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An Electronic Portfolio Project with Graduating Psychology Majors

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Electronic portfolios are web sites, CD-ROMs, or multimedia tools that document a student's body of work and thoughts about courses, curricula, and experiences in the academic major or the university. E-portfolios support alternative student assessment approaches (Barrett, 1998), aid program assessment, and are portable and easily distributed (Aschermann, 1999; Lankes, 1995). E-portfolios are linked easily to databases. The cross-platform format of web sites and multimedia elements (e.g., JPG and GIF for images) is useful for employment and academic program applications (Barrett, 1998). E-portfolios foster active learning, motivate students, provide feedback, promote discussion about students, are accessible, can store multiple media, are easy to upgrade, and allow cross-referencing of student work (Lankes, 1995; University of Delaware Educational Technology Laboratory, 2001; Wiedmer, 1998).

In the Fall 2000 semester, a pilot project was undertaken in which graduating psychology majors at the California State University, Dominguez Hills created e-portfolios as part of a course requirement. The e-portfolio was intended to serve as (a) an assessment of the student's understanding of psychological material and concepts, (b) a vehicle for the student to highlight his or her success as a CSUDH psychology undergraduate, (c) a product that could serve as an electronic resume for future employment (Casson, 1999), and (d) a graduate school application adjunct. The course was Senior Seminar in Psychology, which ". . . integrate[s] previous work and experience by emphasizing the application of theoretical models and research designs and the relationship among theory, research, and the dissemination of research findings" (University Catalog, 2001, p. 340). The specific topic of the seminar varies by instructor and is usually associated with the instructor's areas of expertise. In this case, the co-instructors (the authors) selected Applied Cognitive Psychology as the content area for the course.

The curriculum of the course was divided into two components: the content portion and the e-portfolio portion ([Table 1](#)).¹ The course grade was evenly split between these two components. For the content component, students read primary sources related to three subtopics: Introduction to Cognitive Psychology, Real-World Memory, and

Cognition & Cyberspace. The students' comprehension of the content area was assessed through in-class exams, homework assignments, and participation in in-class discussions and activities. The authors taught the e-portfolio component of the course using four portfolio instruction methods ([Table 2](#)). At the start of the e-portfolio component, basic computer skills were addressed. Deficits in basic skills--the ability to use the mouse, menus, word processing, e-mail, and Internet browsing--were rectified using on-line tutorials and assessed with on-line multiple-choice tests via web-based SmartForce software accessed from campus.

Students then began preparing web-based e-portfolios. Several authors have described the necessary hardware and software requirements for creating e-portfolios (Barrett, 2000; Corbett-Perez & Dorman, 1999; Farmer, 1997; Inkrott, 2001; Lankes, 1995; Tuttle, 1997; Wiedmer, 1998). Our students utilized one of the general-purpose computer laboratories on the campus, as well as computer equipment in the Psychology Laboratory affiliated with the Department of Psychology. The ideal portfolio included (a) a statement of academic and career goals; (b) past psychology-related work including projects, papers, examinations, and so forth; (c) awards and honors; (d) original video and audio segments designed to highlight aspects of the student's university experience; (e) a resume; and (f) any additional materials encapsulating a student's experience as a psychology major. E-portfolios were recorded onto CD-ROM. All completed e-portfolios included at least some of the basic attributes specified for A- or B-level projects in the e-portfolio grading rubric (see [Table 3](#)).

The students' private information was kept confidential in three ways. First, at the beginning of the term all students were informed of the types of information that they would be asked to provide in their web sites. By means of a written consent form, the students were given the opportunity not to reveal their personal information to individuals other than the instructors. Second, it was made clear that private information included in the e-portfolios could be edited in order to prevent its dissemination if the students so desired. For example, students who had low GRE scores and did not want to have them seen by other students or individuals were instructed to identify the date the GRE was taken without indicating the actual scores; students were not penalized for this decision. Third, the instructors did not publish the e-portfolios on a central web site on the Internet. Instead, the instructors volunteered to assist outside of class any student who wanted to publicly post his or her web sites.

Keeping third-party information confidential was also an important issue. For example, someone writing a letter of recommendation might not have wanted it read by anyone other than the intended recipient.

Students were instructed to discuss with the letter-writers the plan to include the letters in the e-portfolios. In addition, the instructors talked with various third parties (known by the instructors) to explain the purpose of including the information in the e-portfolios. However, this turned out to be a difficult issue to address. Consider a student who wants to put a sample of his or her writing on the web site. If the writing sample is to be scanned in and includes comments handwritten by the instructor to the student, the confidentiality of those comments ought to be protected as well. To address the confidentiality of this information it may be necessary in the future to use third-party consent forms; however, the authors fear that this would place a significant burden upon the students in the course and hamper their ability to put together quality portfolios.

In order to finish the portfolios, students had to spend a considerable amount of time outside of the classroom and at computer workstations. Thus, there was a large amount of time spent working on the project without instructor supervision. The students later commented upon this: On an end-of-term questionnaire, the most frequently mentioned way to improve the course was to make the laboratory time outside of class "official," perhaps by adding laboratory units to the course. The authors would suggest instead that more time be spent in class on the e-portfolio project (as well as in the computer laboratory) and less time on the content portion of the course (without sacrificing the quality of instruction, of course!). Relying heavily on the general-purpose computer laboratories caused another problem at the end of the semester. The students often had to wait in line (for up to an hour!) to gain access to workstations as crowds of students from around campus were finishing various final projects for their courses. The authors therefore recommend having as many computers as possible dedicated solely to the e-portfolio project in a local (department-level) computer laboratory.

