

ePortfolio Beyond the Classroom: Managing Human Capital, Social Capital and Digital Identity

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Abstract

The ePortfolio is an tool with multiple uses inside and beyond the classroom. In the context of the workplace and lifelong learning, an ePortfolio is a tool for managing human capital assets, developing and utilizing social capital, and ultimately for management of digital identity. An ePortfolio can be created and used by individuals, communities and/or organizations to archive and share learning and culture acquired from informal, non-formal and formal learning environments; provide evidence or verification of learning in a dynamic, multimedia fashion; manage personal and collective learning to maximize usage and to plan; and showcase or promote particular assets as required. The implications of ePortfolio for managing human capital and social capital are important to individual productivity and collective socio-economic development, and the consequent concept of digital identity requires a moment of sober second thought.

ePortfolio Introduction

The ePortfolio, a tool increasingly used in the classroom and in eLearning, is an electronic portfolio of learning acquired from all learning environments—a digitally created and managed archive of acquired skills and knowledge. Beyond the classroom, it has a vast array of applications that represent both opportunities and challenges to all of us.

The ePortfolio is “a collection of authentic and diverse evidence, drawn from a larger archive representing what a person or organization has learned over time on which the person or organization has reflected, and designed for presentation to one or more audiences for a particular rhetorical purpose” as defined by the National Learning Infrastructure Initiative (2003). Therefore, the term ePortfolio is shorthand for two items—the digital archive and the presentation drawn from it. It is also shorthand for both process and product. ePortfolio tools help creators to identify and reflect on the outcomes of learning experiences, then present that learning in a purpose-driven presentation. An ePortfolio can be created and used by individuals, communities and/or organizations to (1) archive and share learning and culture acquired from informal, non-formal and formal learning environments; (2) provide evidence or verification of learning in a dynamic, multimedia fashion; (3) manage personal and collective learning to maximize usage and to plan; and (4) showcase or promote particular assets as required.

FuturEd has studied and promoted the ePortfolio since 1996.¹ FuturEd asserts that the ePortfolio is linked closely with:

- human resources development and *Human Capital Management*²—as the means of identifying and managing what a person and a group of persons knows and can do;
- *lifelong learning*³—as the method of tracking and recognizing ongoing learning, as an incentive to the lifelong learning requirement;
- *Prior Learning Assessment*⁴—as the outcome of the PLA process of exploring and determining an individual’s non-formal and informal learning;
- *education and training at all levels* (K–12, Public Service Employee (PSE) and workplace)— as a teaching tool (reflection as a basis for learning), as a learning management tool (e.g., project-based learning); as an alternative form of learning assessment;⁵ and as a tool for transparency and trust between institutions and nations;⁶
- *eLearning*—as a type of Knowledge Management, a part of a Student Information System and a potential form of “Usable Learned Object” (building on the concept or Reusable Learning Object, this shifts the focus to the learner, i.e. the impact of learning) repository;
- *learning organizations*⁷—as a means of tracking and developing human and capital assets; assisting professional development of employees within organizations across sectors; assessing and demonstrating continuous improvement and quality;
- *community economic development*⁸—as an inventory of collective community human capital assets;
- *future learning systems*⁹ that rely less on credentials and more on competencies;
- *cultural archiving*, through digital storytelling, of traditional and indigenous wisdom, particularly for First Nations and Aboriginal youth, elders and communities;¹⁰ and

- *organizational accountability*¹¹—as a transparent tools for setting out achievements against standards for excellence for quality assurance;
- *social networking and social capital development*¹²through the development and use virtual communities;
- *return on investment in eLearning*¹³—examining the tangible and intangible ePortfolio costs and benefits, the intended and unintended outcomes;
- *digital identity* and the creation of secure, private digital archives for all citizens.¹⁴

