

Balancing the Two Faces of E-Portfolios

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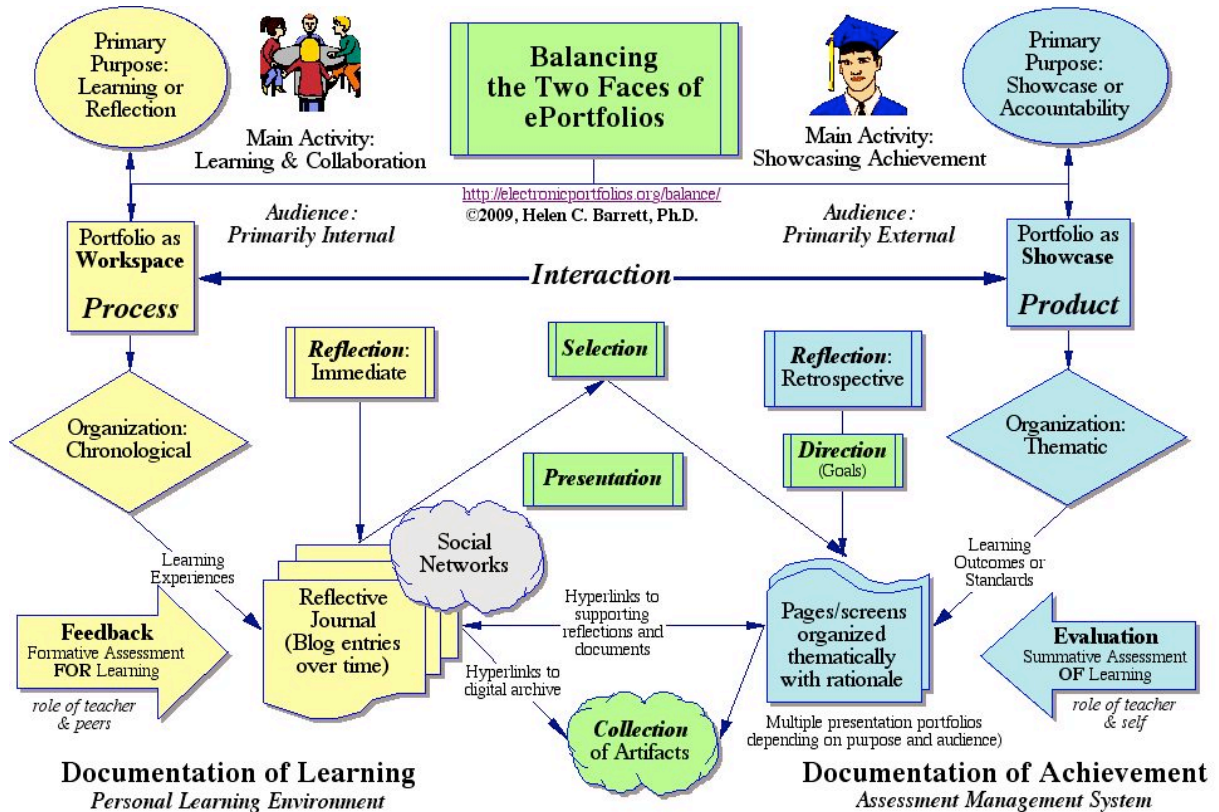


Figure 1. Balancing the Two Faces of E-Portfolios

Learning Objectives

After completing this chapter, you should be able to:

- Explain the two major purposes for developing e-portfolios in education
- Outline how to balance both process and product to enhance learner engagement with the e-portfolio process
- Understand how students' experiences with social networking can contribute to their engagement with e-portfolio development
- Understand the role of intrinsic motivation in the e-portfolio development process
- Outline a developmental process to implement e-portfolios through three levels:
 1. Storage: Collection
 2. Process: Collection + Reflection
 3. Product: Selection/Reflection + Direction + Presentation

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Resources: Dr. Barrett's Website: <http://electronicportfolios.org/>

- Dr. Barrett's Blog: <http://blog.helenbarrett.org/>

- Dr. Barrett's Slides: <http://www.slideshare.net/eportfolios>

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Abstract

This chapter focuses on these two major purposes for developing e-portfolios, and how to balance both approaches to enhance learner engagement with the e-portfolio process. The paper begins by discussing what an e-portfolio is and how several web 2.0 tools can support e-portfolio development. It then focuses on the two main approaches for e-portfolio development: portfolio as *workspace* and portfolio as *showcase*, providing a balanced framework for developing e-portfolios. The role of reflection and intrinsic motivation in e-portfolios are explored, followed by a description of three incremental levels of e-portfolio development, to ease the implementation process.

Introduction

Electronic portfolios, or e-portfolios, have been emerging in education since the birth of the personal computer, making the first appearance on desktop computers, moving to publishing in optical media (CD and DVD discs) and eventually on the Internet in a variety of formats. The more recent changes in the Internet has changed the genre, from a digitized notebook or file folder of documents, to an interactive environment, encouraging conversation about the learning demonstrated in the portfolio. It should be noted that the diagram above has gained a lot of international attention and has been translated into six languages to-date: Spanish, Catalan, Russian, Mandarin, Japanese, and German. These diagrams (and later updates) can be found online: <http://electronicportfolios.org/balance/>

There are the two major approaches to implementing e-portfolios, which could be represented by Janus, the Roman god of gates and doors, beginnings and endings, and hence represented with a double-faced head, each looking in opposite directions. He was worshipped at the beginning of the harvest time, planting, marriage, birth, and other types of beginnings, especially the beginnings of important events in a person's life. Janus also represents the transition between primitive life and civilization, between the countryside and the city, peace and war, and the growing-up of young people, which makes Janus a good metaphor for portfolio development.

