Enabling Professional Development with E-Portfolios: Creating a Space for the Private and Public Self

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ABSTRACT

Portfolios have been used for assessment in higher education as an alternative to exams and assignments. E-portfolios offer staff a digital technology that can be both a personalised learning space, owned and controlled by the learner, and a presentation tool which can be used for formal assessment purposes. However, this can result in a tension between process and product, where e-portfolios become electronic repositories of resources that simply tick boxes for career progression. The paper reports on a project that investigated the use of e-portfolios by teaching practitioners developing a critical portfolio of evidence for an award-bearing academic development programme. An e-portfolio had been adopted to address criticisms that conventional assessment fails to take account of the context in which teaching practitioners operate. The project aimed to enable teaching practitioners to access and gain familiarity with pedagogically sound e-portfolio opportunities. In addition, it aimed to foster a reflective approach, promote critical thinking focused on learning and teaching and enhance continuing professional development.

Keywords: Academic Development, E-Assessment, E-Literacy, E-Portfolio, Professional Development, Reflection

INTRODUCTION

Portfolios have become an increasingly familiar method for assessing the professional development of teachers (Milman & Kilbane, 2005; Seldin et al., 2010; Lee & Herner-Patnode, 2011). As policy in the UK has increasingly focused on the professional development of university teachers, the use of portfolios as a way of facilitating this has grown. A quick review of academic development programmes aimed at enhancing learning and teaching in the UK shows how the use of portfolios has become a familiar method through which academic staff are expected to demonstrate learning. The use of a portfolio tends to be based on a rationale that argues for ‘reflection’ through a narrative that is supported by evidence drawn from practice. The essential attributes of a portfolio are therefore the collection, organization and presentation of evidence that is then critiqued. It has been
argued that portfolios offer an alternative to traditional forms of assessment and that they may address a significant criticism, namely the failure to take account of the context in which practitioners operate (Baume, 2001; Cotterill et al., 2005). The increasing use of e-portfolios is supported by the view that the process makes continuing professional development “a more natural process” (JISC, 2008) that is portable and easy to update. However, there are concerns that policy has “privileged the technology over the pedagogy” (Hughes, 2008, p. 438).

As use of technology enhanced learning develops in higher education, so too does the opportunity for e-assessment. In its broadest sense e-assessment involves the use of information and communication technologies for any assessment activity. As Gipps (2005, p. 174) suggests, “if teaching and its associated resources become electronic, then assessment too will need to take that route, to ensure alignment between the modes of teaching and assessment”. However, this ‘constructive alignment’ (Biggs, 1999) and its rationale need to be based on sound pedagogy rather than merely the availability of e-assessment software. There is a danger that without such, the flexibility and full facility offered by electronic resources will remain largely unfulfilled. As Tomei (2011) suggests, before teachers include technologies into their teaching there is a need for them to understand and experience their application.

This paper reports on a project that investigated the use of e-portfolios for teaching practitioners who were in the process of developing and assembling a critical portfolio of evidence for an award-bearing programme within a UK research-led higher education institution. The project aimed to enable teaching practitioners to access and gain familiarity with e-portfolio use for learning. The intention was to offer an opportunity for teachers to demonstrate the change in their practice (an assessment of what they have learned) and learn from the process of construction. The aim of the programme was to foster a reflective approach, promote critical thinking focused on learning and teaching, and develop strategies to facilitate assessment of outcomes on a Masters programme that promoted continuing professional development.

ASSESSING LEARNING THROUGH PORTFOLIOS IN HIGHER EDUCATION

In the UK, stimulated by national policies (Dearing Report, 1997; HEFCE, 2003; Browne Report, 2010), the pressure on academic staff to be able to demonstrate continuing professional development in teaching has grown. Becher (1996) had shown that academic staff recognised a range of development activities, such as courses and networking. However, demonstrating how any new knowledge gained from these engagements has informed practice has always been problematic (Gibbs & Coffey, 2004). The portfolio, already used in a range of other professions to demonstrate the maintenance and development of learning (Stefani, n. d.), has increasingly been turned to in efforts to resolve this difficulty. The rationale for using portfolios for assessment of academic practice has been encouraged by the recent framework of national professional standards that the UK’s Higher Education Academy (HEA, 2006) has developed. For teaching practitioners in the UK, the HEA has been the body that accredits teaching and their focus has increasingly been on methods to demonstrate continuing professional development following the format used by a range of professional accreditation organisations.

The motivation to engage in the construction of a portfolio may be complicated by the extent to which the portfolio is seen by the individual to support career progression and promotion. In all institutions, but in particular research-led universities, reflective approaches towards teaching are often overlooked because the perception is that career progression is dependent on research output and less on evidence related to teaching performance. In addition, as many disciplines are unfamiliar with the
concept of a portfolio there are questions over the validity of an approach that requires practitioners to understand and develop a discourse that may be unrecognisable within their own discipline (Challis, 2005). Even in disciplines where portfolios are considered an effective tool for promoting continuing professional development and demonstration of competence, they can sometimes be little more than a cumulative collection of loosely connected experiences.

