The e-Portfolio – What it Is and How it Is Being Used

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Abstract

MDE students Carol Cron and Donna Ballard investigate the emerging trend of the e-portfolio, delving into the history of this updated version of the paper portfolio. They researched the way the e-portfolio is being used in the field of education and how it is being used in the business world. As it is used in education, it is particularly useful as a critical thinking tool and in encouraging self-learning by the student. While the e-portfolio is often used as an assessment tool, the authors found that Barrett (2005) distinguished between assessment FOR learning and assessment OF learning. They highlight how the e-portfolio is particularly relevant to the field of distance education. Using the e-portfolio in business is convenient for the lifelong learner who is active in adding to their certificates and badges representing significant learning and wants employers or potential employers to be able to easily see that more clearly than a line on a resume. The authors investigate the ways to create an e-portfolio and note that Ward (2011) suggests the e-portfolio platform can be bought, borrowed, built or adapted. Finally, Cron and Ballard looked at standards in this emerging technology, and suggested in lieu of documented models the e-portfolio creator follow industry standards for creating a resume – that it be perfect, free of errors, look professional and present an accurate representation of the user.

The e-Portfolio – What it Is and How it Is Being Used

As technology has expanded and learning has taken new directions during all stages of life, new concepts have emerged such as the e-portfolio, and other well-known concepts have taken on a new relevance, such as lifelong learning. Baris and Tosun (2011) suggest that the expansion of technology has dispelled some of the borders of learning, which results in the continuous learning need – or lifelong learning. People record their accomplishments, employment, studies and general new learning in a curriculum vita, a resume, online in a blog or wiki, or a paper portfolio, often in a binder so different types of examples can be included. When recorded in a digital format, however, the e-portfolio emerges as an accessible, convenient and portable way to collect and display one's accomplishments. Technology has changed the way that resumes can be provided to prospective employers and the use of the e-portfolio has only begun to scratch the surface as an employment tool. Using e-portfolios as a learning tool for students is a rapidly-growing technology that will not only enhance a student's cognitive skills but also improve writing skills needed for every facet of life. This paper will look at the history of the e-portfolio, why they have become popular, the primary uses of them, and whether they are effective in the current ways they are being used.

History of the E-Portfolio

From a pedagogical point of view, a portfolio, according to Mautadin, Santally and Boojhawon (2012), was meant to enrich the assessment process by bringing out and illuminating the broad range of skills and understanding of a student and to show change and growth over a period of time. While the original portfolio was the artist's book of their works, a definition of the portfolio is typically a collection of works, usually presented "in the form of documents,

drawings, achievements, assignments, essays, or other related work" (Mautadin et al., 2012, p. 8). It usually should represent the student's best work or efforts and have sample documents selected by the student that show "growth and development toward mastering identified outcomes" (Mautadin et al., 2012, p. 8). Other purposes of the portfolio include "encouraging self-directed learning, demonstrating progress toward identified outcomes, creating an intersection for instruction and assessment; and providing a way for students to value themselves as learners" (Mautadin et al., 2012, p. 9). The advent of technology has revolutionized virtually every aspect of our world, so it was a natural transformation for the portfolio to become the e-portfolio.

Definitions of the e-Portfolio

What is an e-portfolio? Wheeler (2003), as cited in Ritzhaupt, Singh, Seyferth and Dedrick (2008) suggests that the e-portfolio can be a "collection of purposefully organized artifacts that support backward and forward reflection to augment and assess growth over time" (p. 49). Siemens (2004) defines an e-portfolio as an electronic management system that allows individuals to store their work and to explore their learning process digitally. Finally, Mautadin (2012) defines an e-portfolio as a collection of accomplishments that can represent a group, an institution, individuals or an organization. The items in the collection can include projects, art work, papers/articles written or presentations in a digital format. This collection can be in just one format, or it can be in a combination of formats of text, graphic and multimedia saved on a website, or other electronic media such a CD-ROM or flash drive.

