

Electronic Portfolios: What a Contest Can Teach us about Student Use

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Introduction

In January 2005, the Catalyst Group at the University of Washington held an undergraduate electronic portfolio contest. At that time, more than 15,000 students had created almost 31,000 e-portfolios with Catalyst Portfolio, and the contest was part of strategy to better understand how students learn the technical and cognitive skills needed to create effective Web-based portfolios. As members of the National Coalition on Electronic Portfolio Research, we are collaborating with representatives from a number of institutions across the country to identify the factors that promote effective e-portfolio use in educational settings. In this paper we share our work from the first year of this three-year project, providing a brief description of our study design and methods and a discussion of our key findings. Our work will be of interest to anyone using, or thinking about using, e-portfolios and to individuals with an interest in Web-based communication.

Our research focuses on how students learn to think and compose in an online environment. In the past, we have studied and/or worked with instructors and students creating e-portfolios and other Web-based products in a variety of disciplines. Our experiences suggest that many individuals have difficulty in learning to select and reflect on artifacts, compose in words and images, and write for a specific audience. Some students may engage thoughtfully in reflection but not know how to effectively render their thoughts in a Web page; others may excel in sophisticated design yet communicate little about their learning. Our goal for this study was to begin to understand what kind of thinking is involved in creating successful e-portfolios and what experiences or training best support that thinking.

Methods and Analysis

We used a contest to solicit examples from students of e-portfolios that they believed to be successful. This approach allowed us to cast a wide net, gaining a perspective on the variety of portfolios students were creating across campus in different disciplines. The contest was open to all undergraduates. Contestants could submit portfolios created with Catalyst Portfolio or with any other Web-authoring software. The contest was advertised in the campus *Daily* and through email announcements; and with the help of the Office of Undergraduate Education, we offered an iPod as Grand Prize and \$100 gift certificates to the University Bookstore to three additional winners. Students submitted 146 e-portfolios to the contest; of those, 23 entries were removed from consideration because they did not have valid URLs, were not portfolios, or were the work of graduate students. A panel of four judges, which included George Bridges, the Dean & Vice Provost of the Office of Undergraduate Education, Allen Glenn, Professor and Dean Emeritus from the College of Education, Anne Hayden Stevens, Lecturer in Architecture and the School of Art, and Jennifer Turns, Assistant Professor in Technical Communication, applied criteria in three areas—visual design, navigation, and content—to select the winners.

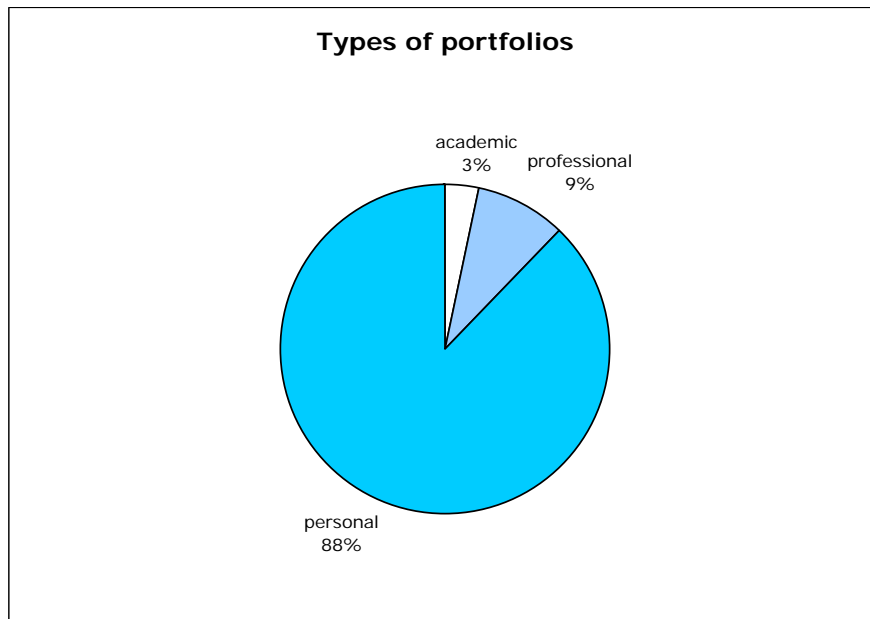
Both the contest registration and follow-up interviews allowed us to gather information about students' experiences with e-portfolios and related competencies. Students registered for the contest by completing a short online questionnaire, answering questions about the purpose of their portfolio, the kinds of knowledge and skills they used in their project, and how important they believed these skills to be in

creating an effective portfolio. After the results of the contest were announced, we also conducted follow-up interviews with twelve contestants. Those chosen represented a range of ages, majors, types of portfolios, technical expertise, and prior experience with portfolios. The interviews allowed us to ask more detailed questions about contestants' experiences with portfolios, the particular skills they used to create their portfolios, and how they learned those skills.

