Paper Title:

Experiential Learning E-Portfolios: Promoting Connections Between Academic and Workplace Learning Utilizing Information And Communication Technologies

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Presentation Date:

April 16th, 2009 at the American Educational Research Association Conference Workplace Learning Special Interest Group paper session.

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Abstract

The purpose of this paper is to examine the experiential learning e-portfolio's potential to promote connections between academic and workplace learning (Brown, 2000, 2002). Sometimes referred to as the Digital Notebook, the e-portfolio allows learners to trace the development of their thinking and learning over time and to show their competencies to the university and to employers (Maloney, 2007).

The paper focuses on the use of information and communication technologies (ICTs) in experiential or career-based e-portfolios developed by adult learners to connect learning in educational institutions to that of the workplace. Two case studies of e-portfolio pilot programs are described by the author to support the value of e-portfolios in demonstrating and articulating on-the-job knowledge acquisition equitable to college-level learning. Surveys of the study participants and a focus group of the first group were used to gain an understanding of e-portfolio development from the adult learners' perspective. The results indicate that participants increased their technical skills and demonstration of learning in a high tech format and more fully recognized the connection between academic and professional competencies. Thus, the recognition of the workplace as an important site of learning and theory building may be enhanced by the creation of work-based e-portfolios for the benefit of the individual, the academy and the workplace. In the case of the experiential learning e-portfolio, the utilization of photos, videos, hyperlinks and other information and communication technologies has the potential to

present a different dynamic to the process of assessing college-level no matter where it occurs (Contains 3 survey Figures, 3 Tables, 1 Survey Written Response set).

Introduction

The paper begins with some background on experiential learning portfolios in general followed by a brief review of ideas on the learning process. This section also includes theoretical precepts on workplace learning, e-portfolios and learning, and how experiences are transformed into learning. This is followed by a description of two case studies of pilot e-portfolio programs. Survey results from these studies are presented suggesting the augmentation of technical, professional and academic competencies through e-portfolio development. The paper ends with concluding remarks by the author including implications for further research.

Background

The experiential learning portfolio in adult higher education is a purposeful compilation of document-supported descriptions of learning outcomes acquired from workplace and personal experiences. Portfolios have been used in the United States in adult undergraduate programs since the late 1960s to gain college credit toward degree completion (Michaelson & Mandell, 2004). In addition to their popularity in hundreds of colleges and universities in the USA (Flint et al, 1999), portfolios are accepted in higher education institutions in Canada, Australia, the European Union and South Africa (Evans, 1999; Hall, 1991; Osman, 2002).

Experiential learning portfolios are currently developed in a variety of media including paper, web-based, and on CD ROMs (Brown, 2005). As a prior learning assessment option they are intended to validate academic equitable learning from real-

world settings. To this end they validate work environments as venues for higher level knowledge acquisition. For the student/worker the bonus feature of an e-portfolio allows them to demonstrate visibly and audibly what they have learned throughout their careers. Therefore, in addition to gaining credits toward degree completion, the outcome of e-portfolio development may contribute to improved employability and personal empowerment (EIfEL, 2008; Herman & Kirkup, 2008).

Theoretical Framework

Many Paths to Learning.

It is well known in the literature that individuals learn in a multitude of places and ways. Briefly, early behaviorists emphasized reinforcement, rewards, conditioning and an emphasis on the external environment rather than the individual in producing learning (Skinner, 1962; Thorndike, 1913). Gestalt ideas stressed the internal processes of insight and discovery within the individual (Kohler, 1957) while cognitive psychologists emphasized prior experience and scaffolding (Piaget, 1972; Ausubel, Novack & Hanesian, 1978) in the learning process. The humanists (Maslow, 1970; Rogers, 1983) explored an individual's affective domain as well as intellect in the learning process.

In the 1960s the principles of andragogy highlighted the unique characteristics that adults bring to the learning process and ignited an interest in lifelong learning as did the social learning theories of Bandura (1970) and Vygotsky (1978), the developmental psychology work of Levinson (1986). Learning across the lifespan and in multiple contexts supported the implications of situated cognition whereby learning is "recognizing the inextricability of thinking and the context in which it occurs, and exploiting the inherent significance of real-life contexts in learning" (Choi & Hannafin,

1995, p. 53). These precepts helped to open the door to the validity of learning acquired in venues outside of formal classrooms.

By the 1990s Mezirow's (1996) transformative theory on learning—with an emphasis on critical reflection and resulting changes in the learner's behavior became recognized by educators and the developmental constructivist work of Kegan (1994) that linked knowledge acquisition to learners' (re)discovery, construction and meaning making in increasingly complex cognitive ways of interpreting life events.

Workplace Learning.

Theories on workplace learning have proliferated in the last two decades. Much of the research has come from Australia and Great Britain as well as the United States.It is well known that in today's workplace, adult learners must not only continuously increase their knowledge base but also be able to use it in new situations and environments (Artino, 2008). Learning from concrete experiences that are related to theoretical concepts provides student/workers with a combination of theory and practice that will serve them well throughout their lives. Experience as well as intellectual prowess can produce a more holistic, balanced form of learning than either alone. Consequently, the workplace and greater community have gained recognition as important sites of learning by recognizing the interplay of practice and theory (Billet, 2008; Boud, 1993; Ellstrom, Ekholm & Ellstrom, 2008). Most recently, the workplace has gained recognition as an important site of learning not only by uncovering tacit learning through practice but also by generating theory (Billet, 2008; Boud, 1998).

