Transferability of e-Portfolios in Education

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Methodology

The study aimed to identify the use of e-portfolios in Teacher Training courses Higher Education in the UK. The survey investigated the following; the existing e-portfolio packages and tools currently used in education; the current use of e-portfolios in teacher training; and the current use of e-portfolios to support learner PDP. A cross-sectional survey was employed to collect both qualitative and quantitative data.

Participants

All UK Higher Education Institutions (HEI's) offering Teacher Training were invited to participate in this study. Initially, Heads of Department were approached via letter inviting them to complete the online survey or to nominate someone relevant within the department. On two occasions a reminder letter, including a paper based copy of the survey, was sent out to the heads of department to ensure maximum response rate. Members of departments identified as having a personal involvement with e-portfolios were also approached via email to participate in the survey. Survey information was emailed to various mailing lists of members working in HEI Teacher Training programmes with two further reminders sent out prior to the survey deadline. Some respondents chose to send information about their use of e-portfolios without the aid of the survey proforma either by email or in the form of a word document. There were 33 respondents from the 89 departments approached, equating to a response rate of 37%..

Data Collection

The Online Survey was available for completion during February and March 2007 and was hosted by Bristol On-Line Surveys. The paper based version of this survey was also sent out during the months of February and March. There was only one multiple response from one institution.

Results: Current Practice

Respondents feedback indicated that the introduction of e-portfolios into teacher training is a new initiative, still very much in its infancy, with very few of the respondents actually using it. Only 27.3% of those surveyed are currently using e-portfolios as part of their teacher training programme (see graph 1). However, 54.2% of respondents indicated that plans are in hand to implement e-portfolios into the curriculum in the future. Overall, this is equates to 81.5% of respondents who are either using e-portfolios or intending to do so.

Of those respondents currently using e-portfolios as part of their Teacher Training course, 74% stated that their existing e-portfolio software was not an

add-on to their current VLE. The e-portfolio software packages currently being used were identified by the respondents as the following:

Moodle
PDP Progress
Blackboard Academic Suite: Content System Option
PebblePad
*WebCT portfolio*
Free services including Blogs and Wikis

Respondents noted that these e-portfolio packages had been in place for a period between 2-6 years.

With 44.4% of respondents stating that students were using e-portfolios while on placement, one reason identified by a participant for the inclusion of e-portfolios for students on placement included:

'they enhance the teaching/learning /reflection of the trainees - which makes them better teachers'

The portability and flexibility made possible by incorporating e-portfolio practice within teacher training placement establishes a focus by which the students 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.'
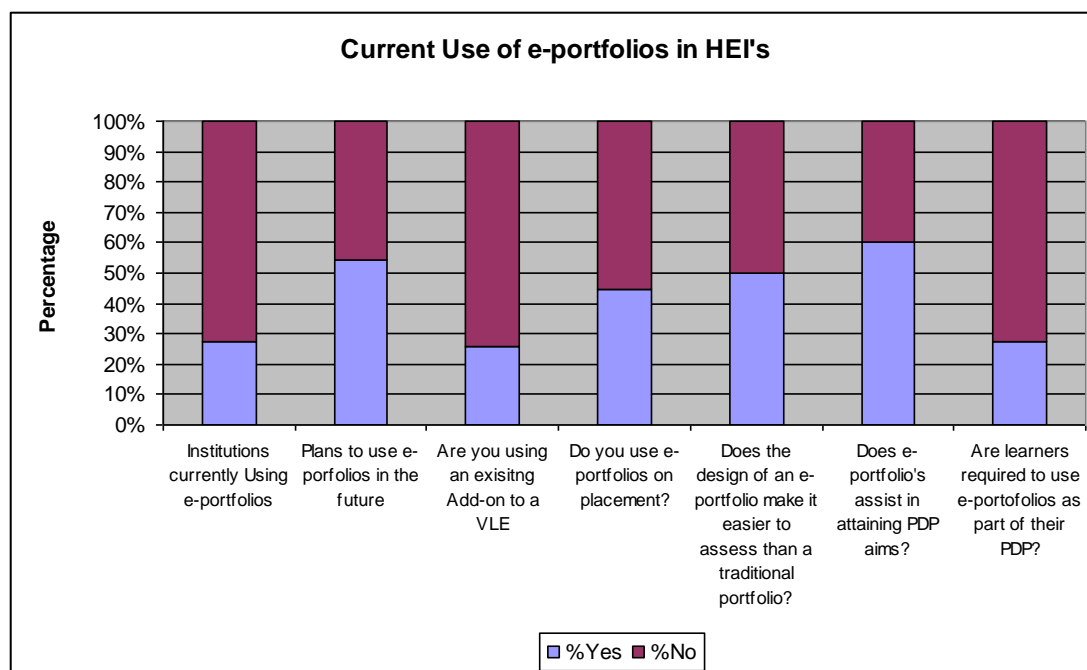
Graph 1:

One of the contributions made by an e-portfolio to a learners PDP development is inherent within the actual process of e-portfolio development,

a process which develops those skills required to facilitate reflective learning, develop the practice of lifelong learning, and lay the foundations of authentic PDP development once the learner has progressed into the workplace. While 60% of respondents felt that e-portfolios assist in attaining their PDP aims, only 27.3% make the use of e-portfolios to support PDP as a requirement. Feedback gained from instructors facilitated this process, for example:

> 'Comments by tutors, provide a range of evidence and reflect upon that evidence.'

Respondents displayed a variety of different methods designed to embed PDP within the curriculum although many respondents are still at an early stage of piloting the implementing of PDP and e-portfolios into the curriculum. For example:

> 'Personally I am piloting PebblePad with my own group of students who are very IOT literate and will feed these ideas to the rest of the PGCE tutors. I would anticipate we will be using PDP to capture evidence of teaching competence during school placements.'

> 'For ITT the use of e-portfolios approaches is currently voluntary.'

Other respondents commented on how they feel the e-portfolio process is supported by e-portfolios:

> 'Personal targets, links to standards, links with school based work, encourage collaboration and knowledge sharing.'

Some respondents reflected on how they intend using e-portfolios as a means of incorporating PDP into the curriculum. The respondent's reflections on the intended benefits is supported by the literature's hypothesis. For example:

> 'The e-portfolios will provide opportunities for reflective writing, action, planning and target setting. Students will have space to store these and also be able to talk to their peers and P/T'

The most common barriers identified by the respondent on the introduction of e-portfolios centred around technical issues. Respondents felt that generally the current generation of university IT systems did not effectively and efficiently support the use of e-portfolios. For example:

> 'We use PDP but not electronically – system will not support it.'

Various technical issues were raised including the type of software used, tools available, file storage and memory limitations. As one of the foreseen benefits of implementing e-portfolios is the ability to link different media sources into reflections. It is important for students to have sufficient memory space to insert their video clips into their e-portfolio. Furthermore, many respondents reflected on the nature of teaching and the importance the e-portfolios to be interoperable in order to support lifelong learning ambitions. This is an example of why there is so much importance based in the literature on the

implementation of e-portfolio's to be institution wide so a consensus can take place between various stakeholders including administrators, technical staff and so on, to address these types of technical issues (Johnson & DiBiase, 2004, Tosh et al., 2005).

Feedback gained from the participants suggested that the introduction of e-portfolio practice was initiated at both institutional and departmental level. Examples of feedback from the respondents included:

> 'Although the university has looked at e-portfolios institutionally not a lot of progress has yet filtered down to school level, so current investigations are the result of our own initiative'

> 'The department will be the first to introduce e-portfolios within the institution.'

> 'Introduced previously [by the institution]'

> 'institution [initiated]'

> 'No, the ICT department for PGCE second and ICT module for BAed (2005) were the first e-folios introduced at the institute of education.'

