

Welcome

Hi. I'm David DiBiase. I lead the e-Education Institute in Penn State's College of Earth and Mineral Sciences. I'm also a senior lecturer in Geography. I teach a general education course in geographic information sciences for traditional undergraduates at University Park and for adult professionals online via the World Campus. I ask all my students to "publish" assignments in e-portfolios because I believe that the information technology skills and reflective attitudes they develop in the process are both valuable learning gains. Presumably you are visiting this page because you are a student who is thinking of creating a portfolio, or an instructor thinking of incorporating portfolio assignments in your class. In either case, I hope you will find this resource to be helpful.



David DiBiase, Director,  
e-Education Institute  
College of Earth and Mineral Sciences

## Introduction

Using portfolios to showcase and assess learning is not a new idea; they've been used in the arts for many years. What is new, however, is the notion that portfolio assessment is applicable in many different fields, and that portfolios can be shared with much larger audiences via the Internet. E-Portfolios are catching on because they offer several potential benefits to students, faculty members, institutions, and their constituents.

Benefits to students include opportunities:

- for increased learning effectiveness
- to model professionalism
- to enhance information technology skills
- to gain academic credit for learning beyond the classroom

Benefits to faculty include opportunities:

- to leverage student motivation,
- to align objectives and evaluation strategies,
- for more fruitful advising, and
- to more efficiently manage student deliverables in distance courses

Benefits to Penn State include:

- opportunities to respond to calls for greater accountability and outcomes-based accreditation, and
- the transportability of credits.

As with any other innovation there are challenges and costs associated with change. These include issues such as:

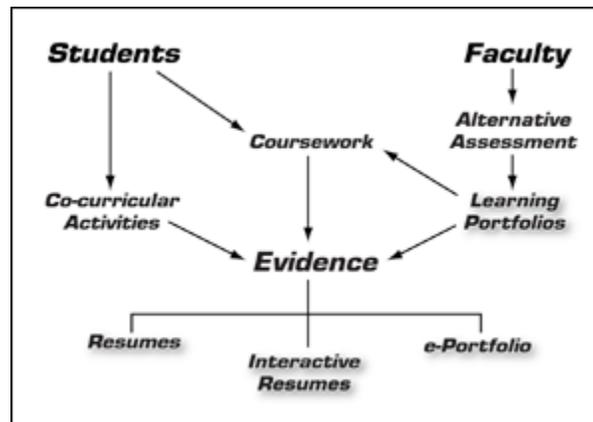
- time related to creation, maintenance and evaluation,
- the difficulty of reliable evaluation,
- access to technology and skills,
- cyber-plagiarism,
- privacy, and
- free speech.

Despite these challenges, there are a growing number of Penn State faculty that are looking for ways to integrate more meaningful ways to assess what it is that students know and can do. Further along in this section, we feature a few of these practical applications of portfolio practices here at Penn State.

## What is an e-portfolio?

The term "portfolio" is used to describe many things. Penn State's e-Portfolio initiative promotes the development of personalized, web-based collections that include:

- selected evidence from coursework,
- artifacts from extra-curricular activities, and
- reflective annotations and commentary related to these experiences.



Some programs of study at Penn State require that students publish on-line Program portfolios. Many faculty require students to publish course work on-line in Course portfolios. Students may link to any or all of this evidence in their comprehensive Penn State e-Portfolio.

Students can portray their comprehensive Penn State experiences in many different ways, ranging from a simple resume, to an interactive resume that links out to specific evidence or accomplishments, to an elaborate e-Portfolio that includes reflections related to these experiences.

Student e-Portfolios result when faculty require students to publish purposeful collections of examples of their work, and to annotate the examples with reflective commentary.

Comprehensive e-Portfolios result when students are asked to draw examples and reflections associated with several courses, or from curricular and co-curricular activities spanning a student's entire academic career.

## Benefits to students

### Opportunities for increased learning effectiveness

Learning takes place within complex psychological and sociological milieus. The number of interacting variables involved makes it extremely difficult to measure meaningful learning objectively. Like other proposed educational innovations, proponents' claims that e-Portfolios offer the potential to enrich teaching and learning rest primarily on assumptions, participant observation, and force of argument, rather than on results of controlled experimentation. The key assumption related to student learning via e-Portfolios is that they provide opportunities to increase student engagement, and that "the engaged learner, one who records and interprets and evaluates his or her own learning, is the best learner" (Yancey 2001b, p. 83). Evidence from earlier experimentation in computer-aided instruction supports the assumption. In a review of the impact of multimedia software on learning, for example, Hutchings and associates (1992, p. 171) found that "most learning seemed to occur with those who had prepared the course material rather than those who received it." This conclusion is consistent with constructivist theory, which argues that learners

actively construct their own knowledge rather than simply receive it from instructors, authors, or other sources (Jonassen 1991; Dana and Tippins 1998). It also coincides with the goals of the active learning component of Penn State's general education program.

