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Supporting learning partnerships through the use of ePortfolios

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Abstract: *An electronic portfolio (ePortfolio) does, in the digital environment, what a paper-based portfolio does in hardcopy. It provides a repository for the storage of 'assets', evidence of academic, professional and/or personal experiences and achievements, and enables the collation and presentation of these assets for a particular purpose. It is, however, the tools that come with an ePortfolio system that enhance learning in a way that paper-based portfolios cannot support. The suite of electronic tools provide templates for the collection and presentation of evidence, support processes such as planning, synthesising, sharing, discussing, and reflecting, and enable collaboration and giving, receiving and responding to feedback. In the University environment, these tools enable students and staff to enter into learning partnerships that focus attention on the process rather than the outcomes of learning. This presentation will showcase the use of an ePortfolio system, PebblePad, within a number of University of Tasmania units and demonstrate some of the ways in which staff have been able to partner with their students, and with each other, to enhance recognition of how experiences build learning. The session presenters have worked collaboratively to develop their understanding of the ways in which the various ePortfolio tools can be embedded into curriculum to facilitate learning. They have partnered with their students in developing action plans and identifying experiences to be recorded and reflected upon, which can then evidence attainment of competencies or standards. Students have shared and collaborated with peers and teaching staff, including participating in group work, to develop portfolios for learning, assessment or personal development, supported through scaffolding. The presenters will speak to the challenges faced jointly with their students in introducing and embedding a new technology, and the opportunities this has presented.*

Keywords: ePortfolios, higher education, student learning

Introduction

The advent of flexible and stable ePortfolio environments means that students can be shown a practical way to approach the collection of artefacts and supporting documentation in order to provide evidence of their learning and development, and encourage them to life-long learning beyond their degree study. EPortfolios support not only the collation of evidence and information but also its presentation in different forms to different audiences. Tools within ePortfolio systems:

- Provide templates for collection and presentation of evidence.
- Support processes such as planning, synthesising, sharing, discussing, and reflecting.
- Enable collaboration and giving, receiving and responding to feedback.

These tools enable staff and students to enter into learning partnerships that focus attention on the process as well as the outcomes of learning.

Stefani, Mason and Pegler (2007) have identified four types of ePortfolios which can be used in higher education settings, these include:

- Assessment portfolios, that focus on learners collecting evidence to illustrate competence in subject areas;
- Showcase portfolios, that allow the learner to display their work in the form of an electronic CV;
- Development portfolios, that support the tracking and planning of student learning; and,
- Reflective portfolios that focus on self-assessment.

In the trials reported in this paper, use was made of PebblePad, an ePortfolio system developed specifically to meet the needs of the university learning environment. PebblePad is concerned with the process of learning and places the learner at the very centre of the system. PebblePad is a:

system which allows users, in any of their learning identities, to selectively record any abilities, events, plans or thoughts that are personally significant; it allows these records to be linked, augmented or evidenced by other data sources and allows the user to integrate institutional data with their personal data. It is a personal repository; a personal journal; a feedback and collaboration system; and a digital theatre - where the audience is by invitation only (Pebble Learning, n. d.).

It was seen that PebblePad offered a synergy between what we want for our students and what the software provides.

This paper reports on the use of PebblePad in two different courses within the university. The structure of the paper is to explain the use of PebblePad in each of the courses, the Bachelor of Teaching and the Bachelor of Regional Resource Management, before exploring the key learnings for staff and students.

Bachelor of Teaching Experiences with Portfolios

This is a two year graduate entry program. Whilst a portfolio has been used in the course previously, it was hard copy. This took the form of the showcase portfolio (Stefani et al., 2007) and what Costantino and De Lorenzo call an exit portfolio (2009, p. 3), presenting a “final selection of materials that provide evidence of ... mastery related to performance standards”, in this case the Tasmanian Teacher’s Registration Boards’ (TRB) Graduate

