

# Integration of eportfolios into cooperative education: Lessons learnt

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This paper documents the process of integrating eportfolios into a cooperative education programme from the multidisciplinary perspectives of the School of Languages and Social Sciences at Auckland University of Technology. It identifies the crucial components of effectively initiating an eportfolio in an educational context as well as the barriers to its uptake. Significant issues are analysed: the introduction of the new technology, variation of information technology literacy, time demands, adequacy of training, software challenges, the extent of technical support for students, and the development of models. Finally, new strategies to strengthen the establishment of an eportfolio culture are considered and future developments identified. (*Asia-Pacific Journal of Cooperative Education*, 2011, 12(2), 95-101)

Key words: eportfolios, cooperative education, Mahara, implementation, training.

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## BACKGROUND

In 2006, the New Zealand Tertiary Education Commission funded the development of eportfolio software entitled Mahara (meaning 'think' or 'thought' in Te Reo Maori). Unlike Pebblepad which is a commercial product with licences per user, Mahara is open source software that institutions can copy, use and modify. Mahara is a stand-alone system which can be integrated into a virtual learning framework. It was intended for wide utilisation and to encourage innovation and collaboration within higher education, both in New Zealand and internationally (Mahara open source eportfolios, n.d.).

In 2007, a consortium of New Zealand universities, including Auckland University of Technology (AUT), explored the Mahara software as a tool for producing eportfolios. This software is a fully featured electronic portfolio, weblog, résumé 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.

Himpsl and Baumgartner's (2009) study evaluated sixty examples of eportfolio software according to criteria such as usability, organisation and reflection. Mahara was ranked as one of the top twelve for implementation in higher education. Mahara and Pebblepad were described as being "out of the box" systems. Generally, both software packages were considered as well balanced products which require "acclimatization effort – but once their logic is clear- they are easy to handle" (p. 21).

Mahara was subsequently trialled by the School of Education Te Kura Matauranga at AUT with all third year Bachelor of Education students to fulfil their teacher registration requirements which required the submission of two portfolios. This trial informed the development of a new version of Mahara which was perceived as more stable and user friendly.

## CONTEXT

In 2009, a Research, Education, Learning and Teaching (RELT) project was established. It aimed to identify vocational and professional programmes in the three Schools of the Faculty of Applied Humanities where students could benefit from the introduction of an eportfolio. 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.

This paper focuses on the experiences of students involved in the Cooperative Education (Co-op) course at the School of Languages and Social Sciences at AUT in 2009 and 2010. The compulsory year-long, final year course is considered the capstone of the Languages and Social Sciences Bachelor of Arts (BA) degree. It 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 is comprised of majors in Japanese, English Studies, Interpreting, Translation, Chinese and Creative Writing. The course prepares students for the transition to employment by integrating the content of the students' degrees with learning through productive work experiences in a placement related to their academic, personal and career goals. This is achieved by a series of workshops which include the Keys for Career Success programme delivered by the AUT Careers Services and Reflective Practice.

Students are allocated an academic supervisor who assures academic rigour and advises on placement choice. The academic supervisor also supports students with the development of the learning agreement which articulates the learning aims and outcomes the student hopes to achieve in the placement. The work-based supervisor mentors each student in the development of their employability skills during a 150 hour placement. This supervisor is also involved in the negotiation of the learning agreement.

Traditionally, as the final assessment, students were required to write a 7,000-10,000 word reflective portfolio based on their co-op experience. This enabled the collection, selection of 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. Kohonen (2002) adds that portfolio assessments are also time-consuming for staff in terms of guiding learners through the process and providing individual feedback.

Generally, there has been growing recognition that the lengthy paper portfolio had become out-dated as it no longer reflected the needs of contemporary workplaces. As argued by Acosta and Liu (2006), new models of instruction are more appropriate to support lifelong 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 described by JISC as "the new generation of the old 3-ring binder" (as cited in Stefani, Mason & Peglar, 2007, p. 9). It is a dynamic and flexible tool for collecting and presenting information about students' learning and development. 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 eportfolio is its potential to showcase the students and their work to a variety of audiences such as prospective employers, friends, family and lecturers. This function of eportfolios is often referred to as showcasing evidence of learning.

