IMPLEMENTING EPORTFOLIOS: FIRST STEPS — LESSONS LEARNT

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Abstract

This paper reflects on the implementation of ePortfolio software for a year one undergraduate course. The process of choosing the appropriate software, the essential training needs and the results of a student survey are analysed and discussed. Key findings indicate a greater need for training both staff and students than was initially predicted. The common assumption that all students have an adequate level of computer literacy is challenged. Staff moving into the area of new technologies for the first time may have misconceptions that are difficult to identify.

Introduction

The ePortfolio described in this paper was introduced to undergraduate students as an integral part of the Personal Development and Planning (PDP) module. PDP runs throughout the four years but this paper is concerned with the initial introduction of this tool to year one undergraduates. The undergraduate program recruits 70 students and runs for four years, after which successful students graduate with a Bachelor of Arts degree at honours level with Qualified Teacher Status (QTS). The undergraduate course was completely rewritten, validated and delivered to year one students in the 2008–2009 academic year.

The main focus for the paper will be the choice and evaluation of the implementation of an ePortfolio for first year undergraduate students. However, some key aspects of how the undergraduate programmes have been adapted and the rationale for the choice of software will also be discussed.

Developing the PDP Module

The course introduced Personal Development Planning. The content of the module is generic in nature and includes a number of transferable skills. It is possible to define PDP as

> A structured and supported process undertaken by an individual to reflect upon their own learning, performance and/or achievement and to plan for their personal, educational and career development. (Guidelines for HE Progress Files, 2001)

This definition implies that the module requires the learner to be in control of their own learning and is autonomous and is learner-centred in nature. The group formed to develop the PDP was a multi-disciplinary team as suggested by Latreille (2007). The group was established in 2007 with a view to having the module available for use in the academic year 2008/9. Important features of the module identified by the team were that learners should be:

- able to reflect on their own practice and identify their own learning and developmental needs
- able to demonstrate their learning in a variety of ways
- as autonomous as practicable in terms of structure and content
- able to develop their PDP throughout the course and meet their needs for lifelong learning

Traditionally, a paper-based portfolio of evidence would be created to show the success of the student within the module. However as PDP is continuous over an extended period of time and developmental in nature, this implies the need for flexibility and security, something difficult to achieve using traditional paper-based models. A paper-based portfolio was thus felt to be too limiting in this respect. Furthermore, bearing in mind the professional nature of the course, as Hallam et al. (2008) point out

> The use of electronic portfolios in teacher education as well as within the professional context is emerging as fundamental to professional development (p. 40).

In view of the forgoing and the above criteria an ePortfolio was considered more appropriate since it is recognised that ePortfolios are an aid to reflective learning and develop transferable skills (Roberts et al., *2*005); they can assist with students understanding of their own learning (Lambert & Corrin, 2007). An ePortfolio could also be easily extended over time, demonstrate evidence for reflective and evaluative practice and be readily accessible from multiple locations by a variety of people. As there is a general perception that first-year university students are much more computer literate than was the case a decade ago (McLennan & Gibbs, 2008) it was expected that they would be able to successfully make the transition from traditional paper based working to an electronic format. The use of ePortfolios would, as Latreille (2007) suggests, be an electronic means of supporting personal learning. It would provide the flexibility needed as well as improved access, structure and editing, and aid the development of autonomous learning. Based on these deliberations, very early in this process it was decided that the use and integration of an ePortfolio would be an important element of the module. It was thus intended that the ePortfolio would be used to help provide the

structure implicit in the definition above as well as a way of showcasing their development.

Having made this decision it was found that there was a variety of definitions and applications of ePortfolios. Lorenzo and Ittelson (2005) describe an ePortfolio as an assortment of digitised artefacts that can include text based, graphic or multimedia elements that the owner can control who views, interacts and gives feedback within the ePortfolio. The student's own reflection can lead to a meaningful learning experience. Or as Young and Lipczynski (2007) suggest, an ePortfolio is simply a collection of artefacts which can be used to demonstrate knowledge, reflection and learning. For our purposes a key aspect is the development of reflective practice so essential for the development of effective classroom practice.

Strivens (2007) suggested that there were some inconsistencies in how the HEIs defined an ePortfolio. Two distinctive views emerged with a positivist view that the ePortfolio should be based on output, i.e. the result, and the constructivist view that it is also developmental and the 'learning journey' is important. The later fits in with the Life Long Learning (LLL) agenda explicit in the Lisbon process. The College team decided early on in this process that this constructivist view should be followed. Implicit within this decision is a belief that there must be processes within the system that allow for a developmental or formative approach to learning and that feedback by tutors and peers can be accommodated.