Results

Results from the study suggest that at the University of Washington e-portfolios are not widely used in many disciplines or fully understood as pedagogical tools. Undergraduates who submitted portfolios that had been created for a class represented only five departments and programs. The overwhelming majority of entries (87% of the qualifying portfolios) were submitted by students in the UW's Freshman Interest Group (FIG) program. Among the four departments represented, only the portfolios created by students in Technical Communication met the academic definition of a portfolio: a collection of artifacts assembled to showcase a student's skills and experiences. A number of students created portfolios on their own, in many cases as a means of demonstrating professional abilities. Despite the low numbers of programs represented and the partial understandings of portfolios evident in some entries, the contest did allow us to collect some exemplary projects that demonstrate the capabilities of e-portfolios and can serve as models for those wishing to use e-portfolios in the future. The contest winners and finalists are posted on the Catalyst Web site at http://catalyst.washington.edu/events/past_SS3.html.

We reviewed all portfolios and categorized them as "professional" (highlighting skills for employment), "academic" (highlighting coursework), and "personal" (highlighting personal interests or experiences). The breakdown of entries into these categories appears in the chart below. The high percentage of entries from students in the FIG program explains the dominance of the personal portfolio category, since the FIG portfolio assignment asks new freshmen to reflect on their first quarter experiences. The low number of academic portfolios we received suggests that UW students rarely assemble coursework and reflections on their learning in a portfolio or that students do not consider these types of portfolios worthy of entry into the contest. The greater number of professional portfolio entries suggests that these are the types of portfolios that more students are familiar with and/or are more inclined to share in a contest.



Our analysis of contest entries, along with information gathered during interviews, led us to three main findings: understandings of what comprises a portfolio vary widely, strong portfolios require detailed

knowledge of their intended audience, and communicating ideas in an online environment (regardless of the authoring tool used) requires some level of visual and Web design skills. We elaborate on these trends below.

Varying Understandings of Electronic Portfolios

As a pedagogical tool, a portfolio might be considered a unique form of composition. Like other genres in writing, portfolios have certain conventions: they are constructed around artifacts, the artifacts are annotated in some way to explain what is significant about them, and they include an overarching statement about the author's identity or accomplishments. In essence, portfolios are persuasive documents. While the composition metaphor makes sense to those who research or teach with portfolios, our data suggest that students' understandings of e-portfolios are strongly shaped by their experiences with various forms of online communication. The contest submissions we received reflect a combination of what they know about portfolios and what they know about the Web. Among the "portfolios" we reviewed, we found simple image galleries, blogs, personal Web sites that did not contain artifacts, links to unrelated artifacts, informational sites, sites for clubs, and commercial sites. For many students, online writing conventions, drawn from the kind of Web sites they most frequently visit, may be their primary reference in creating an e-portfolio.

Classes or other contexts that give students a strong concept of a portfolio can counter this effect. One student we interviewed, for example, had an uncommonly sophisticated understanding of a portfolio—one that she said was developed in a Technical Communication class. In this and other cases, we found that explicit instruction about the differences between e-portfolios and other types of online communication can help students make effective use of their online expertise in crafting a new type of composition: one that succeeds as a well-designed portfolio and as a well-designed Web site.

Knowledge of Intended Audience

Whether or not they followed portfolio conventions, the majority of students were aware of how a portfolio functions as a communication tool. When asked on the questionnaire what things were most important for people to consider when making an e-portfolio, a substantial majority of contestants selected audience, purpose, and content as their three top-ranking choices. In explaining their rankings, many students noted audience as the one element that determined all other parts of the portfolio.

The intended audience is the most important thing to consider because every other consideration revolves around this one: you can't do anything until you know who your Web site is directed at.

It helps me to create an appropriate tone for my writing when I know who my intended audience is, and also to choose what artifacts to include, etc.

Brainstorming about the intended audience and figuring out what their tasks, needs, and goals are when they are looking at the portfolio will help in designing an effective portfolio.

Several students also noted that criteria determining a "good" portfolio would differ depending on the purpose of the portfolio and the discipline. For instance, a professional portfolio intended to demonstrate Web design skills to a potential employer would be judged highly on the quality of its design; the artifacts would represent only the student's best work, with minimal annotation. As one student said, "Employers don't have a lot of time; they need to see an immediate display of what I can do." In contrast, visual design matters less in a portfolio intended to demonstrate progress in writing over a quarter; in this case, the ability of the student to craft a statement about her learning supported by artifacts and annotations would be most important.

Aware of these differing criteria, many students sought Web sites they could use as models for their portfolio or solicited feedback on their work from experts or other reliable sources. Because discussions about criteria were rare in classes, students expressed strong appreciation for the other information sources they found. One student described how studio critiques in architecture were especially helpful for understanding the kinds of things his audience might want to see. An advanced student related how one

of his professors actually took a portion of his portfolio and rewrote it, in order to model the kind of vocabulary experts in the field would want to see. Still another student expressed gratitude for a brother's advice on what to include and exclude in her portfolio, based on his experience in the profession. Information about relevant criteria in their field or about a targeted audience helped students to immediately enhance their portfolios.

