



Embedding an ePortfolio system at a programmatic level

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This paper outlines the ePortfolio implementation process at the University of South Australia. The eP system, powered by the open-source ePortfolio Mahara, is one element of an integrated suite of technology enhanced tools for teaching and learning at the University and will be available to all students and staff from the second half of 2011. This ePortfolio system has been chosen because of its flexibility and its capacity to be the venue for many complex tasks.

We have sought to conduct the implementation of the eP, for teaching and learning purposes, at a programmatic level across the institution. We recognise that for a system like this to operate optimally it needs to be integrated within a program of study at every year level and that piecemeal approaches to using ePortfolios, while of some value, do not ultimately allow the full potential of portfolio learning styles to flourish. This paper reports on the work-in-progress of our ePortfolio implementation.

Keywords: ePortfolio, programmatic implementation, learnonline, Mahara, academic development.

learnonline

After an extensive examination and feasibility process, featuring a great deal of commitment from and collaboration between, the various stakeholders within the institution, it was decided in 2010 that the University of South Australia would adopt Mahara, the open-source ePortfolio. This system is currently being rolled out institution-wide and will be available to all students and staff during the second half of 2011. The University's Learning and Teaching Unit is entrusted with the effective implementation of the software, for the use of academic staff, across the institution and this paper will outline some of the academic development processes for embedding the eP across the divisions of the University.

The University's, fully integrated, **learnonline** system includes a Learning Management System, a virtual classroom, a lecture recording system and an ePortfolio. All of these elements are being

introduced over a two year period. This paper will discuss one facet of the current implementation process and that is the embedding of the ePortfolio (eP) at a programmatic level. Thus this paper is a case study of the early planning and implementation process as we look to roll-out eP's across entire programs of study. We are a large university with four divisions and there is intense interest from among our staff for an eportfolio.

Before a discussion of the training and development profile we are adopting it's useful to outline the main ideas underpinning our approach to the design and implementation process. The key elements of which are:

1. A recognition, as noted in the supplementary report of the Australian ePortfolio Project (Hallam et al, 2010), that 'the extent of ePortfolio (eP) practice has moved away from their use mainly in single units of study towards more programmatic implementation in undergraduate student learning'. We recognise and strongly recommend that for an eP to be most effective, a whole-of-program approach is desirable.
2. That based on the conclusions of Clark and Neumann's (2009) study on ePortfolio implementation which stated that, 'use of these ePortfolio tools to support teaching, learning and professional development is complex and requires considered pedagogical planning and preparation if they are to be usefully appropriated' our approach is extremely thorough and preparation needs to be completed well prior to the commencement of the program.
3. That we strongly encourage the development of a consultative and collaborative environment to work in, the importance of which is highlighted by Gathercoal et al (2002) and Lambert and Corrin (2007), in their discussions of ePortfolio implementation.
4. That during the program mapping, development and design phases of the process, a strong rationale for the use of an eP is developed in accordance with the stated aims of the courses involved and the program within which they operate. As Stefani, Mason and Pegler (2007, p. 45) point out, 'the overarching issue is the pedagogical principles underpinning the rationale for implementing ePortfolios in to the curriculum'.
5. That, where possible, the implementation be part of a broader impetus around the integration or development of technology enhanced learning and that this aim is commensurate with financial support from the institution for the program who undertakes the implementation. This kind of support helps with the issue of academic staff buy-in and the workload pressure that development work like this can bring.

These five elements form the basis for our approach to the implementation process, a process which begins with academic staff involved completing six hours of basic technical training. This includes four hours of computer lab based instruction and two hours of self-study. At the completion of this all staff in a particular program will have a working ePortfolio of their own, including their individual profile, membership of various groups/networks related to their program and a working knowledge of how to create and disseminate various fully functioning views/pages. These artefacts can contain a wide range of multimedia (both embedded and externally sourced) and elements like blogs/journals, forums and the creation of forms for recording professional competencies. They will then move through a four month period of development working closely with academic developers to design, develop and implement materials to support their courses. These materials will become part of academics' individual ePortfolios but they are also able to use them as artefacts to scaffold future course development should they choose.