Standards. The exit portfolio is a collection of work throughout the two year course from which students select evidence demonstrating their understanding and ability to meet the relevant standards. Students are introduced to the portfolio requirements in first semester of the first year and are given an introductory task, asking them to engage with four of the TRB elements, through explanation and reflection. This is the beginning of Stefani et al.'s developmental portfolio, and what Costantino and De Lorenzo call a working portfolio. Throughout the course, students collect further evidence, linked to the TRB standards, to “document their growth and development” (Costantino & De Lorenzo, p. 3). Evidence collected included their teaching philosophy, practicum reports, lesson and unit plans, behaviour management plans, and their professional learning plan. However, a working portfolio, the collection of physical artefacts is not without its problems. One of the problems frequently cited by the students is the loss or misplacing of important artefacts. Another is the immense size, sometimes two or three ring binders of work is collected over the course of the two years, and further, students have difficulty identifying what they wish to include in their final exit portfolio.

In the final semester students are required to turn their working portfolio into an exit portfolio, using the Costantino and De Lorenzo (2009) model. At this time, students are asked to select the best evidence, and link it to specific TRB standards. Students have to introduce each artefact, explain the evidence, relating to what they have learned in the course, and reflect on their learning, including taking the opportunity for self and peer reflection. In 2008, students were given the option of submitting their portfolio as hardcopy or submitting it electronically, which was in reality an electronic version of their physical portfolio, but one containing digital artefacts (Stefani et al., 2007). All students submitted their work in hard copy, although many students included digital artefacts such as CD's with video, slide shows and teaching performances. In 2009, we introduced Pebble Pad, the experience of which is described below.

Semester one: the reflective e-portfolio

In Semester 1, a small pilot group of students ($n=20$) were asked to complete a reflective e-portfolio (Stefani et al., 2007) using PebblePad, as part of their ongoing working portfolio. Students were given the opportunity to use the full PebblePad functionality, options were given to utilise any of the PebblePad assets, but students had to include a reflection on the evidence, provide an explanation, and link it both to the TRB graduate teacher standards and to other learning covered in the course. The students' comments and observations in class showed that they enjoyed using the software, and found it easy to use. They had no hesitation in personalising their 'homepage', enjoyed sharing their work, and explored readily the various asset options, 'thoughts', 'plans', 'abilities' and 'achievements'. They attached various digital artefacts, photos, lesson plans, and work samples. Work was submitted in stages, as students shared and received feedback from each other and the lecturer ensuring a collaborative approach to their learning (Brady & Kennedy, 2009). But despite time spend in class on the system, and successful submission of work by all students in the group through both asset sharing and through the gateway, when it came to the final submission of the portfolio, not all students chose to submit using the ePortfolio system ($n=14$).

Semester two: evidential e-portfolio followed by exit e-portfolio

In Semester 2, all final year Bachelor of Teaching students were required to prepare an exit e-portfolio with evidence of practice based on the Tasmanian Professional Teaching Standards. The elements addressed covered the evaluation and modification of teaching practice, the

development of collaborative and collegial learning, and knowledge of legal and ethical responsibilities. Portfolio elements were collected during their final Professional Experience in schools following the preparation of a collection plan, where possible evidence was derived from the indicators of professional practice. In the first stage, students submitted an initial two standards for assessment, with the remaining two standards and additional professional documentation prepared for final submission following lecturer feedback and advice.

Due to limited time to familiarise with the software and student concerns with professional experience, initial submissions in many cases contained content that was directed to meeting an assignment task and students were not hugely positive about the software. However, feedback and peer support contributed to the sharing of knowledge to overcome some of their perceived 'bugs'. Impending transition to the profession and better consideration of the target audience also allowed students to feel greater ownership resulting in a qualitative jump in the final product. Most impressive was the development of video and sound file uploads and a better understanding of what constitutes valid evidence of practice. The Word Cloud, created using NVivo qualitative analysis software (see Figure 1), shows the most common words used to express students' experiences from qualitative questions on a survey instrument, conducted just prior to the submission of their final product. The cloud reflects the tension between the software and professional portfolio requirements. Findings from the survey suggest that balance is required to give students a sense of each form of 'knowledge' informing the other, leading to ownership and empowerment (Evan, Daniel, Milkovich, Metze & Norman, 2006).