Context for E-Portfolio Development in Schools

U. S. National Educational Technology Plan

In 2010, the United States Department of Education has published a National Educational Technology Plan (NETP), where there are two references to electronic portfolios; in the section on Learning:

Technology also gives students opportunities for taking ownership of their learning. Student-managed electronic learning portfolios can be part of a persistent learning record and help students develop the self-awareness required to set their own learning goals, express their own views of their strengths, weaknesses, and achievements, and take responsibility for them. Educators can use them to gauge students' development, and they also can be shared with peers, parents, and others who are part of students' extended network. (p.12)

Later in the publication, in the section on Assessment:

Many schools are using electronic portfolios and other digital records of students' work as a way to demonstrate what they have learned. Although students' digital products are often impressive on their face, a portfolio of student work should be linked to an analytic framework if it is to serve assessment purposes. The portfolio reviewer needs to know what competencies the work is intended to demonstrate, what the standard or criteria for competence are in each area, and what aspects of the work provide evidence of meeting

those criteria. Definitions of desired outcomes and criteria for levels of accomplishment can be expressed in the form of rubrics. (p.34)

This paper discusses how the two approaches described in the NETP (a student-managed learning portfolio and an analytical framework...to serve assessment purposes) can co-exist. I propose that there should be two different environments: one that is student-centered, that allows personalization and communication; and another that can be used to hyperlink into student portfolios to "harvest" assessment data, without interfering with the student-centered representation of learning.

Why E-Portfolios?

An e-portfolio (electronic portfolio) is an electronic collection of evidence that shows your learning journey over time. Portfolios can relate to specific academic fields or your lifelong learning. Evidence may include writing samples, photos, videos, research projects, observations by mentors and peers, and/or reflective thinking. The key aspect of an e-portfolio is your reflection on the evidence, such as why it was chosen and what you learned from the process of developing your e-portfolio. (Adapted from Philippa Butler's "Review of the Literature on Portfolios and Eportfolios." 2006, p. 2.)

The real value of an e-portfolio is in the reflection and learning that is documented therein, not just the collection of work. In fact, here are two insightful quotes from a book and a resource created by JISC in the UK:

- The overarching purpose of portfolios is to create a sense of personal ownership over one's accomplishments, because ownership engenders feelings of pride, responsibility, and dedication. (p.10) - Paris & Ayres.(1994)
- The e-portfolio is the central _and common point for the student experience. It is a reflection of the student as a person undergoing continuous personal development, not just a store of evidence. (Geoff Rebbeck, e-Learning Coordinator, Thanet College, quoted in JISC, 2008)

Karen Barnstable (2010) has produced a great series of blog posts that outline different elements of creating e-portfolios. Her post entitled, "41 Benefits of an ePortfolio," describes the benefits of e-portfolios from both a process and product perspective for Students, Educators, Employers or Corporate Companies. Some examples of benefits for **students**:

...from the PROCESS:

- They will discover a valuable exercise in self assessment through the reflection process
- Learning will take on a new depth through the reflection process
- Their self esteem and self-confidence will be enhanced as they take control of their learning.
- They may develop their own goals for their learning.
- Assessment of their learning may become more student centered; the learner is involved and authorized to make decisions about will be evaluated.
- They will receive more recognition for individual learning abilities and preferences.
- They will learn and begin to practice a process that will be used in life long and life wide learning pursuits.

...from the PRODUCT:

- They will have a tool for personal development.
- They will have a personal learning record.
- They may receive credit for informal and non-formal learning as well as formal learning.
- They will have direction for career planning.
- They will have a tool for feedback from teachers and peers; feedback in the form of comments, as opposed to marks.
- They will have a concrete way of showcasing strengths to teachers or future employers.
- They may have needed documentation for prior learning assessment or program credits.
- They may receive credit towards a course completion or towards graduation
- They will have an extremely portable tool to use no matter where they are in the world.

What digital tools can be used in e-portfolio development?

An e-portfolio is not a specific software package, but more a combination of **process** (a series of activities) and **product** (the end result of the e-portfolio process). Presentation portfolios can be created using a variety of tools, both computer desktop tools and online (Barrett, 2000; Barrett, 2004-2008). Most commercial e-portfolio tools are focused on the *product* (right-hand) side of the diagram above, although some open source tools contain some of the Web 2.0-type tools that enhance the *process* (left-hand) side of the diagram, such as blogs, social networking, and RSS feeds.

It is important to understand that there are two approaches to designing e-portfolios: Expressive and Structured. An **expressive** approach allows students to express their individual personalities through the choices they are able to make about the visual presentation and multimedia components that are included. I call this component **Choice** and **Voice** that leads to more learner ownership over their e-portfolios. A **structured** approach is usually created by an underlying data base format that makes it much easier to collect evaluation data in the analytic framework mentioned in the NETP. The choice between these approaches will impact the intrinsic motivation and attitudes of students toward their e-portfolios. I propose that there are characteristics of social networking that we could apply to the e-portfolio development process that will increase this intrinsic motivation.

There are a variety of tools that can be used to develop e-portfolios, both for individuals and institutions (Barrett, 2007). They can be implemented with desktop tools (i.e., Microsoft Office, Adobe Acrobat) or online tools: Web 2.0 tools, which are mostly free, Open Source tools, or commercial tools that are created as both e-portfolios and assessment management systems. In this chapter, I will focus on tools that are most accessible in K-12 classrooms, including blogs, wikis, and Google Apps Education Edition.

