

# Eportfolios in Cooperative Education: Do They Work?

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This paper documents the process of integrating eportfolios from the multidisciplinary perspectives of the Schools of Languages, Social Sciences and Education. The experiences of Coordinators, Flexible Learning Advisors, Academic Supervisors and students, the stakeholders in Cooperative Education, will be considered. Significant issues will be analysed regarding the use of eportfolios such as cost, time, adequacy of training, software challenges, technical support, availability of computer laboratories, implications for moderation and marking as well as the effectiveness of the communication amongst all involved. Finally, the evolution of the project will be evaluated and future developments identified.

**Key words:** eportfolios, cooperative education, assessment, perspectives of stakeholders, Mahara, Web 2

## Background

Since 2007, the Auckland University of Technology (AUT) has been involved in a national research project funded by the Tertiary Education Commission to explore the use of software entitled Mahara as a tool for producing eportfolios. The software is described as a fully featured electronic portfolio, weblog, resume builder and social networking system, connecting users and creating online communities. It provides students with the tools to set up a personal learning and development environment.

Mahara was subsequently trialled by the School of Education Te Kura Matauranga with all third year Bachelor of Education students to fulfil their teacher registration requirements which required the submission of two portfolios. The eportfolios were perceived as effectively documenting the emerging philosophy of the students as teachers over the three years. Staff also successfully aligned the outcomes with the graduating standards to ensure that all were covered. This trial informed the development of a new version of Mahara which was perceived as more stable and user friendly.

## The context

In 2009, a Research, Education, Learning and Teaching (RELT) project was established. It aimed to identify vocational and professional programmes in each School of the Faculty of Applied Humanities where students could benefit from the introduction of an eportfolio. The School of Education Te Kura Matauranga's programmes were Education and Professional Practice, Years 1 and 2. The Cooperative Education (Co-op) papers offered by the Schools of Languages and Social Sciences, Hospitality and Tourism were selected. The use of Eportfolios was initiated and approximately 400 students participated. The final phase of the project included an evaluation of the effectiveness of eportfolios and of Mahara for their delivery.

Cooperative Education is a course at the School of Languages and Social Sciences at AUT in New Zealand. This compulsory, year-long course is considered the capstone of the Languages and Social Sciences Bachelor of Arts (BA) degrees. The course is delivered in two streams. The Social Sciences stream includes majors in one or a combination of the following: Psychology, Criminology, Conflict Resolution and Social Sciences. The Languages stream includes majors in Japanese, English Studies, Chinese and Creative Writing. The course prepares students for the transition to employment. It integrates the content of the students' degrees with learning through productive work experiences in a placement related to their academic, personal and career goals.

Traditionally, students were required to write a 10,000 word reflective portfolio based on their Co-op experience. This enabled the collection, selection and reflection on the students' learning experiences and encouraged the development of effective practitioners. The process also developed the students' skills as they became aware of and took control of their learning. However, students often consider the length of a traditional portfolio to be of greater significance than the content (Doig, Illsley, McLuckie & Parsons, 2006). The portfolio process was also demanding and poorly timed as students struggled to meet the requirements of multiple assessments to complete their degrees. Portfolio assessments are time-consuming in terms of guiding learners through the process and providing individual feedback (Kohonen, 2002).

There has been growing recognition that lengthy paper portfolio was considered out-dated as it no longer reflected the needs of contemporary workplaces. As argued by Condie and Livingston, facts are now viewed as "much more transient and (that) views and theories develop and change the knowledge of the world around us and the information that can be accessed about it is developing (fuelled) in part by the World Wide Web" (2007, p.338). Acosta and Liu (2006) concur, recommending that new models of instruction are more appropriate to support approaches such as lifelong learning and autonomous learning.

The eportfolio as a "digital handbag" which uses digital tools to document, store and organise information provides an appropriate alternative to the paper portfolio. The eportfolio is also described by Stefani, Mason and Pegler as "the new generation of the old 3-ring binder" (JISC as cited in Stefani, Mason and Peglar, 2007, p. 9). It is a dynamic and flexible tool for collecting and presenting information about students' learning and development. According to Sherman (2006), the fact that learners can access their portfolios from home extends the learning outside the classroom, to establish purpose and personal relevance to classroom activities. It also provides an excellent vehicle for achieving asynchronous and non-geographical opportunities for sharing and providing guidance in the process of reflection which is an essential element in developing learner autonomy (Doig et al., 2006). An additional benefit of the portfolio is its potential to showcase the students and their work to a variety of audiences such as prospective employers, friends, family and lecturers.

