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E-Portfolios—An Effective Tool?

Marilyn Drury

Abstract

The effective use of electronic portfolios in educational institutions confirms their value as an important teaching and learning tool. An electronic portfolio is a digital archive or collection of artifacts (audio/video clips, text, graphics, and coursework) that represent the owner of the electronic portfolio, whether it is an individual, group, or institution. Personal reflection on one's work or philosophies is a key element in many electronic portfolios. Some question whether electronic portfolios really benefit the educational process. This author overviews recent literature related to the use of electronic portfolios and discusses the issues and challenges of implementing and effectively using electronic portfolios in higher education institutions.

E-Portfolios—An Effective Tool?

Marilyn Drury

Introduction

Electronic portfolio¹ (e-portfolio) use was introduced in the early 1990s. The traditional educational portfolio has typically been paper-based and organized in some type of binder or folder. As the use of information and communication technologies has continued to increase in educational institutions, the use of e-portfolios has captured the attention of educators who are anxious to use them to create a more learner-centered and outcome-oriented learning culture. The question often raised is do e-portfolios benefit teaching and learning?

E-portfolios are an electronic representation of one's work—a purposeful digital collection (called artifacts) that demonstrates one's efforts, abilities, and progress toward particular achievements or goals. These representations are provided in various digital media types such as audio, video, text, and graphics. Once artifacts have been entered into an e-portfolio, they can be used in a variety of situations and for a variety of purposes depending on the needs of the owner of the portfolio. Owners of e-portfolios can be any individual or group. In higher education, owners can be students, staff, faculty, departments, campus organizations, and even the institution.

E-portfolios are typically used by students to digitally organize, present and reflect on their course work (or indeed on their entire academic experience). They may also include assessments and standards-based competencies. Faculty often contribute to the student's e-portfolio by providing not only the incentive to include certain work, but also guidance on projects to be included, and the assessment of it. Co-curricular activities can also be included in an e-portfolio as can career or employment strategies. Beyond student use, faculty use e-portfolios to document and reflect on their own pedagogy, teaching practices, and research; and can enable colleagues and others to comment and share information regarding their e-portfolio's content. Institutional portfolios are often used to demonstrate accountability, philosophy, and culture and often serve as a means of fostering institution-wide reflection, learning, and improvement.

“The whole idea behind these e-Portfolios is to give others a complete sense of what you're all about...you want the people who inspect it to come away with an entirely new understanding of who you are and what you're capable of accomplishing” (Villano, 2005, p. 1). Paradoxically, education has led the way in the use of e-portfolios, generally evolving them from paper portfolios. Vendors have been racing to catch-up and offer stand-alone solutions as well as those that fit within campuses' Enterprise Resource Planning (ERP) solutions. While many types of e-portfolios exist, this paper will focus on student e-portfolios and the effectiveness, issues, and challenges associated with such.

Effective Use of E-Portfolios

Authors who have made extensive inquiries into e-portfolios note a lack of research regarding e-portfolios (Carney, 2004; Herman & Winters, 1994; Lyons, 1998b; Gearhart, Novak, & Herman, 1994; Zeichner & Wray, 2001). “Complicating the research and literature is the fact that there are many purposes for portfolios in education, making it difficult to gather data with

¹ Also often referred to as digital portfolios or web folios.

any precision” (Barrett, 2005, p. 2). The primary purposes for which e-portfolios are used are assessment (standards-based and general assessment of learning), career or employment, and reflection. With learning at the core of our educational goals, there are many ways to effectively use e-portfolios as a tool that allows one to demonstrate the learning process and the growth one has achieved from preschool through higher education and on to one’s professional life. As Zubizaretta (2004) writes, e-portfolios or learning portfolios provide a structure in which students can reflect on their learning process, form the habits and develop the skills and aptitudes that are so important to critical reflection. Reflection is one of the key elements of the learning portfolio (Shulman, 1998).

Utilizing an e-portfolio for employment seeking purposes is an extremely valuable tool for students. Enabling potential employers to have access to selected artifacts allows students to demonstrate—in a variety of creative way—their work and records of accomplishment, in a secure environment. As students move through a variety of career changes or paths, the e-portfolio can continue to be populated with additional artifacts, creating a history of their personal and professional life.

There are also many ways to use e-portfolios that are not effective. Lucas (1992) warns of this as she cautions us to be careful in their use so they do not become a new medium used to carry out old tasks. This often leads to standardization and creates a restrictive learning environment that merely allows for easy measurement. She notes, “The danger here is that those who cling to the illusion that only what can be measured or counted is worth doing will find the effects of portfolios in the classroom not only resistant to measurement but initially resistant even to definition” (p. 7). Lucas urges educators to allow the use of e-portfolios to grow naturally in response to students’ and educators’ needs, curiosities, and abilities.