### **Opportunities to model professionalism**

Transcripts of courses taken and letter grades earned, along with resumes that outline achievements and qualifications, are obviously useful as summative lists of accomplishments. However, these documents fail to convey the extent to which Penn State students possess the knowledge, skills, and dispositions that employers need. e-Portfolios enable students to share authentic examples of their academic work and co-curricular activities with potential employers, family members, and other stakeholders. Equally important, the e-Portfolio development process provides students with opportunities to reconsider career goals in light of their own reflections and others' responses, and to revise their goals proactively.

### **Opportunities to enhance information technology skills**

The process of e-Portfolio development requires students to develop transferable skills. These include the ability to produce and save documents in appropriate digital formats, to code HTML directly or to edit it indirectly using specialized software, to capture and process digital imagery and video using specialized hardware and software, and to upload digital files to Web servers. Such skills contribute to students' ability to use information technologies effectively throughout their academic careers and beyond.

### **Opportunities to gain academic credit for learning beyond the classroom**

In its recent policy 42-97, Penn State's Faculty Senate has empowered academic units to award academic credit to students "who can demonstrate college-level learning acquired in a non-collegiate setting (such as work experience, a training program, or a hobby)" (Penn State Faculty Senate 2000). Portfolios are expected to contain "a combination of documents and information that provides evidence of mastery of specific course requirements." The on-line Certificate Program in Geographic Information Systems offered by Penn State's Department of Geography through the University's World Campus relies upon e-Portfolios to evaluate the knowledge and skills of hundreds of students enrolled across North America.

## **Benefits to faculty**

### **Opportunities to leverage student motivation**

Penn State instructors who have required or encouraged students to "publish" their work on-line report that many students enthusiastically embrace opportunities to develop and use information technology skills. Such students are likely to devote more and better effort to such assignments than they otherwise might.

### **Opportunities to align objectives and evaluation strategies**

By providing visible evidence of student achievement, e-Portfolios offer great promise as a means to assess the effectiveness of individual classes as well as entire academic programs. This potential can only be fulfilled, however, if faculty members specify in advance, and in detail, what students should know and be able to do after successful completion of a class or program, and if assessment and evaluation strategies are properly aligned with the specified learning objectives. The introduction of an e-Portfolio assignment therefore provides an impetus for individual faculty members and entire faculties to reflect upon the mission and goals of their courses and programs, and to specify assignments that are likely to help students achieve goals.

### **Opportunities for more fruitful advising**

e-Portfolios can enrich the advising process by providing a means for advisors to get to know their students. One of the most ambitious student portfolio initiatives among U.S. higher education institutions, the so-called "K Plan" adopted by Kalamazoo College, was specifically designed as a means to enrich academic advising. According to program consultant Emily Springfield, many (but certainly not all) advisors recognized that student portfolios afforded the potential to facilitate "deeper discussion of students' goals and choices" than they typically experienced (Springfield 2001, p. 55).

### **Opportunities to more efficiently manage student deliverables in distance courses**

Instructors whose classes are mediated entirely through the World Wide Web face many challenges, not the least of which involves organizing incoming student assignments. e-Portfolios enable students to accept responsibility for organizing assignments themselves.

## **Benefits to Penn State**

### **Opportunities to respond to calls for greater accountability and outcomes-based accreditation**

U.S. higher education institutions face unprecedented expectations for openness and accountability by the public as well as state and federal government agencies. At the same time, the organizations that accredit such institutions have begun to insist that institutions demonstrate in more measurable ways that their graduates possess the competencies needed to succeed in their chosen professions. Student e-Portfolios offer the potential to enable students to demonstrate in their own words, and with the products of their own efforts, the value and effectiveness of their educational experiences.

### **Transportability of credits**

Like students, institutions have an interest in ensuring the transportability of academic credits in an increasing mobile society. Many institutions also wish to foster lifelong relationships with students, some of whom seek to earn academic credit for accomplishments outside of the classroom. By providing opportunities for students from varied backgrounds to demonstrate their knowledge, skills, and dispositions, e-Portfolios promise to help institutions respond with greater agility to the needs of their increasingly diverse clientele.