A web log, or **blog**, is an online journal that encourages communication of ideas, and individual entries are usually displayed in reverse-chronological order. Blogs were one of the first Web.2.0 tools, built on an architecture of interaction, allowing subscribing through RSS feeds, and feedback in the form of comments on specific entries. Examples of blogging tools are Blogger, WordPress/EduBlogs, and the Announcements page type in Google Sites. Blogs provide an ideal tool to construct learning journals, as discussed by Crichton and Kopp (2008) from the University of Calgary, and illustrated on the left side of the opening diagram. Their research suggests:

... that eJournals help to make ePortfolios more authentic and relevant to the students' lives. Focusing on reflection and inquiry, [their] study explored the use of social software as a tool to build and sustain a community of practice, recognizing that teacher education lives in a community well beyond the university experience. (p. 2)

According to [Wikipedia](#), "A **wiki** is a collection of Web pages designed to enable anyone with access to contribute or modify content, using a simplified markup language. Wikis are often used to create collaborative websites and to power community websites. The collaborative encyclopedia Wikipedia is one of the best-known wikis." (The first developer of wiki software named it after the WikiWiki Shuttle in the Honolulu airport, because *wiki* meant *quick* in Hawaiian.) A wiki tool can be used to construct hyperlinked web pages, organized thematically, as illustrated on the right side of the diagram above. Examples of wiki tools are Wikispaces, PBWorks and Google Sites.

Here is an excerpt from my blog, written while at the National Educational Computing Conference in June 2008:

I just had a wonderful conversation with a high school English teacher, who used my website for resources on working with her 11th grade students on electronic portfolios (she showed me some examples). She started her students with a blog, but many of them went far beyond the blog and created their own presentation portfolios using one of the Web 2.0 tools. She herself had to use one of the commercial e-portfolio/assessment management systems in her graduate program, and she said, "It took all the thinking out

of it. They gave me the standards and told me which artifacts to put into each one! It wasn't as effective as what my students did!" (Barrett, 2008)

This story points out the challenges we have in the implementation of e-portfolios in education: the tension between what I call the "two different faces" of e-portfolios. I am promoting the concept of two portfolios: the **Working Portfolio**, which WSU (Peterson, 2009) calls the "**workspace**" or some schools have called the [digital] shoebox; and any number of **Presentation Portfolios** (depending on purpose and audience) which WSU calls the "**showcase**" and schools call "showtime!" In order to build more formal presentations, we need the digital archive or the storage of work samples (collection) to draw upon (selection) for inclusion in these presentations.

Social Networking and E-Portfolio Development

How is the current popularity of social networking related to e-portfolio development? (It is having a huge impact on our social and political world!) Social networks have emerged over the last five years, and are used by individuals and groups to store documents and share experiences, showcase accomplishments, communicate and collaborate with friends and family, and, in some cases, facilitate employment searches.

My granddaughter considered signing up for her Facebook account to be a rite of passage on her 13th birthday! Many young people update their Facebook pages on a regular, often daily basis. So think about the engagement factors that drive the use of social networks and how can we incorporate those factors into e-portfolios. How can we integrate e-portfolios with what we know about social learning and interactivity? Adding hyperlinks, images, video and text updates to their social networks provides students with the technology skills necessary to develop an e-portfolio; teachers need to provide the pedagogical support to adapt these skills to the portfolio purpose and environment.

For many reasons, I believe the boundaries are blurring between e-portfolios and social networks. As we consider the potential of lifelong e-portfolios, will they resemble the structured accountability systems that are currently being implemented in many educational institutions? Or are we beginning to see lifelong interactive portfolios emerging as "mash-ups" in the Web 2.0 cloud, using blogs or wikis or Twitter, Facebook or Ning, Flickr or Picasa or YouTube, etc.?

Processes

Here are some basic concepts: "**e-portfolio and social networking are both process and product**"

- **Process:** A series of events (time and effort) to produce a result - From Old French *proces* ("journey")
- **Product:** the outcome/results of an activity/process - the Destination

Portfolio	Social Networking	Technology
Collecting	Connecting ("Friending")	Archiving
Selecting	Sharing (posting/linking/tagging)	Linking/Thinking
Reflecting	Listening (Reading)	Digital Storytelling
Directing/Goals	Responding (Commenting)	Collaborating
Presenting	<i>Interactivity & Collaboration</i>	Publishing

The traditional portfolio literature identifies the processes shown in the left column. The value-added of technology shows in the right column. Social Networking is added in the middle. First, we have the collection process; with technology, that leads to creating a digital archive of the work. The second step involves selecting specific pieces or work from the collection to demonstrate a particular outcome, goal or standard. With technology, selection is often the process of creating **hyperlinks** or **embedding** documents from the digital archive. Some researchers have found that the process of hyperlinking may lead to higher levels of thinking about learning, or meta-cognition.

The process of reflection helps the learner construct meaning from the work they have selected, and technology creates new models of storytelling to help with making meaning. Direction is setting goals for the future, and celebration is a formal exhibition before an audience, either real or virtual. Technology creates new opportunities for collaborating and publishing, especially with Web 2.0 tools. Social networks involves connecting or "friending", listening or reading posts, responding or commenting and sharing through linking or tagging. Social networking has the underlying foundational concepts of interactivity and collaboration.

Reflection in E-Portfolios

John Dewey (1933) discusses both retrospective (for analysis of data) and prospective modes of reflection (for planning). Beck and Bear (2009) studied reflection in the teaching cycle, comparing how pre-service teachers rated the development of their reflection skills in both formative and summative e-folios. The results of this research showed that:

...formative e-folios were rated as superior to summative, in terms of general reflective skill supporting teacher development, improved assessment role competencies, greater understanding of connections between assessment and planning, and relatively high value placed on teacher peer collaboration. (p.2)

Reflection is the "heart and soul" of a portfolio, and is essential to brain-based learning (Kolb, 1984; Zull, 2002). We need to develop strategies that better support reflection in the learning process, supporting different types of reflection to improve learning.