Similar to the situated learning ideas of Choi and Hannafin, Lave and Wenger's (1991) work on communities of learning in the workplace have expanded ideas on

learning as situated in actions and inextricably connected to the social environment where it is acquired. Since a great deal of an individual's life is spent at work and the community at-large rather than in the classroom, it is plausible to consider these venues as primary sources of learning. This is underscored by many organizations' dilemma in the face of loosing a large portion of its workforce to the retirement of the baby boomer's generation. How does an institution garner the large amount of tacit knowledge that will disappear with these retirees? One possibility, as discussed below, could be to develop e-portfolios based on workplace learning experience whereby employees can uncover and demonstrate through audio and visual guides what they have learned over decades of employment thus leaving a library of electronic information ready for use by new workers.

E-Portfolios and learning.

In the era of Web 2.0 the construction of knowledge by individuals and groups through wikis, blogs, folksonomies, and mash ups, etc. and the personalization of information (YouTube, MySpace) for social networking is ubiquitous. Consequently, the need to recognize new ways of creating and sharing information through formal and informal education has never been greater. For adult learners the experiential learning e-portfolio recognizes the importance of out-of-class learning experiences by promoting connections among different learning environments. The inclusion of blogs and wikis in e-portfolios enrich the expression of experiential learning just as they do in classroom learning.

Countries in the European Union regard the development of e-portfolios as a critical economic and lifelong learning tool for all of its members. Torhild Slaatto, Chief

of Information and Communication at the Norwegian Association for Distance Education, notes that the European Union is excited about the utilization of e-learning and e-portfolios for students and citizens alike. He quotes the European Institute for E-Learning (EifEL) definition of e-portfolios in a paper he presented at the European Distance and E-Learning Network Conference in Helsinki, Finland in 2005 as follows:

> An e-portfolio is a personal digital collection of information describing and illustrating a person's learning, career, experience and achievements. . . . Technology has rejuvenated the concept of personal portfolios, which are now increasingly being seen as a powerful tool for personal development. The interest of a digital or electronic portfolio resides in it multiple dimensions: it is at the same time a tool for learning and a tool for assessment. In the context of a knowledge society, where being information literate is critical, the portfolio can provide an opportunity to demonstrate one's ability to collect, organize, interpret and reflect on documents and sources of learning (Slaatto, 2005, p. 147, www.eife-l.org/eifel).

It follows that the advent of the postmodern age of information in the last quarter of the 20th century has had a tremendous impact on educational and economic systems both nationally and globally. The introduction of information and communication technologies (ICTs) has also influenced cultures, politics and the workplace as well as teaching and learning. As Dinevski and Psunder (2005) point out, "[education] is not separated from the system of societal values of its period" (p. 394). In their position paper they summarize the new learning processes that have emerged in the last three decades as representing the following shifts:

- From linear to hypermedia learning;
- From instruction to construction and discovery;
- From teacher-centered to learner-centered education
- From absorbing material to learning how to navigate and how to learn;
- From school to lifelong learning;
- From one-size-fits-all to customized learning, and
- From the teacher as transmitter to the teacher as facilitator (Dinevski and Psunder (2005, p. 395).

Experiential learning e-portfolios attend to many of the new processes as an instructional strategy that enables students to capture learning from multiple venues (educational institutions, work, service and community learning) and in a variety of modalities (formal, informal, non-formal). Most important experiential learning e-portfolios recognize the importance of out-of-class learning experiences linking not only various disciplines but a host of learning environments.

The Transformation of Experience to Learning.

One final note on learning no matter when or where it takes place has to do with how experiences lead to learning. While there are several models on this takes place, the author of this study underscores the theories of David Kolb (19984) to explain this phenomena. Kolb's (Kolb & Baker, 1990) four-stage model based on the precepts of Dewey, Piaget and Lewin is most frequently utilized in experiential learning portfolio programs to explain this phenomenon.

- **Stage 1. Concrete Experience**--the learner's focus is on being involved in experiences and dealing with immediate human situations in a personal way.

- **Stage 2. Reflective Observation**--the learner's focus is on understanding the meaning of ideas and situations by carefully observing and impartially describing them.

- **Stage 3. Abstract Conceptualization**--the learner's focus is on using logic, ideas and concepts to form generalizations and theories about the experience.

- **Stage 4. Active Experimentation**--the learner's focus is on actively influencing people and events by testing and applying the resulting concepts in new situations.

Kolb's model (Baker & Kolb, 1990) implies--and others agree-- that no experience can become a learning experience without reflection, analysis and evaluation (Boud, 1998; Sheckley & Keeton, 1997). The portfolio, in general, is designed to enable students to make tacit learning acquired in the workplace explicit through the aforementioned processes. Moreover, it challenges behaviorist performance-based only notions of assessment to value reflection on and in practice (Argyris & Schön, 1978; Marsick, 1990; Schön, 1983).

Methodology

Two e-portfolio pilot program institutional case studies will be examined in regard to the following research question: Does the development of an experiential learning e-portfolio augment the connection between academic and workplace learning?

Setting

Barry University's School of Adult and Continuing Education (ACE) employs a variety of strategies to help non-traditional age students balance the demands of family, work and undergraduate degree completion. Similar to over one thousand colleges and universities in the United States such as New York's Empire State College, Boston University's Metropolitan College, the University of San Francisco's College of Professional Studies, and the University of Maryland's University College, ACE was designed to serve adult learners. This was accomplished by offering night and evening classes, a host of prior learning examinations, (DANTES, CLEP, etc.), and through portfolio evaluation. Since ACE's inception in the mid-1970s portfolios have been a major component of degree completion for over 80% of the school's student body.

