Using an ePortfolio to prepare veterinary graduates for global employability

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Abstract

The Blackboard ePortfolio module was trialled at Murdoch University during 2008 by a small group of staff and students from several faculties. The 12 month trial was funded equally by an ALTC grant and Murdoch University. The advantage of this product was its direct link with the existing Learning Management System, allowing students to store items from their online units as portfolio artefacts. Senior veterinary students were asked to create showcase portfolios demonstrating evidence of their skills and attitudes for a future employer. Five veterinary employers defined selection criteria, and this information was made available to students. A number of technical difficulties with access and software functions were encountered and only one veterinary student completed the task. The student found that creating her ePortfolio was... ‘surprisingly helpful to my learning’, it allowed for review and reflection of achievements, and boosted her confidence that... ‘I realised I actually achieved quite a lot’. Lessons learned by staff were to make ePortfolios compulsory, embed their use into the curriculum, develop strategies to engage more staff and include competency check lists (useful for accreditation purposes). An ePortfolio Review Group was established to investigate the need for an ePortfolio system at Murdoch University. The Group developed a wish-list of functions and evaluated four ePortfolio products against the list of functions. Three detailed scenarios were also developed. They covered a range of uses: record data about classes, practicals and placements; provide a repository for storing and showcasing evidence of competencies and achievements; and record an action learning project and gather feedback. The group reviewed two portfolio products against the scenario requirements and is currently trialling PebblePad. Senior veterinary students are now required to record selected clinical competencies within their ePortfolio area and will be offered prizes for the best showcase portfolios.

Introduction

Electronic Portfolio tools provide a convenient way for students to store and record evidence of their educational progress, professional attitudes, achievements and skills. Portfolios can be used as a learning tool to allow students to take charge of their professional development, to monitor and ensure specific competencies are achieved for accreditation purposes and to enhance experiential learning through reflection. Showcase portfolios can be assembled from the collection of artefacts (text, video, graphic or audio) to demonstrate evidence of skills and to support job applications.

Medical educators have suggested that portfolio assessment provides a robust and successful method of assessment of professional learning outcomes, including a range of outcomes which are not easily assessed by other methods, such as ethics, attitudes and aptitude for self-development (Davis et al 2001). Other examples of medical portfolio content included reflections on learning experiences with patient presentations, a record of practical procedures undertaken, learning contracts, reports and assignments. Published veterinary applications of ePortfolios to date have focused on both summative and formative assessment of reflections.
on extramural veterinary experience (Mossop & Senior 2008). As extramural experience is increasingly added to the curriculum, and as veterinary schools are encouraged to move more towards outcomes-based assessment, it is anticipated that portfolios will become more widely used within veterinary education.

Electronic portfolios are convenient tools to record reflections. Reflection is said to transform experience into learning (Boud et al 1985); it allows opportunity for the student to reassess an experience and make decisions on how to change or improve outcomes. Critical reflection, group discussion and constructive feedback from others can help a learner to perceive different perspectives of an issue, and develop professionally. Moon (2004) states that deeper levels of reflection are associated with higher levels of confidence, and that unlearning a bad habit, through reflection, can be as important as new learning.

However there is debate on the reliability of portfolio assessment and the validity of assessing student reflections, consequently a wide variety of methods and lists of assessment criteria have been recommended (Friednam Ben David et al 2001). Driessen et al (2005) warn of poor reliability of subjective summative assessments of portfolios and recommend using qualitative research criteria and formative assessment. In medical education, Carr & Carmody (2006) described four criteria for assessment of the depth of reflection, these were: listing, describing (strengths & weaknesses), applying (discuss what they need to change) and integrating (apply reflection to future practice). A combination of assessment processes is considered highly desirable, and Henry (1989) states that ‘Assessment methods used in experiential learning are as diverse as the activities’. Despite these concerns, the use of ePortfolios is increasing in all levels of education.

An ALTC Collaborative Grant provided funds to explore the use of ePortfolio at Murdoch University. The Learning Technologies Steering Group (LTSG) selected the Blackboard portfolio module for the 12 month trial in 2008 as it linked directly with the Learning Management System (LMS), thereby saving one step in the transfer of artefacts to the portfolio. Around the time of purchase the first ePortfolio symposium, which was part of the Australian ePortfolio project, was held at QUT. Due to publicity for the project and the symposium we became aware of other portfolio products which appeared easier to use and offered more functions. Learning Technologies Steering Group (LTSG) suggested that other products should be investigated.

**Experimental Educational Design**

Senior veterinary students were asked to prepare showcase portfolios to demonstrate evidence of their skills, attitudes and achievements to future employers. They were shown how to use the Blackboard ePortfolio software and ongoing support was offered. Prizes were offered as incentives. The evidence of competencies could include reflective assignments on practice management and leadership, critical analysis of a conflict incident experienced in veterinary practice with resolution suggestions, video examples of consultation skills, presentations, feedback from veterinarians from Rotations or externships and any other material or artefact chosen by the student. In a workshop about job applications and interviews, the campus careers advisor also provided students with advice on the benefits and use of an ePortfolio from an employer’s perspective.

Students were advised of veterinary employers’ selection criteria based on a nationwide survey. The highest ranking selection criteria related to interpersonal skills and the ability to inspire trust and confidence in clients (Heath & Mills 2000). Five additional veterinary employers were asked to describe the evidence they would look for when employing a new veterinary graduate, and their descriptions were made available to senior veterinary students. In summary, these criteria were: a strong sense of who they are, their life, learning and
professional goals; evidence of being team players; demonstrated ability to work with clients; ability and willingness to learn; demonstrated quality of reflections on veterinary experiences; and demonstrated understanding of the business contexts of veterinary practices.