From this study and advocacy, from research,¹⁵ an international project to create quality standards,¹⁶ and tools created,¹⁷ FuturEd has concluded that the term “ePortfolio” is used to encompass (1) tools, products and systems that can be used by (2) individuals, educators, employers and entire nations for the purposes of (3) describing, assessing, recognizing and using knowledge and skills acquired (4) through all forms of learning—informal, formal, non–formal, accidental and incidental (5) with evidence that is digitally created, stored and managed through (6) practices that meet standards assure transportability, usability, and security.

ePortfolio in the Classroom

The most common use of the ePortfolio is in the classroom. In education and training at all levels—elementary and secondary, adult and higher education, and workplace training, the ePortfolio can be:

- a learning tool (reflection as a basis for learning),
- a learning management tool (e.g., project–based learning);
- a transition tool between learning systems; and
- an alternative form of learning assessment.

For students, the portfolio can be a demonstration of achievement and change from learning inside and outside the classroom, the beginning of a lifelong learning record. Students should be able to take their secondary school portfolios to higher education for appropriate placement and for a continued learning record, into the workplace to show employers what they can do, then into a lifetime of learning (human and social capital development). For teachers, the portfolio is a tool for (1) teaching skills, both ICT (information and communication technologies) skills and reflective learning skills; (2) assessing student’s prior knowledge; (3) alternative assessment, to supplement traditional assessment techniques; and (4) learning management, assessing learning against curriculum outcomes. For both, it is a communication tool and a practical application of important ICT and media skills. For education systems, cumulative student portfolios become a tool for organizational accountability, setting out achievements and measuring progress against objectives and standards of learning excellence. For all, it is the beginning of managing learning in new ways appropriate to the Knowledge Based Economy (KBE). The concept of an ePortfolio has been most advanced in formal education and training. However, it has implications well beyond how it is used in the classroom, i.e., for the new management of learning, and ultimately for digital identity.

The New Management of Learning

Currently, we formally manage learning by awarding and expecting credentials; this has been the function of the formal education system and various professional bodies. Employers use credentials as an approximate proxy for acquired skills and knowledge, and have, until now, had few other efficient tools for assessing actual skills and knowledge that individuals represent. We now understand that people acquire skills and knowledge from formal learning, from informal and non–formal learning in the workplace and the community, from accidental and incidental learning in travel and human relations, but until we had an ePortfolio, we had no tool for manage that learning effectively and efficiently. We need to manage learning differently.

An ePortfolio enables recognition to all forms of learning, and more importantly, the opportunity to *use* all forms of learning for the good of the individual, community, enterprise or nation. A purported ePortfolio that contains only formal learning is a simple digital transcript. The ePortfolio can be an alternative

credential for those without formal credentials, such as early school leavers, and for those without recognized credentials, such as foreign-trained workers. In an era of skills shortages, we can't afford to squander uncredentialed skills. For some, the ePortfolio is a form of knowledge management superior to a reliance on formal credentials.

Formal Credentials	ePortfolio Alternative
Reflects time spent in class	Reflects time spent learning
Represents questionable proficiency	Presents evidence-based proficiency
Used as a proxy for skills and knowledge	Is a statement of actual skills and knowledge
Is dated	Is "living"
Is of variable quality	Is systematic
Includes formal learning only	Values all types learning

FuturEd calls the ePortfolio the New Management of Learning. Through the ePortfolio, Human Capital Assets Management (HCAM) and Social Capital Management (SCM) enable better use of human resources, recognition of foreign work experience and qualifications, more efficient training and increased return on investment in learning, increased productivity, promotion of lifelong learning and development of the eLearning industry worldwide.

ePortfolio for Human Capital Assets Management

Problems associated with developing and managing human capital assets in the workplace have bolstered the development of ePortfolio in the workplace. In the Knowledge-based Economy (KBE), workers of all types are becoming more mobile, while most credentialing and professional accreditation bodies are geographically-bound. This dilemma results in a need to find ways of promoting transferability and transparency of credentials, together with stimulating lifelong learning for the KBE.