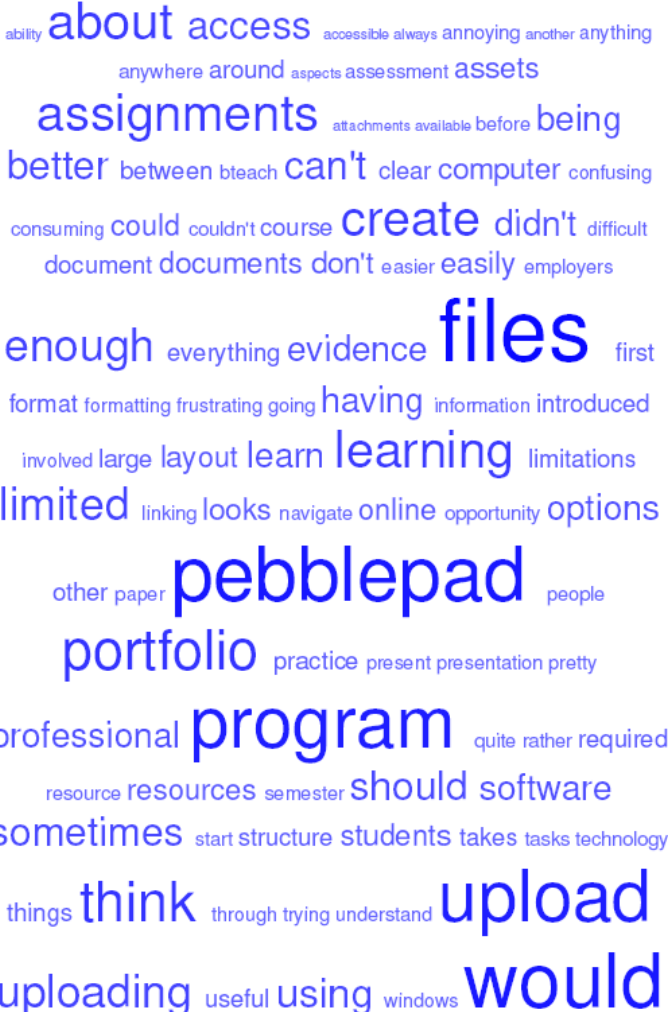


Figure 1: Word cloud showing students' survey responses to PebblePad

From here we will be introducing the e-portfolio to our students across our programs, using a profile to enable students to link to the TRB Standards, demonstrate their competencies and attach evidence. Further evaluation will be required to fully understand the overall experience once it has been embedded into the programs. The next section of the paper goes on to explain the Bachelor of Regional Resource Management experience.

Bachelor of Regional Resource Management (BRRM) experience

The BRRM is a degree offered through the Faculty of Science, Engineering and Technology by the Institute for Regional Development exclusively at the Cradle Coast campus and is significantly interdisciplinary (e.g., Regional Development, Agricultural Science, Economics, Geography, Sociology, Political Science, Public Policy, Community Development, Natural Resource Management and lots more...). The core of the course is aimed at a broad understanding of the critical role managing resources (e.g., social, human, economic, cultural and natural) plays in a region, together with the acquisition of analytical, critical thinking and policy making skills pertinent to such management under the auspices of a regional science approach.

If you want to be an engineer you study engineering and industry recognises that you have a core set of skills. If you want to be an accountant you study accounting and industry recognises that you have a core set of skills. What does a person who studies regional science become and what skills and knowledge do they possess? The problem for BRRM students is that being interdisciplinary and social science-based, students had significant problems in identifying and articulating what they 'knew how to do' (Eversole & Hawkins, 2008, p. 2).

Dr Robyn Eversole (Unit Coordinator for KAA201 Workplace Internship) and Clayton J Hawkins (Unit Coordinator for KAA101 Introduction to Regional Science 1B) designed a two-pronged trial to developing portfolios to deepen learning and to assist students to understand and articulate what they knew how to do. The premise was to teach students a 'Regional Science Toolbox' of skills and knowledge in KAA101 that they then put into 'real world' practice in their workplace internship in KAA201.