## **Eportfolios for learning**

Chang Barker describes eportfolios as "a critical knowledge management tool in a digital age" (2006, p.xxvi). Dr Helen Barrett defines eportfolios as using "technologies as a container, allowing students/teachers to collect and organise artefacts in many media types (audio, video, graphic, text); and using hypertexts to organise the material, connecting evidence to appropriate outcomes, goals or standards" (Barrett as cited in Ministry of Education, 2009, p.7).

The eportfolio's role is to "evidence learning in general and to provide a personal digital collection of information showcasing the learning process, experience and achievements of a learner for career purposes and for personal development" (Marcoul-Burlinson, 2006, p.168). Lambert and Corrin identify one of the purposes of eportfolios in educational settings as a "tool of assessment where students are required to show through selection and reflection on their learning activities how skills and knowledge development have been demonstrated" (2007, p.2). Herlein concurs (as cited in Reardon, Lumsden and Mayer, 2004), recommending the use of eportfolios to demonstrate competencies and evaluate outcomes of co-op student work placements.

Such a shift represents a move away from the traditional teacher-centred approach where students are the passive recipients of knowledge. In an eportfolio, learning is achieved through "continuous building and amending of previous structures as new experiences, actions and knowledge are assimilated and accommodated to involve a process of individual transformation" (Marcoul-Burlinson, 2006, p.173). Findings of a survey of alumni conducted by Devlin-Scherer, Martinelli and Sardone confirmed that these students learnt more about themselves through engagement with their

eportfolios and that this “self-awareness (was) the gateway to the development of effective reflective skills” (2007, p.403).

Walz (2006) observes that eportfolios have come to be perceived as “a major instrument in the pedagogy of student-centred learning and student-directed development” (p.195). This involves the development of metacognitive skills which will enable students to become active investigators and problem solvers. In other words, the use of eportfolios supports the student’s “development of the ability to understand and engage in the higher order thinking (which is) implicit in the definition of higher education” (Riedinger, 2006, p. 90).

In addition, eportfolios “allow students to link fragmented pieces of their academic and personal activities into a trajectory of their educational and professional development” (Walz, 2006, p.195). As claimed by Batson (as cited in Tosh, Werdmuller, Chen, Light & Haywood, 2006, p.26), eportfolios alter “the dynamic of learning pedagogy where students are active participants in their learning”. This change encourages student engagement and student control as well as facilitating learning at a deeper level. Accordingly, students can achieve what is described by Field as true autonomy which is the “freedom to learn outside the teaching context and the ability to continue learning after instruction has finished” (2007, p.30).

Eportfolios have several synchronicities with the UK-based personal development and planning (PDP) movement which was implemented between 2005 and 2006. Its objective is to enhance students’ employability and it assumes a shift towards student-centred learning and the emergence of the autonomous learner (Doig et al.,2006). With the aim of making learners more effective, independent and confident, PDP emphasises reflections, action plans and self-assessments. In addition it helps learners relate their learning to a wider context, articulate personal goals, evaluate progress towards their achievement and encourage a positive attitude to learning throughout life ( Moffat, 2008, p. 7). Another aim identified by Marcoul-Burlinson is to enable graduates to adapt easily to a “working environment perceived as ever-changing” (2006, p.170).

One of the most significant themes in the literature is that eportfolio pedagogy can facilitate reflection. This approach to learning was established by Dewey. He defined reflection as “active, persistent and careful consideration of any belief or supposed form of knowledge” (1933, p.18). This definition was further developed by Kolb who described the reflective practice as a continuous cycle of “concrete experience, observation and reflection, formation of abstraction and concepts, and testing in new situations” (1984, p. 172). More recently reflection has become generally accepted to be an “active, deliberative cognitive practice” which reviews an aspect of work-based practice by describing, analysing and evaluating to inform learning and thus enhance the performance of the practitioner (Doig et al., 2006, p.159). Boud (2001) defines reflection within an academic programme as bringing into focus activities such as workshops and student’s prior learning as examples of past experience or concurrent activities in the learners’ workplace that act as a stimulus for learning. In terms of enhancing the outcomes of eportfolios, Reidinger adds that reflection creates “a narrative of exploration and learning” which transforms the portfolio from being a repository of learning experiences only (2006, p. 91).