## EPORFOLIOS FOR LEARNING

Eportfolios provide evidence of a process which supports the achievement of the students' academic, personal and professional development. Their function is, therefore, described as being *for* learning (Tilemma, 1998). Chang Barker (2006) describes eportfolios as "a critical knowledge management tool in a digital age" (p. xxvi). Eportfolios use "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). One of the

purposes of using eportfolios in educational settings is identified when describing them 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” (Lambert & Corrin, 2007, p.2). Herdlein concurs (as cited in Reardon, Lumsden & Mayer, 2004), recommending the use of eportfolios to demonstrate competencies and evaluate the 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 (2007) 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” (p. 403).

Walz observes that eportfolios have come to be perceived as “a major instrument in the pedagogy of student-centred learning and student-directed development” and adds that 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). 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). As claimed by Batson (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 true autonomy which is the “freedom to learn outside the teaching context and the ability to continue learning after instruction has finished” (Field, 2007, p. 30).

## PERSPECTIVES OF THE STAKEHOLDERS

As part of the RELT project in 2009, the following information was gathered using discussion groups and informal interviews regarding the experiences of staff and students in the introduction of eportfolios. The focus is the Cooperative Education course in the School of Languages and Social Sciences where the writers are coordinators of the two streams.

The Faculty of Applied Humanities Flexible Learning Advisor has had a critical role in the implementation of eportfolios and the on-going development of the Mahara software. She has been involved in the introduction of the Mahara software to staff and students across the Faculty. 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. However, the outcomes were very different for both staff and students in each of the departments in the first year.

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, résumé creation, blogging, up-loading resources and creating views to give access to audiences such as the academic supervisor. These could be revisited 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 now be maintained in the eportfolio blog and progress could be more easily monitored. The transportability of the 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, as this was a new initiative in 2009, 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 which outlined a possible structure for the eportfolio to ensure that all content and criteria had been covered. Also, it provided a framework that would ensure easy navigation for the viewer (marker).

## IMPLEMENTATION PROCESS

This template for the eportfolio assessment was created to guide students. The suggested structure which students could adapt included four columns. The first introduced the content of the eportfolio in the context of Cooperative Education. Column two described the process of finding a placement, a description of the organisation, the student's role in and rationale for their choice of placement. The following column discussed the achievement of the aims and outcomes as outlined in the learning agreement. Evidence of the strategies implemented and achievement of the outcomes completed this section. The final column analysed a key experience, reflected on feedback, and identified the relevance of BA studies. This was followed by a conclusion and list of references.

Students prepared the material required for each component of the eportfolio as a Microsoft Word document. Headings and textboxes are also utilised to structure and support site navigation for the users. Evidence of the placement experience can be uploaded as scanned documents, pictures, PowerPoint presentations, audio files and extracts from the reflective blog. After the initial feedback from the 2009 implementation, the amount, frequency and means of support were reviewed and have subsequently been enhanced.

Guidance is now provided at crucial stages of the implementation process by face-to-face training in computer laboratories, handouts for future reference, as well as online tutorials. In addition, advice can be sought through peer support, the Coop Coordinators, and if necessary, the Flexible Learning Advisor.

Figure 1 showcases one student's adaptation of the eportfolio template and provides an actual example of fulfilling the assessment criteria using the electronic medium. Eportfolios submitted thus far provide a wide ranging interpretation of this framework.

## BACHELOR OF ARTS 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 attributes of new graduates.

Currently, Social Sciences students undertake courses that were originally developed when the BA qualification was first established in 1995. However, new compulsory course options have since been developed in the Department of Languages which incorporate new media in order to develop the same skills. It is important to note here that the eportfolio platform that was used in one of these courses was Mahara, the same software that was later adopted for Cooperative Education.

