



JISC Final Report

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Document History		
Version	Date	Comments
Revision 1	15/2/2012	
Revision 2	1/3/2012	<p>Have made adjustments as suggested. The table on page 17 is now linked to the wiki page which has the UK case studies examples – this was in the toolkit already.</p> <p>The video links are to the generic video page – the Edinburgh video case study link needs checking to see if it covers the point on page 15.</p>

Project Identifier:
Version:
Contact:
Date:

Table of Contents

NB : This table of contents 'auto-populates' - to update the table of contents – place cursor in the table of contents, right-click your mouse, click 'update field', select appropriate option

1	ACKNOWLEDGEMENTS	3
2	PROJECT SUMMARY	3
3	MAIN BODY OF REPORT	5
3.1	PROJECT OUTPUTS AND OUTCOMES	5
3.2	HOW DID YOU GO ABOUT ACHIEVING YOUR OUTPUTS / OUTCOMES?	7
3.3	WHAT DID YOU LEARN?	10
3.4	IMMEDIATE IMPACT	20
3.5	FUTURE IMPACT	20
4	CONCLUSIONS	20
5	RECOMMENDATIONS	21
6	IMPLICATIONS FOR THE FUTURE	21
7	REFERENCES	22
8	APPENDICES	24

APPENDIX A: IMPLEMENTATION GUIDANCE FOR PRACTITIONERS
APPENDIX B: IMPLEMENTATION GUIDANCE FOR SENIOR MANAGERS
APPENDIX C: EXEMPLARS TASTER OF E-PORTFOLIO USE

1 Acknowledgements

The ePI study was funded within the JISC e-learning programme.

Partners

Within the UK:

Birmingham City University, University of Bradford, Dumfries and Galloway College (FE), University of Edinburgh, Institute for Learning, University of Newcastle, Newham College (FE), University of Northumbria, Southampton Solent University, Thanet College (FE), University of Wolverhampton

Within Australia:

Australian Flexible Learning Framework (FE), Curtin University, Queensland University of Technology, Royal Melbourne Institute of Technology

Within New Zealand:

Albany Senior High School, University of Auckland, Massey University. The New Zealand contributions were as a result of funding by the New Zealand Ministry of Education who appointed their own researcher.

2 Project Summary

Although there are various instances of large-scale implementations of e-portfolios by Further and Higher Education institutions and professional organisations, knowledge of the specifics of their implementation journeys remains relatively unshared and unanalysed. To capture the lessons learnt and to inform future implementations at institutional level in FE and HE in the UK, the Joint Information Systems Committee (JISC) funded the e-Portfolio Implementations (ePI) study from August 2010 to May 2011. The study aimed to:

- Identify a range of examples of wide-scale e-portfolio implementations within HE/FE institutions and professional bodies that would inform practice/strategy;
- Gather a range of case studies to support the articulation of models of implementation;
- Develop an appropriate means of disseminating the outcomes that enables a potential user to understand the implementation issues and identify the cases that are most relevant to their own contexts.

Institutions were invited to participate through established JISC and HE and FE networks, mailing lists and direct contact. Participation was dependent upon the meeting of [selection criteria](#), e.g., that e-portfolio use was established (not just in the planning stage), there was evidence of a breadth of successful use, there was a willingness to share practice and documentation as well as participate in developing a case study in an online wiki that would be made public at the end of the study. Informed consent was gained and Bera (2004) ethical guidelines were followed within the study. Eighteen participants contributed to study: 11 from the UK, 4 from Australia and 3 from New Zealand. The four Australian cases were chosen as representative of practice and the three New Zealand cases were selected by the New Zealand Ministry of Education who conducted a parallel study – hence the inclusion of one secondary school. Templates were developed for three wiki pages for each case study: participants were asked to complete an overview page, an ‘exemplars of use’ page and an implementation journey page. Small group Skype conferences, emails and phone calls were used in addition to the wiki to explore similarities and differences in implementation practice and journeys. From this process emerged three broad themes, i.e., drivers, tools and implementation processes, which proved useful in structuring the guidance the study has developed in the form of answers to questions about e-portfolio implementation. These questions were:

- Why should we use e-portfolios now? (the drivers theme)
- How do we decide upon which e-portfolio tool to use? (the tools theme)
- What does good implementation look like? (the implementation process theme)

Project Identifier:
Version:
Contact:
Date:

The drivers: Although original drivers in the UK were the Personal Development Planning agenda more recently this has been overtaken by an even greater focus on Employability, Widening Participation and the need to demonstrate student satisfaction with courses. These latest priorities for UK universities suggest an even greater uptake of e-portfolios is likely in future within Higher Education.

The tools: The study found three sub-themes that influenced choices of tools: these were alignment with e-portfolio purposes, existing IT strategy and technologies, and cost, and these are inter-related. The study revealed that cost benefits analyses have not so far featured in underpinning institutions' commitment to implement or sustain the use of e-portfolios.

The implementation process: Three models were found in relation to the **initiation** of large-scale e-portfolio implementation: top-down, middle-out, and bottom-up. Importantly, for **ALL MODELS**, the e-portfolio implementation manager/champion role was critical for effective implementation. While each implementation was a response to the particular context within that institution, all implementations followed similar stages in an experiential journey that typically took 3 or more years. The e-portfolio implementation model shown in figure 1 illustrates the process and the key implementation principles that need to be considered by practitioners and managers across each implementation stage.

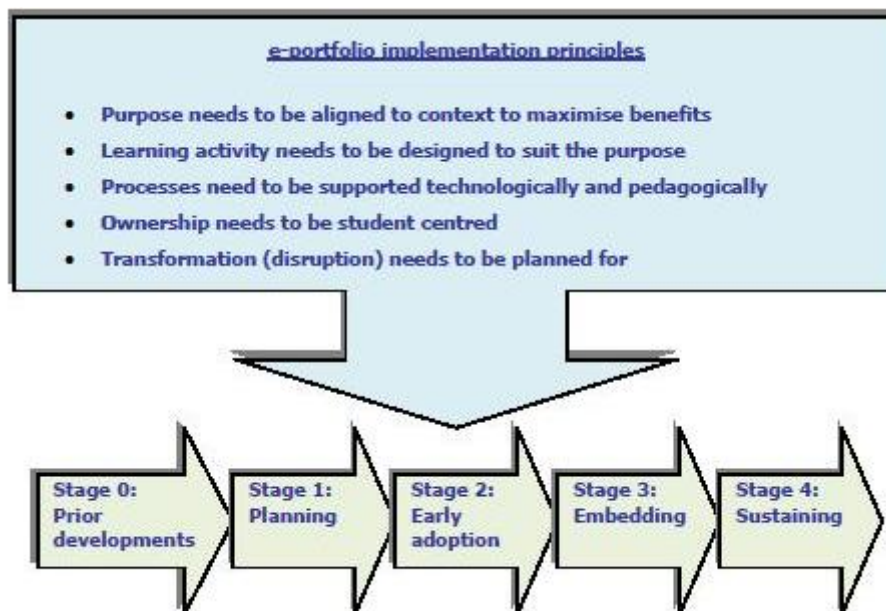


Figure 1: The e-portfolio implementation model - the key implementation principles applied across the five stages

This process was typically supported by both internal and external funding and demonstrated the importance of involving comprehensive stakeholder engagement from the start.

The outcomes of the study are a multi-media [e-portfolio implementations toolkit](#) that provides both guidance for practitioners and managers based on the three themes and linked to the case studies of practice, and also an [Exemplars taster](#) illustrating the diverse use of e-portfolios found in the study - the intention being to support institutions seeking to optimise the benefits of e-portfolios.