> 'The development of e-portfolio practice in the institution has been in parallel with an e-portfolio research and development project.'
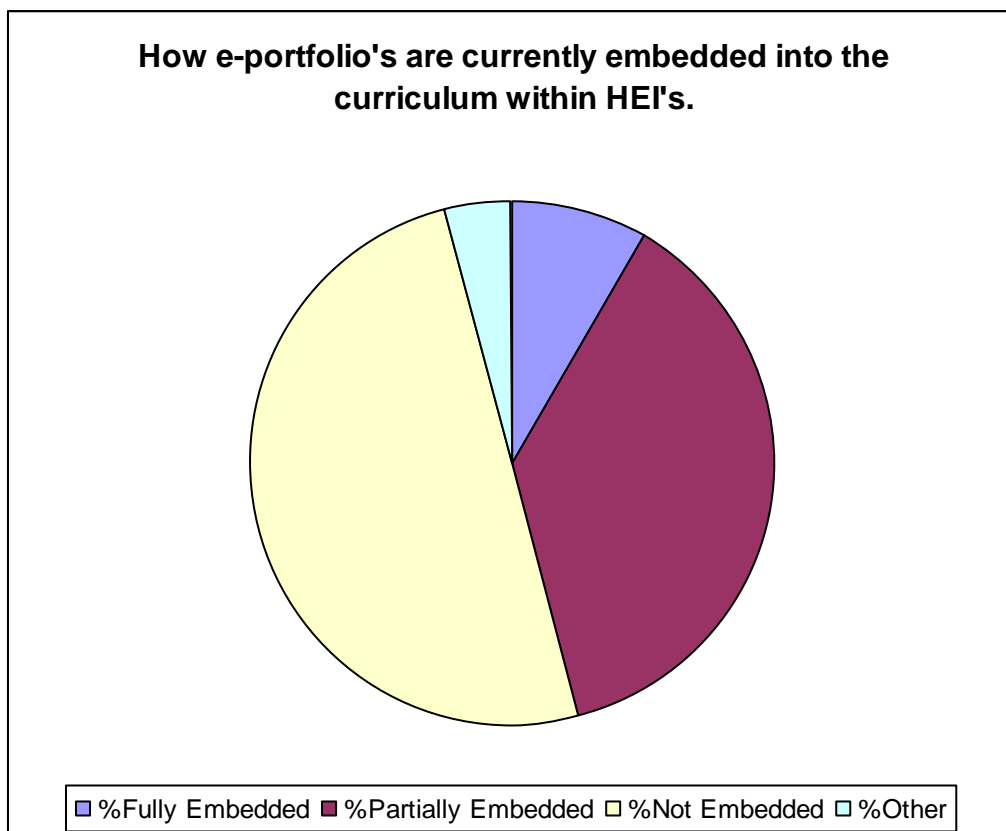
However, as suggested by the feedback, although some institutions were responsible for initiating e-portfolios the majority of implementation was initiated by the individual education department. This illustrates a natural progression from the inclusion of a paper based portfolio within the teacher training curriculum to the evolution of an electronic version.

Few (8.3%) respondents currently have e-portfolios fully embedded into the curriculum although a larger portion of respondents, (37.5%), felt that e-portfolios were partially embedded into the curriculum. This still left a further 50% who stated that their e-portfolios were not currently embedded into the curriculum. Another small portion of responses (4.2%) answered 'other' and provided an explanation as to why they felt their current situation was operating differently to the answers offered. Examples of other practice included: respondents have 'not considered' embedding the e-portfolios into the curriculum, or e-portfolios are currently embedded 'for ICT PGCE, not other areas', or, due to the recent application of the technology some institutions are piloting the technology with sample students before full implementation. For example: 'We have encouraged some ITT trainees to prepare electronic CVs and records of achievement.' Problems with this are, as Love & Cooper (2004) have identified previously, that without fully embedding e-portfolios into the curriculum they (e-portfolios) are at risk of failing to achieve their full potential.