## **Potential costs, obstacles, and challenges**

e-Portfolios are time consuming to create, maintain, and evaluate. Penn State students who have participated in e-Portfolio-related assignments-particularly students without previous Web publishing experience-confirm that such assignments are labor intensive. Linn and Gronlund (2000, p. 312) point out that portfolios tend to be "labor intensive for the teacher-requiring considerable time in planning, monitoring, and providing feedback to students." They cite one representative case in which 815 person hours were required to score 1250 portfolios produced by middle school and high school students in Pittsburgh, Pennsylvania.

### **e-Portfolios are difficult to evaluate reliably**

Linn and Gronlund (2000) also point to research that demonstrates the difficulty of scoring portfolios. Studying the effectiveness of a statewide portfolio assessment initiative for Vermont 4th- and 8th-graders, for instance, researchers found that ratings of the same student work by different raters were unacceptably inconsistent. Other studies suggest that acceptable reliability can be achieved, however, "with sufficient planning, specification of portfolio guidelines, refinement of scoring procedures, and rater training" (Linn and Gronlund 2000, p. 302).

### **Unequal access to technology and skills**

A survey conducted in Spring 2001 by the Faculty Advisory Committee for Academic Computing indicates that 96 percent of Penn State students own personal computers, and 67 percent report that they are "skilled or very skilled" in the use of information technology. The fact that one-third of survey respondents considered themselves less than skilled indicates that instructors who assign e-Portfolio-related projects must provide technical support services adequate to assist a substantial minority of their students. Instructors who do not possess web publishing skills themselves are naturally reluctant to adopt such assignments. Undergraduate student teaching internships, through which experienced volunteers provide technical support to peers during evening office hours in public computing facilities, may be the most efficient means to provide the needed support.

### **Cyber-plagiarism**

Some Penn State instructors and students are concerned that "publishing" student academic work on-line increases the risk of cyber-plagiarism. Although it does not identify the availability of student

work on-line as a contributing factor, a 1996 Office of Student Affairs "Pulse" survey estimates that almost one-quarter of Penn State students cheat on tests, and about forty percent cheat on class assignments. The availability of students' assignments in e-Portfolios will increase the number of sources of on-line material from which students may be tempted to copy illicitly. A variety of Web-based tools, ranging from ordinary search engines to specialized programs for detecting plagiarism, now make it easier to identify text passages copied from on-line sources than similar passages copied from sources available only as printed text (for example, see resource links, left). Teaching and Learning with Technology Services Senior Director John Harwood predicts that technological approaches alone are unlikely to ensure academic integrity, however. (Neil 2001)

### **Privacy**

The Family Educational Rights and Privacy Act (FERPA) of 1974 protects the privacy of U.S. students' official education records. With few exceptions, the FERPA law prohibits the disclosure of any official student record without the advance written permission of the student. Colleges and universities also must annually notify students about the student 'directory information' that will generally be released to the public. This directory information may include the student's name, address, major, telephone number, email address and other basic information. Instructors must use care not to publish any personal information about a student that is in violation of FERPA. Any student has the right under FERPA to suppress all personal information from public disclosure. Also, some student information, such as social security numbers, grades, test scores, a student's race, ethnicity or gender, cannot legally be listed as 'directory information' and can therefore never be publicly disclosed by an instructor.

Students should also be cautioned about disclosing their own personal information. Warning that "there is no true privacy on the Internet unless you encrypt it yourself," Gerry Santoro, Lead Research Programmer in Computer and Information Systems and Assistant Professor of IST, suggests that students should understand the risks before listing any personal information in e-Portfolios.

### **Free speech**

Associate Professor of Information Sciences and Technology Gerry Santoro has pointed out that while students believe that it is guaranteed absolutely by the First Amendment to the U.S. Constitution, free speech is in fact not entirely free. Slander, libel, and harassment are all illegal. At Penn State, neither email nor Web usage are monitored, but officials do respond to complaints. Censorship criteria are purposefully broad and ambiguous. The events of September 11, 2001, have resulted in increased scrutiny by law enforcement agencies and concerned individuals and groups. Santoro suggests that instructors who assign e-Portfolio-related activities should advise students about risks associated with free speech, including complaints, litigation, or even physical retaliation by offended individuals and groups, and increased scrutiny, censorship, harassment, and arrest by authorities. Furthermore, he suggests that instructors should avoid assigning projects that might lure students into expressing controversial viewpoints.

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