Over the years, paper portfolios have typically been found in writing programs in many higher education institutions. Yancey (1992) discusses her research and work with paper writing portfolios which are now in the process of evolving into e-portfolios. She has found that,

One of the reasons that the teachers who have tried portfolios are so positive about them is that they have been able to exercise control over them; that is, the teachers decide whether to use portfolios, help define their uses, include them in curricula in appropriate ways, and revise them on the basis of their own and others’ experience (p. 107).

One of the primary growth areas for e-portfolios has been in many institutions’ colleges of education. Student e-portfolios are currently more prevalent in college of education programs than in other colleges at most higher education institutions. The primary use by preservice teachers is to provide evidence of meeting competencies required in order to receive teaching licensure or certification (Lorenzo & Ittelson, 2005). While more research is needed, existing research indicates many benefits in e-portfolio use by preservice teachers. In a recent study of preservice teachers by Wetzel and Strudler (2006), e-portfolios benefited the learning process by allowing students the opportunity: 1) to reflect on their work, values and beliefs; 2) to improve access to and organization of professional documents; 3) to improve understanding of teaching standards; and 4) to increase their technology skills. The process of creating and building a teaching portfolio can also provide important reflective learning experiences as evidenced by Lyons (1998a). Beyond these benefits are positive experiences brought by the mentoring and collaboration that occur in the construction of the portfolio along with the feedback given throughout the process and upon completion of the portfolio (Zeichner & Wray, 2001).

Implementation by other colleges and programs in higher education institutions is growing rapidly. Many are focusing the core of their e-portfolios around their institution’s

philosophy of teaching and learning, such as the importance of a thorough liberal arts education, undergraduate research, qualities of an education person, etc. Incorporating the effective use of e-portfolios on a campus for learning and assessment purposes certainly necessitates the need for re-thinking and re-designing curriculum and activities in order to maximize the potential learning and assessment opportunities e-portfolios can offer.

Barrett (2005) discusses a new taxonomy related to e-portfolios that attempts to balance several needs: those of the institution as an assessment management tool, those of the learners for reflection in support of learning, and those that serve career or employment seeking purposes. As students engage in learning experiences, embedded in the curriculum and guided by the faculty, they produce and store work in a digital archive (their e-portfolio). These artifacts are then displayed as evidence of learning for assessment purposes, standards-based purposes, or career purposes. The process is interactive and reflective as it connects the artifacts with the student's reflections that provide rationale for the artifact's use as evidence of learning. The e-portfolio offers students a high degree of engagement, maximized by its connection to the curriculum, and blended within the environment of the course or program. Achieving this can be a challenge. Those institutions having implemented e-portfolios offer many suggestions for those beginning the process.

Issues and Challenges

The Carnegie Foundation has sponsored a website space, (<http://kml.carnegiefoundation.org/OSP/>) featuring case studies of five universities' efforts related to implementing the Open Source Portfolio, an e-portfolio tool in development, sponsored by several universities and funding sources. While reviewing these studies, several common issues and challenges emerge, applicable to the implementation and use of any e-portfolio tool. Knowing these issues and challenges, allows one to critically evaluate the implementation, support, and maintenance of an e-portfolio tool.

The key challenges highlighted by the case studies are the following:

1. The importance of an institution's top administrators publicly endorsing the use of and value e-portfolios bring to the learning process at their institution. This endorsement must not only be verbal but also through actions, resource allocation, and funding that support faculty and instructional technology support staff in their efforts of integration within the curriculum and technical staff in challenges they face.
2. The need for continuous communication across campus regarding the overall e-portfolio initiative. Especially important in the beginning stages is clarifying what a portfolio is, what it is not (especially how it differs from a course management system), the varied purposes it can serve, and developing an understanding amongst faculty and departments that its various purposes and uses can occur as one reaches various "readiness" stages. Moving carefully and slowly forward in its use is acceptable and preferred.
3. The importance of critical reflection and how one teaches its wise use. Zubizarreta (2004) states reflection is of prime importance to marshaling the real power of learning portfolios. He points out the pain and challenge of honest reflection, as did John Dewey (1910):

Reflective thinking is always more or less troublesome because it involves overcoming the inertia that inclines one to accept suggestions at their face value; it involves willingness to endure a condition of mental unrest and disturbance. Reflective thinking, in short, means judgment suspended during further inquiry; and suspense is likely to be somewhat painful... To maintain the state of doubt and to carry on systematic and protracted inquiry—these are the essentials of thinking (p. 13).

It is not easy to engage in critical reflection. Therefore, curriculum must be reviewed and adapted in order to guide students in meaningful reflection regarding their learning. Use of the e-portfolio can aid in recording and showing the process one has gone through in developing critical reflection skills and habits. It can aid in actively involving students in their own assessment.