Despite these concerns, it is clear that the use of portfolios as an assessment tool is increasing. It is therefore important to consider how portfolios are utilized in relation to frameworks of formative and summative assessment. Roberts et al. (2002) suggest that in order to optimise reliability they should be carefully introduced to well-prepared learners and should be of uniform content. Cotterill et al. (2005) warn that there may be potential problems if the portfolio serves both formative and summative processes. Reflection is less likely to be open and honest if the learner knows that the work will be assessed, leading to a potential loss of authenticity. However, the production of a portfolio can itself be a formative learning process i.e., it is as much a ‘journey’ as an endpoint for assessment (Cotterill et al., 2005).

Research has attempted to demonstrate how these two outcomes can be reconciled, so that the formative elements support the learner towards a summative assessment. According to recent research (Hargreaves, 2005; Dylan, 2006), the duality of “summative/formative” assessment may not represent opposite poles of assessment. As Taras (2005) has also pointed out, formative assessment is summative assessment with feedback that can be used by the learner. In addition, there is a substantial body of research that supports the use of formative assessment as a method to enable learning (Albon, 2003; Wiliam et al., 2004; Nicol & MacFarlane-Dick, 2004; Black, 2005).

The use of e-portfolios may facilitate the development of formative assessment in ways that traditional formats of portfolios do not. The opportunities for the learner to make available reflections as they occur and engage in dialogue that can be recorded are readily available through e-portfolios. However, as Hughes (2008, p. 437) notes, “e-portfolio is a contested term and set of practices which have often been dominated by discussions about the tools used rather than the transformation in learning and teaching that such a domain and conceptual shift might support”.

THE USE OF AN E-PORTFOLIO

Lorenzo and Ittleson (2005, p. 1) defined an e-portfolio as “a digitized collection of artifacts including demonstrations, resources, and accomplishments that represent an individual”. However, as our understanding has grown authors have suggested different perspectives. Challis (2005) notes that knowledge about e-portfolio development is drawn from two particular literatures, that describing multimedia enhancements and that more specifically located in general portfolio literature. The focus of these perspectives is different, the former populated by interest in design and tool evaluation and the latter towards processes such as reflection and projection. The literature suggests that an e-portfolio should have as a central theme a personal approach that enables an individual to become more self-aware (Cotterill, 2007). However, it is also noted that e-portfolios are established for different reasons, to show learning, demonstrate particular levels of achievement and to showcase certain talents (Zeichner & Wray, 2001). Smith & Tilemma (2003) suggest two alternative dimensions: those which are mandatory and those created voluntarily.

Despite these differences, an e-portfolio is essentially a personalised electronic system for housing material, in this case evidence of learning. It offers staff a digital technology that can be a personalised learning space, owned and controlled by the learner, and a presentation tool for summative assessment purposes at a ‘point in time’ (Stefani et al., 2007). The key functions of any e-portfolio are the collection, organisation and presentation of various pieces
of evidence and commentaries. According to Cook (2004), an e-portfolio may contain tools that allow an individual (1) to monitor and reflect upon progress against a specific set of learning outcomes, and (2) to enter and store evidence of having achieved those outcomes. These two significant aspects can be facilitated and enhanced by dialogue in which the process is shared with others using tools such as computer mediated communication. An important aspect that has emerged from research has been the notion that the process of establishing an e-portfolio is often as important as the final product (JISC, 2008).

There appear several advantages of an electronic portfolio that may find favour within pedagogy:

- An e-portfolio can make fuller use of many learning and support materials that are now created, presented and distributed in electronic form (Cook, 2004). It allows greater cross-referencing which enhances usability.
- It encourages dialogue and sharing of ideas and development through computer mediated communication and annotation/commenting tools that can build on face-to-face work in ways that are otherwise unavailable.
- In addition, any evidence of competence or learning can remain within the context where it has been established rather than taken out and exhibited as an isolated piece (through a printout), i.e., disassociated from other aspects of the learner’s experience when developing the portfolio.
- As it is web-based, an e-portfolio can be accessed from any networked computer, so the user has no need to carry anything. By sharing the portfolio on a named basis, the owner can allow access without needing to photocopy documents – thus saving time and ensuring confidentiality (Cook, 2004).
- E-portfolios are portable and therefore can accompany an individual throughout a career, thus more effectively supporting continuing professional development than paper-based iterations.
- They offer learning opportunities for both the constructor and the viewer (Brandes & Boskic, 2008).