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. This suggests that students are not fully involved in the process of developing an e-portfolio and therefore lack a clear understanding of the benefits. This supports the work of Tosh et al. (2005) who found that students were lacking an understanding of why they had to do this, an issue which was reflected by the lack of understanding from the instructors. Consequently, 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. This reflects similar findings to Wagner (1998) who had a similar complaint about traditional paper based portfolios. One respondent commented:

> 'e-portfolios are time-consuming to compile and use, and stakeholders will need to be able to identify benefits from investment in them. One purpose of an e-portfolio would be to prepare a CV. However, since applications for first teaching posts are still largely text-based (i.e. through forms) there is little evidence to support a lot of work being put into an e-portfolio to this end.'

How e-portfolio's are currently embedded into the curriculum within HEI's.

□ %Fully Embedded ■ %Partially Embedded □ %Not Embedded □ %Other

Graph 2:

In order for the successful integration of e-portfolios into the curriculum it is imperative that there is not only a concession on the learning objectives practitioners wish e-portfolios to achieve (Johnson & DiBiase, 2004, Tosh et al., 2005), but also the decision to implement e-portfolios has to be institution wide (Wade et al, 2005). Graph 3 represents the needs which e-portfolios are currently meeting within HEI's and the findings reflect another example of the

lack of consensus between stakeholders. 38.1% of respondents felt that e-portfolios were meeting the needs of the learners, but only 28.6% and 9.5% felt e-portfolios were meeting the needs of the staff and management respectively. A further 23.8% opted for 'other' and raised some interesting reasons for e-portfolio's not meeting the needs of stakeholders including:
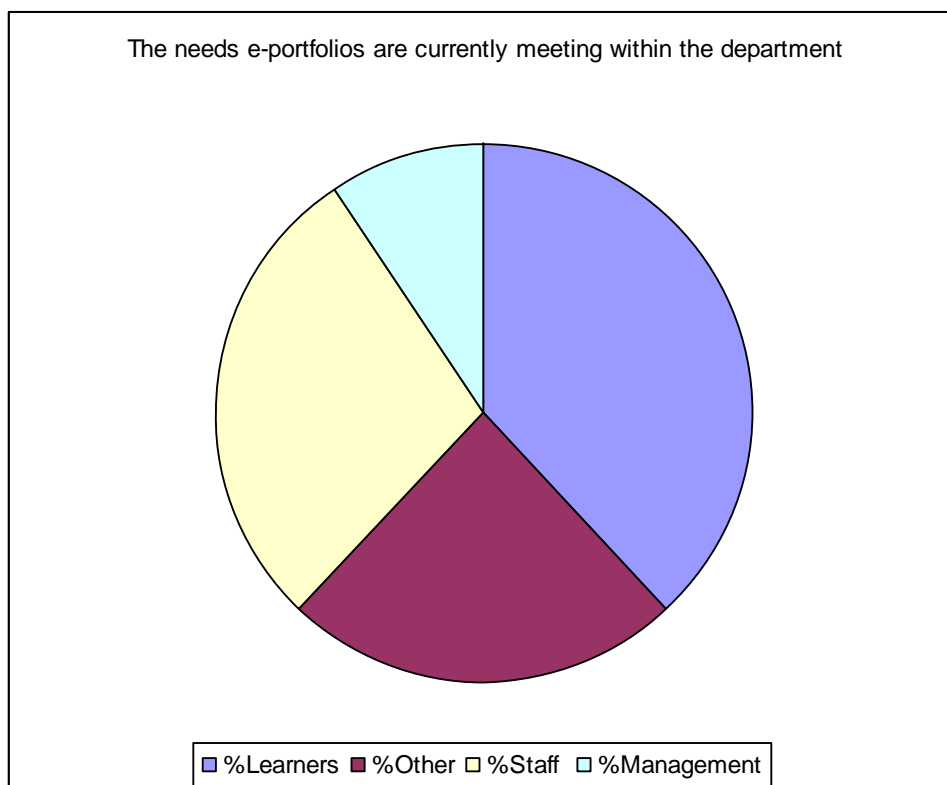
'Doesn't meet needs because it is technologically driven'

'Seen as a complex add-on to serve an additional, imposed set of education related issues.'