At ACE adult learners equate their workplace learning to academic disciplines. This is a key feature of their portfolios that enables them to connect their professional experiential learning to that acquired in college classrooms. Below is an example of how they articulate this connection from a sample portfolio:

Conclusion and Disciplines

1st Discipline

I believe that if called upon to group my collective work experiences within disciplines, they would fall under three headings, General Administration, Communication, and Behavioral Sciences. First of all, I believe that my experiences would largely find a place within the discipline of General Administration, especially within the areas of management and supervision. Although clearly performing supervisory duties to immediate staff as a retail manager and as a Human Resources Manager, the real depth of my experiences can be found in the administration of training seminars. It is here that I must oversee the proper presentation and implementation of programs by coaching and monitoring the progress of instructors, both in-house and subcontracted. I also consider that my experiences as a consultant demonstrate considerable supervisory skills, since my clients require mentoring and continual assessment.

Moreover, as a manager in both the retail and the corporate world, I have amassed a body of experience and knowledge in business administration and management. I believe that my present duties with American Express represent my most comprehensive and advanced knowledge in this area. One must remember that I not only serve as a department manager with all the duties and responsibilities of that post, but I create and implement programs that teach managers how to be better managers. Practicing what my seminars preach, I am constantly finding new ways to improve leadership qualities, to implement Quality principles, to evaluate and assess productivity, to model

effective principles of organizational psychology, and to keep my projects consistent with company philosophies and goals. Considering the above, I would like to allocate 50 percent of my total credits awarded to the area of General Administration.

Undoubtedly, a large portion of my experience has been dedicated to practicing and developing outstanding communication skills. In order to function as Human Resources Professional, indeed, in order to be an effective supervisor at any level, you must command a sense of diplomatic verbal skills. I believe I am especially well-versed in the area of counseling, an area where I have logged thousands of hours of experience at both Macy's and American Express. About half of my job as Assistant Human Resource Manager and Human Resources Specialist required that I meet with individual employees and groups in order to counsel and coach them in areas of personal and career development, assessing needs and working towards setting attainable behavioral or career goals. 2nd Discipline

My public speaking abilities have been clearly demonstrated in my various duties as a Human Resources Manager. Presenting seminars, leading discussion-groups, and hosting career-fairs, company events and parties all require knowledge in the subtleties of keeping an audience alert and interested no matter what the subject matter. Consequently, I have decided to allocate 25 percent of my total credits awarded to the area of Communications.

Lastly, throughout my years as a Human Resources Professional, I've attained a wealth of hands-on experience in the Behavioral Sciences area of Psychology (interpersonal relations). My Myers-Briggs certification, membership in The Association for Psychological Types, and my continued administration and evaluation of this test, along with 3rd Discipline

my extensive list of workshops (both attended and administered) in such topics as Group Dynamics, Decision Making, Improving Morale, and Stress-Management, all demonstrate a confident acquaintance with the basic principles of human behavior.

From my early work as a manager with The Gap, to my several Human Resources positions, I have continuously exercised my interpersonal skills by combining my innate ability to get along with people with the education that comes with resolving on-the-job conflicts. Patient, engaged, and objective, I have assisted countless employees in resolving problems with supervisors through active listening skills and a respect for the integrity of the individual. I have, in addition, received on-the-job training, and in turn, developed seminars in effective communication and negotiating techniques for senior-level managers.

Furthermore, my Volunteer Work as a Big Sister entailed substantial reading and active learning in the area of developmental psychology as I contended with the needs of a teenage mother. Consequently, I have decided to allocate 25 percent of my overall credits to the Behavioral Sciences.

In 2005 ACE's portfolio department decided to pilot an e-portfolio model. The intent was to enable adult learners to go beyond paper media in the expression of experiential learning from professional and community activities. Administrators and faculty engaged in the portfolio process wanted to explore the potential of experiential learning e-portfolios to augment the connections between academic and workplace learning by allowing learners to communicate *what* they know and also show *how* they know. Through the utilization of various software programs and web-based links, students would have the opportunity to demonstrate learning and increase critical

thinking, creativity and ICT competencies by going beyond the written word. By employing Power Point designs, hyper-linking to web sites, inserting pictures and streaming videos in their portfolios, it was proposed that these additional modes of expression may serve students well in the era of high technology.

Participants Case Study #1

In the first pilot study 15 adult learners (nine females and six males) with a variety of academic majors--and in proximity to each other--volunteered to create experiential learning e-portfolios. They attended a face-to-face portfolio seminar and workshops over a two month period to gain an understanding of the various sections of an experiential learning portfolio. Once completed they attended two hour technical workshops given every three weeks over a four month period. In the workshops they learned how to transform their paper-based portfolios into e-portfolios.

The main components of their e-portfolio consisted of: 1) a Power Point design presentation; 2) a navigation bar to the various sections of the portfolio so faculty evaluators could go from one section to another; 3) a series of hyperlinks to the Web that highlighted organizations and community activities where students gained learning experiences; 4) an area of scanned documentation that supported students' learning claims; and an opportunity to insert digital photographs and streaming video to demonstrate learning. ACE's e-portfolios were posted on the Web though they contained hyperlinks to relevant Web sites. Rather they were burned on CD ROMs for faculty assessment, thus avoiding possible technical problems or unwarranted display of confidential information using the University's server during evaluation.

Criteria for Participation: Here is the list of criteria for participation.