In addition, there is evidence that portfolios can increase learning through reflection on experiences, collection of artefacts and constructive dialogue (Finlay et al., 2004). The e-portfolio can be used to encourage reflection and deeper learning based on prior experiences. The role of those supporting the learner to construct the portfolio is to encourage reflection and learning through formative feedback using the e-portfolio as well as assessing student learning on completion. The use of e-portfolios by academics in higher education is increasing and being used in a range of different contexts. For example:

- Sixth form/further education college students and tutors to aid progression into higher education (JISC’s ePISTLE project, 2007).
- Undergraduate students using Pebble Pad (Haigh & Currant, 2010).
- Academics, professionals and their supervisors leading to professional registration (JISC & PETAL, 2005).

The use of e-portfolios is not confined to the UK. In Europe, e-portfolios have been viewed as a way of supporting lifelong learning. The European Institute of E-Learning was established in 2001 to focus upon this with the view that “The worldwide emergence of the ePortfolio is transforming our current views on learning technologies” (http://www.eife-l.org/about/europortfolio). Initiatives in the United States are extensive and universities have made significant use of e-portfolios to support student learning. McAllister et al. (2008) note that growing e-portfolio initiatives are occurring in Australia and New Zealand.
Despite these positive developments, there is evidence emerging of some concerns. Studies of undergraduate students found mixed feelings towards e-portfolios (Rees & Sheard, 2004). They found that students who rated their reflective skills highly were more likely to feel positively towards them. In another study it was found that students believed a portfolio was a tiresome activity (Yorke & Croot, 2004). A study of postgraduate learners (GP registrars) also found mixed attitudes and inconsistent levels of use, and that careful introduction and support from trainers was vital in ensuring uptake. The use of e-portfolios has also been found to be vulnerable to external pressures such as lack of time, especially for busy academics (Pearson & Heywood, 2004). These findings all suggest that without the development of a sound pedagogical rationale the use of e-portfolios may continue to meet with mixed responses. It is also important to consider the impact on the tutors, who need to develop their own digital literacy.

The progress of technology requires teaching practitioners in higher education to update their knowledge of technology enhanced learning resources regularly and their role in enriching the learner experience. Academic staff are expected to acquire an expertise of a range of tools but more importantly of the pedagogical affordances, that each provides. As new tools emerge, practitioners understanding of how these interact with learning in the higher education environment may initially be limited. This presents a challenge to both teachers and learners as key stakeholders in the process of understanding. The pedagogic rationale for adoption often lags behind the technological advance and establishes uncertainty.

Research has highlighted a possible discrepancy between abilities and skills required of teaching practitioners, where they are conceived as digital immigrants, teaching digital natives, i.e., students who have grown up with computers and the internet are naturally proficient with new technologies while teaching practitioners are often a step behind (Prensky, 2001). The potential to close the gap between teacher and learner understanding and support this with a pedagogy that underpins the learning is an important consideration as the emphasis on digital literacy develops further. It was an intention of this project to investigate whether working with ‘newer’ academic staff, which makes up the majority on the programme under consideration, who were more likely to be digital natives, would alleviate some of these difficulties.

Evaluation of the academic development programme had led to a growing appreciation of the need to ensure that academic staff are encouraged to develop both an understanding of electronic resources and the associated pedagogy. There appears to be the potential for programmes aimed at enhancing learning and teaching to use electronic resources such as e-portfolios, to offer academic staff an opportunity to engage with both aspects. It may enable teaching practitioners to become more familiar with the resources available and for them to consider their value in assessment. In addition, it offers potential to gain technical competence and to develop an e-pedagogy that justifies the learning opportunities provided. In so doing, there may be greater likelihood of realising UK government policy that focuses on personalising learning (DfES, 2005). HEFCE’s e-learning Strategy (HEFCE, 2005) focuses upon student learning and encourages the adoption of e-portfolios for learning and teaching. The rationale is that digital technologies and web-based tools can help HE institutions meet learner needs by offering flexible pathways of learning (Whitelock & Jeffs, 2003).

E-Portfolios may offer staff and students a digital technology that is both a personalised learning space owned and controlled by the learner, and a presentation tool for assessment purposes. But there are potential tensions here between work written for a private audience (reflection) and one for a public arena (assessment), (Cotterill et al., 2010). A tension can also exist when encouraging staff to experiment with technology to support learning. If the targets are based on measuring the use of technology at an institution rather than on developing a sound pedagogy, the impact on learning may be missed. There is a need to
understand the real implications of e-portfolios and to ensure that their introduction is based on relevant educational design principles (Richards, 2005). As Cotterill et al. (2005) argue e-portfolios need to respond to pedagogy needs and not the other way around. There is therefore an associated need to develop the ability to evaluate these technologies and engage in reflection on how they affect student learning as part of practice.

