies deserve in-depth discussion and are best told in first person voice. Videographer Jim Alchediak and managing editor Julie Rabinowitz recount their respective project stories about digital bridge building. We begin with the account of Alchediak of the North Carolina State Department of Communication who worked closely with Mastro as well as in both of the subsequent phases of the project.

Reflections of Professor Alchediak

In 1990, I was charged with the task of depicting everyday life in the Soviet Union to sixth-grade students in North Carolina. At that time, materials for North Carolina's middle school social studies curriculum were woefully in need of updating, particularly those involving the Soviet Union.

That summer, a group of thirty North Carolina educators, mostly middle school teachers, traveled to the USSR to learn about life under Gorbachev. I accompanied them with the tools of my trade: a video camcorder, tripod, and microphones. Our itinerary was planned and led by Mastro who took into careful consideration the need to represent the diversity of cultures existing in the Soviet Union. Although we visited the usual Russian destinations of Moscow and Leningrad, our travels also included the Soviet republics of Georgia and Estonia.

As we traveled, the seeds of the Soviet Union's dissolution were apparent to us, particularly in Georgia, where we encountered and videotaped an anti-Russian demonstration. But my video documentation more often focused on the mundane details of common life. How did people earn their living? Where did they make their homes? What foods and other consumer goods were available for purchase? The instructional video documentaries that resulted were informed by the well known five themes of geography that came to be the guiding principles of our projected sixth-grade social studies textbook: location, place, human-environmental interaction, movement, and regions.

Our video-production work and print publications struck a responsive chord in North Carolina classrooms, and after 1993 we carried our media-production initiative throughout Europe, Africa, the Americas, and to a variety of locations in Asia. An especially successful feature of our work in specific cultures has been the featuring of youth who are the ages of the grade-level students we serve in North Carolina. In these and other productions, the technology we have used since 1990 has evolved in accordance with the evolution of video and computer technologies.

The very modest camcorder (SVHS industrial model) I used in the USSR was selected to be cost-effective and to deliver video quality at least one step above consumer-grade technology of the time. Our transition to digital technology retained this ethic of relatively low expense, together with the objective of providing the highest level of video image quality possible.

As a documentarian, one who wishes to capture scenes with little to no intrusion, I have avoided large professional-looking cameras that make passersby wonder which network is in town. Instead, I have

chosen smaller cameras that resemble tourists' camcorders. Thus, the design of certain digital video cameras has guided my choice of production tools. The added portability of such designs has been a plus for low-profile international travel as well.

Occasionally, the equipment's portability and ease of use has relaxed us to a fault. My team and I actually walked away from a successful shooting, and left one of our cameras sitting in the courtyard of a mosque in Bishkek, the capital city of Kyrgyzstan. When our astonished native driver turned around and drove us back to the mosque we had just left, our small satchels were sitting where we had left them. The men and boys nearby were hunkered down in quiet conversations. When we walked up to claim our equipment, none of these citizens even realized we had left it behind. Relieved and a little ashamed of our fears, we were driven away to our next shoot. Yuri, our driver who had a young son he had never even taken a photo of observed, "These digital Americans..."

It is true, however, that the move to digital video has had more profound consequences for our video-editing process than for taping. Capturing video digitally allows programs to be constructed on a desktop computer. Working in a virtual environment allows the video editor to employ advanced software tools to layer imagery and graphics in powerful ways. Effects that once required equipment costing hundreds of thousands of dollars (and consequently used only by broadcasters) can now routinely be achieved by low-budget video producers. Repurposing video clips, still images for multimedia and for print has been greatly simplified.

Furthermore, the emergence of DVDs as a popular delivery mechanism for video has enabled video producers to elegantly provide auxiliary materials to feature presentations. As the popularity of DVDs reaches into the classroom, trained teachers may look forward to speedy, random access to particular scenes within specific programs. The rich variety of auxiliary materials on an educational DVD may include maps, drawings, graphics, and other still images, as well as supporting short-video subjects.

Significant obstacles remain, however, before the full promise of digital media in education can even be approached. Uniform funding for appropriate presentation tools must be found across all school systems to erase the digital divide between the "haves and have-nots." Moreover, issues of technological compatibility must be addressed by technically informed educators. Educators interested in using new recordable DVD technology, for example, face a bewildering array of formats. Should one specify the DVD-RAM, DVD-R or DVD+R format? Should the device be a stand-alone unit or one that resides in a computer?