3 Main Body of Report

3.1.1 Background

e-portfolio use in the UK (and elsewhere) has escalated over the past decade, driven mainly by Personal Development Planning, Employability, Life-Long and Life-Wide Learning agendas. During this period e-portfolio tools and technologies have continued to mature. Although there are various instances of large-scale implementations of e-portfolios by Further and Higher Education institutions and professional organisations, knowledge of the specifics of their implementation journeys remains relatively unshared and unanalysed. Prior research into twenty-one e-portfolio projects funded by JISC between 2007-09 revealed that e-portfolio implementation is particularly complex, due to the number of stakeholders involved, the contexts in which e-portfolios can be applied and the number of purposes they can have (Joyes, Hartnell-Young & Gray, 2010). This work found that, surprisingly, those new to e-portfolio implementation often fail to register the value of the extensive guidance available (JISC 2006, 2008, 2008a, 2008b) and so some consideration needed to be given to the nature of the guidance provided at both a practitioner and a wider institutional level. In order to capture the lessons learnt from large-scale e-portfolio implementations and to inform future implementations at institutional level in FE and HE in the UK, the Joint Information Systems Committee (JISC) funded the e-Portfolio Implementations (ePI) study from August 2010 to May 2011.

3.1.2 Aims and Objectives

The study aimed to:

- Identify a range of examples of wide-scale e-portfolio implementations within HE/FE institutions and professional bodies that would inform practice/strategy;
- Gather a range of case studies to support the articulation of models of implementation;
- Develop an appropriate means of disseminating the outcomes that enables a potential user to understand the implementation issues and identify the cases that are most relevant to their own contexts.

The following JISC page provides the original project outline
<http://www.jisc.ac.uk/whatwedo/programmes/elearning/epi.asp>

The aims of the project were met, though contributions from professional bodies proved problematic and only one is represented. There is one secondary school case study from New Zealand represented in the study due to the focus chosen by the New Zealand Ministry of Education which funded the parallel work there. The report draws mainly on the UK case studies funded by JISC.

3.2 Project Outputs and Outcomes

Output / Outcome Type	Brief Description and URLs (where applicable)
e-portfolio implementation toolkit	See 3.2.1 for a description https://epip.pbworks.com/w/page/28670505/The%20e-portfolio%20implementation%20toolkit
International Journal of ePortolios article for publication in the 2 nd edition January 2012	<i>Large-scale e-portfolio implementations - introducing the epi research study</i> has been submitted to the International Journal of ePortolios.
Presentation ALT-C conference 2011 University of Leeds, UK, 6–8 September 2011.	This presented the study and the toolkit Learning the lessons about large scale e-portfolio implementations – introducing the ePI research study

Project Identifier:
Version:
Contact:
Date:

Presentation and a workshop were delivered at the ePIC 2011 conference in London, UK 10-13 July	This presented the ePI study and outcomes and engaged participants in a workshop that piloted an activity that was designed to support the implementation process and has been included in the e-portfolio implementation toolkit https://sites.google.com/site/epistudy/dissemination-events/epic-conference
A 2-day Cloudworks event occurred April 5- 6th 2011	A 2-day Cloudworks event occurred April 5- 6th 2011 to share and discuss the implementation journeys and the models for implementation that were emerging from the study.
Presentation to the JISC experts group was made April 11th in Birmingham.	A draft of a threshold concepts analysis for practitioners and large scale institutional implementation and models for engagement were presented at this event. The ppt and resources are available here.
Article in PDP-UK newsletter Spring 2011.	Learning the lessons about large scale e-portfolio implementations – introducing the ePI research study appeared in the PDP-UK newsletter Spring 2011.
Article in AAAEBL newsletter December 2010.	Learning the lessons about large scale e-portfolio implementations – introducing the ePI research study
Research paper e-portfolios Australia conference (EAC 2010) , Melbourne, November 2010	Troublesome e-portfolio implementation: A threshold concepts approach to judging institutional maturity Direct link to slideshare presentation
Plenary Presentation RSC e-portfolio conference , Queen Margaret University, Musselburgh, Scotland, September 2010	Effective practice with e-Portfolios: Where are we now?
Plenary Presentation MaharaUK conference, London July 2010	What's so difficult about implementing e-portfolios

Further outputs planned for 2012 - 13

- The Centre for Recording Achievement [e-portfolio implementation toolkit webinar](#)
- Papers for epic2012 and ALT-C 2012 conferences

3.2.1 Outputs

[The e-portfolio implementation toolkit](#) is the key outcome of the project. This contains:

- [Guidance](#). This uses text-based discussion and videos to outline key questions which practitioners and e-portfolio managers/ senior managers may wish to consider. These are
 1. Why should we use e-portfolios now? (The DRIVERS theme)
 2. How do we decide upon which e-portfolio tool to use? (The TOOLS theme)
 3. What does good implementation look like? (The IMPLEMENTATION PROCESS theme)
- [Case studies and exemplars of e-portfolio use](#)
[Case Studies](#) of e-portfolio implementation in each of the 18 participating institutions - each has three pages providing an overview, exemplars of use and the implementation journey.
[Exemplars taster](#) of e-portfolio use. This resource is an easily accessible taster of some of the exemplars provided in the case studies and provides an overview of many of the possible uses of e-portfolios across institutions.
- [Workshop resources](#). These have been designed to be used with a range of stakeholders to raise awareness of issues and inform the planning stage of large-scale implementation across an institution.
- [Background resources](#)

[Information about e-portfolios definitions](#)
[Why e-portfolio implementation can be problematic.](#)

3.2.2 Outcomes

Comments on achievement of aims and impact

The study aimed to:

- Identify a range of examples of wide-scale e-portfolio implementations within HE/FE institutions and professional bodies that would inform practice/strategy;
- Gather a range of case studies to support the articulation of models of implementation;
- Develop an appropriate means of disseminating the outcomes that enables a potential user to understand the implementation issues and identify the cases that are most relevant to their own contexts.

The scope of the study was defined by the range of participants who showed a willingness to contribute. In addition to HE and FE institutions in the UK, it also included one UK professional body and one secondary school in New Zealand. The e-portfolio implementation toolkit guidance is being developed for senior managers and for practitioners as a key output. This is aimed to impact on the sector in supplementing the implementation guidance provided within the e-portfolio InfoKit.

There is evidence gathered during the Skype conferences with the participants that their involvement in the ePI study community of practice was useful both in providing opportunities to reflect upon their implementation journeys through producing case studies and also in supporting their future practice.

Comments on the methodology

The study methodology, use of the wiki and Skype conferencing to develop a community of practice, to achieve the study aims, was effective in revealing the 'stories' from the participants' perspective. The use and ongoing modification of the templates proved valuable in providing both a level of uniformity and, simultaneously, a response to emergent themes, for what proved to be generally quite complex and detailed case studies. The process of developing guidance on the basis of the case studies that linked to them became a possibility due to the level of engagement of the participants, but was itself an iterative and time-consuming process. This would suggest that studies that require a comparable level of dissemination should be encouraged to include a more realistic estimation of the work and time involved. For this 10 months study, 5 months of continuation/dissemination work was necessary – it is envisaged that the e-portfolio implementation toolkit will need revision through to December 2011.