## Findings

### Perspectives of the stakeholders

The following information has been gathered using discussion groups and informal interviews over the past eighteen months regarding the experiences of staff and students in the introduction of eportfolios. The main focus is the cooperative education course in the School of Languages and Social Sciences where the writers are coordinators of the two streams. The School of Hospitality and Tourism involvement in the RELT Project lasted a semester only, mainly due to the departure of the coordinator who had the necessary expertise. However, the preliminary findings of a longitudinal

study of student satisfaction conducted by staff in the School of Education Te Kura Matauranga are available (Gerbic, Lewis & Northover, 2009). The sample included students enrolled in the three Schools. 83% of the students identified the greatest challenge as being able to use the technology and few recognised the learning gains facilitated by the eportfolio (p.329).

A key player in the implementation of eportfolios and the on-going development of the Mahara software since 2007 has been the Faculty of Applied Humanities Flexible Learning Advisor. She has been involved in the introduction of the Mahara software to staff and students across the Faculty. Her initial experience working with the Bachelor of Education staff and students was somewhat fraught. There were no computer laboratories on the North Shore campus which impeded the necessary “learning by using”. The software at this early stage was unreliable and unstable which had a negative impact on the necessary “buy-in” of many of those involved. The new initiative was not sold well as the introduction of the innovation was poorly thought through and somewhat haphazard. Ultimately, the students perceived it as an imposition, not an opportunity. Accordingly, the training was poorly attended by the 100 students. The response of staff was similar as many resented it as an additional burden. Those who did attempt to familiarise themselves with the eportfolio technology did so only for a short time and subsequently, without practice, forgot the processes.

However, with time and more exposure, participation levels and the design and outcomes of the eportfolios improved. Despite this, the Education staff at the end of 2009 expressed their disappointment that their students’ portfolios were mostly text-based and lacked visual images. When the RELT team reviewed the eportfolio options for 2010, two of the Schools involved were dissatisfied with the Mahara software and two thirds of the team supported the exploration of Pebblepad as a better alternative. However, this was seen as too costly in the immediate future and the decision was made to host Mahara internally. This was expected to increase the number of functions, streamline the log-in process and guarantee timely IT support.

Whilst the Flexible Learning Advisor provided the same level of support to the Departments of Languages and Social Sciences in terms of the introduction of Mahara and eportfolios at the beginning of 2009 to Co-op students, the outcomes were very different for both staff and students. Initially, the training opportunities were well attended by both cohorts and the up-take appeared positive and enthusiastic. The video guides entitled Take a Tour were popular as they introduced the features of the software: logging in, resume creation, blogging, up-loading resources and creating views. These could be re-visited to maintain the acquired skills.

It was anticipated that the new technology would enable better communication between academic supervisors and students. The reflective journals would be transferred to the eportfolio blog and progress could be more easily monitored. The transportability of new format was seen as advantageous as was the potential to communicate and record the students’ progress and provide evidence of learning in a wider range of media types.

However, whilst most of the Languages students continued to make progress and their academic supervisors sustained their efforts, their peers in Social Sciences found the challenge too great. Informal surveys in both departments of the students’ perceptions of the traditional paper versus eportfolios confirmed the variation in levels of up-take. The primary difference between the two groups of students, was that the Languages cohort had previous experience of using ePortfolios in the BA compulsory courses.

### **BA compulsory courses**

In addition to their major, minors and electives, all students enrolled in the BA at AUT are required to take compulsory courses to develop their information technology (IT), English writing and communicating skills. These have been identified by employers as being desirable in new graduates.

In general students enrolled in the Psychology, Social Sciences, Criminology and Conflict Resolution majors take Research and Analysis, IT, Communicating, Writing, and Cooperative Education. These courses were originally developed when the BA qualification was first offered at AUT in 1995.

New compulsory course options have since been developed in the Department of Languages which incorporate new media in order to develop these same skills in writing, communicating and IT. In general students enrolled in the Languages majors undertook: iWrite, iCommunicate, iReflect, iResearch and Cooperative Education. IT is integrated in all of these courses, rather than being taught as a discrete subject.

iWrite develops writing skills through the exploration of new media, such as fan fiction, blogs, web design and publication. Students are assessed through an eportfolio, which is showcased online.

Students subsequently enrol in the course entitled iReflect which aims to further develop academic writing skills. Through a reflective eportfolio, students are encouraged to write critically and reflectively in order to improve their reflective practice as well as to develop learner independence. This course was developed specifically to prepare Languages students for the capstone Cooperative Education course as there had been very little reflection integrated into their previous courses. It is important to note here that the eportfolio platform that was used in iReflect was Mahara; the same software that was later adopted for Cooperative Education.