THE E-PORTFOLIO PROJECT

There has been increasing interest in the development of e-portfolio work for understanding of pedagogy within a professional development context (Joyes et al., 2010). Challis (2005) suggests that the e-portfolio has become a valuable tool that allows teachers to ‘capture’ and then ‘share’ learning and teaching approaches. The approach of using portfolios on a programme aimed to enhance academic practice was aimed at achieving this. The premise for using a portfolio within the programme was based on a desire to enable academic teaching staff to:

- Define and contextualize their own teaching philosophy and the values underpinning this
- Select and structure ideas drawn from practice to demonstrate how a personal theory can be related into practice
- Provide evidence to support any claims made

The project sought to consider whether an e-portfolio had helped achieve these intentions more effectively than the traditional paper based approach which had been used on the programme for the previous seven years. The portfolio was used as the culmination of approximately two years study for new academic staff (defined as those with less than three years previous teaching experience). It was intended to provide a vehicle for demonstrating the ongoing deliberations about practice and how this was developing for each programme participant.

The course team viewed portfolios as a way of engaging participants in thoughtful, reflective and meaningful engagement. However, experience with the paper based approach had drawn concern from course tutors (a team of ten academic developers) that the dominant form was of “archiving” (MacLaren, 2005) thoughts close to the date when the portfolio was due in. The intended reflection was subsequently limited and the resultant portfolios tended to be predominantly descriptive in nature.

As evidence of the potential of e-portfolios emerged, members of the course team became increasingly interested in examining whether, as has been claimed, these could enhance the quality of pedagogy of new teachers (Smits et al., 2005). It was hypothesised that using e-portfolios would engage participants in both the product (which would be assessed) as well as the process of learning. In addition, following the argument presented by Lin (2008), if new academics viewed the process as worthwhile they would be more likely to develop a questioning approach to their emerging practice. An effective e-portfolio could, according to Lorenzo and Ittleson (2005) make practice more public and opportunities for sharing of knowledge more obvious. These suggestions convinced the course team that a closer examination was necessary. In addition, the study that began to emerge was informed by Lin’s (2008, p. 198) suggestion that as e-portfolios become increasingly popular in “teacher education, it’s necessary to investigate the role of (the) e-portfolio on student learning from student perspectives”.

The aims articulated at the start of the project were to:

1. Contribute to the development of e-learning resources in the institution by developing an on-line portfolio system.
2. Enable teaching practitioners to access and gain familiarity with pedagogically sound e-portfolio opportunities for academic development.
3. Foster a reflective approach and promote critical thinking that is focused on learning and teaching.
4. Develop strategies to facilitate assessment of outcomes in a Masters in Academic Practice programme and enhance continuing professional development.

An initial decision had to be made in relation to what e-portfolio tool to select. Lorenzo and Ittleson (2005) outline four different e-portfolio tools. The first are ‘Homegrown’, where the institution customises their own unique system. The second are ‘Common Tools’ where an institution uses common HTML editors (such as Dreamweaver). The third are ‘Open source’ tools, which are publicly available to use and finally ‘Commercial’ products that are purchased from a particular provider. The early months of the project involved a thorough review of all four tools in which an evaluation of existing e-portfolio software tools was made. It was decided that neither the Homegrown nor Common Tools options were feasible for the size of project being undertaken. However, two systems were selected to allow participants to make a choice between an open source e-portfolio and a commercial one. A software evaluation framework was developed with criteria that combined technological and pedagogical considerations (Table 1). The main technological criteria were compatibility with the institutional virtual learning environment in use, customisability, provision of integrated multimedia tools, computer mediated communication tools embedded in the environment, cost, and security/confidentiality. The pedagogical criteria related to providing an individualised learning space, opportunity to communicate with other practitioners (including a course tutor) and the ability to experience a new facility for learning. An early formative evaluation highlighted the need for a single login and seamless access to e-portfolios from the virtual learning environment and from any network connection (inside or outside the campus).

The open source tool that was selected was Pebble Pad. This system, although relatively new, met the criteria set. In discussions with Pebble Pad, the technology appeared to be customisable, had a good range of multimedia options and as an open source there was minimal cost (a small license fee negotiated per user). In addition, the tool appeared to meet the pedagogical criteria and provide a learning space that could be adapted by each individual and shared as required. The commercial tool selected was based on the institutions own virtual learning environment which was the Blackboard learning system, WebCT. This was selected on the basis that it was already in use within the institution and therefore people may already be familiar with the tools available. If they were not, this project would assist this process. There would be no additional cost as the tools to be used were already embedded and additionally it would enable the course tutors to get a greater understanding of the pedagogy that existed to support the system.

