Introduction to the Electronic Portfolio section of SITE 2002 Proceedings

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> An innovation of the early 1990s, an electronic portfolio combines the use of electronic technologies to create and publish a portfolio that most likely will be read with a computer or viewed with a VCR [or DVD player]. (Barrett, 2002)

There were more than 40 sessions selected under the category of Electronic Portfolios. This exploding quantity, and the content covered, represents the current state of the art of electronic portfolio implementation in Teacher Education in 2002. An analysis of these papers, roundtables, poster sessions and tutorials, shows a variety of purposes and different tools used to construct electronic portfolios, and represent levels of program implementation that closely follows the normal stages in the adoption of innovations. It is also clear that NCATE 2000 has been a major motivator and the federal PT3 program has been a major benefactor in the implementation of electronic portfolios in U.S. Teacher Education.

It is important to emphasize that the electronic portfolios that most of these papers describe are, first and foremost, portfolios in the classic definition of the term, which just happen to be developed with a variety of technological tools and stored in a variety of electronic containers: "purposeful collections of work that demonstrate efforts, progress and achievement." The components of good portfolio development have been addressed in many of these papers, including purpose, collection, selection, and reflection on work demonstrating achievement of standards, and some papers focus on the role of the portfolio in ongoing professional development.

Purpose of the Portfolios

There are many purposes for portfolios, which can be for learning, formative or summative assessment, and employment. Most of these papers describe electronic assessment portfolios used primarily for demonstrating student achievement of teaching standards, with the INTASC principles most frequently mentioned. One secondary purpose often described was the demonstration of technology competency as described in ISTE's National Educational Technology Standards (NETS). One paper (Levin) provided an in-depth description of the process their students use to reflect on their work, based on the North Carolina Public Schools' model of self-assessment. The five-stage reflection cycle describes a well-grounded support system to guide students through this often difficult process.

Tools used for Development and Publishing

At this stage of electronic portfolio implementation, these papers described variations on two approaches:
1. Using common software to construct hyper-linked portfolios (i.e., WWW pages created with a variety of templates and authoring tools was most often mentioned; other software included PowerPoint and other Microsoft Office software, and Adobe Acrobat);
2. Using WWW-accessible databases to collect the evidence and provide an online structure for the portfolio.
Several papers discussed the role of digital video in a student's portfolio, and one paper (Cunningham) explored the emerging use of DVD-R to store this video. One paper discussed how and where to store the portfolio. Another raised issues of privacy and confidentiality in portfolios published on the Internet.

Types of Presentations

Most of these papers are case studies of implementation decisions and strategies in a School, College or Department of Education. A few Roundtable sessions propose to explore these strategies with interested participants. Only three of these papers reported on data collected and analyzed about electronic portfolio development, beyond the exploration of implementation issues.

Levels of Program Implementation

A majority of these papers have described implementation strategies that closely follow the Phases of Instructional Evolution in Technology-Intensive Environments outlined by Dwyer et.al. in the ACOT Research: Entry, Adoption, Adaptation, Appropriation, Invention. Many of the papers represented case studies of entry and early adoption of electronic portfolios in teacher education programs, including a description of the decisions made regarding the technology tools to be used for "electronic" component of these portfolios. A few papers document the process of adaptation and appropriation (widespread use) of the electronic portfolios. At least one program has changed the choice of technology tools based on their experience and further development (invention). There is very limited data collected and reported about the efficacy of electronic portfolio development and publishing. One paper (Barrett) reported on student responses to a preliminary survey, with an invitation for more widespread data collection across education programs nationwide.

Issues

One study (Carney) raised issues about how the tool chosen for authoring (WWW pages) afforded and constrained the portfolio author in representing and communicating teacher knowledge, revealing a tool-related personal revelation dilemma. As she states, "Teacher education programs ought to be aware of this dilemma and take measures to ameliorate preservice teachers' concerns about exposing problems of practice to potentially critical portfolio readers." Another paper reported similar issues with publishing portfolios on the Internet. In the two studies that reported on surveys of teacher education candidates, there is evidence that the skills gained in the process of developing electronic portfolios would be useful in classroom instruction. There is another issue that emerges when addressing the technology skills gained from the process of constructing these portfolios: Do students provided with a static template or a dynamic web-based database develop the same technology skills as those students who must create their own structure with common software tools?

Conclusions

Some interesting issues appear in these papers. In the history of human development, our tools have often shaped the outcomes of our tasks and, while many programs require WWW-based portfolios, Carney suggests a problem with that tool limiting the openness of the reflections, which Levin points out is the most important purpose of this process.

While visiting Alverno College, I heard about Dr. Mary Diez' three metaphors for thinking about portfolios: mirror, map, and sonnet. Based on these metaphors, some questions come to mind. When the portfolio is highly structured (the sonnet), often as in an online data base to meet the organization's need for uniformity in assessment data, does it lose the creativity of expression that has been a hallmark of paper portfolios for years? Where is the sense of ownership of the portfolio creator in constructing their own paths through their work (creating their own map)? What are the trade-offs between scaffolding the development process with templates or highly structured data bases, and students gaining the knowledge that can result from the process of constructing their own hyper-linked portfolios (seeing their work in new ways—the mirror) while linking and reflecting on their work? Also, at the risk of editorializing, should these online assessment management systems really be called electronic portfolios?

There is a need for more data collection and longitudinal research on the perceptions of teacher candidates and faculty on the value and purpose of electronic portfolios, and whether the benefits extend to the classroom and enhance student learning. The question of efficacy of effort must also be addressed: only one study included here compares paper-based and digital portfolios. The time is right to move beyond implementation issues to research and evaluation.