The concept of Human Capital Assets Management (HCAM) has been explored and developed by the OECD and FuturEd as a means to understand and implement the necessary adaptations individuals and nations must make to measure and utilize knowledge assets—knowledge resident in human beings—in relation to economic performance and prosperity. The implementation of HCAM is an OECD-recommended means of improving the efficiency of human capital investment and utilization. In 1996, the OECD concluded that public policy must focus on the development of better signals for competence validations, valuation, accounting and financial reporting. Firms had begun to think of employees as investments rather than costs, and as the cost-to-investment-based thinking evolved, the transition continued towards full accounting of human capital investments as assets that produce returns over an extended period of time. The OECD publications *Measuring What People Know: Human Capital Accounting for the Knowledge Economy*¹⁸ and *Human Capital Investment: An International Comparison*¹⁹ extend the treatment of physical capital to human capital in a discussion of knowledge production, diffusion and consumption in light of the disciplines of economics, accounting and education.

Human capital is defined as *the knowledge that individuals acquire during their life and use to produce goods and services or ideas in market or non-market circumstances*.²⁰ According to the OECD, this definition of human capital is non-committal about the source, nature or validation of embodied competences; and helps to focus on two issues: (1) the productive capacity arising from knowledge; and (2) the utility of improving the methods for assessing the productive capacity of human capital. HCAM is a method of systematically identifying, measuring and presenting information about the human resources of an organization. It is related to and sometimes confused with such other concepts as intellectual capital, intellectual potential,²¹ knowledge management, and intangible investments.²² FuturEd has concluded that the concept of HCAM is also directly related to human resources management in the knowledge economy, lifelong learning, assessment and recognition of prior learning, electronic labour market information, knowledge management, and the ePortfolio.

The ePortfolio becomes the tool for promoting and managing human capital through lifelong learning. An ePortfolio, in a sense, can become an alternative credential and/or a more accurate statement of qualifications. On one hand, HCAM addresses the challenge to the reliance on credentials for

employment and advancement. There is a growing body of literature about rampant credentialism and the dubious utility of some academic credentials. The OECD acknowledges that “usually education certificates are used to measure actual competencies, but these achievement certificates are imprecise at best.”²³ The OECD foresees a situation where “any new investment in learning will be undertaken with more attention to type, method and content. In other words, quality of education will be more important than quantity.”²⁴ The ePortfolio facilitates, perhaps encourages, the acquisition and recognition of skills and knowledge outside the formal credential–acquisition system. On the other hand, while individuals and all of society are urged to adopt lifelong and life–wide learning, there is an acknowledged lack of incentives other than formal credentials. The OECD asserts that individuals need to be able to see their investments in skill formation as a lifelong commitment to building assets. It has been hypothesized that an ePortfolio, by accurately reflecting an individual’s acquired skills and knowledge, could increase access to training, appropriate employment and/or career advancement –ostensibly incentives for some. As noted by the OECD, the continuing emphasis on lifelong learning reinforces the need to reform the information and decision–making mechanisms that determine learning acquisition choices. They recommend that “reforms should take into account, for individuals, their lifetime pattern of investment in human capital, and for institutions, the existence of multiple distinct learning pathways and the need for mobility and linkages between them.”²⁵

To implement HCAM and an ePortfolio system, a nation–wide effort may be required. The OECD notes that firms do not have the capabilities or financial means to pursue assessments that are often imprecise or expensive; nor do they have the negotiating experience to allow them to enter into contracts that explicitly validate the estimated value to the firm of a person’s acquired skills. “In the absence of nation–wide efforts to establish appropriate and affordable human capital information and decision–making systems, firms are unable or unwilling to develop such systems on their own are likely to suffer from lower productivity growth and reduced ability to compete because they will be less effective and efficient in acquiring and using human–embodied knowledge.”²⁶ To this end, the OECD acknowledged Prior Learning Assessment as a most promising area of innovation, referring to it as “achievement–based evaluation of human capital accumulation.” They note that “explicitly negotiated and transparent links between competence validation and market validation have not yet been made; however...there is a new and growing potential to turn measurement into valuation as new active labour market policies are combined with reform of educational financing and closer ties between learning institutions and the workplace.”²⁷ The ePortfolio is the tool that now makes this possible.