Reflection takes place at several points in time: when the piece of work (an artifact) is saved in the digital archive (a contemporaneous reflection while the work is fresh on our minds... or reflection in the *present* tense)... thus the role of a blogging tool; and when (and if) this piece is included in the more formal presentation/showcase or summative assessment portfolio. The reflection written at this later point of time is more summative or cumulative, providing a much broader perspective on a body of work that represents the author's goals for the showcase portfolio... reflection in the *past* tense. One way to create a presentation/summative portfolio would involve creating hyperlinks to specific blog entries (reflection) that may have documents (artifacts) as attachments. Finally, once we have looked back over our body of work, then we have an opportunity to look forward, setting a direction for future learning through goals... reflection in the *future* tense.

These types of reflection involve two levels of support for reflection: the reflections completed in a blog format would focus on a specific piece of work or learning experience (such as in service learning), and what has been learned while the experience is very fresh or immediate. My current research is on using mobile devices to capture reflection in real time, either through text, photos or recorded voice. The reflection in a presentation portfolio is more of a retrospective as well as an argument, providing a rationale that a collection of work meets specific outcomes or goals (related to the goal of the portfolio). Goals for future learning, which are more prospective, provide a direction to pursue; short-term goals could be part of a reflective journal/blog and long-term goals should be part of a presentation portfolio.

Most e-portfolio systems tend to emphasize the showcase (portfolio as product) rather than the workspace (portfolio as process). There are also two different types of organization: Blogs are organized in reverse chronological order; most showcase portfolios are organized thematically, around a set of learning goals, outcomes or standards. Both levels of reflection and organization are important, and require different strategies for supporting different levels of reflection.

I have developed a website to share ideas on Reflection for Learning:
<https://sites.google.com/site/reflection4learning/>

Intrinsic Motivation in E-Portfolio Development

There are many similarities between the two processes of portfolio development and social networking; the major differences are often in extrinsic vs. intrinsic motivation. Dan Pink describes the essential elements of true (intrinsic) motivation in his new book, *Drive*, the concepts of *autonomy*, *mastery*, and *purpose*. Pink says,

“It is devoted to becoming better and better at something that matters. And it connects that quest for excellence to a larger purpose.” (p. 80-81)

Pink identifies two types of Motivation Behavior: Type X (Extrinsic), fueled by extrinsic rewards or desires. And Type I (Intrinsic), where behavior is self-directed. I am on a campaign to make electronic portfolios a more intrinsically-motivated process.

Autonomy in E-Portfolios

Pink quotes Internet scholar Clay Shirky:

...the most successful websites and electronic forums have a certain Type I approach [to motivation] in their DNA. They're designed--often explicitly--to tap into intrinsic motivation. You can do the same with your online presences if you listen to Shirky and:

- Create an environment that makes people feel good about participating.
- Give users autonomy.
- Keep the system as open as possible.

That's also good advice for developing e-portfolios. The urge for Self-Direction is basic human need. It is a natural state to be Active and Engaged. E-Portfolio Implementation should adopt the motivating characteristics of autonomy found in social networks

- Choice and Voice
- Sharing and Feedback
- Immediacy

Mastery in E-Portfolios

According to a tweet I read from Chris Hamady, "True Mastery is NOT possible without FUN!" There is an inherent exhilaration in Learning. "It's fun to get better at something!" Why do we play sports and games? Is it for *compliance* or *personal mastery*? Look to the Open Source movement (Pink discusses the popularity of user-developed Wikipedia vs. the demise of Microsoft's professionally-produced Encarta). Open source programmers look for a community, a challenge and opportunities to improve their skills, while making a contribution to the greater good.

In their spare time, people gravitate toward activities where they gain mastery. E-portfolio Implementation should adopt the motivating characteristics of mastery found in social networks

- Flow
 - Showcasing Achievements,
 - Increased self-awareness and self-understanding
- “Only engagement can produce Mastery.” (Pink, 2009, p.111)

Csikszentmihályi popularized the concept of Flow as a feeling of energized focus. According to Wikipedia,

Flow is a single-minded immersion and represents perhaps the ultimate in harnessing the emotions in the service of performing and learning. In flow, the emotions are not just contained and channeled, but positive, energized, and aligned with the task at hand. The hallmark of flow is a feeling of spontaneous joy, even rapture, while performing a task.

According to Will Richardson, “Our job in education is to engage, deepen, and extend a student's passions and interests”. Thomas Friedman, in his book, *The World is Flat*, presents this formula: $CQ + PQ > IQ$ [Curiosity plus Passion is greater than Intelligence]

Learners find their voice and passions through choice and personalization! A portfolio is a student's story of his or her own learning. It's positive digital identity development or personal online branding. In my earlier research, some students called their e-portfolios their "Academic MySpace." We should use e-portfolios to document our MASTERY of skills and content. Showcase our achievements! Share our expertise! Support personal & professional development!

Purpose in E-Portfolios

Pink's third concept is Purpose. All of us want to be part of something larger than ourselves. When people learn, they want to know the relevance of what they are learning. The more people understand the big picture, the more they will be engaged. E-portfolios could provide students with a space to explore their life purpose and passions. Here is a good question: Got Purpose? Because Purpose and Passion Co-Exist.

Peter Drucker wrote an article entitled, "Managing Oneself" published in the Harvard Business Review in 1999. I believe the purpose for the article applies to using portfolios in exploring our larger purpose:

"Success in the knowledge economy comes to those who know themselves – their strengths, their values, and how best they perform."