Before the mapping, design and construction phases of the implementation could commence, an

ePortfolio implementation pack was created to be used throughout the entire implementation process. This toolkit enables academic developers to work with academic staff from any given program in a coherent way and ensures that there is some consistency around the development of rationales for eP usage. The tool kit contains a blank program template, which is essentially a spreadsheet in to which every course from a program can be added and its elements examined and compared. It also includes a pre-populated template, or matrix, by way of an exemplar. There is also a grid of eP pedagogies aligned with tasks and desired outcomes, a short paper outlining the basis of our approach and a list of criteria for both course and program level implementation. These tools are a key element in the development of a rationale for implementation and lead to a familiarisation and alignment with eP pedagogies for the academic staff involved from the outset.

The tool kit also contains a series of proforma exemplars outlining the various pedagogical possibilities with eP use to be used during the eportfolio design phase of the implementation. This involved the development of specific materials for the purpose of each broad assessment type. The artefacts created for this objective contain the following exemplars and are embedded as copyable views within our ePortfolio system – reflective practice – presentation of evidence – professional competencies – mobile content – using multimedia – self and peer review – group work/collaboration – eP’s and WEB 2.0. This allows them to be easily accessed and disseminated among academic teaching staff and can help to provide guidance for teaching staff that choose to use the eportfolio system without undergoing training or a systematic ePortfolio implementation:

Table 1: Phases of the four month ePortfolio implementation process

1. Program Mapping	2. Course and ePortfolio Design	3. PEER REVIEW OF COURSE DESIGNS	4. Resource and Content Construction	5. Implementation	6. EVALUATION
<p>Confirmation of course elements.</p> <p><i>1. Course and staffing details</i></p> <p><i>2. Assessment details</i></p> <p><i>3. Professional Competencies</i></p> <p><i>4. Rationale for implementation</i></p> <p>Familiarisation and alignment with eP pedagogical possibilities.</p> <p>Using list of criteria, courses will be assessed for suitability for eP implementation.</p>	<p>Course structures (including assessment and course outcomes) will be designed to incorporate eP’s and these designs will be aligned with factors established in the mapping phase.</p> <p>Begin development of ePortfolio communication strategy for students of particular program.</p>		<p>Individual course groups will develop materials/resource/artefacts to be implemented in their courses in the following study period.</p> <p>Begin to generate and validate the learning resources.</p>	<p>Materials and processes developed in the previous phases will be implemented into course and program structures in readiness for upcoming study periods.</p> <p>There will be a comprehensive peer and self-assessment period at the conclusion of this phase with the wider program team with analysis of both the process and the implementation itself.</p>	

Program Mapping

Program mapping is the evaluation of the selected program to ascertain appropriate courses for an eP implementation. The goal of the process is to create a map/matrix of potential eP usage throughout a program. Before the process of program mapping can begin a sufficient level of consultation with key stakeholders (program directors, course co-ordinators and all program teaching staff) must occur. During this period it is essential for academic staff to share documentation about the structure of their particular program, and plans for development or alteration in coming years. This should include information about assessment, course outcomes and graduate qualities. This allows for the program template to be partially populated prior to the start of the mapping sessions.

The time commitments for this phase of the process are (2-4 hours for the program team, including those who may not be involved in ongoing development) and 3 hours per person, plus academic developer and program director liaison. This process promotes a shared understanding and ownership of eP development and gives a holistic view of how an eP will be a fully integrated part of both a staff members and student's experience. This process is also an essential part of building the overall justification for a student to use an eP in the first place. Academic staff will need to communicate the potential benefits for students throughout the course of their program, whether they are used for assessed or non-assessed activities, for professional networking or interprofessional communication. Indeed, student awareness of career planning, which generally takes place outside the domain of the course structure but is an essential element of a student's overall experiences can be a crucial element in eP adoption. As McCowan, Harper and Hauville (2005) noted in their discussion of the eP implementation at QUT, 'when the career-related benefits were discussed and its role as an organising and selection preparation tool were understood, students adopted it wholeheartedly'.

