e-Portfolios in Education: a cause for reflection

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Abstract

Within the field of Education there is a requirement for learners undertaking Initial Teacher Education to compile a portfolio of work which they can then take forward as they move into a professional teaching career and which can then become the basis for their ongoing Continuing Professional Development. As the use of electronic portfolios has become more widespread, Education, with its reliance on reflective assessment and reflective approaches to teaching and learning, has proved to be an eager recipient of this new technology.

The electronic portfolio represents a means to demonstrate the acquired teaching skills and values of the learner and, when used by practitioners, it demonstrates the continuing professional development of the qualified teacher. ePortfolios present the learner/practitioner with the capacity to act quickly on their reflections by offering the ability to adapt and restructure and by offering a range of technical tools to use both in reflective analysis and the presentation of skills development. The use of ePortfolios promotes a greater impetus for the user to assume a personal responsibility for their own development, in the process taking a greater degree of individual control over their progression towards becoming a teacher. The learner/practitioner is therefore provided with the opportunity for 'constant' reflection rather than the 'periodic' reflection offered by more traditional paper-based portfolios.

This paper emerges from a JISC funded Devolved eLearning project looking across the United Kingdom (UK) Education sector at the transferability of ePortfolios for student and practitioner in the field of Education. It presents findings from a number of surveys of teacher trainees, teacher trainers, and school based practitioners and is centred round a twelve month longitudinal study through the use of a 'blog'. The results demonstrate how the flexibility inherent within the e-portfolio structure readily adapts to the fluid and transitional nature of Education - from Personal Development Planning (PDP) as a learner through to Continuing Professional Development (CPD) as a probationary teacher and then forward through a career as a teacher/practitioner

Methodology

The aim of the was to identify the use of e-portfolios in Teacher Training programmes in UK Higher Education institutions by investigating the existing e-portfolio packages and tools currently used in the field of Education; the current use of e-portfolios in teacher training; and the current use of e-portfolios to support learner PDP.

The study employed a variety of data collection methodologies across a number of identified stakeholder groups. Phase one of the study identified Institutional Practice and invited practitioner's views on the successes, failures and barriers to implementing e-portfolios into the ITE curriculum on a large scale. A cross-sectional survey was employed to collect both qualitative and quantitative data. In addition, phase one also investigated existing e-portfolio packages and tools currently used in the field of Education; the current use of e-portfolios in teacher training; and the present use of e-portfolios to support learner PDP. All HEIs currently offering Teacher Training within the UK were invited to participate in the study.

Phase two of the project involved developing an understanding of staff and learner expectations of e-portfolios followed by a study which identified the actuality of e-portfolios as a teaching and learning tool through:

- surveying students prior to their introduction to e-portfolios (in the beginning of the academic year) about their understanding of e-portfolios, their expectations and anxieties;
- ongoing contact with a multi-institutional group of learners through a project Discussion Board and Blog;
- follow up survey in the second half of the year once students have engaged with e-portfolios;
- surveying Teacher Trainers on the use of e-portfolios;
- surveying teaching practitioners on the use of e-portfolios;
- developing a series of practitioner and learner case studies.

All UK Higher Education Institutions (HEIs) offering Teacher Training were invited to participate in this study. All surveys were conducted online hosted by Bristol On-Line Surveys. The learner Blog was hosted on Google rather than an institutional server in order to give respondents a greater feeling of anonymity and ownership.

e-Portfolio Background
Although the use of ePortfolios within Higher Education is a rapidly increasing phenomenon, there is still very little documented evidence relating to both the impact and the influence e-portfolios have on teacher training programmes within UK Higher Education Institutions. Nevertheless, the e-portfolio is increasingly being adopted and adapted by UK education departments as a tool for reflective learning. With the current drive by the Department for Education and Skills (DfES) to provide e-portfolios for schools, there is an increasing need to provide documented research which in turn can direct change within learning and teaching practice. Roberts et al., (2005) recognised the fundamental need to review the strategy for implementing e-portfolios into education to ensure that they are implemented to deliver a personal learning space to learners.

ePortfolios have been variously described as:

> …personal online spaces for students to access services and store work. They will become ever more useful as learners grow up and start moving between different types of learning and different institutions' (Secretary of State for Education and Skills, January 2006).

The Joint Information Systems Committee (JISC), gives a wider interpretation of e-portfolios:

> e-Portfolio can be used to refer to a **system** or a collection of tools that support e-portfolio related **processes** (such as collection, reflection, annotation, etc.). The term 'e-Portfolio' can also refer to the **products** emerging through these systems or tools, and it is helpful to think about the purposes to which learners might put their e-portfolios (for example presentation for assessment, to support transition, or to support and guide learning) (JISC overview paper).

