

A partnered approach to ePortfolio evaluation, implementation planning and resource development

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ABSTRACT:

Effective implementation of educational technologies within Universities requires a well-structured approach, informed by evidence-based good practice (Scott, 2004). In addressing the introduction of University-wide ePortfolio systems, research on effective approaches to strategic change has motivated and influenced an inter-University collaboration between the ATN-member Universities RMIT and University of South Australia. Discussed here are the outcomes achieved via a partnered approach to the many dimensions of change associated with the evaluation and implementation of ePortfolio systems.

We have selected the PebblePad ePortfolio product for evaluation based on its provision of clear positioning of portfolio ownership with the individual, and the user-friendly Web 2.0 interface intrinsic to the product. The inter-University collaborative approach has focused on three areas where knowledge and resource exchange is directly beneficial: 1.) Building an institutional culture that is informed on the effective use of ePortfolios, 2.) Reduction of evaluation and implementation costs and 3.) Accelerated implementation process.

Informed culture of use:

Both Universities have placed significant investment into developing student and staff resources to support an informed culture of use of ePortfolios, that is independent of toolset (Botterill, 2009). Where possible, support materials have been co-developed and address: student career development, promotion of graduate qualities/attributes within an ePortfolio, innovative assessment and maintenance of academic integrity within an ePortfolio framework.

Reduction of evaluation and implementation costs

A shared technology platform and a common approach to evaluation, including staff and student survey instrumentation, has reduced overheads associated with assessing and implementing the technology platform.

Accelerated implementation

Localised and isolated approaches to common issues can introduce significant, and needless time overheads to the implementation of technology within a University environment. The multi-faceted and developmental nature of ePortfolios, highlights the benefits of a collaborative approach to implementation in this area, and with a consequent reduction in the implementation time for initiatives.

1. INTRODUCTION

Most Australian Universities are advancing ePortfolio capability in response to the availability of technologies that meaningfully improve the student experience via the provision of a personal learning framework. There is a rapid growth in the range of ePortfolio technologies now available to Universities, with over fifty-six different ePortfolio systems identified in the initial options paper drafted to support this work. It can be expected that the market for these products would be strongly rationalised in the short-term future as a small number of products will dominate choice for institutions. The

potential broad manifestation of ePortfolios in student activities dictates that the implementation of an ePortfolio system within a University is necessarily complex, and involves internal partnerships between service groups, academic development and academic staff. This paper reports on a logical extension to earlier approaches to ePortfolio implementation, such that it now includes the development of a specific collaboration with a partnered University to more fully, and more rapidly, address the many dimensions of enterprise ePortfolio implementation.

2. DISCUSSION

2.1 Establishing a meaningful and effective collaboration to support ePortfolio implementation

The collaboration described in this paper, has as its foundation the ePortfolio technology platform of PebblePad (Sutherland, 2008). The two institutions (RMIT and University South Australia) shared a common technology platform, which invited levels of aligned practice that could be readily translated between the Universities. Initiation of the collaboration commenced in August 2008 and utilised a model whereby the lead representatives from each University (RMIT: Garry Allan, University S.A.: Margaret Faulkner), facilitated focused expertise sharing between the respective functional support groups and academics. Commencing with strategically prioritised contact, and supported on an ongoing basis within a collaborative framework, this inter-University collaborative model was informed by 'Knowledge Networking' constructs (Seufert, 1999). Given the challenges faced by Universities as they address the inherently complex issues associated with the implementation of an effective ePortfolio system, effective networks of professional expertise must be developed both within and between Universities. Additionally, it was a direct expectation of the partner institutions that a ground-up collaborative implementation would accelerate the rate of creation of an informed institutional culture supporting all dimensions of ePortfolio use. The establishment meeting identified foci for collaborative actions and these were followed by the lead organisational representatives, and supported with a bi-annual forum established between the two institutions to address ongoing ePortfolio development.

2.2 Implementing the technology platform

Through its history with ePortfolio usage (Allan, 2003) RMIT had conducted a review of over fifty ePortfolios systems that compose the commercial landscape of ePortfolio systems. In 2008 RMIT undertook a trial of the Expo LX suite, and determined that a more complete institutional product should be explored. In view of the rapidly changing technology landscape of Web 2.0 systems, it was considered that local development of a system would be conceptually flawed in that ongoing aggressive development of the platform would be an essential requirement to maintaining the ePortfolio value proposition for students. The current wide array of commercial ePortfolio products is likely to be rationalised by market forces in the short-term future, hence only enduring products, with significant standards compliance were considered for further evaluation. Both institutions placed a priority on the adoption of an ePortfolio technology that was identifiably of high value to the student learner, and offered the promise of a viable Personal Learning Environment (PLE) with a Web 2.0 look and feel. The PebblePad platform currently has a presence in twelve Australian Universities, and has been adopted for scalable trials at RMIT and University of South Australia. Of importance to both institutions is the presentation within the overall online student experience, of the ePortfolio system. At RMIT students access, via a Student Portal, a custom 'Learning Hub' environment that redirects the user to the relevant student learning system, which is predominantly the Blackboard LMS. The configuration used for the trial of PebblePad, was to direct learners to the ePortfolio environment from within the Learning Hub, and independent of the Blackboard LMS. In this way access to the functionality of PebblePad could be closely monitored. The University of South Australia also provides a student portal environment that links to

UniSAnet, a customised LMS. At this institution, PebblePad can be accessed through the course online resources or directly accessed via an Internet browser with the same URL used for external and internal access.