We live in an age of unprecedented opportunity: If you've got ambition and smarts, you can rise to the top of your chosen profession, regardless of where you started out.

But with opportunity comes responsibility. Companies today aren't managing their employees' careers; knowledge workers must, effectively, be their own chief executive officers. It's up to you to carve out your place, to know when to change course, and to keep yourself engaged and productive during a work life that may span some 50 years. To do those things well, you'll need to cultivate a deep understanding of yourself-- not only what your strengths and weaknesses are but also how you learn, how you work with others, what your values are, and where you can make the greatest contribution. Because only when you operate from strengths can you achieve true excellence.

One powerful purpose for e-portfolios is managing knowledge workers' career development, from high school through late career; another opportunity: managing *portfolio careers*. "A portfolio career offers flexible working arrangements to suit people and their personal and professional requirements during the 21st century" (Shaikh, 2009).

Maintaining an e-portfolio can provide an ongoing Personal Learning Environment (PLE) where individuals can develop and manage their own personal SWOT analysis (Strengths, Weaknesses, Opportunities, Threats), while collaborating within their own Personal Learning Network (PLN) using emerging private/public social networking tools. The Drucker article contains the following sections, providing one suggested framework for organizing reflection in a life-planning portfolio: What are my strengths? How do I perform? What are my values? Where do I belong? What should I contribute? We need to begin in schools to help students follow the directive inscribed on Apollo's Oracle of Delphi temple, "Know Thyself," which can lead to a lifetime of investigation.

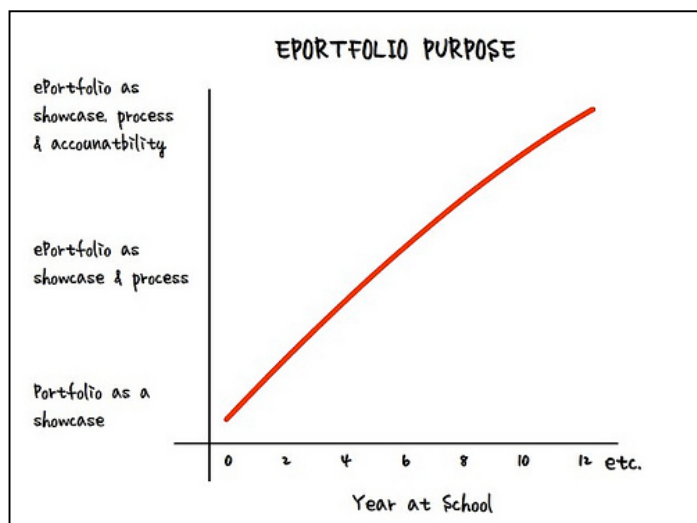
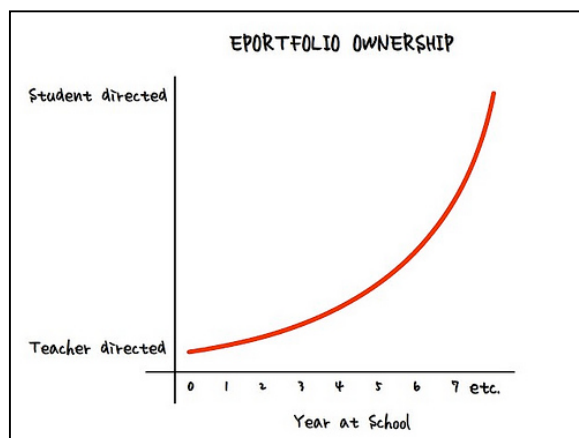
Levels of E-Portfolio Development in K-12 Schools

Most of the research on the implementation of electronic portfolios has been in higher education. Most of the customized e-portfolio tools, both commercial and open source, have been created in and for higher education, whereas the paper-based portfolio process itself began in K-12 schools. Over the last ten years, there has been a decline in the use of paper portfolios in schools, perhaps due to the dominance of high stakes standardized testing, even though the integration of technology has boomed. Perhaps more K-12 schools will again consider the use of e-portfolios as part of the school reform movement, adapted for the different culture of elementary and secondary schooling. A balanced approach to e-portfolio development would focus on formative, classroom-based assessment *for* learning, which prior research has shown to be the best way to improve student achievement (Black & Wiliam, 1998).

The following section was developed for use in a K-12 school district for implementing electronic portfolios for students across the grade levels (ESUSD, 2009). Any district-wide implementation of electronic portfolios should be addressed as a developmental process, addressing both the diverse and growing technology competency of the students and teachers, as well as the varied experience with the portfolio learning and assessment process. Teachers and schools may start at a minimum level (Level 1--Portfolio as Storage) and build toward higher levels of implementation as they gain skills and comfort with the portfolio process. These levels are described below. The diagrams focus on the use of Google Apps Education Edition as the specific Web 2.0 environment.

The question of when to start implementing e-portfolios with students will depend on the technology skills of both the students and the teachers. Kindergarten teachers have found success in blogging with their students, creating a class portfolio that is shared with parents. By about the third or fourth grade, students can usually manage the technology, if there is adequate technology access. Nick Rate (2009) of New Zealand, provided this diagram to show the ownership of e-portfolios, gradually moving from teacher-directed to student-directed through the first few years of schooling. His second image shows the transition in e-portfolio purpose across the school years.

I am writing a book that will go into much more detail on specific implementation at different student grade levels (K-3, 4-8, 9-12) and with different Web 2.0 tools. The following levels are designed to adapt to both the technology competency as well as academic levels.