The project was based on action research, as this methodology offered a way of systematically inquiring into the use of e-portfolios with the aim of improving and understanding practice (Carr & Kemmis, 1986). Action research offered the opportunity to utilise communication with a group of learners and their course tutors, much of which had already been established on the programme and to develop collaborative understanding further (Stringer, 1999). The project would also use a case study approach (Yin, 1984) as the focus was on examining e-portfolio use in one Masters level academic enhancement programme. The programme was designed for relatively inexperienced teaching staff with an annual intake of approximately seventy academic staff with less than three years teaching experience drawn predominantly from two research-intensive institutions. Traditionally the programme had made use of a 7,000 word paper-based portfolio with the aim of encouraging practitioners to gather evidence related to their own practice and to develop a critical narrative based upon reflections on these. This study aimed to consider the impact of replacing this paper-based approach with an e-portfolio system for a small group of learners and teaching practitioners who were registered at the College.
Contact was made with all participants on the cohort (73 learners); to recruit those who wished to use e-portfolios rather than the existing paper based option. The e-portfolio initiative was advertised via email and in the face-to-face portfolio sessions and potential users were given demonstrations to appreciate the functionality of the system for completing a critical portfolio of evidence. In all other aspects, the learner’s experience and induction process was the same, including optional sessions available to all on the construction of a portfolio of evidence and on writing a critically reflective narrative.

Perhaps surprisingly less than half of the participants (19) opted to use an e-portfolio. After further research, we found that Challis (2005) had encountered a similar reluctance to engage with such tools. She discovered that the teachers felt it would create an additional effort to work with this format. During evaluations of our programme, participants who opted for the paper-based option were asked to explain why. They too suggested that in their opinion creating an e-portfolio would demand additional time, which they were unwilling to commit. The nineteen who had selected the approach were inducted into the use of the system and were offered support throughout the programme. They were presented with both the open source version (Pebble Pad) and the commercial option (WebCT Vista). Six selected the open source option. Just as the original paper-based portfolios had, the e-portfolios were used to collect and store evidence of teaching practice so that this could be critiqued using a narrative developed within their own e-portfolio space. The e-portfolios developed by this group were then compared to the standard paper-based portfolios submitted by participants in the programme through qualitative and quantitative methods.

It was acknowledged that those undertaking an e-portfolio required some additional support. Subsequently an induction process was established which provided training to support

| Table 1. Criteria for selection of e-portfolio systems |

<table>
<thead>
<tr>
<th><strong>Customisability</strong></th>
<th>How easy is it to customise/adapt to the needs of the teaching practitioner? (Addition or removal of buttons / tools / or changes in interface)</th>
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<tbody>
<tr>
<td><strong>Technical Support</strong></td>
<td>Is support available within the UK? Online or by phone?</td>
</tr>
<tr>
<td><strong>Compatibility (with institutional VLE)</strong></td>
<td>If compatible, how can it be accessed? Is it accessible via the VLE? Single sign on or separate authentication process?</td>
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<tr>
<td><strong>Cost</strong></td>
<td>Per participant or per block of participants? Is there an initial, annual or license fee? Open source or commercial product?</td>
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<tr>
<td><strong>Migration</strong></td>
<td>Are there import / export features including exporting the e-portfolio for printing, saving, archiving etc.</td>
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<tr>
<td><strong>Multimedia</strong></td>
<td>Use of audio and video and are there any size limits</td>
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<tr>
<td><strong>Blogs/Wikis</strong></td>
<td>Does it have a blog/wiki or any other social software features that students can use for collaborative/reflective activities?</td>
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<tr>
<td><strong>Email and Communication Features</strong></td>
<td>Does it have an email feature?</td>
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<tr>
<td><strong>Social / Professional Networking</strong></td>
<td>Are there any discussion forum features?</td>
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<tr>
<td><strong>RSS</strong></td>
<td>Does it have RSS feed features?</td>
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<tr>
<td><strong>CV</strong></td>
<td>Does it have the capability to upload CVs?</td>
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<tr>
<td><strong>Size Limit</strong></td>
<td>Of each e-portfolio.</td>
</tr>
<tr>
<td><strong>Demo</strong></td>
<td>Is there a demo version available to try out before purchase?</td>
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<td></td>
<td>Any other information, which may be relevant in making a decision on this e-portfolio.</td>
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the participants understand the basic functions of the system so that they could engage and then continue to function within the spaces offered. With ongoing support made available it was anticipated that the participants would develop greater understanding of the opportunities available within the e-portfolio systems over time in collaboration with other learners and tutors on the programme. It was hoped that in so doing, these practitioners would embed e-portfolios within their practice. All other aspects were the same as those taking the more traditional paper based route. All participants completed their critical portfolios of evidence over an eighteen-month period and these were submitted as part of the programme assessment. They were required to demonstrate a concise knowledge of relevant literature on learning and teaching and key concepts/issues in academic practice and to develop a practical understanding of the relationship between theory and practice. Participants were asked to develop their portfolios to cover the following topics: (a) Teaching strategies and techniques, and session management, (b) Subject knowledge and subject application, (c) Assessment, evaluation and monitoring and (d) Professional knowledge and development.