Role of Visual and Web Design Skills

Students who had experience creating paper portfolios needed to learn additional skills—at a minimum, how to use Catalyst Portfolio or other Web-authoring software—in order to put their portfolio online. Students who already had expertise in visual and Web design, however, brought something extra to the e-portfolio development process. Whether it was as simple as a hobby in scrapbook making or as complex as a career in digital art, these students' experiences made a notable difference in how they approached their projects. In contrast to students with little design experience, design-savvy students in interviews described the portfolio creation process as ongoing; they understood and expected that their portfolio would evolve as they learned new skills. They also tended to set complex design problems for themselves, asking how they might use their technical skills to create a specific experience for the viewer. One student, for example, wanted to give his audience the sense of turning pages in his portfolio; another wanted to create the look and feel of a scrapbook. These students saw every element in their portfolio—content as well as layout, navigation, color scheme, and font—as contributing to their message.

While technical and visual design skills are becoming increasingly important to multimedia forms of communication, data from our study show that students more often learn these skills on their own initiative rather than from an instructor's teaching. When asked on the questionnaire how they learned the technical skills necessary to complete their portfolio, 77% reported "on my own" while only 42% reported "in my courses at the UW" (students could select multiple options). When asked about the primary means by which they gained their technical skills, over twice as many students (54%) selected "on my own" over "in my courses" (21%). In interviews, it was clear that students primarily learned, or sought to learn, technical skills on an as-needed basis to fulfill particular design goals they set for themselves. As a result, books, online tutorials, friends, and just plain "fiddling around with the software" were the most commonly reported educational resources used by students. Even FIG students, who were provided a standard template in Catalyst Portfolio, sought help from friends and online resources to learn the html that would make their portfolio "stand out." When asked what the University could do to support their learning with technology, students with novice and advanced skills gave different answers. The advanced students wished for expert mentors that could meet them at their skill level and answer specific questions; novices wanted more opportunities to learn basic skills in classes or in one-on-one drop-in sessions.

Implications

Creating a portfolio to present academic, professional, or personal knowledge is, in essence, an intellectual exercise, a process of coming to see oneself and one's chosen experiences in relation to a particular field, career, or social group. Viewed in this way, portfolios provide a powerful means of socialization into a community of practice. The skills involved in creating a portfolio—collecting artifacts that represent one's work and experience, selecting among these to support a statement about oneself, and crafting a narrative that explains and unifies all components—are valuable in helping students develop an identity as part of a community. Presenting a portfolio in an electronic format furthers this process in two significant ways: the online environment provides an opportunity to share the portfolio with a broad audience and provides a context wherein students can learn visual and Web design skills that will enhance their ability to communicate effectively in a variety of Web-based fora.

Data from this study suggest that students benefit from opportunities to engage in conversations about all aspects of e-portfolio development—the conventions of a portfolio, the expectations of an audience or discipline-specific criteria held by professionals, and the basics of good Web design. Based on our

findings, we recommend that instructors assigning portfolios in their courses provide opportunities for students to engage in conversations with the instructor, with peers, and with expert practitioners within the field. Students creating portfolios on their own should seek out, wherever possible, opportunities to share their work with others in their academic field, area of professional interest, or social network. These types of interactions enhance a student's ability to create a portfolio that effectively communicates academic, professional, or personal experiences to an intended audience. As the University of Washington and other educational institutions continue to seek new opportunities for students to expand their learning beyond the walls of a classroom, portfolios are likely to become increasingly important pedagogical tools.

Although portfolios are an important means for participating in a community of practice, our data shows that students rely on themselves, their peers, and online resources for technical assistance in e-portfolio creation. This paradox suggests we need to be imaginative in how we support students as they acquire technical knowledge. Opportunities to view the work of others, to identify and learn successful technical strategies for presenting and discussing artifacts, and to apply criteria in evaluating their own and the portfolios of others are critical if students are to develop in this area. Instructors need to make time for this kind of learning, teach technical and design skills directly, or minimize this challenge by providing a standard structure for students to employ and/or models for students to reference as they create portfolios. The latter option may be the best solution for students new to the conventions of a portfolio, since it would allow students to focus on artifact selection and written communication and make fewer choices about visual and Web design. Of course, in visual and technical fields this option may not be appropriate. Thus, it is important for instructors to consider the conventions of their field when making choices about the elements of the portfolio creation process that they wish to emphasize. Students working on their own should seek opportunities to learn technical skills (campus workshops, online tutorials, or knowledgeable friends) as well as appropriate models (ideally, from within their community of practice) that they can reference as they create their portfolios.

We realize that the findings in this paper represent only an overview of use provided by a contest. In the next two years of our involvement in the National Coalition on Electronic Portfolio Research, we will continue to explore how students learn to think and compose in this format. In the coming year, we will be working directly with the Expository Writing Program in the English department to study how students use e-portfolios in freshmen composition courses. This context will provide an opportunity to further explore the themes we have identified here.