## **Perceptions of the eportfolio**

### **Languages students**

Due to prior experience with the Mahara software, Languages students who attended the Co-op eportfolio training session required little support in creating a blog, creating a 'View' and giving access to the Languages Co-op Coordinator. Those students who were less familiar with the software were assisted by their peers as well as the Flexible Learning Advisor who was in attendance.

Twenty-four of the 27 Languages students who completed Co-op in 2009 submitted an eportfolio. Two of the three students who did not, were mature students who had decided at the outset that they preferred the paper-based medium.

Feedback received through a survey revealed that many students could see the benefits of an eportfolio over a paper-based portfolio. They commented that the eportfolio saved time, was convenient and portable, and it enabled them to upload a variety of files which were easily organised. However, some students acknowledged that the software was complicated and could be improved.

When asked if more training was necessary, some students felt that further guidance regarding specific functions, such as uploading sound files and creating folders would be of use. One student felt that no further training was necessary if the eportfolio was worked on regularly. Another felt that having completed the iReflect course was sufficient preparation.

However, despite the apparent benefits of familiarity with the Mahara software, the Co-op eportfolio did create some issues. The use of an eportfolio in the context of Co-op and a work placement was new. However, students were certainly engaging with the eportfolio to record their thoughts and observations in the form of a reflective learning journal. Some were attaching documents of evidence into their blogs, and a small number managed to paste completed tasks from their work placement into the blog itself. This unstructured use of the eportfolio made it difficult for the Coordinator and Academic Supervisors to envisage what the final eportfolio would look like and left most wondering how they could be assessed fairly against the marking criteria.

As this was a new initiative, there were no models of previous Co-op eportfolios that could be shown to students. Based on discussion with the Languages Paper Coordinator, the Flexible Learning Advisor created a template. This outlined a possible structure for the eportfolio to ensure that all content and criteria had been covered. More importantly, it provided a framework that would ensure easy navigation for the viewer (marker). The template provided a ‘homepage’ with headings, brief text descriptions and links to uploaded documents, as well as evidence of various forms. Such a structure enabled the viewer to see the portfolio as a whole, and eliminated the need for scrolling down vast amounts of text on the screen.

### **Social Sciences students**

In contrast, the Social Sciences students who had not had the benefit of these new, customized courses, did not sustain their efforts to engage with the eportfolio. After the initial introduction of the eportfolio at the training session for Social Sciences students and discussion of its benefits, students watched the training videos. However, they were not encouraged to practise the software’s functions at the time of introduction. Consequently they lacked the skills to work independently and subsequently lost motivation to take advantage of the alternative delivery. This also may have been affected by not all students having access to a computer during the training session.

The student survey confirmed that the software was complicated and hard to use. Many students stated that they preferred to hand in a hard-copy. All students who responded to the questions regarding the necessity of more training felt that it was indeed essential.

At this point, students in both cohorts were informed that the submission of an eportfolio was not compulsory. Students who chose to submit a paper-based portfolio would be marked according to the same marking criteria as the eportfolio regarding content, depth of reflection, academic writing and amount and quality of their evidence.

With too many challenges, inadequate support and other academic commitments, most Social Sciences students decided to revert to the paper-based portfolio. Those few who persevered, also eventually opted for the more familiar, safer option. No eportfolios were submitted by Social Sciences students.

### **Academic Supervisors**

#### **Languages**

Perceptions of the eportfolio also differed across the Departments of Social Sciences and Languages. As students were familiar with the Mahara software, Languages Academic Supervisors were not required to give technical support to students. Students could refer to the FAQ (Frequently Asked Questions) and technical support through AUTonline (AUT’s online learning platform). Students were also encouraged to post any questions they had into an online forum to get a response from the Flexible Learning Advisor. This trouble-shooting option was also available to Academic Supervisors.

Feedback was sought from Languages Academic Supervisors on completion of the eportfolio project. There were varying perceptions in terms of usability and its overall benefits to students in the Cooperative Education context. Marking was an issue that was raised on several occasions in informal discussions. Despite the initial resistance to marking on screen, one academic supervisor reported becoming accustomed to the process. Nonetheless, the linear nature of a hard copy and turning pages was preferred to the opening and closing of documents and links on a screen. However, it was also noted that the overall depth of reflection was lower than in previous years when students produced a paper-based portfolio. This could be due to the nature of the electronic medium which often lends itself to brevity and conciseness.