Consequently, in the first year of implementation, whilst most of the Languages students continued to make progress and their academic supervisors sustained their efforts in the production of eportfolios, their peers in Social Sciences found the challenge too great. Whilst the initial introduction of the software had been well attended, students were not encouraged to practice the software's functions. As a result, they lacked the skills to work independently and subsequently lost motivation to take advantage of the alternative delivery.

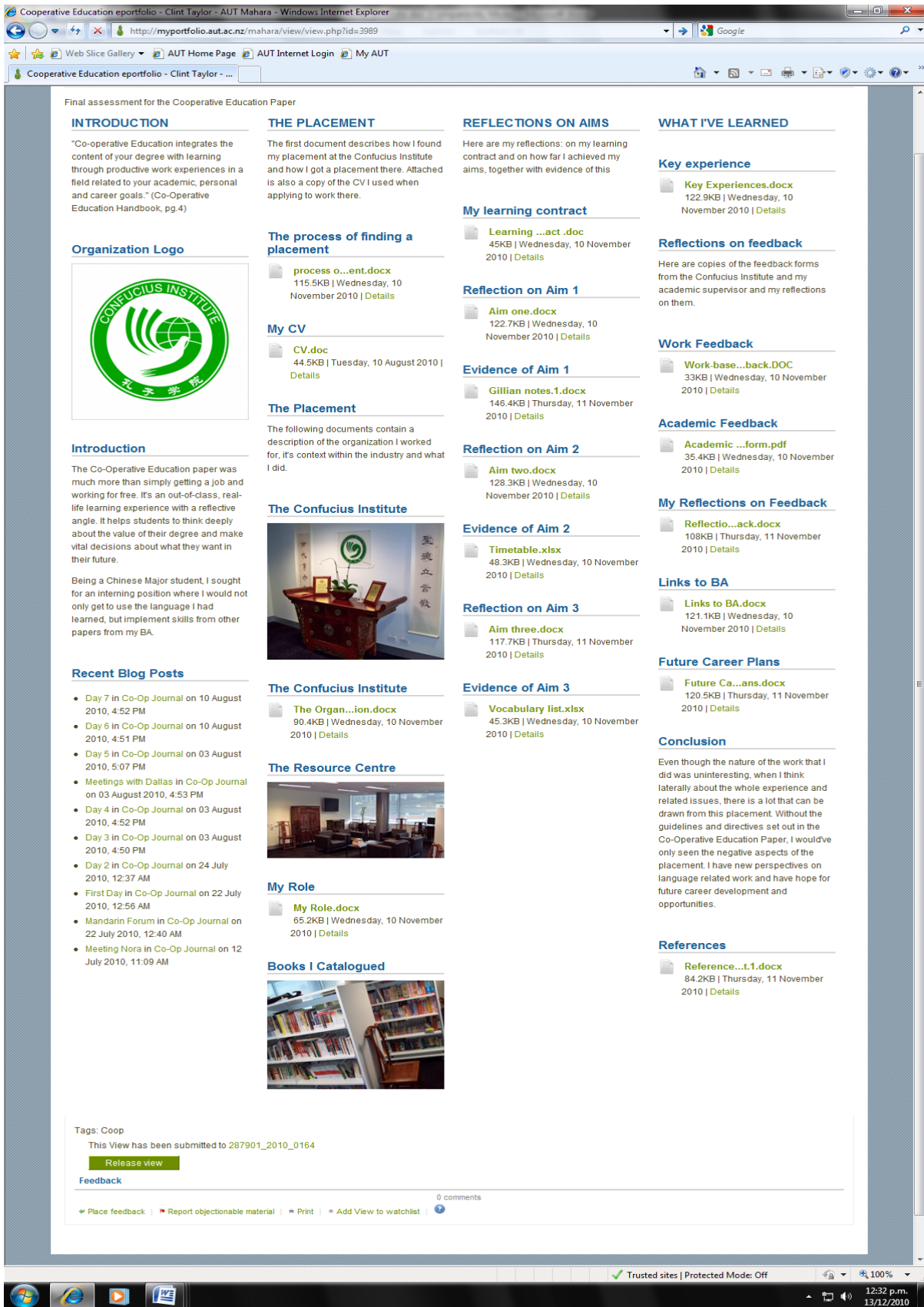


FIGURE 1:  
Example of student's adaptation of the eportfolio template

Informal surveys in both departments of the students' perceptions of the traditional paper versus eportfolios confirmed the variation in levels of up-take in 2009. 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. They were accustomed to the integration of information technology throughout their three year degree.

#### DISCUSSION: LESSONS LEARNT

The experience of and reflection on the previous year informed the approach to introducing the eportfolios to both students and staff in 2010. It was possible to showcase a variety of good eportfolios in the early training sessions as concrete examples of what they can achieve. The 2009 intake had no models to follow and the eportfolio template was not made available until mid-year. By this time, most Social Sciences students had abandoned the new technology for the traditional paper-based portfolio.

As identified previously, more thought had gone into the timing and frequency of training for students. In addition, the coordinators ran drop-in sessions which were voluntary and focussed on trouble-shooting. These support services were well patronised by those in need of further development of their IT literacy. This was supplemented by a project initiated mid-2010. It promoted the concept of a paid peer support tutor, who was a student with the appropriate skills and previous experience. However, once again, the availability of this support was not initiated at the start of the academic year when it was most crucial.

However, there was significant improvement in the up-take of eportfolios in 2010 with exactly 50 percent of the Social Sciences students submitting eportfolios for their final assessment. This will contribute to the range of successful models for future training. An eportfolio culture is now embedded in the Department of Languages. This is encouraging, as similar approaches to the implementation of eportfolios can be replicated in the Department of Social Sciences. It is also hoped that more creativity in the presentation of Co-op eportfolios can be achieved in the future.