Other descriptions highlight e-portfolios as a collection of artefacts and resources which allow the user, whether a group or individual, to demonstrate a range of accomplishments through a wide range of interactive electronic medium (Lorenzo and Ittleson, 2005). For another group it is the act of creating a portfolio, the process rather than the product, which defines its reflective capabilities (Barrett, 2006). However, when reduced to its simplest form, an e-portfolio can be viewed as a collection of artefacts which can be used to demonstrate knowledge, reflection, and learning (Young, 2008).

Perhaps not surprisingly, with its history of reflective practice, Education has reacted positively to the introduction of this new medium. The use of portfolios has been a traditional part of teacher training. Originally designed as Reflective Journals, they were widely used to promote reflective learning in teacher education, enable learners to bridge the gap between theory and practice, embed skills of critical self-evaluation, and develop evidence based learning (Sinclair and Woodward, 1997; Clarke, 2004; Loughran and Corrigan, 1995). These *structured histories* were used to define accomplishments and display attained evidential goals. However, the traditional portfolio format had a number of identifiable drawbacks and was viewed as clumsy, time consuming, cumbersome, lacking transferability, and often contained a structure that proved difficult for the assessor to understand (Wagner, 1998; Young and Lipczynski, 2007a).

The limitations of the traditional portfolio can be addressed by the flexibility inherent within the e-portfolio structure; flexibility in both time and place. By networking e-portfolios across an institutional system, learners and teachers have the ability to access the portfolios to review, update and provide feedback. At the same time the e-portfolio provides a forum for discussion and reflection by all users, peers, mentors, teachers etc, (Clark, Topp and Goeman, 2002; Mason, et al, 2004).

As we have discussed above, one of the major contributions made by an e-portfolio to a learners development is inherent within the actual process of developing an e-portfolio. This was identified by 63.2% of institutional respondents. As well as creating within the learner the skill of self-reflection, the *process* of creating an e-portfolio allows teacher trainees to develop their technology skills, skills which can then be transferred to the classroom and disseminated to pupils (Grier, 2002, Dawson, 2006). The development of a learner e-portfolio allows the learner to develop the skills and knowledge required to deal with pupils and their e-portfolios. If, as intended by the Department for Education and Skills, this presents the ideal opportunity to embed the required skills and experience within the ITE curriculum at minimum cost, in terms of trainer and trainee time.

This 'construction' period allows the learner to continuously revisit their personal beliefs and constructs surrounding their professional identity, in the process creating a lifetime approach to professional development (Foti, 2002). By focusing on the processes involved in creating an e-portfolio, the selection and presentation of content and the development of 'social capital', learners are presented with the opportunity to assess their own learning and develop the skills associated with self-evaluation (Barrett, 2006). By engaging with this reflective learning process, e-portfolios provide the learner with the opportunity to 'step back' and re-evaluate the collective work, in the process enabling the learner to develop a creative and meaningful learning experience (Lorenzo & Ittleson, 2005a).

As the use and adoption of e-portfolios expands across the higher education sector, so to does the range of functions expected from them. Learners have been identified as having three distinct needs from their portfolios. The first is that of a 'learning portfolio' which encourages learner engagement and reflective learning, the second is a 'credential portfolio' which allows the user to demonstrate proficiency and progress, the third is a 'showcase portfolio' for job search and employment (Mosely 2005; Young and Lipczynski, 2007a). Similarly, in tandem with these identified needs, e-portfolios progress through two distinct stages. The first stage is that of the learner during which the e-portfolio fulfils the functions of assessment, reflective learning and, ultimately, a job search tool, while during the second stage, that of the practitioner, it promotes longitudinal development of experiential learning (Sunal et al, 2005).

Current Institutional Practice

Responses from the phase one institutional survey indicate that the introduction of e-portfolios into teacher training is still a relatively new initiative with only 32.4% of those HEIs surveyed currently using e-portfolios as part of their teacher training programme. However, a further 52% of respondents indicated that their institution currently had plans in hand to implement e-portfolios into the curriculum. Overall, this is equates to over 84% of respondents who are either using e-portfolios or intending to do so (young and Lipczynski, 2007b).

The use of e-portfolios within Education overcomes, to a degree, the periods of 'learner isolation' unintentionally created by the 'vocational' aspect of learner placement, periods of in school training. e-Portfolios provide a platform to create an informal online social support network. One teacher trainee commented:

> On a fragmented course like the PGCE where we're all over the place for weeks at a stretch, it is proving a good way to keep in touch

Currently 47.6% of respondents indicated that their students were using e-portfolios while on placement. The portability and flexibility made possible by incorporating e-portfolio practice within teacher training placement serves to establish a focus by which the learners can evaluate and record their teaching experience, a view supported by the following respondents comment:

> Students are more focused on competences and ways to enhance own performance. Students like the environment so willing to post blog entries. Openness and sharing of experiences with tutor and peers.