Conversely one respondent had a different but never the less increasingly important and relevant technology themed complaint. For example:

'Storage space for video clips is limited – need to be able to edit video to link to competence. Need one agreed model for e-portfolio so that students can be continuing the process in induction and EPD when they are no longer members of the HEI. Interoperability between platforms needs to be addressed and what to do with NQTS not from local HEI's.'

'Provide easy access and ease of adaptation, facilitate incorporation of multimedia work, can be customised for and by trainees with SEN models VLE/P – learning practice that they will find in the classroom.'

The needs e-portfolios are currently meeting within the department

%Learners %Other %Staff %Management

Graph 3:

Graph 4 (below) refers to the PDP processes which respondents feel are achieved using their current e-portfolio package. The most agreed upon statement by participants, with 91.6% either stating they agreed or strongly agreed, was 'Students are able to value their own capability through improved self awareness'. 50% of respondents 'agreed' that e-portfolios allowed students to 'critically reflect on their own learning, behaviours and achievements'. Conversely, 8.3% 'strongly disagreed' with these statements and a further 8.3% 'disagreed' with 'students critically reflect on their own behaviours'. Interestingly, 72.8% of respondents either agreed or strongly agreed to e-portfolios contributing to students adopting 'a positive attitude to lifelong learning.' A further 83.3% of respondents either agreed or strongly agreed to 'students are more independent as learners'. Similarly, 66.67% of respondents either agreed or strongly agreed with 'students enhance their ability to present themselves to others' and 'student enhance their employability'. 54.5% of respondents felt neutrally about e-portfolios enabling 'students to be more effective as learners'. A more dispersed response came from 'students are more self motivated as learners' with 25% strongly agreeing, 33.3% agreeing, 33.3% of respondents feeling neutral and 8.3% disagreeing to e-portfolios encouraging self motivation to learn.

The main restrictions respondents felt existed to limit the students achieving the above mentioned PDP processes included 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.'

> 'Some students willingness to use IT'

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

> 'the demands of the TDA paperwork/evidence base takes priority and eats time, so discussion areas are not exploited to the level they could be'
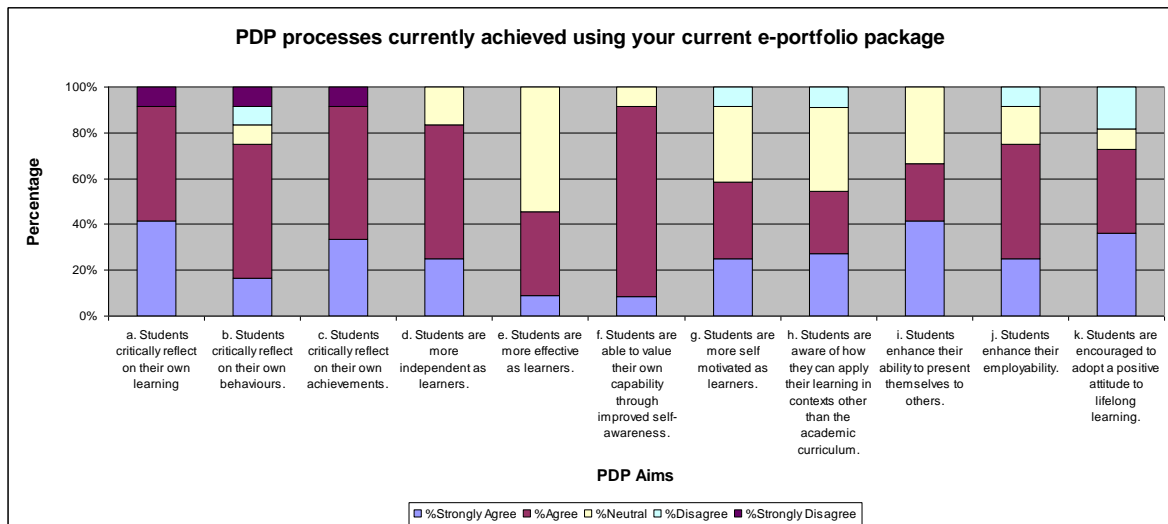
Graph 4:

Each of these issues again is reiterating similar themed issues previously mentioned. One key issue raised by many of the respondents included I.T training where many respondents felt that students 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 with their focus on the technical side of creating their e-portfolio rather than the learning benefits of reflecting on their practice. Consideration needs to take place of how instructors support I.T. training for students before commencing e-portfolio development ensuring each student feels some level of competence using the software from the outset. One of the questions raised by the findings included 'is technology hindering or increasing motivation?' It seems some students who 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, by 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. Conversely, the development of an e-portfolio affords student teachers to develop the opportunity to develop I.T. skills using a range of tools which they can develop as lifelong learners (Bhattacharya, 2002). 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.

Learner PDP requirements for those undertaking teacher training are summarised as following:

'Monthly tasks are set for PGCE pilot group. Trying to determine minimum acceptable content and max content allowed – manageability for student and tutor. Expectations on each other agreed in advance – frequency of use and feedback. Experimenting with types of media that can be included. Trying to marry lesson evaluations with personal reflection on role as a teacher.'

'Paper-based portfolio covering: core areas/subject specialism, professional practice.'

'Interview between students and staff at regular points.'

'Lesson planning and self-reflection, formative and summative assessments of learners, subject knowledge development and collaboration with a range of professionals.'

'As required by TDA'

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 and sow the seeds to develop a generation of lifelong learners. 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 PDP and those undertaking teacher training with the departments surveyed included developing reflective practitioners and meeting standards. Examples include:

'evidence based learning is ongoing and progressive throughout career.'

'Meeting the standards –professional focus and targets from feedback sheets – meeting these'

'Evidence against competence model. More reflection on progress as a teacher. Support mechanism during placements.'

'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.'

'To develop reflective practitioners with commitment to lifelong learning, professional ethos and appreciation of inclusion and diversity.'

'to gain QTS and then to support the CEPD'

The ambition of practitioners to utilise e-portfolios as a tool to develop lifelong learning is reflected in the literature. However, in order for e-portfolios to afford all of the learning objectives practitioners hope to achieve, e-portfolios need to be implemented and embedded into the curriculum thoughtfully in the first place. The tool itself is not self sustaining, it requires students to have more

control (Siemens, 2004) and needs to be transferable into different learning situations (Whitsed, 2005).

Respondents identified the benefits for the learner when using e-portfolios as part of their PDP in teacher training to include:

> 'Streamlining ITE, induction, EPD, CPD, etc ideal world. Currently it encourages the use of ICT in teaching and promotes self evaluation and reflection against teacher competencies. Records experience on placement.'

> 'Understanding of new e-learning expectations and requirements.'

> 'the reflection done in choosing what to include and saving paper!'

Reflection V's Assessment

With the current literature based debate on whether reflection should be assessed, it is interesting to find that 64.3% of respondents stated that their e-portfolios were currently being used for reflection and assessment, while the remainder (35.7%) stated that e-portfolios were used for reflection only. Not surprisingly, no respondents stated that they used their e-portfolios for assessment only, particularly when considering the number who felt the design of e-portfolios made them more difficult to assess than traditional portfolios.

When identifying the type of assessment taking place 45.5% stated that they assess their e-portfolios using formative assessment, 54.5% using a combination of formative and summative assessment, with no respondents replying that they used summative assessment only. Respondents provided examples of how the use of e-portfolios as a tool for PDP is currently assessed:

> 'Pilot study so focus is on manageability of time to complete it and also technical issues – access, file storage, interoperability etc.'