Level 1: Portfolio as Storage/Collection

Collection regularly – weekly/monthly—with a Focus on Contents & Digital Conversion

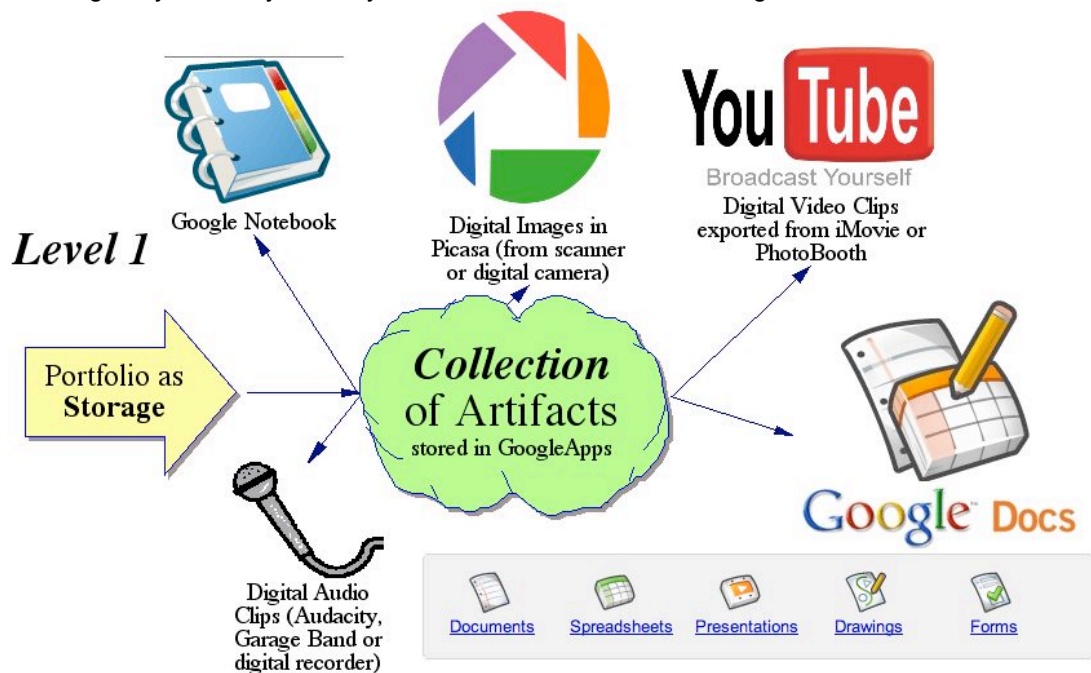


Figure 2. Level 1 Portfolio as Storage

Key Features:

- Digital Conversion (Collection)
- Artifacts represent integration of technology in one curriculum area (i.e., Language Arts)

The most basic level of creating an electronic portfolio is the collection of work in a digital archive, stored on a server, whether locally or on the Internet. At this level, teachers might choose one curriculum area to store student work samples (for example, writing samples in Language Arts). At this basic level, the teacher or the student stores the artifacts in a hierarchical set of folders on a server, or the technology choices might also include Google Docs organized by collections/tags.

The basic activity at this level is converting student work into digital formats and saving these documents in the designated storage space (NOT on individual laptops or desktop computers or flash drives). The role of the teacher at this level is to provide students with guidance on the types of artifacts to save, and how to save them.

Level 2: Portfolio as Workspace/Process

Collection + Reflection (Immediate Reflection on Learning & Artifacts in Collection) (regularly) A Focus on Process & Documentation of Learning

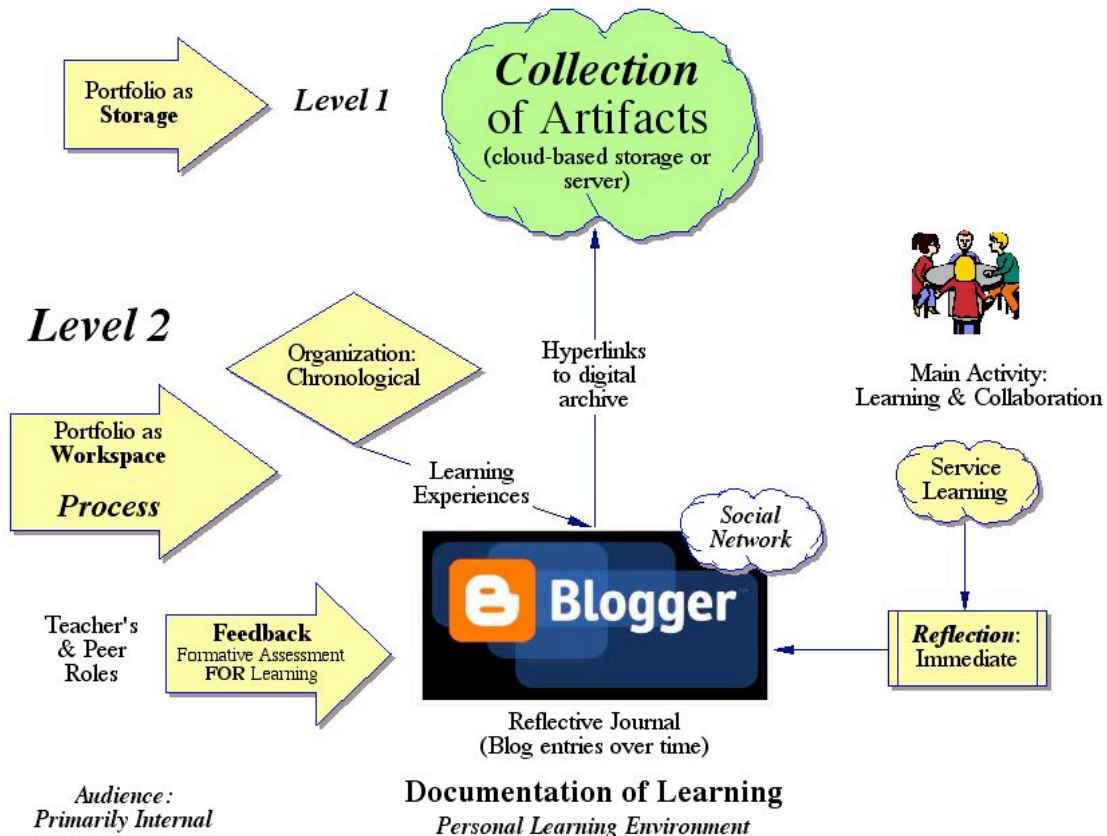


Figure 3. Portfolio as Workspace

Key Features:

