Digital Data:
Strengthening the Study of Educational Technology

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Researchers, educators, and businesspeople are engaged in various crusades to encourage or discourage the use of computer technologies in schools. While most of the dialogues in these arenas rely most heavily on the media of verbal and written communication (text), the technologies of the twenty-first century provide other communicative media possibilities, including the use of video, audio, and images, to present and exchange information. An example of a type of research and communication that utilized multimedia technology is examined here.

A year-long study was conducted at a small, urban elementary school, focusing on student and teacher perspectives of computers in their classrooms. Conclusions of the study in traditional textual form were combined with multimedia, CD-ROM technology to produce an interactive compilation of data from the research. An exploration of this product presented during the SITE 2002 Video Festival provided attendees the opportunity to examine this type of inquiry artifact and explore the possibilities embodied in such a process.

Incorporating audio and video data into the research design helped to extend the potential of "thick description". During the times I have shared images, and audio and video clips with the teachers participating in the study, or colleagues interested in my research, they have been very positive in their responses. Actually hearing the emotion and inflection in a teacher or student's voice as they share their ideas, or seeing the students working in the computer lab helps to support the written text. I believe these elements contribute to the trustworthiness of this research. The CD-ROM appendix containing a collection of this data can be used as verification for the descriptions presented in the text, and also as a prototype for others interested in incorporating multimedia in their research designs.

The presentation and integration of images, audio and video included on the CD demonstrates how data in various formats can be preserved and made available to the scholarly community. By selected "Audio/Video Data" from the menu on the CD, one can navigate to data examined in Chapters Four, Five, and Six. In the Chapter Four section, one can click on "Peer Tutoring" and watch two kindergarten boys in the computer lab guide each other through a new application. In the same section, an audio clip of an interview with Ms. Roberson contains her explanation of how the kindergarten students "help each other" on the computers. In the Chapter Six section, the audio clip of Ginny describing the emotional and physical pain involved in the class's keyboarding lessons is included. In these instances, hearing the tones of voice and seeing the facial expressions of the students enriches the descriptions presented in the text. Such representations allow the reader to juxtapose written interpretations with actual scenes and voices from the research site, encouraging critical review.

In the video clip of Mrs. Sprong's Accelerated Math class work, located in the Audio/Video section, Chapter Five, not only can viewers watch the class process, but they can also see this researcher walking through the room, taking notes. The researched is also visible in the "Centertime" video clip, in the Chapter Four section. Her voice can be heard posing questions on the various audio clips. These examples give the reader a chance to further evaluate the processes used in collecting the data.

Mixing data types can also provide a unique view of a phenomenon under study. In the Audio/Video section of the CD presenting Chapter Five, a link entitled "Printer Problems" is provided. This particular clip combines a time-lapsed video clip of Mrs. Sprong's AM class during the time when the printer stopped functioning; the audio track paired with the clip contains excerpts from a later interview with Mrs. Sprong explaining what transpired when she attempted to get technical support for this problem. Combining these two elements gives the reader a more powerful view of the frustrations students and teachers experience with technologies.

In these ways, the study is expanded and enhanced with digital data. With more publications embracing the electronic format each year, it is possible that journal submissions could include such digital data for distribution, linked with the written text online. Such provisions have the potential to challenge and deepen critical inquiry.