As the project developed an additional set of materials and guidelines was produced to support participants in the development of their e-portfolio. In addition, as part of the learning and implementation process, tutors were also trained in the e-portfolio package so that all were able to support their tutees effectively. It was apparent that most of the academic developers who acted as course tutors (10) were unfamiliar with both the technology and the pedagogy associated with online learning.

**METHODOLOGY**

To evaluate the learners’ experience of using the e-portfolio tool a range of methods were used. One to one interviews were held with participants who had developed an e-portfolio. These interviews were semi-structured as it was anticipated that themes would emerge from the discussions that could then be built on and tested in future interviews. The broad themes related to the functionality and use of the e-portfolio in relation to the experience of those who had followed the traditional paper-based format. These initial themes emerged from formative feedback taken from participants and course tutors during the construction of the e-portfolios. Following this, a series of focus groups with the course tutors investigated the tutor experience for those who had supported learners through both paper-based and e-portfolio submission routes using the themes that had emerged from the participant interviews. Relevant policy and programme documents (e.g., external examiners’ comments) were also scrutinised to consider whether those outside of the immediate process had recognised the impact of the different formats. The key themes of the evaluation explored user views on e-portfolio in terms of effectiveness, value for learning, portability and ease of use.

**RESULTS**

Overall, users described developing an e-portfolio as a positive experience. They stated that the e-portfolio system has been easy to access, navigate and use:

“I found that once I engaged with the system that I got on quite well with it. I thought it was generally quite intuitive.” (P14)

However, there had been some initial confusion about navigation, especially in the second e-portfolio system that was used because linearity of narrative was either intentionally undermined or not a prominent attribute because the system did not allow it. It must be noted that as the participants had selected to complete an e-portfolio those who had may already have had an interest or viewed the opportunity positively. Despite this, unlike other studies (Milman & Kilbane, 2005) the project did not find significant evidence that engage-
ment with e-portfolios acted as a catalyst for academic staff to learn more by either using technology in the classroom or using portfolios with their own learners:

“Yes, I enjoyed using it but it has not actually lead me to use the technology within my own teaching. I suppose I might sometime, I certainly am less afraid of it now, but, well I just don’t see where it would fit in.” (PI1)

The experience of learning a new set of skills was acknowledged by those developing an e-portfolio as a useful process to have experienced. They noted that it was useful because it placed them in the role of a learner. This was significant because all those on this programme had only recently (within the last two years) become academic staff and most had been engaged in completing studies until that time. If they, as relatively recent higher education students recognised the usefulness of experiencing the difficulties inherent in learning, then the message for more experienced colleagues appears even more significant:

“On reflection I think one of the most important aspects has been understanding what it is like to be a learner. I mean, I felt uncertain at the start and was uncomfortable asking for help. I thought I should know this already.” (PI4)

Whilst considering the construction of the e-portfolios it became apparent that the approaches taken by participants when creating their portfolio were conservative and did not fully use all the features of the system. The majority of users replicated a structure similar to that utilised by those that had chosen the more traditional paper-based portfolio. The only significant difference being an enhanced use of cross-referencing of documents that was supported electronically. When this was investigated, it became apparent that this approach was adopted because it was perceived as a safe method of producing content:

“I liked being able to add links in the material, that was good. But I must admit I was not convinced, and am still not, that the time needed to learn more about what could be done was worth it. I guess that I just scratched the surface really.” (PI3)

The computer mediated communication, self and peer assessment aspects that had the potential to enrich the user experience have been underused because these were less understood and participants had less confidence in the added value they could demonstrate.

In reviewing the literature, it was suggested that an e-portfolio offers the opportunity to create a ‘living’ product that is available for future reflection and re-examination (Smits et al., 2005). The participants did not recognise this and it became apparent that a consequence of the e-portfolio being an assessed piece was that most of the academic staff had treated the work as a static collection of evidence. Although there was acknowledgment that it had the potential to be revisited and updated, the participants did not always foresee themselves doing this.

“I appreciate that an e-portfolio is more portable but I don’t see myself reusing this to be honest, once it is done, it’s done.” (PI9)

The result was a collection of material rather than a dynamic piece. Reflecting on this the course tutors suggested that there was greater need to ensure understanding of what an e-portfolio was, reflecting evidence from previous pieces of research (Gatlin & Jacob, 2002). The course tutors admitted that there were significant gaps in their own understanding, which may have hindered the process. Indeed, it has been argued that effective interaction between learners and teachers is an essential element of successful e-portfolio learning and that this needs to be carefully considered (JISC, 2008).