1) Student has been fully accepted and is active.
2) Student has completed English 329 with a C or better or has successfully passed the English Placement/test-out exam.
3) Student is in good academic standing (cumulative GPA of 2.0 in all Barry University course work).
4) Student can document five years of professional work experience and/or community activities.

Incentives: The following incentives were offered to the first pilot participants.

1) Participants will be given an incentive of $300.00 off their portfolio administrative fee if they submit an e-portfolio in the designated timeframe.
2) Participants will increase the body of knowledge on e-portfolio development.

Student Support/Requirements: Listed below is additional support and requirements that each participant accepted.

1. Willing and able to participate in 30 minute pre and post interviews concerning your anticipated and completed portfolio development experiences
2. Attend portfolio seminar in Summer 2005 (June)
3. Attend portfolio workshops
    a. Summer and Fall - Development Workshops - held in Merritt Island and Orlando
    b. Fall - Technical Workshops - at Merritt Island only
4. Submit ELEP in Spring A or Spring B 2006
5. Submit ELEP on disks or CD-ROM
6. Participants will be given an incentive off their portfolio administrative fee
7. Willing to sign a letter of commitment sent out by Dr. Judy Brown
8. Intake by respective advisors
9. Utilize Black Board (training provided)
10. Grant permission to use ELEP as a model

Data Collection and Analysis

The participants were surveyed on 25 questions that ranged from technical, professional and academic competencies both before and after e-portfolio development (see Appendix A). Additionally, they participated in a focus group after e-portfolio development in which they discussed their experiences in the pilot program. Pre e-portfolio development survey responses were quantified using descriptive statistics and analyzed in comparison to post e-portfolio survey responses. The focus group session of

participants was transcribed and major themes were coded and compared/contrasted to survey results.

Additionally, five faculty e-portfolio evaluators were asked to write the program administrator for their views, positive and negative, on assessing e-portfolios in contrast to paper media portfolios.

Participants Case Study #2

In January 2007 a second pilot program was launched. Nine students throughout ACE's state-wide system agreed to participate in e-portfolio development. Due to the distance between ACE sites face-to-face sessions for technical support have been eliminated. In their place on-line Blackboard tutorials with voice-overs and professor support through e-mail and telephone (if needed) have been instituted. Moreover, all participants must have completed introductory software application programs including understanding of Power Point, hyper-linking and scanning of documents. Thus, in the second pilot we strove to mitigate many of the concerns of additional time by selecting adult learners who have a basic understanding of ICTs.

Criteria for Participation: The major difference in criteria between the first pilot participants and the second pilot participants was criterion # 6—computer program proficiency.

1) Student has been fully accepted and is active.
2) Student has completed English 329 with a C or better or has successfully passed the English Placement/test-out exam.
3) Student is in good academic standing (cumulative GPA of 2.0 in all Barry University course work).
4) Student can document five years of professional work experience and/or community activities.
5) Student has completed or tested out of Computer Sciences 102.

Incentives: No monetary incentives were offered to students in the second pilot. However, they were encouraged to expand their competencies by using a high tech format.

Student Support/Requirements: The major difference for the second pilot participants in this area is that all technical training and guidance was through on-line, not face to face, communication.

1. Attend a regular Portfolio Seminar (if you haven't already) in January or early February 2007 followed by a Portfolio Workshop in February/March 2007 (3-4 sessions @ 2 hours each).
2. Begin technical workshops through Blackboard at your own pace with on-line support from ACE IT faculty.
3. Hand in your e-portfolio in Fall A or B 2007.
4. There is no penalty if you do not complete the pilot.

Data Collection and Analysis

This pilot was completed in the fall of 2007 with the submission of five e-portfolios. No pre surveys were administered for this small group, however, three of the five participants answered a questionnaire on their development experiences (see Appendix B). The data from each pilot was compared and contrasted during the analysis phase of the study. Suggestions for the improvement of on-line tutorials, guidance materials, faculty training needs, etc. were assessed and the e-portfolio program was evaluated for system-wide implementation. The program was approved as an option for all ACE students in the fall of 2008.

Results

Case Study #1

Ten students completed the first pilot which ended in 2006. Findings from focus groups and pre and post surveys of the students indicated that the creation of an e-portfolio augmented and demonstrated their technical skills while increasing their academic skills and understanding of workplace learning (Appendix A). In all 25 post-

test questions students indicated a gain of 10-60% in technical, professional and academic competencies. In the area of technical competencies the greatest areas of increased proficiency were for questions # 7-10 Appendix A (creating hyperlinks, inserting videos, scanning documents and burning CD ROMs). In the area of participants' perceptions of their professional competencies all responses increased by 10% to strongly agree (questions # 11-18 Appendix A) which supported previous studies of adult learners who developed paper-media portfolios, Brown, 2002). The final group of questions (#19-25 Appendix A) surveyed students concerning their academic competencies before and after e-portfolio development. Here, similar to the post e-portfolio responses to increases in technical skills, participants indicated between a 20%-40% increase in competencies in the post survey.

As noted above, the data supports previous studies on the increase in learning from the portfolio development process in the areas of better understanding work place learning and increasing academic competencies (e.g. communication, critical thinking, reflection, etc.) that would serve adult student/workers well in their careers. Moreover, it also indicates augmentation of technical skills so vital for a 21st century workforce.

Less positive responses were indicated in the focus group transcript. In general, the adult participants indicated the creation of an e-portfolio compounded their portfolio workload; learning how to transform a paper media portfolio into an e-format proved challenging and time consuming for most participants. The only exception was for the student who was already majoring in information technology. Based on this information, the participants in the second pilot were required to have a background in computer sciences including Power Point, hyper-linking and scanning procedures.