In this mapping phase courses are added to the template by way of a grid that separates the study periods. To this are added the following aspects of each course:

- Course and staffing details
- Assessment details
- Professional competencies (if applicable)
- Rationale for implementation

Individual courses are then assessed by program academic staff and academic developers using the following criteria. The teams analyse whether in courses;

- students work with rich media
- there are professional competencies associated with credentialing
- students generate artefacts regularly
- reflective practice is a feature of student activity
- there are practical components to the program which can be supported with eP use
- the course has a career planning focus
- the course is part of a series that develops over the three or four year course of a program
- has group work
- requires students to organise activities autonomously
- there is already an eP element to other courses within any given study period

When all the above factors are taken in to consideration a rationale for implementation or not is developed and the template generates a complete list of courses that will use eP including their

assessment profiles, desired course outcomes and the teaching staff involved. Results from the early stages of program mapping indicate that between 40-50% of courses actually decide to implement the eP.

Course and ePortfolio Design

The list of courses is then used to organise a training schedule for specific groups of staff and to eliminate others. The groups become course based and academic development begins with small groups of staff to begin the design phase of the process. The rationales developed for the implementation in the program mapping phase are now used to inform the initial design process. In conjunction with the ePortfolio exemplars mentioned above these rationales are used as a foundation to design course/ program specific resources. Thus it is essential that course structures be designed to incorporate eP's and that these designs be aligned with reasoning established in the program mapping phase.

The time commitment for academic developers and course teams to do design and development work requires 1 hour meetings held fortnightly and this means that staff would commit 8-10 hours per person. This involves a 50/50 split between consultation/discussion/planning with an academic developer which could be considered situated work to link program plans to individual course planning, staff development, materials design and development and private study. This time will be used for working our processes for use of ePs associated with particular learning activities and/or assessment pieces. The course designs are stored in the eP as work-in-progress artefacts, thus there will necessarily be some overlap with the following resource and content creation phase, where the artefacts become fully realised. When all the individual course teams have their designs for implementation completed, the final phase of this section of the process is a peer review session involving the entire program team, including program directors and all relevant teaching staff.

Resource and Content Construction

Based on the work done in the design phase and on the feedback received during the peer review phase the academic staff now begin the 'hands on' work of materials development: writing, creating eP artefacts and views. The goal of this phase will be to have completed the construction of their materials and support resources for the following study period.

This phase is will consist of individual/small group work on development estimated to take 10-25 hours of individual work, depending on how course teams divide the labour. It is estimated that roughly 20 hours individual work per person will be required. The figure will decrease for larger course teams who can divide the labour between them and individuals who are involved in development for multiple courses as they will learn from experience and work more quickly or staff who have experience with ePortfolios. It will increase for staff who teach individually (bearing the entire development load for a course), have specialised uses of the system in mind which require extra development time or need extra support. The time will vary according to the degree of integration (e.g. one or two tasks vs. several ePortfolio tasks) within a course and the extent to which staff are experienced with the technology.

Implementation

In the final phase, materials developed in the previous phases will be implemented in to course and program structures in readiness for upcoming study periods. A crucial element of this phase is the completion of a coordinated communication strategy across the program to ensure student awareness of the eP system and an integrated help resource on the University's website. Courses that have implemented the eP will continue this process at the commencement of the next period with the aims of the strategy being built in to course structures and course help resources. Once the materials and artefacts have been created and embedded in the eP system there will be an evaluation of both the process and the resources created by the process. At the end of every programmatic implementation there will be a coordinated period of self and peer assessment undertaken within the eP system itself and a focus group with academic staff. Staff will also provide feedback on the process and an evaluation of the design effectiveness using a customised survey instrument.

Conclusion

The ultimate goal of this process of staff development and programmatic implementation is that it becomes integrated with the academic development of all the other elements of the **learnonline** project to achieve a focussed, cohesive whole. This approach will help leverage our integrated systems to promote deep learning and improvements in teaching and learning for all staff and students across our institution.

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