Clearly, to approach our imagined digital utopia in the classroom, teacher training will be key both for everyday teacher-users of these media and for the specialists who must help implement the diffusion of these tools. The digital promises in education are great, but the challenges must not be overlooked. While I still script my productions much the same as I did in 1990, my learning curve as professor of digital media and as documentarian remains steep.

Through the Eyes of Julie Dumont Rabinowitz

Julie Dumont Rabinowitz was managing editor for the development of the second edition textbooks and nonvideo ancillary resources in this project. She also worked as a photo researcher on the first edition. Her account follows:

The production of the second edition of the *Living in our World* series required that a great deal of work be done in two years—a much shorter time frame than the production of the first edition, which took about five years. The staff of Humanities Extension/Publications effectively applied simple technologies to streamline the editorial process, including the use of email, a North Carolina State University-supported listserv, digital imagery, and Internet resources to connect editors, fifty consultant teachers, and designers, as well as to research the content and photographs for the series. Both teacher and pupil editions for each of the four grade levels were in development.

The editorial development of the first edition had focused largely on the development of the pupil editions (no small undertaking), and the creation of a packet of supporting materials for teachers. In the second edition, however, the project's scope widened not only to update and revise the pupil editions, but

also to create a brand-new teacher's edition for each grade. Unlike the first edition's answer-key format with a modest set of worksheets, the second edition texts for teachers were to be "wrap-around."

This style of manual required that a tremendous amount of new material be written—enough activities and information to fill 600 or more pages in each grade-level text. These activities also had to reinvent traditional social studies teacher resources. They needed to accommodate and encourage hands-on learning, the exploration of primary sources, as well as meet the needs of different types of learners, and help teachers teach social studies in today's standardized-test-prep environment. Furthermore, these activities needed to encourage and foster teachers in employing technology as a classroom resource—an educational tool to encourage students to conduct online research, bring cultures together via email pen pals, listen to music, watch videos, and access information, as well as the standard (and tested) skills such as how to use word processing, a database, and a spreadsheet. The teacher's materials also included a significant number of worksheets and other supplementary materials.

To attempt to manage all of this information in a streamlined fashion, HEP editors, writers, and teacher consultants used email to transfer files among themselves. In the first edition, most of the teacher materials were developed during weekend workshops in which groups of teachers collaborated in writing activities, worksheets, and assessments. Most of this copy was hand-written (often in pencil) on notebook paper. HEP staff believed that although the collaborative process was one of the keys to the project's success, hand-writing these materials was not going to be acceptable. It was too time consuming and expensive to hire staff to transcribe what could easily be word processed from the start.

As a result, all teacher consultants were required to use computers (laptops where available) and submit their materials in electronic form. The ability to email these files, to use email to get questions answered immediately, and the ability to retrieve back-up copies of the work in the case of lost or damaged files made the editorial process more efficient, accurate, and cost-effective. More work could also be done by teachers working collaboratively in their local areas or communicating via email. The process also saved time and the expense of having to host more meetings at North Carolina State University. The ability to email files saved postage costs, travel costs, and telecommunications costs among our editors, teachers and writers—who live and work all over North Carolina (from the mountains to the coast)—and our design firm, Decode, Inc., located in Seattle, Washington. We were building digital bridges among many constituencies as well as for North Carolina students.

The most significant example of the benefits of technology in the spirit of global connections and digital bridge building was the development of the second edition of our fifth grade book, *North America—Its Land and People*. It needed several completely new chapters in short order in the summer of 2001 and digital bridges helped us meet the deadline.

In North Carolina's five-year curriculum revision cycle, changes are not official until approved by the State Board of Education. Many of the proposed changes to the social studies curriculum for the 2002–03 revision and adoption cycles, the cycles corresponding to the second edition of the textbooks, affected the fifth grade. We had delayed most of the editing of this book until the State Board voted on the sequence of the new social studies curriculum in June of 2001. On the day of the vote, the North Carolina Department of Public Instruction, which oversees all of the curricula, made an unanticipated, significant change to the social studies content area sequence, specifically for fifth grade. We now knew the order in which the continents would be taught and several general themes, but not the specific requirements of the curriculum. Instead of covering the cultural geography of all of the Americas, as in the previous curriculum, the new curriculum would focus on the history and cultural geography of North America only. South America was shifted to the sixth-grade curriculum.