Case Study #2

Three additional post development questionnaires were completed by participants in the second pilot program. Even with this participant number limitation, the participants described their learning from the e-portfolio process (see Appendix B). The participants were pleased with their e-portfolio experience skills in the expression of their workplace-based experiential learning. Most important, in addition to the augmentation of their technical skills and demonstration of learning in a high tech format, they increased their recognition of their learning in the workplace and better understood the connection between academic and professional competencies.

This, albeit, small group of participants were enthusiastic about the e-portfolios they developed. I refer the reader to their written responses in Appendix B for a more complete understanding of their perspectives on all aspects of the e-portfolio pilot.

Case Studies #1 and #2: Faculty Views

Faculty evaluators in both pilot programs, in general, recognized the potential of e-portfolios to connect academic and workplace learning but, like students, had to adjust to a learning curve created by the use of ICTs. Faculty interviewed during the e-portfolio pilots at Barry University—even those who taught programs in information technology, were weary of the authenticity of scanned documents in the e-portfolios as compared to viewing original documents in paper-media portfolios. In order to mitigate this problem portfolio intake staff (all student portfolios, especially documentation, must be signed off by the school's portfolio intake staff) included a written document with the e-portfolios verifying seeing original documents that were scanned. Other issues that faculty

evaluators were concerned about were learning how to navigate e-portfolios and problems with different levels of software programs utilized by the students and the evaluators.

Conclusions

The importance of recognizing learning no matter where or how it takes place (Kolb, 1984) is a necessity in today's world. It has become clear in the age of high technology that "change is now so great and so far reaching that no amount of education during youth can prepare adults to meet the demands that will be made on them" (Cross, 1991, p.vi). Consequently, "adult and lifelong learning represents a more and more essential part of …traditional educational institutions" (EDEN, 2005, p. i). Learning does not begin or end within formal educational institutions (Cross, 1981). Consequently, it is incumbent on the academy to continue to explore new ways of learning and to acknowledge a broad concept and approach to teaching and learning in the workplace. As Geser (2007) noted:

> Educational institutions from primary schools to universities and on to lifelong learning providers exist to help people acquire the competencies, knowledge and skills they need as individuals in the political, economic, social and cultural life of a society (p.37).

It follows that the self-inventory process of portfolio development, in general, and the demonstration of knowledge facilitated by e-portfolios, in particular, engenders a powerful tool that promotes connections between academic and workplace/community learning while exhibiting the unique talents of the learner. The recognition of the workplace as an important site of learning and theory building may be enhanced by the creation of work-based e-portfolios for the benefit of the individual, the academy and the workplace.

Implications for Further Research

Academic Quality: The experiential learning e-portfolio expands the emphasis on content knowledge as the primary source of learning to the ability to seek out and evaluate learning from multiple environments. It is learner-constructed and assessed in conjunction with faculty rather than solely faculty-driven and evaluated. Thus, academic quality in the light of 21st century technology needs to be re-explored and redefined through additional studies on learning derived from the workplace, the community at-large and the internet. For example, studies have been conducted by higher education researchers in the European Union and Australia (Billet, 2008; Tynjala, 2008; Ellstrom, Ekholm & Ellstrom, 2008) on theory generation from experiential learning in the arena of work. Their findings on learning environments, outcomes of education and the variety of learning within and between different organizations have contributed to the literature on the types and quality of knowledge acquisition gained outside the academy yet equitable to it. Moreover, the promise of e-portfolios for adult learners as a quality career development and self-assessment tool merits further exploration and study in a competitive global economy (European Distance and E-Learning Network Conference Proceeding, 2007).

Faculty Views: It follows then that faculty perceptions on e-learning and e-portfolios are a vital component of how colleges and universities address learning in the era of ICTs and the internet. As noted in the Results, faculty had genuine concerns about e-portfolio assessment. Research on faculty views on portfolios in general and e-portfolios in particular would be advisable as the student use of ICTs increases.

Final Thoughts

Reading a book, seeing a play, going to the movies—three very different media experiences that each have a unique dynamic and impact on the human psyche. The same can be said when comparing the development of a paper experiential learning portfolio to an e-portfolio. What both have in common is the gaining of personal and professional learning outcomes from the process itself (e.g., communication, organization, self-knowledge)—beyond the reflection, identification, analysis, evaluation and articulation of prior learning from non academic venues. In the case of the experiential learning e-portfolio, the utilization of photos, videos, hyperlinks and other information and communication technologies has the potential to present a different dynamic to the process of assessing workplace learning. "[It] is just one model for thinking about how technology can enhance teaching and learning" (Maloney, 2007, p. 27B).

The promotion of continuity between academics and workplace learning is critical in today's world. The need to recognize new ways of recognizing learning among different disciplines and through nontraditional venues has never been greater. For institutions of higher learning to bypass the workplace as a site of learning would be negligent. By its very nature a portfolio deconstructs barriers between workplace and university learning while maintaining each settings unique contribution to lifelong learning. Portfolio development requires adult learners to reflect on, analyze, evaluate and equate their experiential learning to academic knowledge thus integrating theory and practice in the process. The addition of an e-format to the creation of a portfolio further promotes the connection between the academy and the workplace by allowing students to demonstrate their competencies and skills as well as communicate them in writing

References

Ausubel, D. P. (2000). *The acquisition and retention of knowledge: A cognitive view*. Norwell, MA: Lower Academic Publishers.