At present only 48% of respondent HEIs have e-portfolios embedded within their curriculum to varying degrees. This would suggest that students are not fully engaged with the process of developing an e-portfolio and consequently lack a clear understanding of the potential benefits (Tosh et al, 2005). Respondents felt that embedding e-portfolios into the curriculum was yet another initiative to support and students viewed engaging with e-portfolios as yet another requirement in order to pass. As a result, respondents felt that e-portfolios were time consuming to mark and evaluate as students tended not be as selective as they could in the material which they include. Respondents displayed strong ambitions and aims towards the implementation of e-portfolios within the curriculum and highlighted that the first aim was to develop reflective practitioners. To do this, the practitioners felt that e-portfolios allowed the learners to make links between learning acquired while in the institution and skills developed while in placement. However, not all respondents felt that e-portfolios should be the only method for students to complete these aims. The main aims identified for those undertaking teacher training with the departments surveyed included developing reflective practitioners and meeting standards (Young and Lipczynski, 2007a). Identified examples include:

> Generate a portfolio sharing their development as a trainee with evidence.

> Building an understanding of professional studies. Linking the work done in the department with the work done in school.

Respondents aim to provide the learners with assistance in the use of e-portfolios, including providing training to develop the use of e-portfolios in the curriculum. Example included:

'In future, all PGCE students will be required to develop and maintain an e-portfolio of evidence against teacher competencies and include reflection on personal experiences, goal setting etc during placement. Ability to share elements of their e-portfolios with potential employers – interview panel.'

While 44% of respondents felt that e-portfolios were meeting the needs of the learners, only 28% felt e-portfolios were meeting the needs of the staff and 8% the needs of management.

Reflective Learning

One of the most agreed upon statement by participants, with 73.4% either stating they agreed or strongly agreed, was 'Students are able to value their own capability through improved self awareness', with 80% of respondents 'agreeing' or 'strongly agreeing' that e-portfolios allow students to 'critically reflect on their own learning'. A further 80% of respondents either agreed or strongly agreed to 'students are more independent as learners'. Similarly, 66.6% of respondents either agreed or strongly agreed with 'students enhance their ability to present themselves to others' and 'student enhance their employability'. A more dispersed response came from 'students are more self motivated as learners' with 57% either strongly agreeing or agreeing to e-portfolios encouraging self motivation to learn.

HEI respondents felt students were deriving benefit from using e-portfolios to assist in the development of a self reflective practice. Examples include:

Increased awareness of teacher competences and level of progress in personal development as a teacher. Better vocabulary when reflecting on experiences – awareness of what a reflective practitioner is!

Collating information and evidence in multimedia format that allows them to reflect on the professional development.

Sharing of ideas/resources through, including when on placements, greater reflection.

Results from the phase two, teacher trainer survey, indicate that 50% of teacher trainer respondents agree that *e-portfolios enhance interaction between students*, 50% agree that *e-portfolios enhance knowledge sharing between students*, and 50% agree that *the opportunity for on-line discussion encourages autonomous learning*. On the other hand, those learners contributing to the project blog appear to find e-portfolios a valuable tool in fostering peer discussion.

I've found blogging really useful on the course. One of the main benefits is it has allowed my tutor to set reading and ensure a) we do it and b) we think about it sufficiently in order to be able to discuss our knowledge with colleagues. I've found that blogging conversation spills into 'real' life as well - people tend to discuss what we've posted when we get together.

It's been a valuable tool in the sense that we can share our experiences and also have a log of the really quite clever things that other people say, and to which we can refer to later!

I tend to use the tool for reflection, especially on my teaching practice because there is a lot of reflection needed and this helps me get everything noted down so I can go back to it when I choose/feel the need to do so.

Institutional respondents identified limits to students achieving the above processes including time, IT skills, and general priorities of the course itself. For example:

At initial stages of PGCE course, students are unable to reflect effectively as they have no benchmark against which to compare themselves and they are more concerned with survival of planning and class management. By second half of PGCE course they are more self aware and can reflect and experiment with teaching strategies. More confident in the classroom.

Time constraints and pressures of training year, takes time for them to start reflecting beyond behaviour management, need more regular encouragement.

Each of these issues again is reiterating similar themed issues previously mentioned.