After the vote, we determined that, among several significant changes that would be required, a four-chapter unit on Middle America (covering Mexico, Central America, and the Caribbean) would need to be replaced with a single, four-chapter unit on Mexico, and an additional unit with one chapter on Central America and one chapter on the Caribbean. This needed to be accomplished in no more than six weeks to keep the project on schedule. The date by which the textbooks had to be submitted to the state for review and adoption was a year away and would not be changed, despite the fact that the specific

content of each grade level would not be finally approved by the State Board of Education for another six months.

Following a frantic search, Jim Clark and I found a potential writer for the new chapters. Dr. Alvis Dunn, a Latin American historian who had taught at the University of North Carolina and Duke University and was interested in writing for the project, but he had a prearranged research trip to Guatemala already scheduled during the time in which HEP wanted to hire him. HEP and Dr. Dunn reached an agreement whereby he would write a sample chapter before leaving to make sure he was writing in the style and content the editors needed. When approved, he would continue writing in Guatemala, and would email his work back to the editors in Raleigh. The digital bridge was of key significance in allowing this process to move forward, and this proved to be a very successful relationship and arrangement. Dr. Dunn wrote the chapters, often using unique resources in Guatemala, and emailed them to me in Raleigh. In turn, I edited them and forwarded the chapters to the Editor Emeritus, Dr. Burt Beers, in Greenville, North Carolina, who also edited the chapters, and sent them back to me in Raleigh for further editing. I then sent them back to Dr. Dunn in Guatemala for revision. He was able to complete the writing and the revision of the chapters on schedule, and the project proceeded on schedule.

In a slightly less intensive process, we were also able to keep our sixth-grade production schedule on track and accommodate the change to the sixth-grade curriculum—the addition of a unit on South America. The revisions to the sixth-grade book on Europe and Russia had been completed at the time the State Board voted to add South America to the sixth-grade curriculum. It was important to make the textbook reflect the changes because for at least twenty years South America has been taught at the fifth-grade level, which meant that most school system and teacher resources were located in the elementary schools—not the middle schools—and North Carolina’s sixth-grade teachers would have to scramble to find appropriate grade-level resources to teach this new content area.

After an energetic phone conversation with our lead designer at Decode, John Jenkins, we determined that if we could revise the unit on South America that was in the first edition of the first-grade book, we could then simply delete it from the fifth-grade text and add it to the end of the sixth-grade text. Regina Higgins, our editor who lead the effort on the sixth-grade book, found several places within the chapters on Europe and Russia—especially the chapters relating to Spain and Portugal—where references tying-in the study of South America to the history and geography of Europe could be worked into the text. These subtle changes would incorporate the study of South America throughout the school year, rather than make it just an add-on or crash course at the end of the year. Then, Regina and I set about updating, revising, expanding, and rewriting the old South America unit. These chapters needed to reflect the style and features of the sixth-grade book. Lynn Roundtree, our photo editor, located several new photos in record time. Because of the Internet, email, and Decode’s use of digital design technology, we were able to meet this deadline and curriculum requirement.

Another digital bridge that proved invaluable was the editorial listserv that HEP created. It enabled Regina and me to send information or questions to all of the teacher consultants, or a subgroup of them, and to receive almost instantaneous feedback. The listserv helped all of us assess the usefulness of certain features quickly and provided invaluable assistance when having to make deadline-driven decisions. This listserv also provided a forum for general announcements, a place to share answers to questions of common interest, a place for writers to ask for feedback on their work or ideas, and a virtual space for writers, editors, and teachers to collaborate. In the first edition, time-sensitive issues requiring teacher input were usually sent out via fax, incurring additional cost in long-distance telephone charges, as well as lost time by having to fax almost thirty individuals. In the second edition, because of the considerable amount of editorial material required by the new teacher’s edition, we employed an even larger number of teachers, almost fifty, and an additional twenty-five other editorial staff and faculty advisors. But, in spite of this increase in staff, our telecommunications costs decreased because of the use of email and listserv technology.