3.3 How did you go about achieving your outputs / outcomes?

The ePI study built on a prior research study of over twenty e-portfolio projects funded by JISC 2007-09 which revealed core threshold concepts related to e-portfolio implementation (Joyes, Gray and Hartnell-Young, 2010). The earlier work concluded that e-portfolio implementation is particularly complex, due to the number of stakeholders involved, the contexts in which e-portfolios can be applied and the number of purposes they can have. It identified that there are threshold concepts (Meyer & Land, 2003) related to e-portfolio implementation that are associated with misconceptions or assumptions about their use and hence represent barriers to implementation (Joyes, Hartnell-Young & Gray, 2010) These represent key principles that are in evidence in successful implementation and thus importantly need to underpin guidance. The five threshold concepts or implementation principles are:

- Purpose needs to be aligned to context to maximise benefits: Some contexts suit some purposes more than others and analysis of the benefits (and costs) of the purpose in the particular context will determine how far alignment exists;

Project Identifier:
Version:
Contact:
Date:

- Learning activity needs to be designed to suit the purpose: There must be a conscious design and support of a learning activity/activities suited to the purpose and the context;
- Processes need to be supported technologically and pedagogically: The processes involved in the creation of the e-portfolio in the particular context must be understood and technical and pedagogic support need to be provided in tandem;
- Ownership needs to be student centred: The e-portfolio processes and outcomes need to be owned and their visibility determined by the student;
- Transformation (disruption) is planned for: E-portfolios are potentially transformative and as a result can be disruptive from a pedagogic, technological and an institutional perspective, because they tend not to fit exactly within existing systems.

It appears that an experiential implementation journey is a necessary prerequisite for developing an understanding of the productive interplay of context, purpose, learning design and support which is key to successful e-portfolio adoption. Once the threshold concepts have been grasped and assimilated, an irreversible step-change in understanding is attained and this perhaps explains why those new to e-portfolio implementation often fail to register the value of the extensive guidance available (JISC 2006, 2008, 2008a, 2008b). This threshold concepts approach to e-portfolio implementation provides a means of identifying different 'slices' of effective use within large scale implementations within Higher and Further Education institutions and professional organizations. This is represented in the e-portfolio implementation framework shown in figure 2.

e-Portfolio implementation threshold concept ↓	Nature of implementation ⇒	Intra course - localised use only	Inter faculty/ school whole course use	Cross (intra) institution use	Extra curricular use	Inter institution use
<ul style="list-style-type: none"> • Purpose is aligned to context to maximise benefits • Learning activity is designed to suit the purpose • Processes are supported technologically and pedagogically • Ownership is student centred • Transformation (disruption) is planned for 		For example, isolated lecturers integrating e-portfolios in a module or course	For example, use on a whole course or across a faculty	For example, Personal Development Planning, Mapping of graduate attributes.	For example, Professional development of staff, Student volunteering activities	For example, Professional organisation e-portfolio use across the sector

Figure 2: e-portfolio implementation framework

It was important that those institutions participating in the project could identify exemplars of 'effective' practice and the e-portfolio implementations framework was used as one means for institutions to judge whether they could contribute the project.

The methodology chosen was underpinned by a community of practice model (Wenger, 1998) in which the participants themselves would be involved in the common task of developing a case study of their e-portfolio journey, discussing this with the study researchers and sharing this with each other, in order to reveal insights into effective practice to be shared across the sector that could be grounded in the case studies produced. The incentive for engagement in the study was not only the opportunity to be involved in a prestigious international study that would showcase their practice, but also the chance to

Project Identifier:
Version:
Contact:
Date:

enter into a community of practice in which all the participants had the opportunity to discuss and reflect upon their own and others' practice.

Institutions were invited to participate through established JISC and HE and FE networks, mailing lists and direct contact. Participation was dependent upon the meeting of [selection criteria](#), e.g., that e-portfolio use was established (not just in the planning stage), there was evidence of a breadth of successful use, there was a willingness to share practice and documentation as well as participate in developing a case study in an online wiki that would be made public at the end of the study. A balance of HE (pre and post 1992) and FE institutions was achieved and the intention was to engage with professional bodies but this proved difficult. Informed consent was gained and Bera (2004) ethical guidelines were followed within the study. The eighteen participants are shown in table 1.

Table 1: The ePI study participants

UK participants – 11 = 7 HEIs, 3 FECs, 1 professional body		
Birmingham City University	University of Bradford	Dumfries and Galloway College (FE)
University of Edinburgh	Institute for Learning	University of Newcastle
Newham College (FE)	University of Northumbria	Southampton Solent University
Thanet College (FE)	University of Wolverhampton	
Australian participants – 4		
Australian Flexible Learning Framework (FE)	Curtin University	Queensland University of Technology
Royal Melbourne Institute of Technology		
New Zealand participants – 3		
Albany Senior High School	University of Auckland	Massey University

The four Australian cases were chosen as representative of practice and the three New Zealand cases were selected by the New Zealand Ministry of Education who conducted this work as a parallel study – hence the inclusion of one secondary school.

The wiki collaboration: It was decided to use a private wiki (pbwiki) which all participants could access in order to share 'their' implementation narratives. Templates were developed for three wiki pages for each case study: participants were asked to complete an overview page, an 'exemplars of use' page based on the e-portfolio implementations framework and an implementation journey page. We felt it important for participants to begin by identifying different 'slices' of effective e-portfolio practice from across their institution in order to reveal the nature and scale of the implementation. This provided the important contextual background evidencing effective use and underpinning the description of their implementation journey – the e-portfolio implementations framework shown in figure 1 was used as the basis of the 'exemplars of use' template. In some cases templates were pre-populated by the researchers from sources that were public; this was useful in providing exemplars for others, but was not as helpful as had been hoped in progressing these with some of the participants. Those who had blank templates in the wiki seemed to make more progress with the case studies. The original intention was to allow all participants to

Project Identifier:
Version:
Contact:
Date:

contribute and then develop some of the inputs into more in-depth case studies. The reality was that 3 of the original participants did not engage much at all with the process/ had to withdraw, but the rest provided full case studies and were willing to engage within a small group Skype conference to discuss the themes that were arising. Critical to the engagement with the wiki was the early telephone conference that was held by the researcher and the participant to begin to discuss their case study and to talk them through the wiki. For most this sparked contributions to the wiki, but many reminders were needed to move these on in most cases. The wiki format was useful as the researchers could comment on the case studies and also highlight areas that needed further information or clarification. For the Australian case studies, one of the researchers used planned conference attendance in Melbourne in November 2010 to meet the participants and email /Skype was used to support the case study development. For the New Zealand case studies the New Zealand Ministry of Education employed a researcher who visited each institution to interview key personnel and from this information they developed each case study – the participants added to this later. At this stage informed consent was only needed for sharing materials within the study and the original informed consent forms proved problematic – see lessons learnt. At this stage we had to 'trust' our participants to ensure consent had been gained to share the information being placed on the wiki. At a later stage when the wiki was to become public a creative commons license agreement needed to be signed up to.

Telephone calls/ Skype conversations and emails by the ePI study researchers with each participant were used to clarify points and to ensure a level of comparability for the information being collected. This was critical, as, when recalling the implementation journey, participants tended to omit to mention key parts of the institutional structure and key decision making processes; although important for an understanding of the narrative, their everyday nature as part of the institutional culture meant they were often not described. Because the study was interested in capturing not just what happened, but why and how it happened, this ongoing dialogue was critical.

The first four HE case studies near completion were invited to a one-hour Skype conference to discuss similarities and differences between the implementation journeys and common themes that were arising. Elluminate was trialled for this but did not suit the more discursive engagement we required. A template was placed in the wiki for each participant to pre-populate and the provision of this supportive requirement ensured that they had read each others' case studies before the online conference; this wider reading helped them identify what was unique about their own study – they then added the resulting insights to their own case studies in the wiki. The remaining HE participants and the FE participants were then invited to separate Skype conferences that followed the same format. This process revealed the importance of getting each participant to include information about governance in relation to e-portfolio developments – something that had not been covered well in any case study up to that point. Interestingly it was during the conferences that unsolicited comments were made about the value of the ePI study process itself for the participants, in supporting reflection on their practice and raising issues about future developments and sustainability.