One key issue raised by all respondent groups was that of I.T training, where many respondents felt that learners were hindered by their lack of I.T. skills in fully constructing a successful e-portfolio. As a result, these students were further hindered because they found e-portfolios more time consuming, having to focus on the technical side of creating their e-portfolio rather than develop at an early stage the learning benefits of reflecting on their practice. One of the questions raised by the findings included 'is technology hindering or increasing motivation?' It seems some students are struggling with the technological side of e-portfolios whereby the technological basis of the application is making it harder for students to become fully involved. For example, instructing students on how to edit their video clips of their teaching and add text and add voice over to them to describe their learning, will help give students the technological know how to self-evaluate their work. Respondents felt that the use of e-portfolio technology resulted in creating teachers who were not only I.T. literate but also have an understanding of e-learning to take with them into the classroom. There is a need to ensure early consideration regarding instructor supported I.T. training for students, before commencing e-portfolio development, and ensuring each student feels some level of competence using the software from the outset (Young and Lipczynski, 2007b). As can best be demonstrated by some comments from the learner blog, there were mixed feelings regarding the level of training given. Some learners found that their institutions gave a comprehensive training service:

The university has allowed me plenty of support, and a detailed session from an IT specialist gave us an adequate enough crash course in to how e-portfolio's work.

We did have a quick training session regarding EPortfolio but I think for the most part people familiar with Facebook etc can find their way around the tool.

However, other learners expressed dissatisfaction at the level of institutional support:

Well, I don't really feel that I have had any help with blogs and e-portfolios. The University told us our log in information and showed us a quick navigation then left us to it.

We were given a lecture and then a double tutorial on the uses of the e-portfolio but I feel that it was completely pointless in that the tutor did not even go into the different aspects of the portfolio but just demonstrated typing, saving, cutting and pasting which we already knew how to do.

We all complained about the lack of help/support we were given, so they gave us a two-hour class on using it - which wasn't useful at all and put us off using it even more!

Assessment

Reflecting the current literature based debate on whether, or by what means, reflection should be assessed, it is interesting to find that 59% of institutional respondents stated that their e-portfolios were currently being used for reflection and assessment, while the remaining 41% stated that e-portfolios were used for reflection only. Perhaps not surprisingly, none of the responding HEIs indicated that they used their e-portfolios for assessment only. When identifying the *type* of assessment taking place 54% stated that they assess their e-portfolios using formative assessment, with the remaining 46% using a combination of formative and summative assessment, and no respondents replying that they used summative assessment only.

Issues of assessment raised by institutional respondents highlighted implications raised when using e-portfolios as an assessment tool. Reflections of the respondents included not only the time consuming nature of marking e-portfolios but also the type of evidence which e-portfolios could hold and which could provided more variety that the traditional portfolio model. For example, institutional comments include:

Staff have found the process time consuming and difficult.

More evidence available as it is too easy to store information electronically. Good students weave evidence together and can see relationships so very detailed e-portfolios. Lever arch file has a maximum capacity! More enjoyable to read e-portfolios but more time consuming too.

How do you manage 200 e-portfolios for students on a 1 year PGCE course? How much evidence needs to be validated to be considered for assessment purposes?

One respondent commented on a pilot their PGCE students participated in, stating:

Anecdotally there was no evidence that the electronic system supported reflection and target setting in ways that were different from or better that the paper-based system.

Within the teacher trainer group surveyed in phase two, none agreed that e-portfolios should be summatively assessed; there was a 50/50 split as to whether e-portfolios should be formatively assessed; a 50/50 split whether e-portfolios should be used to collect evidence towards performance based standards; and a 50/50 split whether e-portfolios facilitate the creation of an assessment trail that is learner controlled.

Overall, identified issues of assessment and e-portfolios can be summarised as:

- e-portfolios are time consuming to assess;
- Unclear learning objectives held by students, lack of understanding of the task;
- Unclear marking guidelines for the staff.

Conclusion
The findings of the study highlight that although there is a level of e-portfolio practice taking place in teacher training courses within UK HEIs, it is still a new and evolving initiative. However, this may also be a reflection of people's interpretation of what an e-portfolio actually is, and what tools actually constitute an e-portfolio. The results suggest that all respondent groups feel very positive at the possibilities of e-portfolios present within their teacher training programmes. However, it is equally clear that early consideration needs to be made at the planning stage in order to effectively implement a fully embedded e-portfolio system into the curriculum followed by the requisite ongoing technical and pedagogical support. Interestingly, the findings from the study reflect common themes from the literature identifying problems associated with the integration of e-portfolios. This in turn suggests that this study has provided a valid snapshot of current practice which is in turn yielding evidence to support the current literature.

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