The possible impact on the quality of marking was also raised. One supervisor felt there was a danger of being less thorough when marking online. It was also suggested that perhaps making general written comments was less effective and of less benefit to students. Another supervisor reported the exact opposite as the marking was more thorough and re-visiting previous sections was more likely on line.

The Co-op Coordinator for Languages felt that the electronic platform lent itself to a more holistic approach to marking. Also, the overall length of some sections of the eportfolio appeared briefer than in previous years. However, this was not perceived as a negative outcome as the overall workload of the Co-op course had been of concern amongst both staff and students for several years. The Coordinator felt that students in general were completing their eportfolio assessment earlier than the majority of paper-based portfolios which have been submitted close to the deadline in previous years. It is also possible that the different sections of an eportfolio are seen as smaller, achievable goals that can be uploaded on completion compared to a hard-copy which can be considered as one long, sustained piece of writing.

The eportfolio also eliminated the need for a table of contents, page-numbering, numbering of sub-sections, and cross-referencing to appendices which are often time-consuming for students to complete accurately and complex for markers to navigate.

### **Social Sciences**

Some Social Sciences Academic Supervisors made an effort to engage with the software. Others were less enthusiastic. Cooperative Education in general has been viewed as time-consuming in itself, without the additional pressure of being introduced to unfamiliar technology. Some Academic Supervisors felt this additional burden was unacceptable. This has not just been the case with the introduction of the eportfolio. Some lecturers have also been slow to embrace new technologies with regard to learning and teaching developments. Only recently have several lecturers become familiar using AUTonline.

Those supervisors who were open to the concept of an eportfolio reported that they did not find the Mahara software intuitive. In addition to this lack of buy-in from Social Sciences Academic Supervisors, the Coordinator herself was unconvinced the steep learning curve required for staff in their attempts to master the technology, was justified by the potential benefits.

### **Discussion**

The different levels of students' engagement with the eportfolio across the departments supports Hirvela and Sweetland's (2005) proposition that to be successfully implemented, eportfolios must be carefully integrated into the curriculum. Familiarity with the software and previous experience of combining technology with learning provided an excellent platform and enhanced the Languages students' readiness to produce an eportfolio. In addition, the process was less challenging as much of the necessary mastery of the software had occurred.

Gerbic et al. (2009) use Brown's concept of the time triangle to describe the time required for new students to acquire the pedagogy, technology and content of eportfolios. Initially, they focus mostly on the technology. This was a deterrent for the Social Sciences students as they considered the demands of their study programmes precluded the additional learning required. This was exacerbated by most of their Academic Supervisors lacking what Stefani et al. describe as "e-learning maturity". Thus they found the paradigm shift and mastery of the technology too demanding and burdensome (2007, p. 55). Gerbic et al. describe how the time triangle inverts for "veteran" students and staff so more time can be dedicated to the other aspects of the eportfolio process.

Another challenge of this innovation is the shift in the teacher's role. Instead of imparting knowledge in a one-way mode of instruction, the emphasis is on facilitation. This may be perceived as more time-consuming and too difficult given the other demands and constraints accompanying the role (Kohonen, 2002). In addition, the feedback to students is more individualised and must be responsive to a range of student readiness and independence. Tosh et al. (2006) add that teachers must also be motivators and create an environment where learners engage because they want to rather than having to.

## Conclusion

Initiating an eportfolio in an educational context is a complex process. One of the barriers is the variation in lecturer capability in the use of Web 2.0 tools and considerable professional development is required if they are to acquire the requisite skills. The need for enhancement of students' IT literacy is also necessary as confirmed by the study of the student experience of eportfolios across the Faculty of Applied Humanities (Gerbic et al., 2009) which found that 83% of students considered the use of the technology as the greatest challenge.

However, some progress has been made in terms of the establishment of an eportfolio culture. Future success in the School of Languages and Social Sciences will be dependent on the intensification and frequency of training for staff. Their engagement and commitment to the implementation of eportfolios in Cooperative Education are crucial factors in encouraging and supporting the engagement of their students.

More attention must be paid to promoting the potential and currency of eportfolios as a learning tool which nurtures the development, reflective practice, workplace readiness and autonomy of students. Students themselves also need to be convinced of the learning potential of eportfolios. There is certainly room for improvement in the implementation of the new technology and perhaps a more user-friendly platform such as Pebblepad would accelerate the pace of buy-in from both lecturers and students. However, much has been learned from the inaugural attempts to implement eportfolios in Cooperative Education and on-going reflection and evaluation is required to ensure its success in the future.