The KAA101 experience

The KAA101 Introduction to Regional Science 1B unit used PebblePad in Semester 2, 2009. In this unit, students learn and develop a tool and technique each week to put into their 'Regional Science Toolbox'. These tools were presentations, desktop analysis, data analysis, asset mapping, site analysis, SWOT analysis, community balance sheets, value chains and project management. Seven students participated in the KAA101 PebblePad trial in 2009 (six females and one male). Students were introduced to PebblePad through a three hour 'sandpit' session where KAA201 Workplace Internship students joined them to learn and play.

Students were assessed on their work (20%) where they had to produce an asset for each week that was a 100-150 word reflection of their learnings from the tools. Students could present this information how they wished as long as it was posted to the gateway. All reflections were due in at the end of the semester, not weekly. Students sent their webfolios to a gateway for assessment.

The KAA201 experience

The KAA201 Workplace Internship unit used PebblePad in Semester 2, 2009. In this unit students design, deliver and report on a project to meet the needs of a regional workplace. Seven students participated in the KAA201 PebblePad trial in 2009 (five females and two males).

In the first workshop, students were introduced PebblePad and the purposes for using it in the unit:

The electronic portfolio is intended to assist your learning process in three ways:

- By helping you become aware of the particular skills you are learning in your workplace project ('What I know how to do?') and how these skills fit into your overall course experience.
- By helping you to reflect on your own practice ('How well do I do it?') and deepen your skills over time.
- By helping you learn how to document your experiences and skills and articulate them to others with evidence ('Here is what I can do!').

Students were assessed on their work (10%) where they had to:

- Create a weekly log of their project work in the workplace as a webfolio to record 'Activities' and 'Reflections' on these activities for each project week (weeks 5-9)
- Create a PebblePad record of the workplace project and skills developed as a result

Student use of PebblePad in BRRM

KAA101

Most students explored the various assets that they could create to create an individual asset for each of the reflections required. One student went way above what was required and produced webfolios. Two students took liberty of the term 'asset' and created their reflections in MS Word and posted them up as an asset rather than creating a PebblePad asset.

KAA201

Two female students wrote extensive and detailed logs and reflections throughout their projects. One of these stated on her evaluation that PebblePad was a useful learning tool, but that she had to help others use it. Two female students wrote only brief logs. One reported informally to the lecturer that she did not enjoy the 'dear diary' nature of keeping a project log; she saw it as just one more thing to do, and not a priority. The other submitted her logs in the form of brief updates and lists of who (in her field project) she had spoken with. One of the male students submitted short but regular PebblePad entries (sometimes addressing these directly as notes to the lecturer: "Dear Robyn, This week I am doing X..."). Another of the male students wrote a more detailed and reflective log, despite struggling in the early weeks to learn how to access and use the software.

Conclusion – overall key learnings

- Student training and comfort with the technology is a key issue, especially in the initial stages.
- Students' understanding of reflection - not PebblePad, but important!

- Readiness of students and the "maturity of the organisation" are important considerations when introducing ePortfolios (Stefani et al., 2007, p. 53)
- Students need to consider in advance what constitutes valid evidence of practice and the capacity of the portfolio to maximise the impact.
- There is a transition from reluctance to ownership that flows not just from exemplars but also seeing the capabilities of the software to project professional practice in unexpected ways.
- Students have to transition from writing for assignments to writing for a professional audience. This may require explicit instruction.
- Students will engage with the software if it is assessed (this is builds on Eversole & Hawkins, 2008).
- Learn and play sessions seem to work better than a simple learn session.
- Students often need ongoing support, especially those who have lengthy periods away from using PebblePad - maybe mid-semester refresher courses are a solution?
- Some students struggled to see the benefit of PebblePad and felt that it was just something extra that they had to learn - this changed in a majority of cases but it is important to integrate PebblePad rather than it being an add-on.
- First year students strongly struggled with the concept of what a reflection was rather than the software. A level of struggle was also evident in second year students.
- Those first year students who submitted their reflections weekly as recommended generally performed at a higher standard than those who sent them in bulk at the end of semester.
- Students varied in the extent to which they 'engaged' with the software. This seemed to be a matter of individual preference and did not follow marked gender or age lines.
- Some students did not appear to read the assessors' comments on their assets.
- Unit Coordinators need to state very clearly the requirements for assessment as interpretation of these created a vast level of difference in submitted work - especially what constitutes an 'asset'.

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