Current Uses of the e-Portfolio

Cameron (2012) discusses two types of professional use of the e-portfolio – for recognition of prior learning and for professional recognition. The author found in a two year

Australian study that using the e-portfolio for professional recognition is more dominant than using it for recognition of prior learning. Hyland (2012) studied the use of the e-portfolio in higher education in graduate capstone courses as a tool for heightening not only the critical thinking of students but also increasing their self-directed learning. The e-portfolio was also found to have a positive impact on the leadership shown by both the teacher and the administrator. Hyland (2012) found that these graduate education leadership students recognized the "transformative opportunities embedded in the e-portfolio vehicle and process . . . and provided lenses through which to reflect on participants' own professional development and accomplishments in new ways" (Hyland, 2012, p. 69).

Mautadin (2012) suggests three types of e-portfolio: developmental, reflective and representational. A developmental e-portfolio chronicles everything during a specific period of time that the owner has done; a reflective e-portfolio has more personal reflection which may include the impact of learning on development; and a representational e-portfolio demonstrates achievements that relate to a specific task or field of work and consequently is more selective. The author suggests different outcomes can be achieved if the three types of e-portfolio are mixed, such as with the capstone e-portfolio for the Master in Distance Education at the University of Maryland University College. Porto (2008) says the MDE e-portfolio documents learning during a particular period of time; reflects on the impact of the learning and how it has been and can be applied; and includes significant representational assignments created during the period of study.

There are many uses currently seen for the e-portfolio, which include application for a job or college admission; transition from one environment to another (such as a career change); learning, teaching and assessment, as discussed above, and personal development planning and

continuing professional development, which support and document "the pursuit and achievement of personal or professional competencies" (Mautadin, 2012, p. 10).

Emerging Trend – Using an e-Portfolio in Education

Batson (2012) describes the e-portfolio as an "active repository" and an "electronic record" of an individual's many learning experiences, inside and outside the classroom. The e-portfolio is capable of holding all forms of media and/or links to media that an individual has contributed to or authored. The e-portfolio is mobile with anytime, anywhere access which fits into the learning needs of today's students. Barrett (2005) describes an e-portfolio as the voice of a learner where the learner is the builder and owner of a story that tells of their learning experiences.

There are many uses for the e-portfolio that can provide information to institutions of prior learning experiences. Batson (2012) uses the term "DIY [do it yourself] Learners" to represent the learners in today's society. So many individuals are returning to school due to many factors, such as loss of a job, the need to upgrade skills for promotion or individuals wanting to completely change their careers. Barrett (2005) says using an e-portfolio to record academic achievements as well as job skills will provide a clean and precise record for prospective employers – like a digital resume. An e-portfolio can also be used to record life and work experience for an educational institution to consider for credits towards a degree.

Critical Thinking

Barrett and Wilkerson (2004) refer to critical thinking as "deep learning" and suggest that to be a deep learner takes reflection by the learner. Critical thinking aids in the development of learning skills and helps the learner to be more proactive in their life-long learning.

With the use of an e-portfolio students are able to reflect on what they have learned, thus using it as a tool to record their educational experiences and work lives. The e-portfolio is an ever-evolving documentation of knowledge, skills and abilities as well as critical thinking and analysis. The ability to incorporate this "durable learning" as Barrett and Wilkerson (2004) put it, leads to the success of students in all facets of their educational and/or work lives.

Self-Learning Value

The use of an e-portfolio provides students with a way to evaluate their ability to learn, to reflect and analyze, rather than to just memorize work or perform well on tests. Excerpts from an interesting chart provided by Barrett (2005) show a comparison of the e-portfolio in what she calls "assessment OF learning vs. assessment FOR learning."

Portfolios used for Assessment OF Learning	Portfolios used for Assessment FOR Learning
The institution states the portfolio purpose	The learner agrees to the portfolio purpose
The institution states what artifacts are to be included so instruction outcome can be determined	The learner chooses what to include that best tells their learning story
A time limit is assigned to create a portfolio – at the end of a class or at the end of a program	With no time limit, the student has the flexibility to work on it continuously during a class or for the duration of the program
A rating/grade is assigned to the portfolio from a prior established set of rules	The learner and instructor review and discuss content to enhance learning
Construction of portfolio is set to specific standards with outlined goals and outcomes	The learner has the flexibility to construct their portfolio with input from instructor
Can be used for substantial outcomes	Not often used for substantial conclusions
Used to determine learning outcomes to date	Used to determine future learning outcomes
External action to complete the e-portfolio is present	Learner is motivated to complete as a participant in their own learning
Reviewer(s) of portfolio are pre-determined	Learner has flexibility to determine viewer(s)

* Barrett, H.C. (2005). *White paper: Researching e-portfolios and learner engagement*. The Reflect Initiative, Researching Electronic Portfolios: Learning, Engagement, Collaboration, Through Technology, p18.