Both institutions commenced with external Australian-hosted installations of PebblePad, with the aim of expediting development on the basis of hosted provision. Shibboleth authentication and identity management (Lougheed, 2004) was used to fully secure the PebblePad service. In 2009, UniSA migrated to internal application support management of PebblePad, to enable testing of integration with internal systems.

RMIT chose to customise the authentication front-end, to provide clear options for non-RMIT users to access the PebblePad system. The capacity of PebblePad to seamlessly facilitate the information flow between students and the non-University community, is understood to be of significant value in developing a personal learning environment that is fully enriched by Web 2.0 capabilities.

2.3 Understanding the student and staff experience

A cornerstone of establishing an informed culture of use with the introduction of ePortfolio technology, was the concomitant deployment of staff and student experience surveys. A common survey instrument was developed between RMIT and the University of South Australia. The student survey component consisted of sixteen questions with a Likert scale response and the provision for an additional two questions designed by individual teaching staff. An open-ended question concluding the survey allowed the collection of one qualitative response. The student survey questions were designed to assess the student learning experience using ePortfolios. The nature of the questions encompass the student's perception of the role of ePortfolios in their course and the potential for ePortfolio use in their future professional careers. Questions addressing skills development, the usefulness of the support materials provided to the students, and the use of ePortfolios for self evaluation and personal reflection were also included. The final open-ended question was framed to provide students with the opportunity to present their personal views on the use of e-portfolios within their course. The student surveys are designed to be conducted on the final day of teaching and after submission of assessment activities for a subject. They are deployed by the respective survey centres at each institution.

As a complement, the staff survey questions are designed to evaluate the staff experience of ePortfolios in Learning and Teaching, the institutional support materials provided for staff, and benefits and barriers observed by staff in teaching with this technology. The staff survey also addresses adoption of the technology by staff for their own use and professional development. RMIT provides the staff survey to all staff members and teaching staff participating in the trial via the ePortfolio support page (Botterill, 2009).

The adoption of a common survey instrument by the two collaborating institutions, strengthens the capability for longitudinal and inter-disciplinary studies. The broadening of the sample set also facilitates expertise development and strengthens the surety of decision making. Both surveys are extensible, and are available for adoption by other institutions via communication with the principal author.

2.4 Collaboration focus areas

As part of the partnered approach to ePortfolio implementation, a number of focus areas were identified, where direct benefit could be derived from the mutual engagement in institutional ePortfolio change agenda. Discussion of each of these areas follows.

Institutional ePortfolios and the maintenance of academic integrity

The translation of student assessable work to a fully digital environment, such as an ePortfolio, introduces a greater potential for the compromising the University values of academic integrity (Allan, 2009). Both institutions have placed emphasis on the importance of a whole-of-University approach to the promotion of academic integrity (Allan, 2009) (Bretag, 2008), and are commencing a parallel investigation into the use of plagiarism detection technology within the student ePortfolio system. A study of this type addresses the tension between the provision of an ePortfolio as a truly student-owned personal learning environment and the institutional expectations of Universities. It is expected that the ePortfolio trial being undertaken by RMIT and the University of South Australia will inform the respective institutions as to the value, to the student, of institutional ePortfolios that are now offered within a burgeoning world of no-cost Web 2.0 services. The PebblePad system is student-centred in the sense that the student has full control of their content, and only student-released material is accessible by the institution. The aim of this approach is to facilitate the incorporation of the ePortfolio system into the students' personal digital identity, along with the other Web 2.0 systems that compose their overall online presence, both social and academic. The value in positioning an institutionally-provided system in such a manner is that extends the incentives for students to actively, and of their own self-volition, use their ePortfolio. It is expected that as we position an institutional system in such a manner, then emphasis will need to be placed on personalisation and the University brand profile, and other links, will need to be diminished in what is expected to be a deliberately personal digital space provided to students. This approach is counter to the institutional and branded student resources previously provided in the sector, such as student portals and earlier generations of ePortfolio systems.