Argyris, C. & Schön, D. A. (1978). *Organizational learning: A theory of action perspective.* San Francisco: Jossey-Bass.

Artino A. R. Jr., (2008). *A brief analysis of research on problem-based learning*. On-Line Submission, pp. 11, ED 501593.

Baker, R. J., & Kolb, D. A. (1990). *Learning style exercise.* Boston: McBer & Company.

Bandura, A. (1970). *Social learning theory.* Englewood Cliffs, NJ: Prentice-Hall.

Baskin, P. (April 18th, 2008). Electronic portfolios may answer call for more accountability. *The Chronicle of Higher Education,* Volume LIV, Number 32, pp. A30-A31.

Billet, S. (2008). Learning through work: Exploring instances of relational interdependencies. *International Journal of Educational Research, 47*(4), 232-240.

Boud, D. (1993). Experience as the base for learning. *Higher Education Research and Development, 12*(1), 33-44.

Brown, J. O. (2000). The Portfolio: A Reflective Bridge Connecting the Learner, Higher Education and the Workplace. *The Journal of Continuing Higher Education. 49,* 2, 1-13.

Brown, J. O. (2002). Know Thyself: The Impact of Portfolio Development on Adult Learning. *Adult Education Quarterly. 52,* 3 228-245.

Brown, J. O. (2005). The Portfolio. In Leona M. English (Ed.), *International Encyclopedia of Adult Education* (pp.485-489). UK/USA. Palgrave MacMillan.

Choi, J. & Hannafin, M. (1995). Situated cognition and learning environments: Roles, structures and implications. *Educational Technology, Research and Development,* 43 (2), 53-69.

Creswell, J. W. (1998*). Qualitative inquiry and research design: Choosing among five traditions.* Thousand Oaks, CA: Sage.

Cross, K. P. (1981). *Adults as learners.* San Francisco: Jossey-Bass.

Dewey, J. (1958). *Democracy and education.* New York: Macmillan.

Dinevski, D. and Psunder, M. (2005). Teacher development for lifelong learning. In A. Szucs and I. Bo (Eds.) on behalf of the European Distance and E-Learning Network annual Conference proceedings (pp.394-399). Budapest: University of Technology and Economics.

Evans, N. (Ed.) (1999). *Experiential Learning Around the World.* London: Jessica Kingsley Publishers.

Flint, T. (1999). Prior Learning Assessment: A Status Report. *Assessment and Accountability Forum, 1*(IX), 15-16, 19.

Geser, G. (2007). Competencies for the knowledge society. *Open Educational Practices and Resources.* Salzburg, Austria; Open e-Learning Content Observatory Services.

Hall, J. W. (1991). *Access Through Innovation: New Colleges for New Students* (Continuing Higher Education Series). New York: Macmillan (ERIC Document Reproduction Service No. ED 328 178)

Herman, C. & Kirkup, G. (2008). Learners in transition: the use of ePortfolios for women returners to science, engineering and technology. *Innovations in Education and Teaching Technology (45)*, 1, 67-76.

Kegan, R. (1995). *In over our heads: The mental demands of modern life.* Cambridge, MA: Harvard University Press.

Kohler, W. (1957). *The mentality of apes.* Middlesex, England: Penquin Books.

Knowles, M. S. (1984). *Andragogy in action.* San Francisco: Jossey-Bass.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Lave, J. & Wenger, E. (1991). *Situated learning*. New York: Cambridge Press.

Lindeman, E. C. (1926). *The meaning of education.* New York: Republic Press.

Levinson, D. J. (1978). *The seasons of a man's life.* New York: Knopf.

Maloney, E. J. (January, 2007). What Web 2.0 Can Teach Us About Learning. In *The Chronicle of Higher Education: Information Technology*.pp.B26-B27.

Marsick, V. J. (1990). Action learning and reflection in the workplace. In J. Mezirow (Ed.). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning* (pp. 23-46). San Francisco: Jossey-Bass.

Maslow, A. H. (1970). *Motivation and personality* (2nd ed.). New York: Harper & Row.

Mezirow, J. (1996). Contemporary paradigms of learning. *Adult Education Quarterly, 46*, 158-173.

Michaelson, E. & Mandell, A. (2004). *Portfolio Development and the Assessment of Prior Learning.* Sterling, VA: Stylus.

Perry, W. (1981). Cognitive and ethical growth: The making of meaning. In A. W. Chickering and Associates (Eds.), *The Modern American College* (pp. 72-81). San Francisco: Jossey-Bass.

Maslow, A. H. (1970). *Motivation and personality* (2nd ed.). New York: Harper & Row.

Mezirow, J. (1996). Contemporary paradigms of learning. *Adult Education Quarterly, 46*, 158-173.

Perry, W. (1981). Cognitive and ethical growth: The making of meaning. In A. W. Chickering and Associates (Eds.), *The Modern American College* (pp. 72-81). San Francisco: Jossey-Bass.

Piaget, J. (1972). Intellectual evolution from adolescent to adulthood. *Human Development, 16,* 346-370.

Osman, R. (2003). E-mail correspondence. Johannesburg, South Africa.

Sheckley, B. G. & Keeton, M. T. (2001). *Improving employee development: Perspectives from practice and research.* Bloomington, Indiana: 1st Books Library.

Szucs, A. & Bo, I. (Eds.) on behalf of the European Distance and E-Learning Network annual Conference proceedings. Budapest: University of Technology and Economics.

Skinner, B. F. (1962). *Walden two.* New York: Macmillan.