Advantages and Disadvantages of Using the e-Portfolio in Education

Instructors can use student e-portfolios to assess the progression of cognitive skills (Luchoomun, McLuckie, and vanWesel, 2010) as well as review the artifacts placed in the e-

portfolio for relevance to the course taken. Additionally, they say the e-portfolio provides a vehicle for students to develop their critical learning/cognitive skills. These authors suggest that for e-learning to reflect on and analyze the meaning of material builds a disciplined mind as well as prepares learners for deciphering other issues/problems they may experience in life and/or further education.

From an instructor's standpoint a major disadvantage with having students use an e-portfolio to chronicle their learning experience is the time the instructor must devote to reading individual e-portfolios. Karaoglan and Ertaul (2010) point out that although students completing e-portfolios are finding it to be a useful learning tool, they tend to leave completion of the e-portfolio until near the end of class, rather than working on it progressively during the course term. Instructors who do not include in the class rubric set dates for completion of each of the sections of the e-portfolio find themselves mired in reading assessments. Berge (2012), one of the instructors for the UMUC MDE capstone course, sets specific dates for an outline of the portfolio, a partially completed draft of the e-portfolio and then a final e-portfolio, with all hyperlinks working. He asks the student to point out any substantially new material added between the first and second draft. If the e-portfolio is to be a compilation of material learned in a particular class, waiting until the end of the class may cause the student to become overwhelmed trying to reply to learning outcomes from each of the lessons and having to rely on memory of the material rather than commenting as each lesson is completed.

Significance to Distance Education

The cornerstone of learning in the online environment is for students to think critically and learn on their own with guidance and feedback from professors. Peters (2001) states the student is ultimately responsible for understanding, comprehending and analyzing the course

content rather than just memorizing it. Through the use of e-portfolios students are able to get a value from their self-learning that enables them to measure their growth as students as well as life-long learners and use that knowledge in their chosen careers. The two most important elements that present themselves when discussing the significance of the e-portfolio to distance education are the development of critical thinking and the value of self-learning to the lifelong learning skills of students.

Current Uses of the e-Portfolio for Lifelong Learning and in the Business Environment

Baris and Tosun (2011) describe lifelong learning as not only acquiring but also updating all the various knowledge and skills – including the quality of them, throughout one's life, or "from cradle to grave" (p. 523). This includes pre-school through college, entering and during the career era, and into and through retirement. Keeping a record of the learning is like a scrapbook of one's skills and abilities. A portfolio, or better yet, an e-portfolio, is much more fun and creative than a dry and lengthy resume or curriculum vita. Batson (2012) believes that e-portfolios are records that can be changed, refined and updated at any time the learner chooses with their life accomplishments.

Batson (2012) suggests that e-portfolios have a lot of management tools that can be used to create web presentations for particular purposes. These might include client presentations, proposal presentations or updates to teams located around the country. Because an e-portfolio can hold so many different media, such as documents, spreadsheets, YouTube videos, podcasts and more, if done properly, it can be an attractive and impressive way to make a presentation.

Batson (2012) interviewed e-portfolio manufacturers for their take on the current state of the e-portfolio market. One area of interest on the part of companies is tracking self-paced learning by their employees. They can demonstrate that they have kept up with rapid changes in

the market and new products with the use of an e-portfolio. Another use of the e-portfolio in the corporate world is as a repository for certifications, evidence of participation in a MOOC (massive open online course) and badges. According to Batson (2012) "badges" are a type of documentation by individuals who have participated in projects or worked with an individual or team.

Is the e-Portfolio Useful to Job Candidates and Employers?