The process of e-portfolio creation can reap valuable rewards for students (Wiedmer, 1998). In our case, for example, some of the students had not fully thought out their career or academic plans, but the personal statements and narratives in the portfolios required students to formulate both short- and long-term career and academic goals. In addition, at the beginning of the semester, a fair number of the students were concerned that they had no skills or knowledge relevant to their chosen goals. However, after detailed in-class discussion, one-on-one consultation, and some soul-searching, most of these students realized that they were more prepared than they had originally thought. With regard to their coursework, they learned that in many of their courses in psychology they had gained experience relevant to their goals. For example, the knowledge gained from the Introduction to Cognitive Psychology and the Real-World Memory portions of the course was shown to be relevant to students interested in teaching careers.

The semester ended with a showcase of student-created e-portfolios. All members of the campus community were invited to attend, and food and drinks were served. The showcase highlighted the five e-portfolios judged to best represent the spirit and purpose of the e-portfolio component of the course (Figures [1](#), [2](#), and [3](#))². Interestingly, the selected e-portfolios did not necessarily come from students with the highest GPAs, but rather from students who put the most effort into the project. In addition, all students who completed e-portfolios (all but two students in the course)³ were presented with certificates noting their accomplishments. Colleagues from the Department of Psychology and from other campus departments, administrators, staff, and students were invited to surf the showcased web sites on computers positioned around the meeting room. Color printouts of the other e-portfolios were displayed on the walls of the room for the guests to peruse.

The overwhelmingly positive reaction to the e-portfolios that the authors have received from this project has encouraged the authors to continue with the project in coming semesters. Students who completed the e-portfolios commented on the valuable skills that they had gained and on the potential value of the finished product in their future academic and career endeavors. The majority of the students (15 out of 24 who completed the questionnaire) liked creating the e-portfolio, building computer confidence, and/or gaining computer knowledge and skills, as reported in an end-of-term questionnaire. Further, the students responded positively on the questionnaire to a number of items related to the portfolio project ([Table 4](#)). A separate questionnaire assessed the students' perceptions of the psychology major at the beginning of the term and again at the end of the term. This questionnaire contained an item that read, "I feel prepared to use computers and other technology to demonstrate information competence." Ratings on this item increased--albeit slightly--from pre-test to post-test (from 3.6 [SD = 0.9] to 4.1 [0.4] on a 5-point scale).

Students who attended the showcase of e-portfolios but who did not take the course expressed a desire to take the course in a future semester.⁴ Faculty from the Department of Psychology and from other departments were impressed by the richness of information, the types of information, and the accessibility of information in the e-portfolios. Of special interest to faculty was the compactness of the end product: all of the student portfolios (and, hence, all of the information contained within them) were burned onto one CD-ROM that automatically launched the portfolios when inserted into the CD-ROM drive of a PC. In addition, one of the first-place winners in the competition was asked by a faculty member from another college on campus to present her portfolio and discuss its development in a graduate course in that college.

A by-product of this project was the facilitation of computer literacy in our students. Computer literacy is critical for psychology majors (Indiana University Purdue University Indianapolis, n.d.; Lloyd & Kennedy, 1997; University of Minnesota, 2002). Based on her learning experiences in the course, one of the students whose work was showcased later was offered a job creating a web site for a community service organization. Also, another student who placed in the competition increased his computer confidence levels tremendously as a result of the project. By his own admission, he had few computer skills and very little computer confidence prior to taking the course. He excitedly related to the instructors how he bought a new computer, installed new software, and incorporated the computer into his daily life after the end of the semester. The e-portfolio project successfully provided computer skills to psychology majors and demonstrated that students with a wide variety of computer skills backgrounds can create basic e-portfolios in one semester.

In the future, the authors plan to follow up by contacting the alumni of the course to determine the impact of the project upon their academic and non-academic endeavors. In addition, the e-portfolio will be evaluated as a means of assessing the major and the department as a whole. To do so, it will be necessary to develop an assessment rubric that incorporates the departmental learning objectives. One possible means of evaluating the major would be to assess the student's best work (e.g., writing samples) in psychology represented in e-portfolios as an indicator of the quality of departmental instruction. Further, a decision would have to be made as to whether all graduating seniors would be required to create portfolios.

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Notes

1. Students completed all but one of the planned components of the e-portfolio. The appropriate hardware and software did not arrive in time for them to complete the video-editing component.
2. The judging was done by a panel of faculty from the Psychology Department, and the criteria included the clarity in goals, the match between stated goals and e-portfolio content, the understanding of important concepts in psychology, and the functionality of the web site. To assign project grades, the instructors later evaluated the e-portfolios using roughly the same criteria; however, the simple presence of items in the e-portfolio was given emphasis over the other criteria.
3. One student turned in a paper-and-pencil portfolio after the disk containing her e-portfolio crashed the night before it was due. The student had not backed up her work, prompting the instructors to plan to stress strongly the importance of backing up work in future versions of the project. Another student was assigned an Incomplete Grade in the course because her personal and work-related activities interfered with her ability to complete the project.
4. In fact, the project has continued to produce the same results every semester since the pilot project. The class has become so popular that there is a waiting list for the course each term.

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