ePortfolio for Social Capital Development and Management

Another way of examining the benefits of an ePortfolio in the context of the workplace and lifelong learning relate to the development and utilization of social capital. Social capital is a socio–economic concept with a variety of inter–related definitions, based on the value of social networks (definition taken from Wikipedia). French sociologist Bourdieu²⁸ defined social capital as “made up of social obligations which is convertible, in certain conditions, into economic capital.” For contemporary purposes, social capital is the value of social obligations or contacts formed through a social network; and social networks are the medium through which social capital is created, maintained, and used. In short, social networks convey social capital. For a time in the late 1990s, the concept was highly fashionable, with the World Bank devoting a research programme to it, and the concept achieving public awareness through Robert Putnam’s 2000 book, *Bowling Alone*.

Social capital development is particularly important, for example, in the context of skilled immigrants because, on the one hand, they have lost their social networks “back home” and on the other hand, benefit from the creation new social networks in their new country. According to Jacobs (1961), “When social capital is lost, from whatever cause, the income from it disappears, never to return until and unless new capital is slowly and chancily accumulated.”

According to Johnson,²⁹ it would be nearly impossible for humans to exist without the benefits derived from social learning, participation in social institutions (such as family, community, coordinating behaviours, and norms), and information transference. Fundamentally, these activities are a function of interaction. When complemented with accumulated labour, these activities result

in the accumulation of all forms of capital. She notes that capital can be embodied in four forms: physical, human, cultural, and social. "The potential complementarity of production of different forms of capital is exemplified in the process of obtaining a degree from a distinguished institution of higher education. It can be assumed that human capital is created on the way to obtaining such a degree. Social capital may be created because classmates may keep up their networks of friendship and reciprocity. Cultural capital may be accumulated in two forms: institutional and embodied. Institutional cultural capital is accumulated because some status or benefit is bestowed on an individual by matriculating at such a distinguished institution. Embodied cultural capital, the ability to participate in society with regard to social or cultural institutions, may be gleaned through repeated interaction with other individuals while in the university environment."

The concepts of social and cultural capital are abstract, intangible, and oftentimes non-transferable as assets. They both share the necessity for social interaction in their creation and use. However they are fundamentally different in that social capital resides in other people and the embodied state of cultural capital resides within a person, much like human capital. This is one of the two basic functions of social capital: (1) as a source of social control, and (2) as a source of benefits through networks. The most common function of social capital is acting as a source of network-mediated benefits beyond the immediate family, in promoting or achieving access to employment, mobility, and entrepreneurial success. This is the utility, for some, of such social networking tools as weblogs (blogs), web tools such as MySpace and Xtopia, virtual learning environments such as ELGG and Epsilon. As a social networking tool, the ePortfolio is a means to develop social capital: friends, colleagues, and more general contacts to use for financial and human capital development, perhaps as references or collaborators.

ePortfolio as Digital Identity

Individuals may choose to develop and use ePortfolios for the demonstration of achievement and management of their own lifelong learning. However, there is increasing awareness that Internet tools create a digital identity for almost anyone. If we want to know something about someone, we "Google" them. A simple stop at Zoominfo.com shows us what others can view as our involuntary ePortfolio. Like it or not, there is a great deal of digital material available on most citizens, and some of us would like to take control of it. In our digital archives, we may assemble all the formal, digital records that exist about us, created by ourselves and/or created by others, e.g., health providers and police departments.

Entire nations may provide the opportunity for citizens to have a digital archive. This is a complex public policy area to be explored. Visionaries argue that, in a digital world, each person must be able to present him/herself digitally. Cautionaries argue that our unofficial digital identities already present opportunities for identity theft and other forms of fraud. There is a great deal of digital information "out there" for each and every person; and the personal archive becomes a place to assemble that information and take ownership of it. ePortfolio tools provide for transparency of credentials and work experience to enable recognition of foreign credentials and to promote labour mobility. There is vast utility to a digital archive and a digital identity for all citizens, as an opportunity and not a requirement. Ultimately, the ePortfolio is about managing one's digital identity – clearly a public policy minefield. When educators jump on the ePortfolio bandwagon, they need to be thinking ahead.