> 'As university based evidence with comments and targets, and as an assessed task (for undergraduates).'

> 'Formative assessment by staff'

Issues of assessment raised by 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, 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.'

Another respondent commented on the benefits of the technology:

> 'Incorporation of multimedia files, easy to update, accessible at all times by tutors and mentors.'

Identified issues of assessment and e-portfolios can be summarised as follows:
- 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

Respondents aim to provide the learners with assistance in the use of e-portfolios in PDP, 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.'

> 'Training and access to some resources, such as Mp3 recorders.'

Respondents felt students were deriving benefit from using e-portfolios to assist in the PDP process, primarily the development of a self reflective practice. Examples include:

> 'Increased awareness of teacher competences and level of progress in personal development as a teacher. Increased use of ICT for storing evidence. Better vocabulary when reflecting on experiences – awareness of what a reflective practitioner is!'

'I hope it generates autonomous learners and opens up opportunities for all via online discussion'

'Possibly greater awareness of e-capability in data handling.'

'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'

Interestingly, while identifying how the lack of I.T. skills hindered students ability to create a successful e-portfolio, respondents also commented on the development of I.T. skills by students creating e-portfolios.

The scoping study gave respondents the opportunity to raise any issues or concerns they have with the implementation of e-portfolios into the field of education. Examples of issues raised include:

'Movement of NQTs in England, Scotland, Wales, NI and the lack of continuity in e-portfolios for all teachers – different requirements, platforms, expectations etc. How do we support teachers from other areas?'

'Much PDP work is already conducted, but not in e-format. This is because many incoming text streams are taken from "live" – I.E. placement settings. The Placement issue of education students does make e-portfolios generation a bit more challenging.'

'What is the basis for suggesting that e-portfolios are a good pedagogical for everyone?'

'The system here does not support the use of e-portfolios – too many glitches in the system and not enough capacity.'

'The need for continuity and interoperability across institutional contexts (university, local education authority, professional body etc) is particularly important in our view.'

'We are trying to ensure that they link with appropriate pedagogical and assessment positioning so are currently revisioning a number of courses to bring in e portfolios. We don't want to see them as a 'bolt-on'.'

In summary, respondents felt the key issues involved in implementing e-portfolios into teacher training programmes within HEI's included:
- lack of continuity throughout the UK
- Technical problems
- Need for Interoperability
- Not currently fully embedded in the curriculum
- Issues with e-portfolios and assessment

Concerns highlighted by respondents supported the key issues raised in the literature, highlighting anxieties about the gap between expectations and reality when implementing e-portfolios into the curriculum.

Conclusion:

The findings of the survey highlight that although there is a level of e-portfolio practice taking place in teacher training courses in HEI's, it is still a new and developing initiative, with only a third of respondents reporting that they are using e-portfolios. 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 respondents feel very positive at the possibilities of e-portfolios within their teacher training programmes. However, it is equally clear that consideration needs to be made at the planning stage in order to effectively implement a fully embedded e-portfolio system into the curriculum. These considerations highlighted from the respondents are summarised as follows:

- I.T. training for students imperative for all in the beginning of the course
- Course Priorities – e-portfolios need to be fully embedded into the curriculum for all students and staff to understand the importance behind it.
- Student choice – in order to support the flexible nature of e-portfolios.
- Time consuming – instructors need to clearly outline the requirements of the e-portfolios to both students and other staff members.
- Instructors have strong aims of what they would like the e-portfolios to achieve.
- Technical implications – planning between instructors and administrative staff on technical support for e-portfolios needs to take place.

Interestingly, the findings from the survey do reflect common themes from the literature identifying problems associated with the integration of e-portfolios. This in turn suggests that this survey has provided a valid snapshot of current practice which is in turn yielding evidence to support the current literature.