It is important to identify that, although the Virtual Learning Environment (VLE) and the ePortfolio would be linked i.e. students would access the ePortfolio through the VLE, their roles are fundamentally different. The VLE is institution-centred whereas the ePortfolio should be learner centred (Roberts et al., 2005). The learner, not the institution, should populate the ePortfolio, as the focus should be on supporting the learning not the assessment (Sutherland, 2005). Concerns were raised regarding the use of ePortfolios for assessment as marking can be extremely time-consuming and grading criteria unclear while students often have difficulties understanding learning objectives (Young & Lipczynski, 2007). Sutherland (2005) also identifies that due to the nature of the data the institution has to collect to aid assessment, some pre-populating of the system is needed which can then depersonalise the whole process. An important element highlighted in Latreille's (2005) study shows that students were not tempted to use the variety of features and tools available to them within the ePortfolio system unless they were required by specific assessment criteria. It was therefore important for not only the ePortfolio to be a compulsory requirement of the PDP module but to encourage students to use all the relevant tools and features to showcase their learning in their preferred way. This tension between specifying the content and the learner having ownership is a real issue that must be addressed tactfully.

The ability to use the ePortfolio for the assessment of students' work is seen as an important but problematic element which appears, at first glance, to contradict the tenet of the student owning and controlling the ePortfolio.

Selecting the ePortfolio Software

This process started early within the development process, towards the beginning of 2007. The preceding few years' rapid developments had been made in software, hardware and the Internet itself. These developments generated a plethora of ePortfolio systems. Himpsl and Baumgartner (2008) noted that in late January 2008 there were around 60 ePortfolio providers. These ePortfolios have developed rapidly from a collection of digital files stored on the learner's computer available only to them to a complex managed web based system containing the full range of digital and audio media, created or selected, by the learner in support of their learning and development needs. The evolution of the web to the so-called web 2.0 has meant that information is much more readily transferred, in both directions, within the web environment. This has led to the development of new technologies that are of benefit to the learner. This pace of change is unlikely to slow and, whilst some decisions had to be taken relatively early, provision was made to keep as many options open for as long as possible.

The initial use of the ePortfolio would be to support the PDP module. However, early in the planning stage it was recognised by the group that it is likely that an ePortfolio would be useful in other areas. One such area was the students' continuing professional development (CPD) related to their teaching studies. The flexibility to have the ePortfolio to serve more than one master, without duplication of work by the students, would be a considerable advantage. Other key factors of importance identified by the group regarding the system software choice are that:

- the system chosen must be supported by either a commercial organisation or by a thriving community if open source
- the ePortfolio must be under the full control of the learner
- the system must possess the capacity and flexibility to allow the ePortfolio to be developed to meet any new challenges
- it must be easily integrated with Moodle, our College VLE
- all material generated and collected by the student and held within the ePortfolio must be available to the student at the end of their course in a format suitable for use throughout their professional career
- the software must be easy to use by academic staff and students
- the system must be easy to manage from a technical point of view

A restriction imposed by College policy dictated that any system containing student data must not be externally hosted.

The most commonly found systems in the UK, Strivens (2007) were linked directly to commercial VLEs such as WebCT and Blackboard and were not considered since they did not integrate with Moodle, the VLE used by the College. Initially five ePortfolio systems were examined:

PebblePAD: A commercial system widely used within the community. In her survey Strivens (2007) showed PebblePAD as the most popular choice for UK HEIs behind the systems linked to commercial VLEs.

Elgg: An open source system that was used by another School within the College. This does link directly to Moodle.

Mahara: An open source system that integrates well with Moodle. This is a relative newcomer to the market.

EasyPortfolio: An open source system that has been trialled in College. This integrates with Moodle and feedback from colleagues suggests that it is, as its name suggests, very easy for colleagues and students to use.

MyStuff: From the Open University (OU) is potentially a very exciting development since the OU are intending to use Moodle as their VLE and therefore MyStuff will link directly to this.

Preliminary investigations led to the elimination of PebblePAD from our possible choices since this system is hosted externally. EasyPortfolio was also discarded at this initial stage. Although this system was indeed found to be easy to use it did not offer the degree of flexibility or the long term scalability required for our needs. EasyPortfolio did not appear to meet our interoperability requirements that would enable students to transfer their ePortfolio to other systems.

Indications from early beta versions of MyStuff suggested that this system would figure highly in our rankings but unfortunately the release of finished versions did not appear in time for us to make a full evaluation. For this reason we decided not to include this system initially. In line with our intention to leave any final decision as late as possible this system was revisited at the end of our selection process where it was revealed that much work would be needed to adapt it to our needs since it was designed to meet the Open University's course requirements. This left the choice of two open source systems, Elgg (2009) and Mahara (2009). WCET (2006) suggested some 69 ePortfolio features and used these to review a range of ePortfolios. With only two systems to compare it was felt that such

detailed analysis would be unlikely to produce a clear outcome, even using the five meta-level layers suggested by Himpsl and Baumgartner (2008). As a result the initial features identified by the team were used for this final stage. Using this, Mahara and Elgg both met the requirements but in two important aspects Mahara stood out. Using Mahara it was much easier to create different views for different purposes. These views are formed by dragging and dropping artefacts created by the students. This allows, for example, a résumé to be shared very easily by more than one view. Once created, any updates were automatically transferred to any view using this artefact. This enabled Mahara to serve more than one purpose. Finally, consideration was given to the transference of content to other ePortfolio systems. Mahara developers are actively involved in a JISC (JISC CETIS, 2009) coordinated process to meet the current LEAP2A (2009) protocols for import and export and ePortfolio interoperability.