An ePortfolio for Every Citizen! One ePortfolio for Life! Since 2004, these have been the rallying cries of the Learning Innovations Forum d'Innovations d'Apprentissage (LifIA) and the European Institute for eLearning (EIfEL) in their combined, worldwide advocacy and research efforts. *One ePortfolio for Life* means that a person should be able to carry his/her ePortfolio for a lifetime, from school to work to retirement; i.e., there should be no need to recreate one's ePortfolio; there should be return on the initial investment in an ePortfolio. With the rapid proliferation of ePortfolio initiatives and competing interests, there is an urgent need for collaboration between ePortfolio initiatives. By *An ePortfolio for Every Citizen* we really mean that every citizen should have the opportunity to create and maintain a digital archive – a place on the Internet to collect and use digital materials created by oneself and others, a place to create and manage both social and human capital assets, a place that is owned by the individual, unquestionably secure, and accessible only by whomever the individual allows.

As you read this, you may be thinking that you haven't worked on your own ePortfolio yet. Wrong. There's one out there on you. Wouldn't you like to be in charge of it?

- 1 [Digital Learning Record \(ePortfolio\) Background Paper](#) (Barker, 1996).
- 2 [The ePortfolio and Human Capital Accounting](#) FuturEd White Paper(Barker, 2003)
- 3 [The ePortfolio and HRD Policy Goals](#) FuturEd While Paper (Barker, 2003)
- 4 [The Electronic Learning Record: Assessment of Skills and Knowledge](#) (Barker, 1999)
- 5 [ePortfolio for the Assessment of Learning](#) FuturEd White Paper (Barker, 2005)
- 6 [ePortfolio and eLearning Quality Standards: Tools for Trust, Transparency and Transportability at VUSCC](#) (Barker presentation to the Commonwealth of Learning, 2006)
- 7 [Introducing the ePortfolio: The New Management of Learning](#) (Barker presentation, 2004)
- 8 [Community ePortfolio for Community Economic Development](#) (Barker, 2003)
- 9 [The Future of the ePortfolio, the Future With the ePortfolio](#) (Barker presentation, 2005)
- 10 [The Canadian eParfleche Project: ePortfolio for Aboriginal Communities](#) (Barker presentation, 2004)
- 11 [ePortfolio for eLearning Quality Assurance](#) (Barker presentation, 2005)
- 12 [Environmental Scan: ePortfolio in General and in the Workplace Specifically](#) (Barker, 2006)
- 13 [Return on Investment in eLearning: Discussion and ROI Tool](#) (Barker, 2005)
- 14 [ePortfolio in 2006: A Call to Action](#) (Barker, 2006)
- 15 [Assessment and Management of Learning: ePortfolio Research Report](#) (Barker, 2000)
- 16 [ePortfolio Quality Standards Discussion Paper](#) (Barker 2003) and [ePortfolio Quality Standards](#) (FuturEd, 2004)
- 17 [Consumers Guide to ePortfolio Tools and Services](#) (FuturEd, 2004)
- 18 *Measuring What People Know: Human Capital Accounting for the Knowledge Economy* (OECD, 1996)
- 19 *Human Capital Investment: An International Comparison* (OECD, 1998)
- 20 *Measuring What People Know: Human Capital Accounting for the Knowledge Economy* (OECD, 1996), p. 22.
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- 24 *Redefining Tertiary Education* (Wagner, 1998) accessed at <http://www.oecd.org/publications/observer/214/article4-eng.htm>
- 25 *Measuring What People Know: Human Capital Accounting for the Knowledge Economy* (OECD, 1996), p.73.
- 26 *Ibid.*, p. 54.
- 27 *Ibid.*, p. 59.
- 28 Bourdieu, P. (1986). The forms of capital. In J. G. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 239–258). New York: Greenwood Press.
- 29 Johnson, C. (2003). A model of social capital formation. SRDC: Working Paper Series 03-01