4. The importance of faculty development and support. Providing faculty with proper development and training opportunities on the use of the e-portfolio tool is crucial to the success of any efforts, whether it be an early pilot or later rollout for the campus. Important to the development and support is again that continuous communication of the overall e-portfolio initiative. Also, important for faculty consideration is that by using an e-portfolio tool, the student learning and faculty teaching that occurs becomes public in ways that faculty may not have experienced before. Faculty often work with their departments in developing assessment tools that will work within an e-portfolio tool—such as rubrics and other tools that effectively show attainment of goals and objectives. Many may also seek help in identifying how to effectively support student reflection and develop students' understanding that e-portfolios extend across the curriculum and throughout their undergraduate and graduate years, rather than remain a tool for a single course. For e-portfolios to be successful in their purposes, faculty must re-think their courses and activities altering pedagogy and the curriculum to allow for effective integration of e-portfolios. The sharing amongst faculty of best practices, personal experiences, and examples of work within e-portfolios assists in developing a sense of community and helping to move others forward.
5. The importance of asking the right questions. Kathleen Yancey (2006) expresses this concern as she has found e-portfolios to serve as a great medium for assessment resulting in reflecting student learning and performance. Her concerns, and those that should be considered by potential e-portfolio users, center on faculty not even raising the question of how today's millennials learn best. What about the new socio-cognitive ways students learn that essentially incorporate e-portfolios, web logs, and social networks? The "ability to engage with other learners, pull in information from various resource sources, share thoughts and feelings, form communities of learning or social activity, interact with peers and tutors within one or more institutions" (Tosh & Werdmuller, 2004, p. 7) leads to the creation of a learning landscape far broader in scope. Yancey (2006) goes on to ask where the questions about reflection are. Where are the questions from our students? Are we involving them? And, where are the questions about "quiet spaces"? How can a person contemplate and reflect if he or she is connected twenty-four/seven?

Awareness of these issues and challenges allows for better planning and communication as faculty and students adopt an e-portfolio tool. As with any tool, hard work is an essential ingredient in learning how to use it productively and creatively. Once this knowledge and understanding are achieved, moving forward can be very rewarding.

Moving Forward

E-portfolios lend themselves to both formative and summative assessment. They can provide faculty with an up-to-date, dynamic view of students' progress in a particular course or program of study. They encourage continuity across courses and semesters of student work. They allow one to track student work and reflections regarding growth and achievements over time.

They facilitate curricula becoming organized around standards, such as the Liberal Arts Core proficiencies or Iowa State Teaching Standards. E-portfolio can provide faculty with a tool to enhance management, review, reflection, and assessment of student achievement. Faculty can also use it for their own personal and professional development.

Students can now have a tool that facilitates secure online resumes along with audio/video, as well as text-based, examples of their work. This technology enables them to:

- Control who has access to their e-portfolio and for how long.
- Control which artifacts can be viewed.
- Review faculty comments on their work as well as comments and suggestions by peers.
- Submit work online and add the same file into their e-portfolio.

WebCT (now Blackboard) was the first vendor of a widely-used courseware tool to offer higher education an integrated e-portfolio tool. The WebCT/Blackboard Portfolio tool, released summer 2006, integrates with WebCT facilitating one time submittal of artifacts into the system. Students can easily submit assignments and participate in discussions via WebCT and with one click have those included in their e-portfolio as a potential artifact for viewing by others.

E-portfolios aid students in planning and assessing their own learning both academically and professionally, serving multiple career-building purposes and ultimately remaining a work in progress. E-portfolios require hard work and effort. They lend themselves to one's autonomy and creativity. They are a valuable tool—that those of us concerned about effective teaching and lifelong learning—must explore.

Author's Note:

UNI is beginning implementation of the WebCT/Blackboard Portfolio tool that integrates with WebCT which is used widely across campus. This implementation is the result of faculty and student demand and interest as measured in surveys, informational seminars, and one-on-one discussions. During the fall of 2006, several faculty will be learning the tool and participate in a pilot of its use during the spring 2007. Approximately 200-250 students will be part of the pilot. Once feedback from the pilot has been evaluated, rollout for the entire campus is anticipated for spring 2008. Several informational seminars will be held during the 2006-2007 academic year. Workshops for faculty and students will be developed and delivered and consultations with individual departments will occur.

Brief List of Resources and/or Current e-Portfolio Projects:

- The Collaboratory Project, Northwestern, <http://collaboratory.nunet.net>
- Folio Thinking: Personal Learning Portfolios, Stanford, <http://scil.stanford.edu/research/projects/folio.html>
- Catalyst Portfolio Tool, University of Washington, www.catalyst.washington.edu
- MnSCU e-folio, Minnesota State Colleges and Universities, www.Efoliomn.com
- The Kalamazoo College Portfolio, Kalamazoo College, www.kzoo.edu/pfolio
- Web Portfolio, St. Olaf College, www.stolaf.edu/depts/cis/web_portfolios.htm
- The Diagnostic Digital Portfolio (DDP), Alverno College, www.Ddp.alverno.edu/
- E-Portfolio Portal, University of Wisconsin-Madison, <http://portfolios.education.wisc.edu/>
- Helen Barrett's site, <http://www.electronicportfolios.com/>

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