The researchers, through this process, identified key themes and guidance. These were shared (possibly too early) at a JISC experts group meeting and then at the ePIC 2011 international conference where a presentation and an implementations workshop were held. The latter was especially valuable and the evaluation revealed a clear need for the guidance being developed within the project, as well as the ongoing value of the workshop materials. This feedback led to their inclusion in the e-portfolio implementations toolkit.

3.4 What did you learn?

This is divided into two sections, lessons learnt from the project process and those concerning the e-portfolio implementation.

3.4.1 The project process lessons learnt

- The importance of providing templates within the wiki and of beginning to populate some of these to test out their efficacy.

Project Identifier:
Version:
Contact:
Date:

- The importance of an early initial telephone conversation with the participants to explore the wiki and the expectations.
- The importance of the voluntary nature of engagement – most who genuinely volunteered contributed the most to the project.
- The need to allow participants to leave the study – this means starting with a relatively large number, to allow for this.
- The iterative nature of developing a common and useful template for the case studies – this necessarily evolved over time, as key areas revealed themselves to be important at different points.
- The willingness of participants to talk to someone about their practice.
- The ease with which these (technology-confident) participants worked within the wiki template structure.
- The need to work in depth with participants to obtain full accounts of the background to changes, the culture and the governance within their institutions – these were often not described in the first instance, and were critical to understanding the implementation journeys.
- The naivety of the assumption that implementation journeys would have been based on formal business plans and captured in comprehensive documentation etc.
- The persistence needed by the researchers to move the case studies to a level of completion through ongoing communication, phone calls, wiki contributions/ comments, emails. The project had a 10 month time line, but involved a far greater time commitment from the researchers than was planned for.
- The value in sharing the outcomes of the project as the project progressed, as this helped refine the ways key messages were eventually developed – the notion of developing workshop materials and piloting these at the ePIC 2011 conference arose in this way.
- The JISC-produced informed consent letter and information seemed to halt progress with the study and so a decision was made to move forward and gain the necessary informed consent to share the wiki and any documentation/video etc included within it once it was finalised. Up to that point agreement was only needed to share the information within the study with the researchers and other participants. The issue seemed to be that a senior manager could not in reality sign an informed consent form for something that had not been created. There was a need at the end of the study for all to agree to share their wiki within a creative commons license agreement.

3.4.2 e-portfolio implementation lessons learnt

The implementation journey – the key themes

The research process revealed three broad themes, i.e., drivers, tools and implementation processes, which proved useful in structuring the guidance the study was developing in the form of answers to questions about e-portfolio implementation. These questions were:

1. Why should we use e-portfolios now? (The drivers theme)
2. How do we decide upon which e-portfolio tool to use? (The tools theme)
3. What does good implementation look like? (The implementation process theme)

1. Why should we use e-portfolios now? (The drivers theme)

The most well-established, large-scale institutional implementations represented in the case studies were initiated in response to drivers which are still very much with us. In fact the current economic and policy contexts, certainly within the UK, strengthen them even further. These drivers, discussed in some detail in the JISC [e-Portfolios InfoKit](#) (2008c) , coupled

with the maturity of the e-portfolio tools now on offer, have stimulated particularly rapid uptake of e-portfolios in the UK since 2009. Figure 3 provides an overview of the key drivers found within the eportfolio implementations study and these are discussed below.

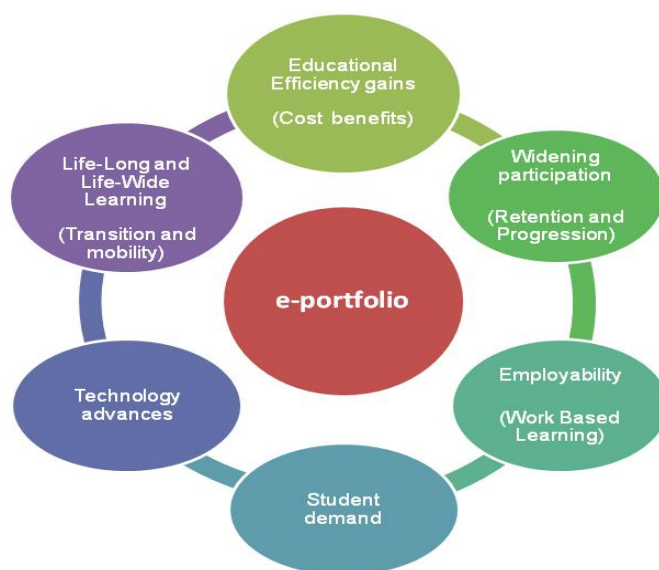


Figure 3: The drivers for e-portfolio implementation

The main drivers found within the e-portfolio implementation study are:

Educational and efficiency benefits (Cost benefits): Educational gains were, as might be expected, the dominant driver for practitioners and institutions though efficiency gains were also mentioned and evidenced. The study did not find evidence of formal cost benefits analysis underpinning evaluation, even though this could be useful in supporting sustainability.

- **Educational Gains:** There is extensive evidence of the educational gains offered by e-portfolio use - see the JISC [e-Portfolios InfoKit](#) (JISC 2008c) and [Effective Practice with e-Portfolios](#) (JISC 2008b) publication. Examples within this implementation study are of e-portfolio use raising attainment - see [Dumfries and Galloway College](#), of e-portfolios facilitating improved assessment and feedback - see [Exemplars taster](#) and of the gains provided by consistent e-portfolio use across a whole course - see the [University of Bradford midwifery case study](#). The broader educational gains which e-portfolios support arise from the growing readiness of institutions to acknowledge and accommodate wider definitions of learning, including lifewide and lifelong learning, while situating academic learning within this wider spectrum. The institutional video case studies, *Effective Practice with e-Portfolios: Stories of e-Portfolio Implementation*, illustrate gains from practice that is both integrated into existing course delivery and/or student support provision (e.g. Birmingham City University and Southampton Solent) and as a free-standing vehicle for staff development (e.g. Thanet College, University of Bradford) e-Portfolios also support students in integrating their learning experiences inside and outside institutions - see the extra-curricular examples in the [Exemplars taster](#), in supporting personalisation and exercising ownership of their ongoing development in dialogue with tutors, mentors and careers advisers, and in articulating the outcomes of learning for assessment, employers and professional bodies.
- **Efficiency Gains:** There are efficiency gains to be made in:
 - Replacing paper-based processes and records with e-portfolios - examples are to be found in the support for professional practice courses and in personal and tutorial guidance - see [Exemplars taster](#) of e-portfolio use.

- Learners being able to work with digital resources as they develop their e-portfolios into presentations that they can personalise for different purposes, i.e. personal development planning, CV's etc. The personal development planning process has inherent efficiency gains as it supports more effective and efficient learning, i.e., it aims to maximise the value of learning over a course of study. Equally, the high value to learners of using multimedia resources to demonstrate rather than merely describe their attainments, attributes and abilities for employers is discussed in the Southampton Solent University [video case study](#).

Employability and Work-based Learning:

- **Employability:** This has been a consistent driver and is currently integrated into the growing movement to articulate Graduate Attributes in institutions in Australia and the UK. UK examples are the [University of Edinburgh](#) and Southampton Solent University
- **Work-based Learning:** Hand-in-hand with the employability agenda, even institutions with little previous experience of student work placements are now aware of the need to ensure graduates have some experience of the world of work and the capacity to self-manage the enhancement of their own employability skills - the [University of Edinburgh](#) case study shows that all students are expected to show some engagement with these activities and e-portfolio use is central. In addition there are increasing demands for universities to develop courses that meet the needs of employers - see work based learning earning in the [Exemplars taster](#) of e-portfolio use and the University of Wolverhampton [video case study](#).

