

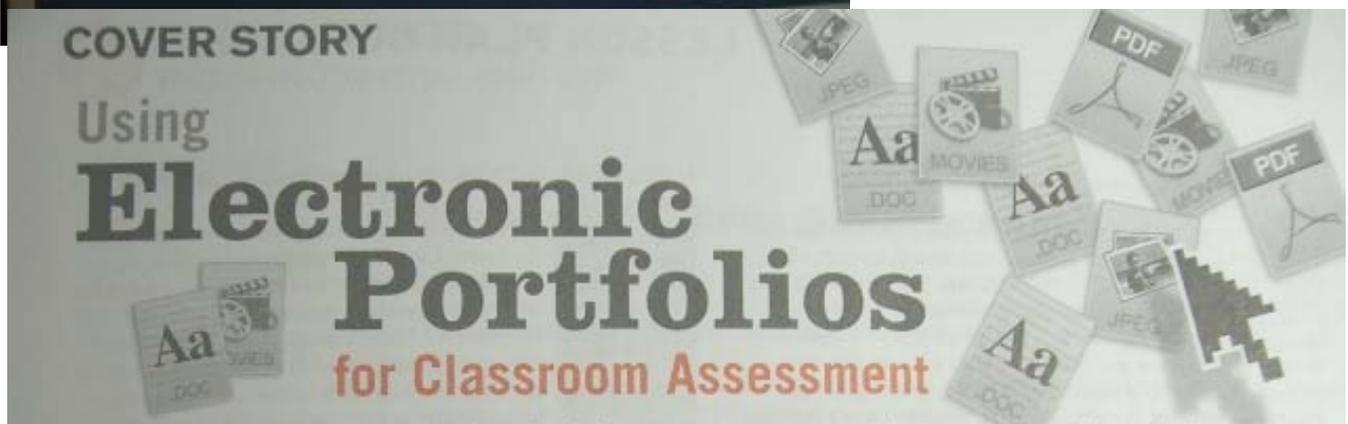
Using Electronic Portfolios for Classroom Assessment.

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Researching Electronic ^{port}Folios:
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Electronic Portfolios have been described as the next big thing in higher education computing. Many colleges and universities have spent the last five years establishing electronic portfolio systems. Yet the implementation of electronic portfolios in K-12 schools has not been as aggressive, perhaps due to the emphasis on the testing mandates of No Child Left Behind. If there is a better understanding of how electronic portfolios can be used for assessment to improve student learning, schools will be more eager to adopt electronic portfolios with the same enthusiasm as their counterparts in higher education.



The Role of Portfolios

As schools and districts around the country define portfolio initiatives for their students, it is important to recognize a common definition of *portfolio*. A portfolio is a collection of work that a learner has collected, selected, organized, reflected upon, and presented to show understanding and growth over time. Additionally, a critical component of a portfolio is the combination of a learner's reflection on the individual pieces of work (often called *artifacts*), as well as an overall reflection on the story that the portfolio tells.

When used in schools, portfolios have the potential to support a deeper level of engagement and self-awareness. They make it easier for students to understand their own learning and provide teachers and parents with a richer picture of what students know and are able to do.

One primary difference between traditional and electronic portfolios is that electronic portfolios use technologies such as CDs, DVDs, and the Web. This allows students to collect and organize portfolio artifacts in many media types (audio, video, graphics, and text). Students also use hypertext links to organize the material and connect evidence to appropriate outcomes, goals or standards.

In K12 schools, the primary purpose of portfolios is to support both the assessment *of* learning and the assessment *for* learning (Stiggins, 2002). It is important to make this distinction when considering the role of portfolios in assessment. There are major differences between the uses of portfolios in high stakes summative assessment *of* learning, and the powerful uses of portfolios in formative assessment *for* learning. The research conducted in the United Kingdom (Black & William, 1998) provides firm evidence that "formative assessment is an essential component of classroom work and that its development can raise standards of achievement" more effectively than any other strategy.

Formative vs. Summative Portfolios.