Thorndike, E. L. (1913). *Educational psychology: The psychology of learning.* New York: Teachers College Press.

Vygotsky, L. S. (1978). *Mind in society.* Cambridge, MA: Harvard University Press.

APPENDIX A (First Pilot)

Pre ELEP Technical Skills Survey of Student Participants
N=10

Using the scale below, rate your current ability with the following:

1= None 2=Poor 3=Fair 4=Good 5=Excellent

1.	Using Microsoft Word	1	2	3	4	5
2.	Using Microsoft PowerPoint	1	2	3	4	5
3.	Using Microsoft Excel	1	2	3	4	5
4.	Using the World Wide Web	1	2	3	4	5
5.	Using/inserting Video in a Word or Power Point document	1	2	3	4	5
6.	Inserting graphics such as Photos/Clip Art in a Word/Power Point document	1	2	3	4	5
7.	Creating Hyperlinks in a Word/Power Point document	1	2	3	4	5
8.	Creating and inserting Videos in a Word/Power Point document	1	2	3	4	5
9.	Saving/burning documents to a CD	1	2	3	4	5
10.	Scanning documents	1	2	3	4	5

Pre ELEP Professional Skills Survey of Student Participants
N=10

Using the scale below, rate your current perception of the following:

1= Strongly Disagree 2=Disagree 3=Somewhat Agree 4=Agree 5=Strongly Agree

11. I have a good understanding of my professional accomplishments	1	2	3	4	5
12. I have pride in my professional Achievements	1	2	3	4	5
13. I have a good understanding of the role of work in my career development	1	2	3	4	5
14. I have a good understanding of how the value of work experiences promote to learning	1	2	3	4	5
15. My understanding of my work accomplishments help me plan my future career goals	1	2	3	4	5
16. I recognize the role of mentors in my career	1	2	3	4	5
17. I understand the role of work in my adult development	1	2	3	4	5
18. I recognize the value of past/present community activities in learning	1	2	3	4	5

Pre ELEP Academic Competencies Survey of Student Participants
N=10

Using the scale below, rate your current perception of the following:

1= Strongly Disagree 2=Disagree 3=Somewhat Agree 4=Agree 5=Strongly Agree

19. I have highly developed written communication skills	1	2	3	4	5
20. I have highly developed critical thinking skills	1	2	3	4	5
21. I have highly developed organizational skills	1	2	3	4	5
22. I have highly developed reflection skills	1	2	3	4	5
23. I have a great deal of self-knowledge	1	2	3	4	5
24. I have a good deal of self-esteem	1	2	3	4	5
25. I have a good deal of self-confidence	1	2	3	4	5

Table 1. ELEP Participants Pre-Test Survey Results N=10

	5= Excellent	4= Good	3= Fair	2= Poor	1= None
Q #1	30%	40%	30%	0%	0%
Q #2	10%	60%	20%	10%	0%
Q #3	20%	40%	30%	10%	0%
Q #4	30%	60%	0%	10%	0%
Q #5	0%	20%	40%	30%	10%
Q #6	30%	50%	0%	20%	0%
Q #7	20%	10%	40%	30%	0%
Q #8	0%	10%	50%	30%	10%
Q #9	10%	40%	40%	10%	0%
Q #10	20%	40%	30%	10%	0%
	5= Strongly Agree	4= Agree	3= Somewhat Disagree	2= Disagree	1= Strongly Disagree
Q #11	50%	40%	0%	10%	0%
Q #12	60%	30%	10%	0%	0%
Q #13	40%	50%	10%	0%	0%
Q #14	70%	20%	10%	0%	0%
Q #15	60%	30%	10%	0%	0%
Q #16	50%	30%	20%	0%	0%
Q #17	60%	30%	10%	0%	0%
Q #18	50%	30%	20%	0%	0%
Q #19	20%	30%	40%	10%	0%
Q #20	50%	10%	40%	0%	0%
Q #21	60%	30%	0%	10%	0%
Q #22	30%	50%	20%	0%	0%
Q #23	30%	50%	10%	0%	0%
Q #24	40%	20%	40%	0%	0%
Q #25	30%	40%	30%	0%	0%

Legend:

Questions 1-10	Questions 11-25
5=None	1= Strongly Disagree
4=Poor	2= Disagree
3=Fair	3= Somewhat Agree
4=Good	4= Agree
5=Excellent	5= Strongly Agree

Table 2. ELEP Participants Post-Test Survey Results N=10 **(Same 25 questions asked in pre survey given after completion of the e-portfolio).**

	5= Excellent	4= Good	3= Fair	2= Poor	1= None
Q #1	50%	40%	10%	0%	0%
Q #2	30%	50%	20%	0%	0%
Q #3	40%	40%	10%	10%	0%
Q #4	70%	10%	20%	0%	0%
Q #5	20%	20%	40%	10%	0%
Q #6	70%	10%	20%	0%	0%
Q #7	50%	40%	10%	0%	0%
Q #8	10%	30%	40%	10%	0%
Q #9	50%	40%	10%	0%	0%
Q #10	70%	30%	0%	0%	0%
	5= Strongly Agree	4= Agree	3= Somewhat Disagree	2= Disagree	1= Strongly Disagree
Q #11	50%	50%	0%	0%	0%
Q #12	80%	20%	0%	0%	0%
Q #13	60%	40%	0%	0%	0%
Q #14	80%	20%	0%	0%	0%
Q #15	70%	20%	10%	0%	0%
Q #16	60%	30%	10%	0%	0%
Q #17	60%	30%	10%	0%	0%
Q #18	45%	55%	0%	0%	0%
Q #19	40%	50%	10%	0%	0%
Q #20	50%	50%	0%	0%	0%
Q #21	60%	40%	0%	0%	0%
Q #22	60%	40%	0%	0%	0%
Q #23	50%	50%	0%	0%	0%
Q #24	40%	60%	0%	0%	0%
Q #25	40%	60%	0%	0%	0%