Widening Participation (Retention and Progression):

- **Widening Participation:** The government agenda in the UK makes a direct link between allowing an institution to charge high course fees and its achievements in widening participation. Institutions have to demonstrate that they have effective strategies in place to attract, support and retain students from non-traditional backgrounds. Just one way in which e-portfolios help is by supporting pre-entry mentoring and the **transition into the university** - see the [Exemplars taster](#) of e-portfolio use.
- **Retention and Progression:** Issues raised by the widening participation agenda are increasingly being interpreted in terms of the whole student body. There is an increasing emphasis on enhancing induction for all students and maximising successful retention and progression. e-Portfolios, in particular e-PDP (Personal Development Planning), have been used extensively to support this - see PDP and employability in the [Exemplars taster](#) and [University of Wolverhampton's](#) revision of their curriculum to support this process.

Lifelong and Lifewide Learning (Transition and mobility):

- **Lifelong Learning:** The recognition that an e-portfolio to support lifelong learning seems not to have moved beyond the notion of transition to employment within the case studies though there were some instances where it was used to support transition into Higher Education - see [Exemplars taster](#). The Higher Education Academic Record that supports internationalisation, i.e., transition and mobility across Europe is also considered a driver for e-portfolio use but was not mentioned within the study. However, there is emerging evidence of e-portfolios enabling the acquisition of short course qualifications within the workplace - see the University of Wolverhampton's ePPSME project. This advance, which was prompted by the university's role in supporting regional workforce development, is illustrated by the University of Wolverhampton [video case study](#).
- **Lifewide Learning:** The rise of 'integrative learning' is central to e-portfolio use from a learner and practitioner standpoint in that an e-portfolio can represent a wider perspective than a course-based academic or work-based learning one, for example to include leisure and volunteering activities. This was not found to be a key

Project Identifier:
Version:
Contact:
Date:

institutional driver within the study, but there were examples of this use within the case studies as illustrated by the [University of Edinburgh](#) case study.

Student demand: Feedback is something that continues to score lower satisfaction levels in the [National Student Survey](#). It is worth noting that strong alignment between institutional drivers and the motivating factors important to practitioners and students which tend to relate to educational gains and course activity contexts is not commonly found across the ePI institutions. However the ePI study did identify numerous examples of use where the institutional driver of employability was also a key driver for students, for example [Southampton Solent University](#). It is also evident from the video case studies that student engagement with e-portfolios does not occur routinely without clear explanation and demonstration by practitioners of the value of e-portfolios. Integration of e-portfolios into curriculum and learning activity design was cited in the Birmingham City University [video case study](#) as an essential ingredient of successful wide-scale implementation. However, the student-centred nature of e-portfolios may mean that use is more widespread than is visible to institutions.

Technology advances: These are included here as a driver partly as a recognition of the move from paper-based to digital media and as a recognition of the high level of maturity of the e-portfolio tools available that can now replace paper based approaches, for example the [University of Bradford](#) case study. However, the widespread use of mobile devices and the cloud for storage, social networking etc. have raised student expectations of being able to utilise online spaces, leading in turn to an increasing expectation by students and employers to be able to utilise e-portfolios for representing their professional identities, to support job applications, for appraisals etc.

2. How do we decide upon which e-portfolio tool to use? (The tools theme)

The choices were:

- Choose an existing tool or develop a new one.
- Choose local or external hosting.
- Choose Open Source or Enterprise.
- Choose a purpose-specific tool or an 'expansive' tool (one that has the potential to be used across a range of purposes).

None of the participating institutions supported student-chosen tools - students were expected to use the e-portfolio tool/s adopted by the institution. However, policies adopted at Thanet College are enabling the support of a wider variety of tools meeting different purposes as part of a drive towards greater flexibility and personalisation in technology use for both staff and students.

Choices are influenced by **alignment** and **cost**, and these considerations are inter-related.

'Alignment' refers to ways choices are influenced by what is in place already and factors that influenced choice are outlined below.

- **Alignment with the purposes for which the tool was to be used.**
 - For some, identifying clearly their priority purpose(s) led to the realisation that a suitable tool did not exist: This spurred the independent development from 2005 of a range of institution-specific tools by some of the study participants, for example: [University of Wolverhampton](#) (development site of PebblePad); [University of Newcastle](#) (ePet); [Dumfries and Galloway College](#) (WordPress based tool); [Massey University](#) (Mahara); [Curtin University](#) (iPortfolio); [Queensland University of Technology](#) (student eportfolio).
 - Keen to address the full range of their needs, another institution might decide to adopt more than one tool. For example, [Thanet College](#) use four different tools, i.e. [PebblePad](#) for staff professional development and as a reflective e-portfolio for some higher level courses, [Mahara](#) for student-initiated use, a mapping e-portfolio for NVQ courses and [Infolio](#) for students with learning difficulties/disabilities.

- Looking similarly at a diversity of possible purposes, another institution might opt for Open Source tools which could be developed further to match the full range of needs. For example, [Dumfries and Galloway College](#) chose to develop a tool based on WordPress, while [Birmingham City University](#) chose Mahara and invested in developing the tool's 'views', making this enhancement available to the wider Mahara user community.
- An investigation to map the needs of the institution to the functionality offered by a range of commercial e-portfolio products could lead to the choice of a mature Enterprise tool. For example, the [University of Bradford](#) undertook a formal evaluation of a range of tools and chose PebblePad and the [University of Edinburgh](#) recently chose PebblePad as well after a lengthy procurement process.
- **Alignment with the current VLE** (and other systems, e.g. student management).
 - Some WebCT/Blackboard users started using the related e-portfolio tool, but in many cases moved on to other solutions, either developing an in-house tool or adopting PebblePad once it became more mature. For institutions using the Moodle VLE, a tendency to adopt Mahara is clearly evident, particularly where the service was externally hosted and Mahara was included.
- **Alignment with technical expertise.**
 - Institutions have had to assess capacity from a number of angles and the extent and availability of their in-house technical expertise:
 - to integrate the chosen tool with existing technologies
 - to install a tool on local servers (a tool offering external hosting was preferred in some situations)
 - to carry out developments on an Open Source tool. (Where an institution was already committed to Open Source, the necessary expertise was already in place or cost savings resulting from an Open Source product enabled the use of external developers for customisation and branding - see the Southampton Solent University and Birmingham City video case study interviews.)
- **Alignment with existing 'pedagogic expertise'.**
 - Where experience of using a particular tool already exists, either amongst a subset of users or in relation to a subset of the tool's functions, the existence of this expertise can have beneficial impacts on wider take-up and the provision of support for both staff and students. For example, [Thanet College's](#) use of PebblePad for staff professional development aligned with the [Institute for Learning \(IfL\)](#) requirements through [REfLECT](#) was seen to be supportive of its use with students. This strategy of prioritising the building of 'pedagogic expertise' not only develops staff confidence and competence in using the tool, but, more importantly perhaps, deepens understanding of how it can function within teaching and learning processes from the inside. In related examples, Mahara was made available for student-initiated use at [Southampton Solent University](#) and [Birmingham City University](#). In both cases, students' familiarity with the social networking aspects of the tool leveraged rapid take-up – they readily used the e-portfolio tool to engage in forming groups and working collaboratively. The choice of an 'expansive' tool seems advantageous in some implementation situations, where familiarity with one aspect of its functionality or application can lead staff and students to try other features and open up new opportunities for learning – see the University of Edinburgh [video case study](#). These examples provide the basis for favouring one sophisticated tool that offers some level of familiarity to users and can be adapted for different purposes rather than opting for several specific tools for specific purposes.