The Assessment Reform Group says that *assessment for learning* is the process of seeking and interpreting evidence to decide where the learners are in their learning, where they need to go and how best to get there. In implementing portfolios, artifacts are selected by students to tell the story of their learning. The portfolio is maintained throughout a class, term or program. The portfolio and artifacts are reviewed with the learner and used to provide feedback to improve learning. The primary audience for a formative portfolio is the student and often their parents in student-led conferences. The focus is on formative assessment. What are the learning needs in the future? How has the learner improved over previous work? When used for formative assessment, these types of portfolios have the potential to improve student self-esteem.

In contrast, when looking at portfolios as assessment *of* learning, students submit specific required artifacts that are mandated by the school to determine outcomes of instruction. Summative portfolios are usually developed at the end of a class, term or program. These portfolios are often measured based on a rubric and quantitative data is collected for external audiences. The summative portfolio is structured around a set of outcomes, goals or standards and is sometimes used to make high stakes decisions. Research shows that summative assessment actually reduces student motivation to learn (Assessment Reform Group, 2002).

How do students respond to these different types of portfolios? I often tell two stories about paper portfolios. In one school district, the students were required to set up a notebook that included specific sections and assignments. When a group of the students graduated from high school, they built a bonfire and burned their portfolios! In the second story, told by Jim Mahoney in his book *Power and Portfolios: Best Practices in High School Classrooms*, a freshman English student created a wonderful writing portfolio. It was so impressive that it was borrowed for teacher professional development, and in the process it got lost. The student was heartbroken and offered a reward for its return. It never showed up, but the student was able to reconstruct the portfolio from files saved on her home computer. She used that experience of loss for reflection in her sophomore and junior years.

The difference between these two stories is the purpose of the portfolios. The first example was an institution-centered, summative portfolio, where the students had little choice and ownership over the contents of their portfolio. The second example was a student-centered, formative portfolio, where the student reflected on her growth over time.

Implementation of Electronic Portfolios

In planning an electronic portfolio initiative, each school must determine the primary purpose for having students create electronic portfolios. Because the goals for each portfolio initiative will certainly determine the content, the creation process, and the evaluation, it is important to have a clear sense of intended purpose from the start.

The second task is to select the tools that will be used to manage the electronic portfolio development process. There are a variety of tools available including desktop computer software such as Microsoft Office or Adobe Acrobat. These tools allow students to publish their portfolios on CD or a local area network server. To publish portfolios on the Internet, there are three options:

1. Students can become Web developers by learning to create electronic portfolios with HTML editing software, such as Dreamweaver.
2. The school can establish their own server with a portfolio (or content management) software package.
3. The school can purchase an electronic portfolio service.

There are both open source and commercial software and services available. Experience in higher education has shown the difficulty of supporting the “create-your-own” approach, which has led to the adoption of a large number of commercial electronic portfolio services.

If educators are going to help learners create portfolios that truly support assessment *for* learning, then we need to look at strategies. In the early 1990s, Pearl and Leon Paulson created a metaphor for portfolios as a tool to construct meaning. They stated, "The portfolio is a laboratory where students construct meaning from their accumulated experience." (Paulson & Paulson, 1991, p.5) They also pointed out that:

A portfolio tells a story. It is the story of knowing. Knowing about things... Knowing oneself... Knowing an audience... Portfolios are students' own stories of what they know, why they believe they know it, and why others should be of the same opinion. A portfolio is opinion backed by fact... Students prove what they know with samples of their work.”

More research is needed on examples of implementation that clearly differentiate between student-owned electronic portfolios and the assessment systems used to record evidence of students’ progress toward meeting standards. In 2005, I collaborated with TaskStream to create The REFLECT Initiative, a research project to study the effects that reflection and portfolio creation have on student learning and engagement. It is our hope that the REFLECT Initiative will provide this type of data.

A Systems Approach

A study of the current literature on portfolios in education leads to a new taxonomy that balances the needs of schools for an assessment management system with the needs of learners for a reflective portfolio that supports learning. This new conceptual framework includes an electronic portfolio system that uses three different solutions that electronically talk to each other (Barrett & Wilkerson, 2004):

1. A digital archive of learners' work
2. A learner-centered electronic portfolio "using the learner's authentic voice"
3. A central database to collect teacher-generated assessment data based on tasks and rubrics

An integrated system with these three distinct components can act as a workflow management system to support both formative (facilitating student feedback) and summative assessment (collecting and aggregating evaluation data).