- Organized chronologically (in a blog/reflective journal) -- "Academic MySpace"
- Captions focus on individual assignments (Background Information on assignment, Response)
- Artifacts represent integration of technology in more than one curriculum area
- Reflection on Learning Activities that don't result in an artifact, such as Service Learning

At this level, a learner keeps a learning journal (organized chronologically, with a blog) and reflects on their learning as represented in the samples of their work (artifacts stored in the Digital Archive) or attached/linked to a blog entry. Teachers may set up a structure for student reflection (fill in the blanks in a "Mad Lib, or provide a set of questions to answer about each assignment). This reflective journal can be used to reflect on (and document) service learning activities. Students may also use their journals to set short-term goals for their learning.

At this level, the artifacts should represent more than a single curriculum area, and demonstrate the many ways that students are using technology across the curriculum. The primary role of the teacher at this level is to provide formative feedback on the students' work so that they can recognize opportunities for improvement. For younger students, the teacher can help them collect and select appropriate work samples to showcase learning over time. The advantage of this approach is that it is familiar to students (many students are used to blogging in MySpace or Facebook), and is a logical way to document learning and change over time.

Level 3: Portfolio as Showcase/Product

Selection/Reflection + Direction + Presentation (each semester? End of year?) A Focus on Product & Documentation of Achievement

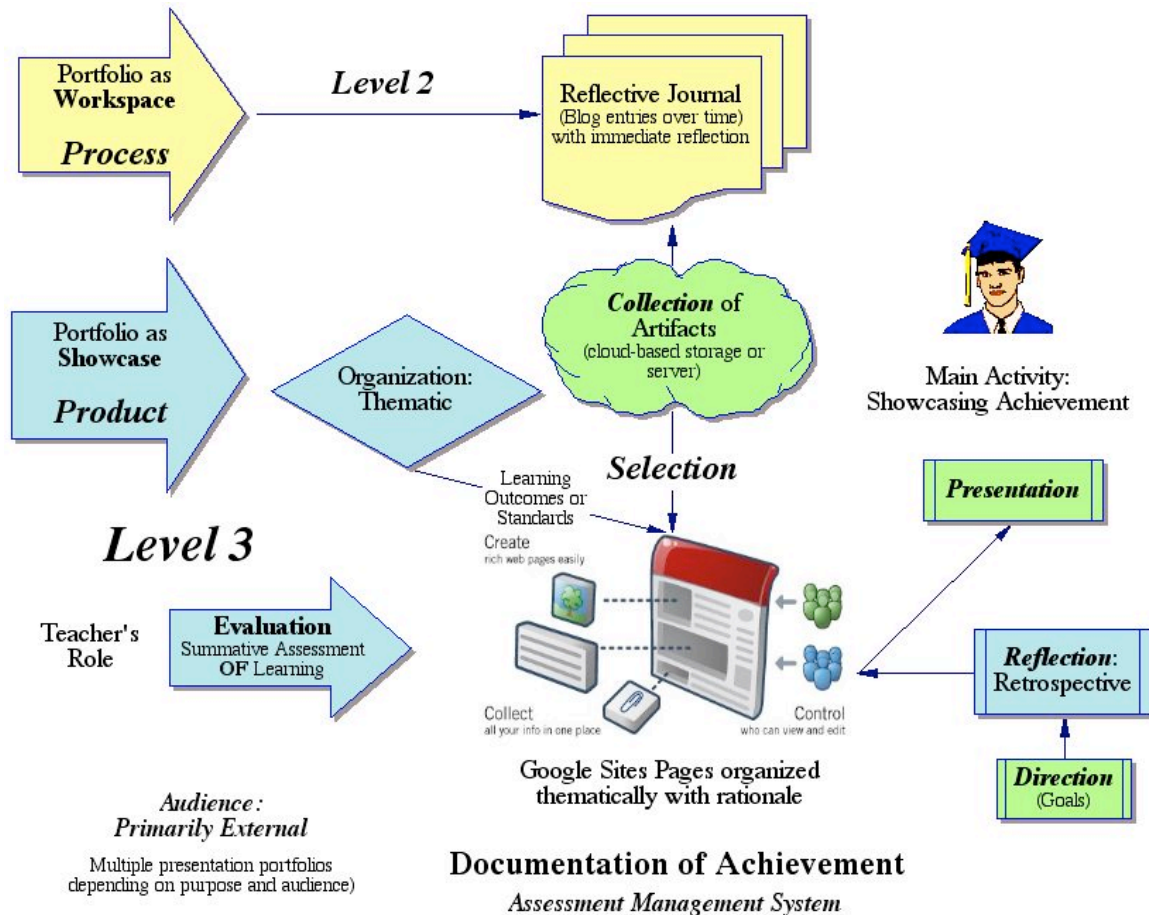


Figure 4. Portfolio as Showcase

Key Features:

- Organized thematically (in web pages or wiki)
- Focus of reflection: retrospective
Why did I choose these pieces? What am I most proud to highlight about my work?
What does this work show about my learning?
What more can I learn (Direction: Goals for the Future)?
- Presentation (annually)

This level of portfolio development requires the student to organize one or more presentation portfolios around a set of learning outcomes, goals or standards (depending on purpose and audience). The presentation portfolio can be developed with a variety of tools, but usually consists of a set of hyperlinked web pages. Some schools may choose to have the students use a web page authoring tool, such as Dreamweaver or iWeb, giving students different options for publishing their websites: locally on the school server, on a CD-Recordable disc, or on a publicly-accessible website (with parent permission). Other schools may choose to use server-based wiki software, or an online system such as Google Sites, or Digication.

