

THE REFLECT INITIATIVE

Researching Electronic *port*Folios:
Learning, Engagement, Collaboration, *through* Technology

Researching Electronic Portfolios and Learner Engagement:

The Brief *

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Researching Electronic ^{port}Folios: Learning, Engagement and Collaboration through Technology

Introduction

As schools and districts around the country begin to define portfolio initiatives for their students, it is important to come to a common definition of portfolios. In a very basic way, a portfolio is a collection of work that a learner has selected, organized, reflected upon, and presented to show understanding and growth over time: “A purposeful collection of student work that illustrates efforts, progress, and achievement in one or more areas” (Northwest Evaluation Association). 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. The material to be collected and the story to be told can vary greatly depending on the purpose of the portfolio and how the portfolio is being evaluated. When used in K12 schools, reflective portfolios support a deeper level of engagement and self-awareness, making it easier for students to understand their own learning and to provide teachers and parents with a richer picture of what students know and are able to do, as well as their ongoing development.

One primary difference between traditional and electronic portfolios is that electronic portfolios use electronic technologies as the container (CD, DVD, WWW), allowing students to collect and organize portfolio artifacts in many media types (audio, video, graphics, and text) and to use hypertext links to organize the material, connecting evidence to appropriate outcomes, goals or standards. In this brief, we will discuss portfolios in general, while indicating, where appropriate, how electronic portfolios are beginning to define and facilitate new uses and paradigms for learning and assessment.

* The full version of this paper is available online at <http://electronicportfolios.org/reflect/> and <http://www.taskstream.com/reflect/>. It is recommended that all applicants read the full version as they prepare their proposals.

Portfolio Research

In their synthesis of "Portfolio Research: A Slim Collection," Herman and Winters (1994) note:

Well-designed portfolios represent important, contextualized learning that requires complex thinking and expressive skills. Traditional tests have been criticized as being insensitive to local curriculum and instruction, and assessing not only student achievement but aptitude. Portfolios are being heralded as vehicles that provide a more equitable and sensitive portrait of what students know and are able to do. Portfolios encourage teachers and schools to focus on important student outcomes, provide parents and the community with credible evidence of student achievement, and inform policy and practice at every level of the educational system. (Educational Leadership, October 1994, pp. 48-55)

These authors go on to discuss the lack of empirical evidence to support these claims. Interestingly, seven years after they published their article, Joanne Carney (2001) noted that not much has changed: "little is known regarding the capacity of portfolio assessments to support judgments that are valid for large-scale [assessment] purposes. (Novak, Herman & Gearhart, 1996)." Needless to say, the time is ripe for more research studies that evaluate the effects portfolios have on student learning and achievement.

Complicating the research and literature is the fact that there are many purposes for portfolios in education, making it difficult to gather data with any precision. There are portfolios that focus on learning, those that center on formative and summative assessment, and those that are created for showcase, marketing, or employment. The REFLECT Initiative intends to study the effects reflection and portfolio creation have on student learning from portfolios created with many different purposes and with many different intended outcomes.

Exploring Multiple Purposes for Electronic Portfolios

With a focus on K12 educational portfolios, the REFLECT Initiative will primarily explore both assessment portfolios and learning portfolios. In other words, we will explore portfolios created to support both assessment *of* learning and assessment *for* learning (Stiggins, 2002). The research conducted in the U.K. (Black & William, 1998) on assessment *for* learning 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. The Assessment Reform Group provides this definition:

Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there.

In contrast, when looking at portfolios as assessment *of* learning, a student submits artifacts from their archive as detailed by the required tasks in the assessment system, and these artifacts are evaluated by an assessor, based on the performance tasks and rubrics (Wilkerson and Lang, 2003). These data can be collected for high stakes assessment purposes. The results are stored in an institutional assessment management system, which is an institution-centered database system. Assessment data can be aggregated to determine strengths and weaknesses among the students and to support ongoing school improvement.

In planning a portfolio initiative, each school or district must determine the primary purpose for having students create an electronic portfolio. Because the purposes and 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. We also hope to explore whether or not portfolios created to support assessment *for* and *of* learning are mutually exclusive, or if there can be a single electronic portfolio system that serves both purposes.

Ideally, K-12 portfolios systems should offer a balance between using portfolios to support the learning process and portfolios for assessment. In fact, the real balancing act is how to meet the needs of the organization for an assessment management and reporting system while maintaining the powerful aspects of the learner-driven reflective portfolio that support deep learning. The true goal should be to support the students' "portfolio as story" while still satisfying the competency-based assessment management requirements of high stakes accountability.

Overall, one should not forget the importance of multiple measures in assessment: one type of assessment does not fit all situations. Assessment must always be seen as a process of reasoning from evidence. Results are only estimates of what a person knows and can do. Therefore, when multiple types of assessments exist for each student, we are able to obtain a richer and more coherent picture of growth and achievement. (National Research Council, 2001)

To effectively use portfolios for assessment, whether formative or summative, a learning organization needs to establish a culture of evidence. Evidence in an electronic portfolio is made up of the artifacts that a learner features, as well as a rationale, or reflection, as to why these artifacts constitute evidence of achieving specific goals, outcomes, or standards. Furthermore, just because a learner makes the claim that their artifacts are evidence of achievement, in "high stakes" environments, the evidence needs to be validated by a trained evaluator, using a well-developed rubric with identifiable and specific criteria.