Yu (2011) researched the question of the usefulness of the e-portfolio as a tool for college students searching for a job and for employers as they review hundreds of candidates. While the use of the e-portfolio is still relatively new, employers are showing a definite and consistent interest, which suggests the e-portfolio has a promising future for those seeking employment. Yu (2011) suggests employers might use the e-portfolio as a pre-screening tool, as well as final criteria to get a better read of a prospective employee's potential as a good employee and a career learner.

Creating an e-Portfolio

While the main focus of this paper is on the uses and trends of this emerging technology, a short commentary is included on where one would go to look into creating an e-portfolio. A search on the Internet brings up a wealth of information and websites such as the presentation by Ward (2011) to the AAEEBL e-portfolio World Summit 2011, where it is suggested to buy, borrow, build or adapt various options to create an e-portfolio. Commercial packages such as TaskStream, LiveText or Chalk&Wire can be purchased; open source software such as Weebly, Mahara or PebblePad are available for free, with options to upgrade to a license for more options, such as a private domain name or adding video footage. Technology experts can build an e-portfolio system such as Florida State University's Career Portfolio and CSU Chico State's

STEPS for Assessment. The final suggested source from Ward (2011) for creating an e-portfolio

is to adapt wikis or blogs currently available for free such as PBWorks, Wikispaces or

WordPress, or website locations such as Google Sites. Waters (2009) states that Desire2Learn, a

relatively well-known player in the LMS field, is also offering e-portfolio services by baking

social networking into its product offering. The CEO of Desire2Learn says they are exploiting

the power of the social network so they can offer an e-portfolio that resembles a social learning

platform. Regardless of the software used for creating an e-portfolio, they are fitting the mobile

nature of people today, with availability from any browser, many with apps for mobile devices.

Standards among e-Portfolios

As the e-portfolio becomes more and more mainstream, Batson (2012) says the quality of

e-portfolio applications must be able to compete with other Web 2.0 applications. He notes that

LinkedIn and Facebook are not considered to be e-portfolios. While one can post information,

these applications do not support a full e-portfolio presentation. It also is not possible to set

permissions of who can see it and who cannot. On LinkedIn all profiles are identical, but with an

e-portfolio the user can personalize and make the e-portfolio as fun or as professional as desired.

These particular platforms also cannot assist with prior learning assessment because it is not

possible to include evidence of learning. Batson (2012) states that for an e-portfolio to be

effective the technology has to be as easy to use as current social networking tools to compete.

Waters (2009) notes in his article that Desire2Learn was the first e-portfolio provider to be

certified by the "IMS Global Learning Consortium for achieving compliance with IMS Common

Cartridge learning content standards" (Waters, 2009, p.2). These standards by Common

Cartridge were created so that interoperability could exist between the digital learning content

and the e-learning systems. As this emerging trend continues to increase, the most logical

recommendation Cron and Ballard can make regarding standards in the creation and use of the e-portfolio is to follow the industry standards for a resume: make sure it is perfect, there are no errors – typographical or grammatical, it looks professional, and that it presents an accurate representation of the e-portfolio author.

Conclusion

The history of the e-portfolio has shown that the e-portfolio has long origins in not only personal life, but also education and business. Personal use of the portfolio can be seen first as a photo album, morphing into the customized scrapbook; in education first as a journal over the course of a year's study, then to a binder as a paper portfolio, where a student shows a variety of paper projects and documents; and finally, in business as a typical resume to a paper portfolio of business documents such as drawings, presentations and articles. The e-portfolio has brought all of these venues to a bold, eye-catching, multi-dimensional presentation of the user's accomplishments, and all can be attributed to Mautadin's (2012) categories of developmental, reflective and representational in nature. The e-portfolio is used in education in all of these categories in that learning over a period of time is represented; knowledge acquired is reflected on; and skills and abilities that have been developed over a period of time are included. Lifelong learning is represented in the e-portfolio in the form of knowledge, skills and abilities acquired from cradle to grave. Finally, in business companies are using the e-portfolio to collect certifications, badges and documentation for knowledge, skills, abilities and courses. The e-portfolio is an outstanding emerging technology and trend being used today with great promise for the future.

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