It was also clear that time was a consideration and that for some any potential benefit had to be clearly identifiable. If the time spent constructing the portfolio was not viewed as
valuable, academic staff would allocate time elsewhere. This reflected evidence from previous research into the use of e-portfolios by academic staff that also found that time spent on their development was often limited because the benefit for other areas of practice was not immediately apparent (Pearson & Heywood 2004; Challis, 2005).

There was no clear evidence emerging that academic staff from particular disciplines found e-portfolios more or less difficult to use in terms of the technology. However, just as with the paper based portfolios, the thinking and learning processes associated with notions relating to reflection and self-awareness were more familiar to some (such as Nursing and Midwifery). If reflection were to be a focus of e-portfolio development (McAllister et al., 2008) then it would appear important that supporting a developing understanding of the reflective dimension is important. This point has been made by Brandes and Boskic (2008), who argue from a study with students using e-portfolios that support needs to be provided in order to facilitate narratives that shift from merely describing actions to critically analysing them. It was evident from our research that the overriding motivation of the course tutors, to enable reflection, was not one recognised by the learners. Although the programme’s external examiners stated that they believed the e-portfolios supported greater reflection, this was not found in responses provided by the participants. They reflected alternative motivations. As had been suggested by Cook (2004) and Challis (2005) the users in this study reported that they felt an e-portfolio offered the user a more accessible and portable bank of evidence. They noted what they perceived to be an advantage over paper-based alternatives: an appreciation of the adaptability of the portfolio. When questioned this was articulated as providing greater flexibility as a career development tool, e.g., it could be shown to prospective employers, and they could use some of its components in presentations for recruitment purposes when applying for posts in other universities. In addition, the respondents noted that the main driver was assessment:

“Yes, I agree I have learned from doing it but to be honest, I did it because it was part of the assessment and I had to do the programme.” (PI4)

This may be a significant aspect. Concern has been raised that simple self-reflection, an intentional outcome of the portfolio, can become too inward focussed and without challenge can lead to limited learning (Moon, 2000; Land, 2003). As MacLaren (2005) warns, the ‘reflective’ accounts may be constructed as “post-hoc justifications for the teaching methods used” (p. 114). In addition, one of the course tutors noted that the complexities inherent within the construction of an e-portfolio might have been reduced to an approach matched against a set of criteria that were offered as guidelines in the handbook for the programme. Reflecting on Elton and Johnston’s (2002) notion that universities are good at measuring that which is easy to measure, a course tutor noted that without significant input to emphasise the process as one supporting learning the default position was a mechanistic one. Although the literature suggests that an e-portfolio offers opportunities to engage with reflection and self-awareness as these are difficult to measure, the result can be a lack of engagement with anything that could be genuinely significant. All those involved acknowledged the potential and yet were willing to produce and accept an alternative driven by more strategic measurable outcomes.

Responding to this the course tutors raised concerns over the development of a clear rationale that could be used to encourage greater use of the functions available with the e-portfolio: in other words, to encourage participants to take greater risks:

“If we want to get this (e-portfolio) to work more effectively in the future we need to ensure that the participants are able to use more of the options available. It seems the responses we got were too, well, too safe: although I can understand why.” (CT4)

It was recognised that in order to achieve such an approach, a clear strategy that encour-
ages different approaches might be required. This needs to cover induction, usability, tutor involvement, support systems, and accessibility as well as developing trust between tutors and learners that enables participants to focus on establishing their own justifications for the approach taken, rather than believing they need to mirror what they assume individual tutors expect of them. This clarity also needs to address where the ‘private’ is made ‘public’ and the tension this can cause in relation to assessment. There was a reluctance to show ‘weakness’ if all the e-portfolio was to be public. Consideration therefore needs to be given to consider how to develop a reflective portfolio, with an emphasis on reflection, with a portfolio of evidence that is based around demonstrating achievement.

This study found that e-portfolios, just as paper-based portfolios, contain much that is anecdotal. Although they appear to offer greater opportunity for formative assessment, evidence of this was limited. The e-portfolio certainly offers public sharing facilities e.g., for sharing with like-minded colleagues, or private tools of reflection in ways that are easier to make use of than the traditional paper-based portfolios. Elements of an e-portfolio can be extracted quickly and placed within a range of different spaces in ways that are more time efficient and offer new ways of sharing and collaborating with other learners and teachers (as well as other individuals). This point needs to be considered carefully because an emphasis on making e-portfolios public may undermine the use of material as a personal reflection tool. An important question seems to be “how do we accredit learning that takes place in informal spaces afforded by learning technologies such as e-portfolios?” This is most obvious in the case of e-portfolios, as there seem two elements within the e-portfolio for each practitioner: the personal portfolio whose informality is a useful reflective tool and the formal portfolio, which is submitted for assessment purposes. These two are not necessarily compatible and some participants suggested that they believed a strategic approach was more likely to get the maximum of grades. They argued that a straightforward open approach, in which more honest expressions were made, brought with it more likelihood of the material not being appreciated by the examiners:

“Well, having thought about what (name) said, I think I was still concerned that if I said certain things these could become public more easily.” (P2)

In e-portfolios, there is a further tension between what could be a word-perfect and multimedia oriented portfolio and the authentic reflective narrative with which participants are encouraged to engage.