As part of the preparation of veterinary graduates for wider global employability, a list of competencies of high-performance, high-wage (global) workers was also presented. These competencies included: flexibility and adaptability, skills in problem-solving, decision-making, creative thinking, self-motivation and the capacity for reflection (SCANS report 1991).

Assessment of the portfolios was based on a summary of the points raised by the five consulting veterinarians, and a small panel of veterinarians agreed to be involved. Ideally grading rubrics would be developed based on these selection criteria.

Students in earlier years were also given several assignments involving guided reflection on veterinary experiences of topics appropriate to their level of learning, such as team skills, goal setting, and factors contributing to success in practice. These assignments could be saved to the portfolio tool.

Outcomes

At the end of the teaching year, only one senior student presented a showcase portfolio to compete for the prizes. She had assembled a large amount of evidence which included her publications, presentations in Rotations, reflections on lessons learnt in each Rotation, community and volunteer activities and practical experience with wildlife.

Many technical difficulties with access and functions of the software were encountered by students, which made progress difficult. The storage capacity of each student’s allocated space was easily overloaded, and many students did not have the time or skills to overcome these difficulties.

On the other hand, the student who persisted with these challenges described the portfolio as being .. ‘surprisingly helpful to my learning’, ‘a useful tool for those willing to make the effort to use it’, and it boosted her confidence to realise that.. ‘I have actually achieved quite a lot!’”. She found she enjoyed collecting material that reflected her interests and activities, and relished the opportunity to look back on her work. A benefit for the educator was that it gave wider insight into the student’s professional and social experience and skills.

Other difficulties encountered included reluctance by staff to embrace the concept of ePortfolios, lack of active support by senior academics and concurrent use of hard copy competency check lists.

As a result of the trial, it was realised that several changes were required:

a) Encourage student use of portfolios by including them as an integral part of their learning experience; although the presentation of a showcase portfolio could be optional

b) Strategies are required to engage and encourage staff to include the use of portfolios in their curriculum design; strategies include supporting staff using it themselves.

c) Include competency check lists of both technical and non-technical skills within the portfolio for accreditation purposes

d) Video student interactions with simulation clients for inclusion as evidence of consultation skills

e) Use a different ePortfolio system with a more user-friendly interface
ePortfolio Review Group

Following the implementation of the Blackboard Portfolio system and the finding of a range of ePortfolio systems the Learning Technologies Steering Group established an ePortfolio Review Group with Terms of Reference which included identifying areas of the University with a current or potential interest in student ePortfolio software and determining required functionality.

Members of the group included academics who were interested in trialling an ePortfolio system in their discipline area – Veterinary Science, Education, Nursing and Pharmacy. At its initial meeting the group discussed why an ePortfolio system might be needed and developed a wish list of functions which a system could include. The group members were asked to rank the functions according to importance and they selected the following:

- demonstrate a student has acquired specific skills before graduation
- sharing and gaining input from others – use for assessment, employment and as evidence of competencies
- ease of use
- flexibility

Four ePortfolio systems were reviewed according to the wish list and from that review the Group suggested to the LTSG that trials be conducted of two systems.

At the same time as the systems were being reviewed LTSG was developing guidelines for investigating, evaluating and implementing emerging technologies. LTSG suggested that staff be asked to develop scenarios which demonstrated how their students could use an ePortfolio. Seven scenarios, which covered a range of uses in different disciplines, were written. During a workshop the scenarios were examined and subsequently developed into three scenarios which covered:

- recording data experiences in classes, practical exercises and placements
- a repository for storing and showcasing evidence of competencies, achievements, etc
- recording an action learning project and gathering feedback

Copies of the three scenarios were given to two vendors who demonstrated how their ePortfolio systems could be used for the different scenarios. Feedback was gathered from staff about the two demonstrations.

There was support from staff for trialing both systems. The Learning Technologies Steering Group agreed to initially fund a trial of the Pebblepad system in 2009. Within the Veterinary Science Faculty the Dean and two Curriculum Conveners are now actively supporting use of the system. Competency check lists have been uploaded for students to complete and some students are receiving feedback on external placements within their portfolio area. Senior students are now formally required to use the portfolio and prizes are again offered for showcase portfolios.

Completing the competency checklists provides students with an opportunity to reflect on the skills which they have attained and determine ones which they still need to develop. For each item in the checklist students can provide evidence of how they have achieved the competency. Staff are able to review statistics from each checklist showing the number of students who have achieved the different competencies. The staff would then be able to design the curriculum and activities which could assist students develop their skills and thus equip them better for global employability.
Discussion and Conclusions

Although our trial was initially small, it provided an opportunity to explore the use of ePortfolios and develop strategies for further successful application. The trial allowed potential veterinary employers to further define the evidence they would look for when selecting a new graduate employee. This has not been previously articulated or reported. More work can be done to extend the use of ePortfolios in the curriculum, to introduce veterinary employers to their use, and to decide how to reliably assess the end product. Assessment challenges include ensuring validity of content, consistency of assessment and allocating sufficient time to review content.

There have been insufficient portfolio submissions in this current trial to allow veterinary employers to fully evaluate their use for selection purposes, but we anticipate the numbers will increase in 2009. If this proves successful, it is anticipated that students will be motivated to use portfolios to enhance their job applications and increase their employment or interview prospects in the future.

Other benefits for students using an electronic portfolio include building confidence and reflecting on their learning. Reflection is a valuable educational tool. If veterinary students become used to writing reflection assignments from the early years in the course, it is more likely they will develop the employable skill of reflection and apply that throughout their career. Despite these educational and employment benefits, the application of ePortfolios for accreditation purposes is considered likely to be the initial driving force to develop their use in the short term. It is anticipated that academic staff may find more opportunities to apply use of ePortfolios to their curriculum as they become more familiar with its potential.

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References