The student reflects on the achievement of specific outcomes, goals or standards, based on guidance provided by the school, hyperlinking to the supporting documents. This level of reflection is more retrospective, thinking back over the learning represented in the specific artifacts selected

as evidence of learning. In many ways, this reflection is the students' "closing argument" or their rationale for why they believe these artifacts are clear evidence of their achievement.

In addition to answering the "What?" and "So What?" questions, students should also address the "Now What?" question, or include future learning goals in their presentation portfolios. At the end of the year, a school may organize an opportunity for a formal presentation of the portfolio before a committee or a larger audience. The teacher's role at this level is not only to provide feedback on the students' work, but also to validate the students' self-assessment of their work.

Suggested Implementation Calendar

Here is what calendar of implementation might look like over the school year:

	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Level 1 – Collection	X	X	X	X	X	X	X	X	X
Level 2 – Collection + Reflection & Peer/Teacher Feedback		X	X	X	X	X	X	X	X
Level 3 – Selection/Reflection+ Direction + Presentation & Self/Teacher Evaluation					?				XXX

The process of collection and reflection should be integrated into the day-to-day classroom experience, guided by teachers but implemented by students. The most important part of this process is students' reflections and the feedback provided by peers and teachers (formative assessment). The process of selecting specific pieces of work to demonstrate specific outcomes, goals or standards, may be developed at the end of a term, but is most likely an end-of-the-year activity. It is at that time students create a rationale for each outcome/goal/standard (their "argument" for why they think these artifacts demonstrate their achievement). For purposes of summative assessment, teachers then may evaluate this self-assessment, not the individual artifacts (which may have already been evaluated during the normal teaching/learning process).

Summary

Here is a comparison of the two sides of the e-portfolio development process.

E-Portfolio as Workspace/Process	E-Portfolio as Showcase/Product
<ul style="list-style-type: none"> • The Collection or Digital Archive • Repository of Artifacts Personal Information Reflective Journal • Portfolio as Process • Organization: Chronological – *eDOL (Electronic Documentation of Learning – Crichton & Kopp (2008) Documenting growth over time for both internal and external audiences • Primary Purpose: Learning or Reflection • Reflection: Immediate (focus on artifact or learning experience) - Reflection in the present tense 	<ul style="list-style-type: none"> • The “Story” or Narrative • Multiple Views (public/private) Varied Audiences (varied permissions) Varied Purposes • Portfolio as Product • Organization: Thematic – Electronic Portfolio documenting achievement of Standards, Goals or Learning Outcomes for primarily external audiences • Primary Purpose: Accountability or Showcase • Reflection: Retrospective (focus on achievement or thematic organization) - Reflection in the past tense • Reflection: Prospective (Direction) - Set goals for future learning - Reflection in the future tense
<p>Procedure: on a daily/weekly basis - Levels 1 & 2</p> <ul style="list-style-type: none"> • Integrate technology across the curriculum (generate digital artifacts to store in online repository/ digital archive) • Maintain a reflective journal in the form of a blog (organized in reverse-chronological order) • When saving items in digital archive, link to a blog entry that contains an immediate reflection on the document and/or the learning associated with an experience (such as service learning) - <i>reflection in the present tense</i> • Create a label or tag that categorizes the entry (with attached artifact, where appropriate) by learning standard/goal/outcome • Provide feedback to learner in the form of comments in the blog or collaborative editing (by teachers and/or peers) • Periodically review the collection for evidence of growth/change over time 	<p>Procedure: on a periodic basis (end of class/term/year) - Level 3</p> <ul style="list-style-type: none"> • Review the blog entries and collected evidence and Select specific entries to demonstrate the achievement of the selected standards/goals/outcomes • Use the tags/labels in blog entries to review all entries that match selected criteria (generate pages within the blog) • Reflect on why the selected artifacts (with associated reflections) constitute evidence of achieving specific standards/goals/outcomes (retrospective reflection... <i>in the past tense</i>) • Write future learning goals related to specific standards/goals/outcomes (prospective reflection/direction... <i>in the future tense</i>) • Organize a hyperlinked presentation of evidence (with reflections) • Present portfolio to an audience (either real or virtual) • Evaluate the learner's self-assessment of the achievement of the standards/ goals/ outcomes that are presented (by teachers and others)

A Final Word

Do your e-portfolios have Voice? As Maya Angelou said, "When words are infused by the human voice, they come alive." I recommend incorporating audio and video into portfolios, both as rich artifacts and to facilitate reflection through digital storytelling... and student love it!

Do your portfolios represent individual identity, include reflection, and provide an opportunity to make meaning? Learn from Dan Pink and adopt elements of intrinsic motivation into the portfolio development process. E-Portfolios are essential for 21st Century Literacy because they give students the opportunity to build a positive digital identity and establish their online brand.

As I close this chapter, I want remind us that reflection and relationships are the "heart and soul" of both portfolios and social networking... NOT the Technology! My final wish to you is that all your electronic portfolios (and social networking) become dynamic celebrations and stories of deep learning across the lifespan.

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