An additional motivating factor in active and ongoing student ownership, is the ability to integrate pre-existing Web 2.0 resources directly into the students ePortfolio. In this way the ePortfolio more readily becomes the environment in which an accumulation of academic output occurs, from the array of pre-existing and ongoing Web 2.0 resources that are personally available to the student. The two institutions, have begun to explore the central academic role that the institutional ePortfolio can take in a students Web 2.0 world, by encouraging the direct inclusion of their content stored externally, e.g. from Flickr and Youtube. PebblePad provides the functionality to seamlessly imbed these media objects, as required, in the ePortfolio, thereby avoiding repeat uploads, and institutional ePortfolio data storage costs.

ePortfolios to support Engineering Education

The accreditation process for Engineers Australia, requires students to undertake vacation reporting and evidence capability development as part of graduating as an Engineer. Previously the documentation to support these attainments have been presented in a paper-based form. In 2009 the collaborating Universities have commenced translating the evidence basis for Engineering accreditation into ePortfolio form, using a combination of the Profiler, Proforma and Webfolio functions within PebblePad. The outcome from this approach is the institution-wide availability of a Web-template that features standard fields aligned to Engineers Australia's objectives and readily populated with the requisite student output. From the students' perspective their accreditation expectations and outputs are directly embedded in their ePortfolio and therefore accessible at times and locations that are convenient to them. By deploying a singular, but well developed process, both institutions are able to commence the translation of accreditation work process into a flexible digital format that can be readily shared with employers and other career-relevant parties external to the University.

Several refinements need to be undertaken in order that PebblePad be able to fluently meet the breadth of documentation requirements intrinsic to Engineering disciplines. Due

to limitations in Flash graphics handling, the current version of PebblePad does not provide a maths-based and functionally rich interface. Hence detail reporting in Engineering requires the uploading of Word, or other, files into the ePortfolio. Usefully, PebblePad provides a Zoho integration, which in effect provides Word capability within the ePortfolio, and importantly, provides access to the large, and expanding suite of Zoho applications. Early feedback from Engineering students is that when working with the web-provided portability of an ePortfolio, they also expect a similar level of application portability. At this point in time, the rich Web 2.0 functionality of Zoho suite is the web service most readily able to meet their requirements for specialised applications that are independent of the desktop.

Promotion of graduate qualities/attributes

Both University of South Australia and RMIT have structured curriculum design to identify and build "Graduate Qualities" (Uni. S.A.) and "Graduate Attributes" (RMIT). As part of the collaborative implementation the Universities have explored a common path for the utilisation of ePortfolios to embed the identified graduate attributes/qualities within the learner's experience. The use of an ePortfolio in this way assists in avoiding the fragmentation of traditional university learning paths, and offers the potential to bring cohesion to the student experience of attaining graduate attributes/qualities. The Profiler function within PebblePad can be utilised to provide a listing of structured expectations to which the learner responds. By adapting content in the Profiler to map the relevant Graduate Qualities/Attributes for a specific course, it is then possible to structure the student experience such that, as part of their learning journey, students are evidencing attainments directly against the prescribed Graduate Attributes/Qualities for the course. In this sense, the ePortfolio has codified the required Graduate Attributes/Qualities, and for the first time, the student has a managed learning environment which scaffolds their action path to the attainment of the documented expectations of the Course. As part of the implementation, a trial deployment within a Business Management Course has been undertaken to directly link the expected Graduate Attributes to weekly course activities that are evidenced in the ePortfolio. It is anticipated from this trial, that a model for the ready conversion of documented Graduate Attributes/Qualities into an efficient and pedagogically sound ePortfolio framework will be available to the Universities.

Promotion of Career Development Learning

Both Universities have prioritised Career Development Learning as an augmentative component of their ePortfolio implementations. Given the projected global reach of both Universities, the expansion in online commercial career services and the physical limitations in linking student career counsellors to the increasing number of University students, development of an online career support resource was prioritised. As a consequence, the RMIT interactive website, *Career Track*, has been designed as a career development guide that supports student career progression through online guides and reflection activities. Importantly, *Career Track* links to the expanding array of online career support and job placement services, so that the University is able to centrally manage the contextualised provision of these services to students. The availability of this central and extensible web resource has opened up the opportunity for the systematic enhancement of shared online career-support resources between the institutions. The online provision of the *Career Track* allows it to be embedded, or selected into, the student ePortfolio, thereby co-locating an extensible career development resource directly within the students' experience of the institutional ePortfolio. The modular nature of Career Track allows it to be expanded to support the career development requirements of specific disciplines. The creation of specialised sub-sections is yet to occur, but will likely be developed in parallel with the discipline prioritisations of the ePortfolio implementation.

3. CONCLUSION AND FUTURE DIRECTIONS

The complexity of an effective ePortfolio integration reinforces the value to be found in a approach based on structured institutional partnerships. Reported here, are the first actions undertaken by RMIT and University of South Australia in advancing their collective expertise with all dimensions of an ePortfolio implementation. The partnered work undertaken thus far has reinforced the value of collaboration, particularly in terms of accelerating activities and building staff capability. At this point in time PebblePad is operating independently of the student management system in both institutions. This imposes an unsustainable manual workload within the application management. The next step is to link the Peoplesoft student management system, that is common to both institutions, to the PebblePad application, so that all student identities are managed in a manner consistent with the respective University requirements. It is anticipated that a partnered approach to solutions provision will be undertaken to effect this integration.

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