The power of a multi-faceted portfolio system is that it provides the means for schools to report on student progress, competency, and achievement while encouraging individual students to become engaged in a process

that empowers them to take control of their own learning. They develop the self-awareness to articulate their own strengths, weaknesses, achievements, disappointments, learning experiences, passions, and hopes for the future. Student experiences and learning remain equally important to the accountability expectations of No Child Left Behind. For this initiative to be truly successful, students must take ownership of their learning and be engaged in their own success.

In this type of system, students engage in learning experiences that encourage them to produce artifacts that can be stored in the working portfolio. This process is interactive and reflective. It provides a rationale for using artifacts as evidence of learning. The artifacts become meaningful to the student as evidence of their own understanding and growth. At the same time, the teacher will evaluate each artifact, with the accompanying reflection, and decide if the artifact meets the guidelines of the performance task as outlined in the associated rubric. Student then receive feedback on their work so that they know what needs improvement. In addition, assessment data can be aggregated for reporting purposes. These two use cases can best be described as *portfolio as test* and *portfolio as story*. Paying equal attention to both approaches will result in a more balanced assessment system that supports learning.

Motivate and Engage Learners

The use of technology can motivate students to use portfolios, especially if we make the process engaging for the learners. We must give them an opportunity to express their own voice and leave their own mark in their portfolios. As schools implement electronic portfolios, it will be important to do more than replicate their paper-based predecessors or adopt a database-type portfolio system that only allows students to fill in blanks on a Web-based form. Where is the individuality, creativity, and ownership? To truly engage learners, schools need to incorporate emerging technologies that motivate and engage adolescent students, including digital storytelling, multimedia artifacts, podcasting and blogging.

We have seen how much students are motivated to use online social networking sites, such as MySpace and FaceBook. The TaskStream electronic portfolio has been described by students participating in the REFLECT Initiative as an “academic MySpace.” If we capture that level of motivation while furthering the goals of learning in formative electronic learning portfolios, then we may realize the real promise of using technology to both improve and showcase student achievement.

References

- Assessment Reform Group (2002a) “Assessment for Learning” [Retrieved June 23, 2006 from: <http://www.qca.org.uk/7659.html>]
- Assessment Reform Group (2002b) “Testing, Motivation and Learning” [Retrieved June 23, 2006 from: <http://k1.ioe.ac.uk/tlrp/arg/TML%20BOOKLET%20complete.pdf>]
- Barrett, H. and Wilkerson, J. (2004) “Conflicting Paradigms in Electronic Portfolio Approaches” [Retrieved January 21, 2005 from: <http://electronicportfolios.org/systems/paradigms.html>]
- Black, P., and Wiliam, D. (1998). "Inside the Black Box: Raising Standards Through Classroom Assessment." *Phi Delta Kappan*, October 1998. [Retrieved June 10, 2004 from: <http://www.pdkintl.org/kappan/kbla9810.htm>]
- Mahoney, J. (2002) *Power and Portfolios: Best Practices for High School Classrooms*. Portsmouth: Heinemann
- Paulson, F.L., Paulson, P.R.& Meyer, C.A. (1991) “What Makes a Portfolio a Portfolio?” *Educational Leadership*, 58:5, pp. 60-63
- Paulson, F.L. & Paulson, P. (1994) “Assessing Portfolios Using the Constructivist Paradigm” in Fogarty, R. (ed.) (1996) *Student Portfolios*. Palatine: IRI Skylight Training & Publishing
- Stiggins, R. J. (2002). "Assessment Crisis: The Absence of Assessment FOR Learning." *Phi Delta Kappan*, June 2002. [Retrieved July 17, 2004 from: <http://www.pdkintl.org/kappan/k0206sti.htm>]
- TaskStream (2005). The REFLECT Initiative, [Retrieved June 23, 2006 from <http://www.reflectinitiative.org>]
- Young, J. (2002, February 21) “Creating Online Portfolios Can Help Students See 'Big Picture,' Colleges Say” *Chronicle of Higher Education*. [Retrieved June 23, 2006 from <http://chronicle.com/free/2002/02/2002022101t.htm>]