In her work with portfolios that demonstrate multiple intelligences, Evangeline Harris Stefanakis (2002) states,

The drive toward standardized and state testing requires us, as researchers and practitioners, to find ways to learn from tests and portfolios in order to develop a comprehensive assessment system in which accountability would be demonstrated at many levels related to student achievement...I offer a design for a comprehensive system which combines formal, informal, and classroom assessment, including portfolios, to inform the state, the district, the school, and the teacher. The goal for each district is to carefully construct a comprehensive assessment system, with a collection of assessments that allow many stakeholders to use these data to improve both student learning and teachers' teaching, Without portfolios to make visible what students do and what teachers teach, I am not sure this can be done. (p. 137)

Thus, portfolios offer an important picture of deep learning and, at the same time, can be used to provide a school and/or district with the assessment data they need to determine how well their students are achieving according to stated goals and objectives.

Engagement and Reflection

The power of a multi-faceted portfolio system lies in the fact that it provides the means for schools and districts 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, and develop the self-awareness to articulate their own strengths, weaknesses,

achievements, disappointments, learning experiences, passions, and hopes for the future. Student experience and deep learning remains 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.

If we are to help learners create portfolios that truly support assessment *for* learning, then we need to look at strategies that help the learner tell a story of their own learning. 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." (Paulson & Paulson, 1991, p.2)

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. It is our hope that the REFLECT Initiative will provide this type of data.

A New Taxonomy of Electronic Portfolios

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

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

In this system, a student engages in learning experiences, embedded in the curriculum, that encourage them to produce work that can be stored in a digital archive (or working portfolio). These artifacts can be used as evidence of learning in two ways: in a formalized assessment system and in the learner's own portfolio. This process is interactive and reflective, connecting the artifacts with the learner's reflection that provides a rationale for using the artifact as evidence of learning. The artifacts become meaningful to the student as evidence of their own understanding and growth, while, at the same time, allowing an assessor to evaluate the artifact, with the accompanying reflection, and decide if the artifact meets the guidelines of the performance task as outlined in the associated rubric. In the latter use case, assessment data can be aggregated for reporting purposes. These two examples 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 deep learning.

There is a way to support these contrasting needs through these three interconnected systems: an archive of student work, an assessment management system to document achievement of

standards, and an authoring environment where students can construct their own electronic portfolios and digital stories of learning.

The use of technology can be a motivating factor for portfolios, especially if we can make it engaging for the learners, and give them an opportunity to express their own voice and leave their own mark in their portfolios. One focus of the professional development associated with the Reflect Initiative will be to explore emerging technologies that motivate and engage adolescent students, including digital storytelling and blogs (reflective online journals).

Conclusions

The time is right to study the potential of electronic portfolios to engage students in active participation in assessing and managing their own learning. In 2005, the level of available technologies makes possible an international study about the role of electronic portfolios to support student learning, engagement, and collaboration.

We have the technology. We have the vision. We need to better understand what works, especially with adolescent learners and their teachers. “If not now, when? If not us, who?”

Recommended Additional Readings online:

Bergman, T. (2000) “Feasible Electronic Portfolios: Global Networking for the Self-Directed Learner in the Digital Age” Available online
[http://www.mehs.educ.state.ak.us/portfolios/why_digital_portfolios.html]

For further review of the literature on researching electronic portfolios in education, consult Joanne Carney’s excellent paper presented at the 2004 AERA Symposium on **Setting an Agenda for Electronic Portfolio Research**: <http://it.wce.wvu.edu/carney/Presentations/presentations.html>

Recommended Books

Davies, A. (2000) *Making Classroom Assessment Work*. Merville, BC: Connections Publishing

Hebert, E. (2001) *The Power of Portfolios*. Jossey-Bass

Mahoney, J. (2002) *Power and Portfolios: Best Practices for High School Classrooms*. Portsmouth: Heinemann

Stefanakis, E. (2002) *Multiple Intelligences and Portfolios*. Portsmouth: Heinemann

Zubizarreta, J. (2004). *The Learning Portfolio*. Bolton, MA: Anker Publishing.

Zull, J. (2002) *The Art of Changing the Brain*. Sterling, VA: Stylus Publishing

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- Stefanakis, E. (2002) *Multiple Intelligences and Portfolios*. Portsmouth: Heinemann
- 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>]
- Wilkerson, J.R., & Lang, W.S. (2003, December 3). Portfolios, the Pied Piper of teacher certification assessments: Legal and psychometric issues. *Education Policy Analysis Archives*, 11(45). Retrieved [2/15/04] from <http://epaa.asu.edu/epaa/v11n45/>.