The digital bridge did not just carry information. More than 600 photographs were used in each of the four textbooks. During the first edition, potential images were sent as a physical photograph or slide to Lynn Roundtree, the project’s photo editor, and his staff. Often, three or more potential images were

considered for each photo specified by the editors and designers. This meant that the photo researchers handled more than 1,800 slides and photographs for each book. If lost or damaged, each slide could cost the University \$1,500 in fees to the stock image agency or art museum that owned the slide. Managing these images was a significant responsibility for the staff. Multiple images were ordered from agencies and museums all over the world, including agencies in England, Kenya, Hawaii, and Australia. Once reviewed in Raleigh, small batches of twenty-five or thirty selected images were sent to the design firm, Decode, in Seattle. If the images met the designers' standards, the images were sent to Charlotte, North Carolina, to be processed into a printable, digital format, called color separation. The slides and photos were then sent back to Decode, and then returned to Raleigh. At the end of the design phase of each textbook, hundreds of slides had to be sorted, accounted for, and then shipped back to its agency or museum. All of this shipping was done via Federal Express, at some expense.

Today, most stock agencies and many museums allow photo researchers to review their photos online, via the Internet. Often, individual photographers will email digital versions of photos for review. During the photo research for the second edition, Roundtree was able to view photos and make selections before placing any orders. Again, images from around the world were reviewed in a matter of moments rather than several days. Often, the editors and the designers at Decode could look at the same photos on the Internet simultaneously, while on the phone, and discuss the merits of one image versus another. Once photos were selected, the stock agencies burned high-resolution digital images of the requested photos onto a CD-ROM and sent the CD-ROM directly to Decode. These CDs never needed to be returned to the agency or museum, and there was no need for concern about liability for losing or damaging an image. Consequently, the process of photo research was streamlined for both the editors and the designers, saving significant time and money—both of which were better used elsewhere in the project.

The timing of the finalization of the social studies curriculum by the North Carolina Department of Public Instruction meant that the editors, writers, and teacher consultants were working at a disadvantage. Since the official submission date for books offered for adoption was June 28, 2002, and the per-grade-level sequence of the social studies content areas was not approved by the State Board of Education until June 6, 2001, that left little more than a year in which to write all of the changes to the pupil texts, and write all of the accompanying teacher materials. The editors also wanted to use the most up-to-date information and data possible. Although North Carolina State University has a magnificent library, the editorial staff was not at liberty to dedicate the amount of time that they would have preferred to conducting research in the library alone. The Internet became an invaluable research tool for both the pupil's and teacher's editions.

First, North Carolina State faculty who served as reviewers of the pupil's edition highlighted points that needed to be fact checked for the second edition. Several Internet resources, such as online encyclopedias and the *CIA World Factbook*, provided fast and reliable means for checking and correcting possible errors. Additionally, all of the statistical data reported in the first edition—i.e., populations, ethnic make-up, and economic data—had to be updated. Information for maps had to be confirmed, and new discoveries added. All of this information was available and could be verified via the Internet.

Often, we editors went right to the source. The United Nations' Population Division's Web site provided a wealth of information on population and urbanization for every member nation. The U. S. Census Bureau was also an important resource, providing links to census-related Web sites for nations around the globe. We frequently used other nations' government Web sites. For example, to illustrate the growth of the South Korean economy over the past forty years, the editors needed the current per-capita Gross National Product for Korea. This was found by doing a search of the South Korean government's Web site, much of which is translated into English. When searching for maps of Canada's newest territory, Nunavut, on the Canadian government's Web site, I found maps of Canada's diamond fields—these fields were discovered in the late 1990s—and the new information was included on the economic resources map of Canada in the fifth-grade book. Closer to home, the North Carolina Department of Agriculture's Web site provided important data on North Carolina farms, crops, and agricultural production for the fourth-grade book. Needless to say, to conduct this type of research using traditional

print resources would have been incredibly time-consuming, if not an impossible task for the small staff to accomplish while still meeting deadlines.