Legend:

Questions 1-10	Questions 11-25
5=None	1= Strongly Disagree
4=Poor	2= Disagree
3=Fair	3= Somewhat Agree
4=Good	4= Agree
5=Excellent	5= Strongly Agree

APPENDIX B (second pilot—no pre questionnaire)

Post ELEP – Students

Thank you for your participation in our second ELEP pilot. Your participation has provided valuable information and insight into our program. To provide further understanding from a student's perspective and in order to better assist subsequent ELEP students, we are asking you to take a few minutes to complete the following questionnaire.

1) What value, if any, did the electronic version add to your Portfolio experience?
   - It enhanced my PowerPoint presentation skill.
   - It was truly a wonderful experience! Not only did I update my PowerPoint skills, but it is nice to have all of my important documents in an electronic presentation format.
   - I was able to be more imaginative with the PowerPoint presentation, so more of myself came out.

2) Why did you choose to complete the electronic format instead of the paper-based format?
   - I think the electronic format is more creative and is interesting.
   - I liked the fact that you could really make this your own, unique presentation versus the paper format which limited my creativity to some degree.
   - I felt that it would be easier for me with my IT Background, and I did not want to kill a couple of tress to complete my project.

3) Please indicate (X) the materials you utilized during your ELEP development/ completion process and circle or indicate your level of satisfaction for each.

Scale = Strongly Satisfied Satisfied Dissatisfied Strongly Dissatisfied N/A

A. Portfolio Module Guide	Strongly Satisfied Satisfied	2 = 66.7% 1 = 33.3%
B. Technical Module	Strongly Satisfied Satisfied	2 = 66.7% 1 = 33.3%
C. Julia Winthrop Sample – paper-based	Strongly Satisfied Satisfied	2 = 66.7% 1 = 33.3%
D. Julia Winthrop Sample – CD	Strongly Satisfied	3 = 100.0%

E. Black Board (Course Tools)	Strongly Satisfied	2 = 66.7%
	Satisfied	1 = 33.3%
i) Announcements	Strongly Satisfied	2 = 66.7%
	Satisfied	1 = 33.3%
ii) Samples	Strongly Satisfied	2 = 66.7%
	Satisfied	1 = 33.3%
iii) Technical Manual	Strongly Satisfied	2 = 66.7%
	Satisfied	1 = 33.3%
iv) Calendar	Strongly Satisfied	2 = 66.7%
	Satisfied	1 = 33.3%
v) Discussion Board	Strongly Satisfied	1 = 33.3%
	Satisfied	1 = 33.3%
	N/A	1 = 33.3%
a) Questions for the Moderators	Strongly Satisfied	1 = 33.3%
	Satisfied	1 = 33.3%
	N/A	1 = 33.3%
b) Comments & Suggestions	Strongly Satisfied	1 = 33.3%
	Satisfied	1 = 33.3%
	N/A	1 = 33.3%
vi) Contact Us	Strongly Satisfied	2 = 66.7%
	Satisfied	1 = 33.3%
vii) Individual Folders	Strongly Satisfied	2 = 66.7%
	Satisfied	1 = 33.3%
F. Other(_____)	Satisfied	1 = 100.0%

4) If you utilized the Technical Module

A. Were the instructions clearly written?	Yes	3 = 100.0%
B. Were the instructions easy to follow?	Yes	3 = 100.0%
C. Was there any missing material/instructions?	Yes	1 = 33.3%
	No	2 = 66.7%

If yes, please specify (no comments included)

5) If you utilized Black Board, was there anything we could have developed differently?
   - Not at all- very helpful
   - None
   - I was trying to use the Blackboard site like a web class but did not see it utilize by the school very much.

6) What additional resources and materials do you think are necessary for the ELEP program?
   - None that I can think of at the moment
   - None
   - No Comment included

7) What was the most helpful aspect of the current resources available to you?
   - The sample CD
   - Julia Winthrop Sample – CD
   - No Comment included

8) What was the least helpful aspect of the current resources available to you?
   - n/a
   - None
   - The fact you had to make the attachment PDF. Not everyone has that capability and the software is expensive.

9) What technical skill level, if any, do you think a student needs in order to complete the ELEP?
   - A solid background in PowerPoint and an understanding of hyper linking
   - Computer skill is a must, especially familiarity with PowerPoint.
   - They should have Microsoft office and some web to fully develop the project.

10) What advice would you give to students interested in completing an ELEP?
   - I would say to follow the sample CD as closely as possible and touch base with your assigned IT personnel for any technical difficulties you may have.
   - They must have confidence in their computer skills before they choose to do an ELEP.
   - Go for it. I enjoyed the whole experience.

Other Comments:
   - The staff was very helpful and made the completion of my e-port a breeze…
   - It would be nice if we could have more space for creativity portfolio instead of following the format in the sample. You might want to reformat the LAW form. To my knowledge, all of us had trouble with the margin setting when we worked on the LAW form.
   - I enjoyed it; the whole experience was an eye opening experience. Thanks!

Thank you for your time and effort in completing this questionnaire and for your participation in our second ELEP pilot.