Cost was rarely overtly mentioned by contributors to the study. Some of the implicit cost issues were as follows:

- Cost considerations are commonly conflated with alignment issues. For example, the choice of Mahara by users of Moodle was assumed to be cost-‘free’ – though in fact, if it was externally hosted in the UK, it was already being paid for within the institutions' payments for external hosting of Moodle - this was the case for [Newham College](#).
- Where any tool was locally hosted, the cost to implement this came out of existing resource.
- Open Source choices could require a commitment to technical development costs and this was the case for [Birmingham City University](#) and [Dumfries and Galloway College](#).
- All technology implementations need technical help-line support for both staff and students. The costs of developing this and of providing staff training were rarely mentioned by participants in the study. Where effective online support materials were developed for a tool, this work tended to be initiated and carried out by existing, expert staff and the cost absorbed.
- The 'Implementation Process' strand of the study highlights the importance of [the central team](#) that leads and supports these developments. This key resource is a real cost that has been supplemented by most participants in the study through involvement in projects funded externally, e.g., HEA, JISC, Becta. The study revealed that these supplementary sources of funding have clearly leveraged institutional development and promoted cross-sector sharing of good practice in this area.

Cost benefits

This discussion has not included an indication of the cost benefits of e-portfolio implementation. Although the vast majority of cases within the study had not carried out any formal analysis, there was evidence of administrative time-savings over paper-based systems - for example, use of mapping e-portfolios for NVQ courses at Thanet College. Benefits such as improvements in retention and progression were reported - for example, [University of Wolverhampton](#), [Thanet College](#) and [Dumfries and Galloway College](#). Benefits of e-portfolios are documented in the study within the formal evaluations at the [Universities of Wolverhampton](#) and [Bradford](#) and [Southampton Solent University](#) as well as elsewhere in the literature, for example Joyes et al (2010), Cambridge et al (2009), JISC (2008b) and Hartnell-Young et al, (2007). However the study reveals that cost benefits analyses have not so far underpinned the commitment in most institutions to implement or sustain the use of e-portfolios. For further information about measuring cost benefits see the Benefits of ICT Investment Toolkit (JISC, 2010) and the Efficiency and Effectiveness matrix (Hornby and Laing, 2003) which though it focuses on assessment has wider application.

3. What does good implementation look like? (The implementation process theme)

Three models were found in relation to the **initiation** of large-scale e-portfolio implementation: top-down, middle-out, and bottom-up. The ‘middle-out’ approach may be less familiar than the other two; it has been explained by researchers as follows: 'In the middle-out approach ... middle managers became leaders and, through a combination of personal inspiration and policy based on emergent practice, have changed the university environment sufficiently to force both high level policy change and change in practice among teaching staff. Leadership in the middle-out approach is exhibited through problem solving and facilitation' (Cummings, Phillips, Tilbrook, & Lowe, 2005). Each model has its advantages and disadvantages and these together with examples of the approaches are presented below in table 2.

Table 2: The e-portfolio initiation models showing advantages and disadvantages
([The case studies that exemplify these approaches can be found here](#))

Initiation model	Indicative features at the outset	Advantages	Disadvantages
Top-down Initiated by senior managers to support institutional goals	<ul style="list-style-type: none"> • A coherent policy that addresses institutional drivers that requires e-portfolio use to achieve this. • Expectations that staff integrate e-portfolios within programmes • Student entitlement is transparent to all. • Formal evaluations are used to inform decision making. • Review of available e-portfolio tools is conducted - a tool development or procurement process follows. 	<ul style="list-style-type: none"> • All students have the same entitlement • Central support is provided from the start • Resource to support development is in place 	<ul style="list-style-type: none"> • There may be a sense of lack of ownership by lecturers. • Purpose may not be determined by course needs • Choice of tool may be less well informed by user needs
Middle-out initiated by e-portfolio managers/ champions	<ul style="list-style-type: none"> • An expert e-portfolio-manager situated in a central unit initiates practice • Opportunities are taken to implement use, e.g., through lecturers interested, staff professional accreditation, pressures from professional bodies, availability of the e-portfolio tool. • Evaluation is through user cases. 	<ul style="list-style-type: none"> • Clear sense of ownership by lecturers who use the e-portfolios • Choice of tool and purpose is likely to be informed by course based needs • Expertise is likely to be shared 	<ul style="list-style-type: none"> • Senior managers are not likely to have any ownership • Resource to support implementation properly may not be in place • There are disparities in student entitlement
Bottom-up initiated by practitioners	<ul style="list-style-type: none"> • Lecturers begin using e-portfolios with students and ask for support. 	<ul style="list-style-type: none"> • Clear sense of ownership by lecturers who use the e-portfolios • Purpose is determined by course based needs • Tool choice is likely to be determined purely by what may be readily available • Expertise may not be shared 	<ul style="list-style-type: none"> • Senior managers are not likely to have any ownership • Adequate central support for students and staff may not be available from the start • Some expertise centrally is required and may not exist • Adequate central support for students and staff may not be available from the start • Expertise may not

Project Identifier:
Version:
Contact:
Date:

			be shared • There are disparities in student entitlement
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What needs to be in place to support these models?

Importantly, for **ALL MODELS**, the e-portfolio implementation manager/champion role was critical for effective implementation. We use the term e-portfolio manager to signify the role generically – virtually no one had this as their job title – and we found that this central role was undertaken by quite different people in different institutions, for example, Pro-Vice Chancellor, seconded academic, student support managers. How the individuals concerned were connected with decision-making groups within their institutions affected the nature of the implementation.

While each implementation was a response to the particular context within that institution, all implementations followed similar stages in the journey as shown in figure 2. Because the context is fundamental to the implementation journey, a stage 0 or pre-implementation stage has been included.

Stage	Description
0. Context	Developments and conditions prior to implementation
1. Planning	This involved reflection on and response to the current context - institutions tended to have some pre-existing use of portfolios/e-portfolios
2. Adopting	This involved piloting with volunteer practitioners who became champions
3. Embedding	This involved sharing practice and wider adoption
4. Sustaining	This involved some institutional change and though features that support sustainability may be in place during previous stages this commitment to e-portfolios is something that can only be judged over time

Figure 2: Implementation journey stages

This journey involved the use of pilots supported by internal and very often external funding to develop and share expertise, with examples of student e-portfolios and their 'voices' promoting wider use. The second stage typically took one year with embedding occurring the following year. Only in some instances has the process involved formal evaluation and so systematic collection of evidence of tangible benefits, for example in relation to retention and progression, was rarely carried out. The nature of this experiential journey and the ways e-portfolios impinge on all areas of the curriculum and on the whole student experience, into, through and out of the institution, mean that there is a need for a comprehensive stakeholder engagement throughout the process.

An outcome of the project is the e-portfolio implementation model that was presented in the project summary as figure 1 and repeated here. This illustrates the process and the key implementation principles that need to be considered by practitioners and managers across each implementation stage.