As result Mahara was chosen as the system that best met our needs.

Implementation

As previously identified a multi-disciplinary approach is essential and must include the involvement of both academics and IT systems personnel. This necessitated many module planning meetings. Colleagues coming from many different disciplines presented various challenges. It was difficult for some to understand the principles of working in the electronic domain, whilst others embraced it. Some colleagues had problems adapting not only to the technology, but to the role the technology plays within the ePortfolio. Training was provided for the tutors who would be both delivering the module and assessing it. It was imperative that clear definition of the goals for the ePortfolio projects were identified (Roberts et al., 2005).

New students are often considered to have good ICT literacy (Roberts et al., 2005). McLennan and Gibbs (2008) also alluded to this. However, some mature students whose formal education ended some time ago may have outdated IT skills, meaning the above assumption is not always true. Thus it was important that the implementation of the ePortfolio ensured all students were included irrespective of age, gender or IT ability.

Three colleagues were responsible for running the PDP module and staff training took place on a one to one basis starting early in the development. The processes involved in the ePortfolio system were shown to each and it was left up to individuals to then develop their expertise with the support of trainers as required. Terms such as “blogging,” “textbox,” “blocks,” etc. were used by both trainers and academic staff who were undertaking the training as though both understood the said features.

For the students compromises had to be made in the allocation of time for the initial training and use of the ePortfolio system. A series of induction events was planned for the students of which PDP and the ePortfolio were but a small part. Since this was considered ICT related it fell within the block of time allocated to introduce the students to the College's computer facilities and procedures as well as the college VLE.

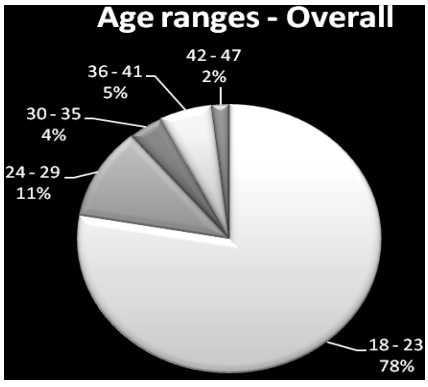
ICT specialists introduced the students to the ePortfolio system whilst PDP colleagues introduced the module content in separate sessions. Students were expected to create at least one view which incorporated evidence to meet specific criteria. PDP colleagues were quite prescriptive as to the shape of the evidence. Students were to reflect on specific scenarios, so were prompted to use a blog. They then completed their résumé and identified areas for development. The students' blog would be given formative feedback and a summative grade assigned. To facilitate this, students invited tutors to access their views in a specific time frame. This activity then repeated several times until the module was complete.

Methodology

At the end of the first semester the students were surveyed to ascertain their views and ideas on how well they thought they were prepared for use of the ePortfolio. Their views on the usefulness of it both in their studies and in their professional career were also sought.

The survey was carried out using a questionnaire designed in Google Forms and posted on Moodle. It comprised a series of questions using a Likert-like scale with values from 1–5 together with some free-response questions. All responses were automatically submitted to a spreadsheet which was then analysed. However to prevent exclusion of individuals a hard copy was made available to the students via the course notice board. The questionnaire was optional and anonymous. Figure 1 shows the age break down from the total of 32 replies from a cohort of 71. The age profile showed a predominance of students in the 18–23 age range (71%) with a significant 10% aged 36-41. Four out of the 31 were male (13%).

Figure 1: Age Ranges for Replies



Tutors were interviewed to gauge their perception on the success of the module as well as how well they felt prepared for both supporting the students and assessing the work. For the purpose of this paper the free-response questions were found to the more useful.

The Results

Indicative quotes from Student Responses (all responses are available from the authors):

'If you feel the training in the use of the ePortfolio didn't meet your needs can you explain why below':

> 'I do not feel there was adequate time allocated to the training'
> 'i would have liked three or four sessions over a period of about a month in order to digest the information'

Out of 31 students 21 added a comment. These comments were indicative of their overwhelming view that there was insufficient time given for the training. This identifies a need for more constructive and continuous training that needs to be threaded throughout the module, rather than just front loaded.