#### CONCLUSION

Students in the Department of Languages have maintained their engagement with eportfolios in the first two years of implementation. In this timeframe, significant progress has been achieved by the Social Sciences cohort as their submissions of eportfolios has shifted from zero in 2009 to half of the students in 2010. It is anticipated that the 50 percent who did paper-based portfolios will decrease considerably in 2011.

It has been observed that those students who choose the eportfolio option are less challenged by the enormity of the task. They begin their assessments earlier in the year, and find working in smaller chunks, as defined by the template, much more achievable.

The cooperative education course is to be reviewed and a change to a one-semester structure twice yearly is under consideration. This would identify milestones and provide feedback to better inform and support the up-take of the new technology. It is anticipated that this would provide more opportunities to use Mahara from the outset of the course and build confidence in its usage. This approach would also facilitate better monitoring of student progress in meeting the course outcomes.

Whilst some challenges remain in the integration of eportfolios in this educational context, the development of models and the enhanced training for students have strengthened the new initiative. On-going evaluation of the course will continue as the coordinators believe that the eportfolio has

potential and is of benefit to students and their learning. Hence the commitment to embracing this new technology remains and, as reflective practitioners, our efforts to improve its effectiveness will continue. More attention will 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.

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The Asia-Pacific Journal of Cooperative education (APJCE) arose from a desire to produce an international forum for discussion of cooperative education, or work integrated learning (WIL), issues for practitioners in the Asia-Pacific region and is intended to provide a mechanism for the dissemination of research, best practice and innovation in work-integrated learning. The journal maintains close links to the biennial Asia-Pacific regional conferences conducted by the World Association for Cooperative Education. In recognition of international trends in information technology, APJCE is produced solely in electronic form. Published papers are available as PDF files from the website, and manuscript submission, reviewing and publication is electronically based. In 2010, Australian Research Council (ARC), which administers the Excellence in Research (ERA) ranking system, awarded APJCE a 'B' ERA ranking (top 10-20%).

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