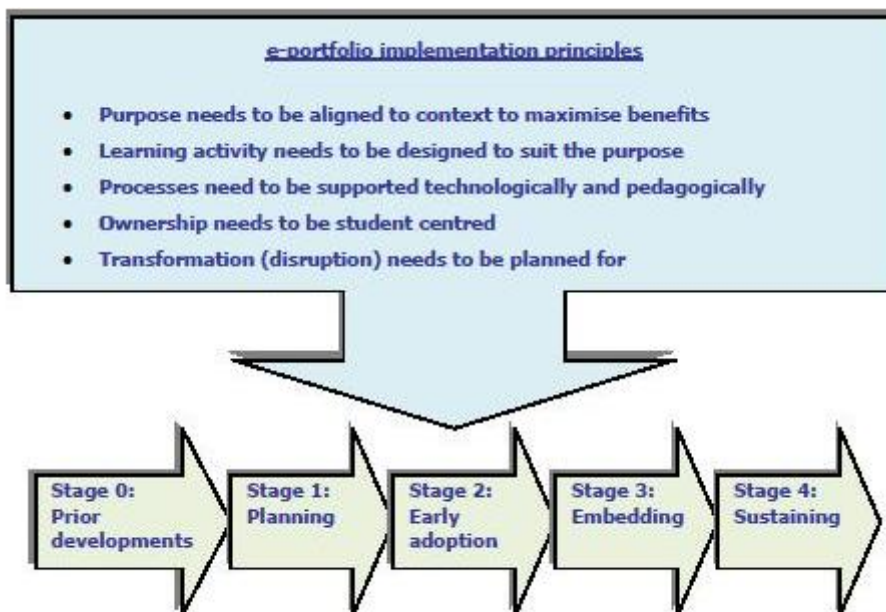


Figure 1: The e-portfolio implementation model - the key implementation principles applied across the five stages

Detailed guidance on the application of these implementation principles is provided within the [e-portfolio implementation toolkit](#) for both practitioners and for senior managers and copies of this are provided in Appendix A and B. An eight point summary guide for large scale institutional implementation is provided here, but it is important to note that each context for implementation is different and it is the application of the e-portfolio model that is the key to success.

An eight point summary implementation guide for senior managers

This assumes that the institution has decided to initiate a top-down implementation strategy

1. Identify at least one senior manager who has responsibility for making executive decisions and who will engage in developing the vision for e-portfolio use across the institution.
2. Identify/establish the e-portfolio implementation central unit and its manager – their roles are critical to the success of the implementation strategy and they need to be in place for all the implementation stages.
3. Decide upon the key stakeholder representatives, e.g., students, lecturers, employment and careers, volunteering, alumni, administrators, Graduate School, Information Services and engage them in developing and supporting the implementation strategy over all the implementation stages. This process needs to be led by the e-portfolio implementation manager using 'expert' advice and will need to consider the key drivers, such as employability, retention etc as well as potential contexts for use across the institution and the time line. Use by staff on the new lecturer course and for performance review/promotion should be considered.
4. Establish an approach to both pedagogic and technical support that is able to suit the range of contexts of use – technical support and some pedagogic support through online resources will need to be centrally provided.
5. Identify existing effective use of e-portfolio and potential champions/mentors and gather case studies of use.

6. Develop an approach for evaluation and dissemination of the implementation that provides case studies of use across a range of contexts that include students explaining the benefits as well as providing cost benefits data to provide a basis for sustaining the initiatives.
7. Establish and evaluate pilot projects supported by the champions and central unit – these need to be informed by the intended institutional uses for the e-portfolio and how these are to be rolled out/ developed.
8. Provide access to the e-portfolio tool and support resources to all staff and students.

3.5 Immediate Impact

Participants commented on the impact the project was having on their identification of the importance of key features of their implementations and planning for the future as it supported reflection and sharing of practice. They not only were contributing to the toolkit they were potential users of this resource.

Initial findings were presented at a workshop at the [ePIC 2011 conference](#) in London, UK 10-13 July 2011 where a [presentation and a workshop](#) were delivered. The workshop involved the trialling of workshop materials – see the future implications section. One UK University has already used the findings to inform its future e-portfolio implementation development – they were given access to a draft version of the toolkit. However the main impact will be in the future when the toolkit is published and disseminated - there is considerable interest being shown by individuals wanting to access these materials as a result of the project's engagement approach to dissemination.

3.6 Future Impact

The e-portfolio implementation toolkit will be launched early in 2012 and it is expected that this will have considerable impact at practitioner and management level. This will contain implementation guidance linked to the case studies that exemplify practice with videos of project participants discussing key implementation issues. This is an extensive resource that can be navigated in a variety of ways to support the targeted users, i.e., managers and practitioners in Further and Higher Education. The toolkit will be linked to and be linked from the JISC e-Portfolio infoKit (2008c) where it will be used to augment the implementation section. A webinar is to be held in March 2012 to disseminate this resource and a publication has been submitted to the International Journal of ePortfolio.

4 Conclusions

The study revealed a level of fragility in all implementation models as, even when practice was well embedded across several schools/faculties, a single change like the replacement of a particular senior manager, bringing with it a shift of focus, could significantly affect more widespread roll out of use. At senior management level, the drive to achieve economies and/or any failure to recognise the essential role and value of those championing and facilitating e-portfolio implementations may lead to high-risk under-investments of time and resource, and even to the discarding of key personnel through redundancy programmes. The study highlights the importance of researching the impact on students and reporting this to senior managers, but, in the current climate, more rigorous cost benefits analyses may be required (JISC, 2010), as well as engagement of student representatives, employability personnel and employers throughout the process, to ensure that the forms of e-portfolio implementation and use adopted in specific institutional contexts meet what seem to be the current key drivers across the sector – employability and student satisfaction.

5 Recommendations

The ePi study reveals that the central e-learning units that support e-portfolio implementation continually undergo re-organisation. E-learning developments have been supported extensively by external funding which has acted to bolster internal funding and this has been influential in moving practice forward, but the tendency for institutions to rely on external funding puts the future of such implementations in jeopardy. Such reliant behaviours may account in part for the absence, generally, of longer term business cases for implementation and for sustaining development – on the whole, cost / benefits analyses have not been undertaken. Senior managers, particularly in HE, are frequently not in post long and hence rely on middle managers for advice in this area, but their potential lack of understanding of the cost-benefits of e-portfolios may put developments at risk in a period where efficiencies will need to be made. We would recommend a focus on gathering a range of evidence that would support a cost-benefit analysis for e-portfolio implementations, for example retention and progression figures, evidence of early diagnosis of student difficulties and timely support, learner journeys that show increasing performance (value added). JISC could usefully support this work through working with those who are implementing e-portfolios successfully, e.g., those within the ePI study, to develop a model for cost-benefit analysis that could be based on the work of the BILLS study (JISC, 2010). The outputs of this study could contribute to the e-portfolio InfoKit.

6 Implications for the future

The e-portfolio implementations toolkit workshop materials have been piloted in compressed form in a 90-minute conference workshop, but were developed to be used by institutions in half-day or full-day workshops and might be offered to FE/HE institutions through the JISC. The ideal vehicle for communicating these might well be a ‘training the trainers’ event, where key university change agents could experience the materials and then develop their own approach for use within their institutions.

The Gartner Hype Cycle 2011 predicts e-portfolios as having the potential to establish themselves as a mature technology in the next few years, but the ePI study found implementation within institutions was not a straightforward process, with many implementations failing to establish themselves across an institution and that austerity funding decisions have already impacted on developments in some institutions. What can JISC do to help leverage implementation? We suggest:

1. Conduct an e-portfolio implementation toolkit verification study or studies.
2. Future gazing activities that provide a future directions report.

1. e-portfolio implementation toolkit verification study

The ePI project outcome is a model (figure 1) and guidance for e-portfolio implementation.