'In your view, what advantages does an ePortfolio offer over a paper based portfolio':

> 'It does save a lot of time as you can do it from home and it also allows you to get feedback quicker'
> 'Firstly it saves on paper and green is all important now. And secondly, once someone is familiar with using the application it is easier for submitting work and various other tasks.'
> 'In my opinion, none!'
> 'Paper based portfolio work can get lost…'

This question elicited a greater number of responses with all thirty one students replying. There was also a much wider range of views. These were centred on the following benefits:

- time saving
- easily accessible
- greener
- less chance of things being lost
- assignments could be submitted more easily

Although many practical advantages are identified, the expected advantages were not, i.e., the ability to evidence success in different formats, to show continued progression and reflection, to create multiple views and to have control over who views what when.

'In your view what are the advantages of a paper based portfolio compared with an ePortfolio?':

'When i hand in the work i have a receipt and know for sure that it is handed in.'

'One of the lecturers mentioned that they would like to be able to view previous when marking current work. This worried me as I feel the ability to see all work may affect the lecturers mark, for example on seeing previously weak assignments may sway the marker towards the lower grade scale rather than judging on each piece of work individually.'

'Easier to hand in, and you know that the tutor has received them. (so less worry involved)'

''Anyone can make one where as many people (students and staff) seem to struggle with the e- portfolio.'

Thirty students offered their thoughts. These seemed to centre around two themes. One was that students were not confident in the submission process and the other was of technology becoming a barrier to use.

An interesting point is also raised here pertaining to students being continually assessed and the assessor having preconceived ideas of the student's abilities. Reassurance needs to be given to the learners to give them the confidence that this is not the case and indeed, that progression would be expected.

'Please add any other comments on ePortfolios':

'So far I found the concept of handing in my work electronically more stressful the content of the assignments!'

'The ePortfolio system is a good concept but the full possibilities of the concept have not been reached with this system.'

'I can also see that this form of information collection would be far easier to transfer from one institution to another.'

'I have submitted two assignments electronically and both have been returned to me on paper.'

Fourteen students made a comment. Many of the statements reinforced points made earlier. The training needed and the skills training of both students and staff had been underestimated and this contributed to a lack of confidence and belief in

the system. It also meant that some staff printed the assignments out to assess and wrote the feedback on the paper which undermined the system and made the students feel the effort of learning the new skills had been pointless.

Discussions and Conclusion

It is clear from student feedback that they felt that more training was needed and that compromises made in the allocation of time for the initial training of students impacted on their ability to use the system. Some students would have liked the training to have been integrated throughout the module rather than it being front loaded. These problems were further exacerbated by misunderstandings by some colleagues regarding not only the ePortfolio but also key components such as blogging. Hence, students were asked to submit their blogs formatted such that feedback could be easily referenced to specific sections of their work. All students found this very confusing. Our assumption that the students would be proficient in ICT just because they live in a digitised society was somewhat optimistic. Students encountered difficulties understanding and creating views to showcase their achievements. This is certainly the most complicated aspect of the ePortfolio. The generation of template views is possible but this would inhibit or reduce individual expression. This last issue may well be responsible for the opinion of some students that the technology became a barrier to learning, which is certainly something that needs to be addressed. It could be that a compromise will have to be made between ease of use and individual expression and ownership.

One of the unexpected features of the ePortfolio was the social aspect which emerged with many students creating social views within the software to share with friends. This could be developed to add the new dimension of peer review into their development.

There was a communication issue between colleagues developing the PDP module and its tasks and colleagues who were responsible for training and developing the ePortfolio system. From each colleague's perspective the understanding seemed clear. Colleagues who were ICT specialists assumed that colleagues who were talking about blogging and had built this into the assessment process knew what blogging was and what it entailed. The colleagues responsible for the PDP module assumed they knew about blogs. As Rumsfield (2002) said "we don't know what we don't know."

The training for tutors needs to be revised and more structured in nature. Time must be allocated for this training and it must include specific focus on WEB 2.0 technologies used by the ePortfolio such as blogging.

Feedback was both formative and summative in nature. After discussions with tutors this appears to have been counter-productive since some students focused on the summative and took little notice of the formative. The assessment took place only two weeks after the start of their undergraduate programme, leaving students trying to become familiar with college systems as well as submitting their assignments. The developmental and formative nature of the PDP module would lend itself to a reduction in summative assessment early in the course. This could allow a completely formative element to be established in the first months of their studies. This element could include use of a wider range of tools such as video, sound, etc., enabling students to engage and become familiar with the full multimedia potential of the ePortfolio.

The issue regarding ownership of the ePortfolio is an integral part of its success, and care must be taken that the assessment is not overly prescriptive or standardised in nature. The learning experience should be as individual and unique as practicable with the need to achieve the assessment criteria. It could be analogous to a journey where students are given their destination, but (with support) make their own way there, choosing their own routes and preferred transport.

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