However, beyond fact checking, the Internet proved to be a rich resource when compiling the teacher's edition as well. Editors and teachers could review online lesson plans on similar topics from teachers and school systems around the country. Working under the "best practices" model, teachers, curriculum consultants, and editors were inspired by this research and able to adapt programs to fit the project's specific grade levels and content areas. Furthermore, the Unit Resources and Chapter Resources features in the teacher's edition listed all of these varied resources: lesson plans, background information, picture books, resource books, videos, music, Web sites, cultural and historical organizations, institutions, and sites for field trips.

All of these elements—email, listserv, digital imagery, and the Internet—combined to produce a synergistic effect. In combination, these technologies proved to be a greater resource collectively than each might have been individually. The editors and designers were able to keep in touch with each other and with all of the other seventy-five people involved with the project; updating information, making sure everyone was on task, and meeting deadlines. But the technology also ensured that the second edition would connect North Carolina's fourth, fifth, sixth, and seventh graders to the world around them—bringing the world, and all its glorious diversity, into their classrooms. The bridges had kept us connected.

Had the project not been curtailed prior to the printing of the second edition, HEP's Web site would have hosted a comprehensive guide for teachers using the textbook series. Editors had planned to transfer much of the information from the teacher's editions about the series' pedagogical philosophy, advice on teaching the content in North Carolina's current academic environment, and other supportive information from the series. The design of the Web site would have reflected the outstanding graphic design of the series. Most importantly, the Web site would consolidate all of the resources provided in the teacher's edition and augment and expand them, including lists of books, maps, and videos (with links to places to order them); links to museums and other cultural and historical institutions, embassies, governmental agencies (multinational), and nongovernmental organizations (such as the United Nations and the Red Cross); and to social studies-related nonprofit organizations (such as the National Geographic Society), and academic institutions supporting research in social studies disciplines. These links would have allowed teachers to save time and effort by having one source to go to for much of their preparation needs. This site would have served as a starting point, offering both teachers and students a gateway to explore the wealth of information available to them. And, the list would have been kept current, which is often a problem with these types of Internet gateways.

It is extremely unfortunate for all involved that the *Living in Our World* adventure came to an unexpected end for budgetary reasons. In this era of tight academic budgets, financial support for the project was withdrawn. The videos were finished and the book galleys printed. All was at the ready; however, the books were never published. We hope that the digital bridging that kept our productions on schedule will be the means for delivering them to new clients who can repurpose them. In that way, our mandate and our dream of expanding the knowledge of our students will be kept alive.

Afterword

In late January 2004, the availability of a small amount of university funds from Extension and Engagement and 4-H created an opportunity to make the text of *Living in Our World* and the videos available online. As digital editor, Regina Higgins took charge of a project that would transform the unpublished print materials into a Web site accessible free of charge to teachers, 4-H after-school administrators, home-schooled students, and all North Carolinians interested in expanding young people's understanding of the wider world.

The digital initiative began modestly, with plans for putting one unit of the teacher's edition online by the end of June, when the money would run out. But the persistent calls from teachers to expand what was to be made available encouraged the team to push forward. In June 2004, all of the units from the revised

teacher's editions, as well as the worksheets, maps, black line masters, assessments, and other classroom materials that would have made up the printed revision of *Living in Our World* were published online.

The lessons, activities, and worksheets on the *Living in Our World* Web site conform to the latest goals and objectives for the North Carolina Standard Course of Study for social studies, grades 4-7. They offer integration with language arts, math, and science components; contain suggestions for adaptations in working with students learning English as well as worksheets developed especially for ESL students. They also address character education, civics, and global connections and feature images from the *Living in Our World* video series (and worksheets to support learning from the videos themselves). All materials are suitable for the classroom, after-school programs, and informal learning.

As the Web site has been developed, we have solicited the reviews of teachers and after-school-program directors. Their responses have been positive and encouraging. Indeed, it was at the urging of our reviewers that we decided to expand the project well beyond our original plans.

We hope that the *Living in Our World* Web site will carry forward to teachers and students the benefits and support of the revision we planned for traditional publication. If all goes well, the digital medium will be the bridge that provides a new beginning for a project that brings the whole world home to our North Carolina classrooms; and not a moment too soon. History has proven the need and the importance of building bridges, digital or otherwise, to global understanding.