## References

- Acosta,T. & Liu, Y. (2006). ePortfolios: Beyond assessment. In A. Jafari & C. Kaufman (Eds.), *Handbook of research on ePortfolios* (pp. 24-32). Hershey, USA; London, UK: Idea Group.
- Boud, D. (2001). Using journal writing to enhance reflective practice. *New Directions for Adult and Continuing Education*, 90, 9-17.
- Chang Barker, (2006). In A. Jafari & C. Kaufman (Eds.), *Handbook of Research on ePortfolios* (p.xxvi-xxviii). Hershey, USA; London, UK: Idea Group.
- Condie, R., & Livingston, K. (2007). Blending online learning with traditional approaches: Changing practices. *British Journal of Educational Technology*, 38(2), 337-348.
- Devlin-Scherer, R., Martinelli, J. & Sardone, N. (2007). Twisting the kaleidoscope: Making sense of ePortfolios. In A. Jafari & C. Kaufman (Eds.), *Handbook of Research on ePortfolios* (pp. 398-409). Hershey, USA; London, UK: Idea Group.
- Dewey, J. (1933). *How we think*. New York: D. C. Heath.
- Doig, B., Illsley, B., McLuckie, J., & Parsons, R. (2006). Using ePortfolios to enhance reflective learning and development. In A. Jafari & C. Kaufman (Eds.), *Handbook of Research on ePortfolios* (pp. 158-167). Hershey, USA; London, UK: Idea Group.
- Field, J. (2007). Looking outwards, not inwards. *ELT journal*, 61(1), 30-38.
- Gerbic, P., Lewis, L. & Northover,M. (2009). Student perspectives of eportfolios: A longitudinal study of growth and development. In *Same places, different spaces. Proceedings ascelite, Auckland 2009*. <http://ascelite.org.au/conferences/auckland09/procs/gerbic.pdf>

- Hirvela, A. & Sweetland, Y. (2005). Two case studies of L2 writers' experiences across learning directed portfolio contexts. *Assessing writing*, 10, (1), 30-38.
- Kohonen, V. (2002, March 2002). Student autonomy and the teacher's professional growth: fostering collegial culture in language teacher education. Paper presented at the Learner Autonomy Symposium, Dublin University.
- Kolb, D. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs, N.J.: Prentice Hall.
- Lambert, S. & Corrin, L. (2007). Moving towards a university wide implementation of an ePortfolio tool. *Australasian Journal of Educational Technology*, 23(1), 1-16.
- Marcoul-Burlinson, I. (2006). e-Portfolio: Constructing Learning. In A. Jafari & C. Kaufman (Eds.), *Handbook of Research on ePortfolios* (pp.168-179). Hershey, USA; London, UK: Idea Group.
- Ministry of Education. (2009). *ePortfolios - Celebrating learning*. Retrieved 14 June, 2010 from www.minedu.govt.nz
- Moffat, S. (2008). *Student attitudes towards and perceptions of ePortfolios in a first year Japanese language programme*. Unpublished masters thesis, Auckland University of Technology, Auckland, New Zealand.
- Reardon, R. Lumsden, J. & Mayer, K. (2004). Survey of chief student affairs officers regarding relevance of graduate preparation of new professionals. *NASPA Journal*, 42(3), 368-380.
- Riedinger, B. (2006). Mining for meaning: Teaching students how to reflect. In A. Jafari & C. Kaufman (Eds.), *Handbook of research on ePortfolios* (pp.90-101). Hershey, USA; London, UK: Idea Group.
- Sherman, G. (2006). Instructional roles of electronic portfolios. In A. Jafari & C. Kaufman (Eds.), *Handbook of research on ePortfolios* (pp. 1-14). Hershey, USA; London, UK: Idea Group.
- Stefani, L., Mason, R., & Pegler, C. (2007). The educational potential of e-Portfolios: Supporting personal development and reflective learning. London; New York: Routledge.
- Tosh, D., Werdmuller, B., Chen, H., Light, T., & Haywood, J. (2006). The learning landscape: A conceptual framework for ePortfolios. In A. Jafari & C. Kaufman (Eds.), *Handbook of research on ePortfolios* (pp. 24-32). Hershey, USA; London, UK: Idea Group.
- Walz, P. (2006). An overview of student ePortfolio functions. In A. Jafari & C. Kaufman (Eds.), *Handbook of research on ePortfolios* (pp. 194-205). Hershey, USA; London, UK: Idea Group.