Running this project allowed us to acquire an understanding of, and provide recommendations for, educational software, which is appropriate for e-portfolios in the context of academic development. Given the small cohort, it was not possible to make any firm conclusions about which of the two tools were more effective. For some of the participants, involvement with an e-portfolio has been their first substantial experience of educational software. Through the development of their portfolio, with the support of their tutors and the technical and administrative team, participants were given a chance to develop knowledge of e-assessment as a user. An indirect effect for these teaching practitioners has been to enrich assessment practices in their discipline through the acquisition of understanding of e-assessment, which, they can transfer to the adoption, use and evaluation of other technology enhanced learning resources. The participants acknowledged this as a positive aspect:

“Yes, it has enabled me to see other opportunities that to be honest I would probably not have looked at. There is not a culture for using technology in assessment in our programmes, so this has been useful for me.” (P11)

To be effective any portfolio, which aims to develop continuing professional learning through reflection, needs to be seen by learners...
as integrated as a useful process within the curriculum and not merely as a task to be completed. Evidence in this study demonstrated that the integration of the portfolio as something to be regularly engaged with is difficult to achieve:

“I did the majority of the work at the last moment, just like I always do, so it didn’t make me any more efficient as a learner!” (P15)

The participants, whether using an e-portfolio or paper based alternative have a range of commitments, and in the case of academic staff they were generally reluctant to commit the time required to fulfill the potential that an e-portfolio may have provided.

DISCUSSION AND CONCLUSION

Our research project further supports the conclusion of Love and Cooper (2004) that the majority of e-portfolio attempts fall short of the aspirations held. However, the project has led to the establishment and further refinement of an e-portfolio system on the Masters programme. Our evaluation has shown that e-portfolios do have the potential to be a valuable asset to learners engaged in academic development. They offer a way of demonstrating professional development and in addition to familiarisation with educational technology resources that users can transfer to evaluation and adoption of other resources. The e-portfolio system did provide participants with a worthwhile learning experience and a resource that is a valid alternative to a paper-based portfolio of evidence.

However, a general concern that emerged was that the use of portfolios is seen by participants to have been adopted in an attempt to reconcile multiple tensions in academic practice. They can be seen to represent a particular philosophy about how to capture and describe learning and teaching processes. If they are perceived as being underlined by managerial underpinnings, as places to maintain and demonstrate up-to-date evidence of teaching effectiveness, their efficacy may be undermined. There is a danger that e-portfolios may become part of a professional development model based around competencies drawn from a set of standards that may limit the personal and individual focus valued by those constructing them (Kennedy, 2005). There is a need to clarify the benefits e-portfolios have for practitioners, to enable them to have space to reflect upon their evolving practice. If we are to use e-portfolios to help academic staff develop their practice and move from description to analysis (Brandes & Boskic, 2008), then we must ensure that the collaborative tools, that support dialogue, work effectively. This project discovered however that developing through collaboration, whether that is tutor and learner or learner and learner is challenging, reflecting evidence from other recent research (Luchoomun et al., 2010).

The rationale for choosing a technology-enhanced learning resource should emphasise any benefit in terms of the pedagogy. This study found that e-portfolios can provide support mechanisms for more effective formative assessment and the establishment of further opportunities for dialogue within spaces that would otherwise not exist. Within the augmented range of multimedia resources (e.g., video or audio) and communication tools that can be integrated into the portfolio system, participants can demonstrate their understanding of the complex interrelationship between learning and teaching in ways that are not possible in paper based formats. Taking into account that the users of the e-portfolio system were teaching practitioners this has shown them how this learning tool can promote dialogue in relation to feedback, peer and self-assessment activities.

Ultimately, similar to the conclusion drawn by Lorenzo and Ittleson (2005), this study found that e-portfolios have much promise but for them to become part of “mainstream higher education technology” (p. 17), more research needs to be undertaken. To be effective the learners using an e-portfolio need to be well prepared. They need to understand not only how they can interact with the system being used and appreciate the functions that exist, but they
also need to understand why, as learners, it is important to understand the processes that are being used. This also applies to teachers using an e-portfolio for assessment. Finally, there is evidence of the need to develop a greater understanding of e-portfolio pedagogy and contribute to a greater understanding of how to utilise the formats available to support professional learning more effectively.

REFERENCES


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