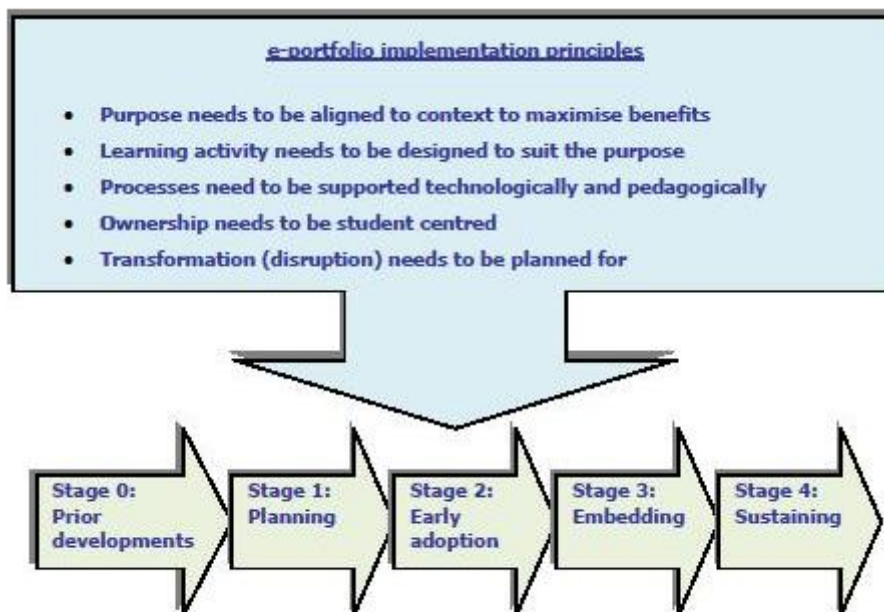


Figure 1: The e-portfolio implementation model - the key implementation principles applied across the five stages

This recognises the importance of a staged development that involves representatives of all stakeholders in strategic planning from the beginning of the implementation. The study found variable senior management commitment impacted on development and that the potential for cost –benefits analysis of implementation to provide evidence of institutional impact which could have influenced commitment was not realised. The result was that many implementations stall at early stages as evidenced by the relatively small number of institutions that were included in the study and all the NZ HE cases which had stalled. The University of Nottingham is at stage 0 and has a commitment to move to stage 1 in September 2012. There may be other institutions that are in similar situations and we know of many in which implementation has stalled at stage 1. This proposed study would work with one or more of these institutions in their implementation through the use of the model - this would not only benefit the institutions and the sector by adding case study resource to the e-portfolio implementation toolkit but would verify the model and develop a cost benefits analysis model to support implementation and would provide examples for the FE/ HE sector. One strategy could be to identify institutions that could bid under the current transformations ITT and then fund a verification study on top of this.

2. Future gazing

Recent ITTs have focused on developing future gazing reports for digital infrastructures however e-portfolio technologies are not easily classified within notions of infrastructure and systems. Currently institutions are focusing on providing the technologies for e-portfolios and this fits with the model adopted by the professions. Competing Web technologies exist and will continue to emerge. We feel there is a need for a future gazing report for e-portfolios that explore new directions but also are grounded in the views of those who have established implementations – a DELPHI process to arrive at some new thinking could be used as part of this. We see this as a series of consultations with experts and the sector through the HEA e-learning SIG, JISC experts group workshops at epic 2012, the Blended Learning 2012 conference and ALT-C 2012 etc and an open blog or wiki could be established to develop the evidence that is needed for the report. This would inform JISC future direction in supporting e-portfolios

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8 Appendices

Appendix A: [Implementation guidance for practitioners](#)

[Background](#)

There are a large number of purposes and contexts for using e-portfolios. The e-portfolio implementation study used the framework below to capture the range of evidence of use provided by the case studies.

Inter course – localised use	Inter faculty / school / whole course use	Cross (intra) institution use	Extra curricular use	Inter institution use
For example, one lecturer integrating e-portfolios in an individual module or part of a course	For example, use sustained through all levels of a course or across a programme or faculty	For example, supporting an institutional commitment such as Personal Development Planning or mapping of graduate attributes and available to all students at undergraduate or postgraduate levels, or both	For example, Professional Development of staff, student volunteering activities, work-based learning	For example, e-portfolio use required across the sector by a professional organisation

To provide a basis for developing familiarity with the range of potential uses of e-portfolios, the [exemplars taster](#) contains links to varied examples of use from across the whole study, while the [case studies](#) provide further examples from individual institutions.

e-portfolio implementation: key principles for success

These exemplars were judged to meet the five key principles for successful e-portfolio implementation that was an outcome of a prior study of effective practice (Joyes and Gray, 2010). The key to effective practice shown in the e-portfolio implementation model in figure is to:

1. Recognise that e-portfolio implementation involves a developmental journey for all those involved;
2. Apply the e-portfolio implementation principles throughout this journey (see figure 1).

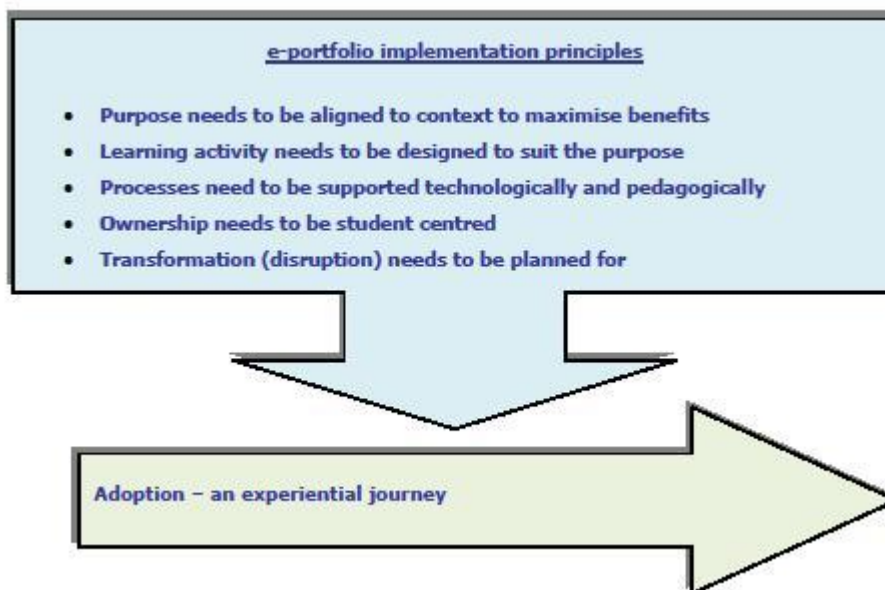


Figure 1: The e-portfolio implementation model - the key implementation principles applied across one instance of adoption

The e-portfolio implementation guidance for practitioners table below sets out the key issues for practitioners together with statements of effective practice that are related to a consideration of the e-portfolio implementation principles. The statements of effective practice are supported by some links to the case studies and to resources and events that were noted to support the development of effective practice. This may be a helpful point of reference when thinking through your own implementation; however you will know your own context best - the key for success is the application of the principles to your context as illustrated by figure 1. Further guidance may be found within [effective practice with e-portfolios](#) (JISC, 2008a) and the [e-Portfolios InfoKit](#) (JISC, 2008b).

Table 1: e-portfolio implementation guidance for practitioners

e-Portfolio implementation principles	The key issues from a practitioner perspective	Statements of effective practice with links to examples from the e-portfolio implementation case studies
<p>1. Purpose needs to be aligned to context to maximise benefits.</p>	<p>The diversity of purposes for e-portfolios can lead to misunderstandings and ineffective implementation. There needs to be clarity over this at the start the implementation.</p>	<ul style="list-style-type: none"> ● The e-portfolio purpose is clearly linked to programme or course objectives; it meets a defined need and supports the learning outcomes. In most of the examples in this toolkit there is both a formative feedback process involved and a summative assessment purpose - for examples of ways they can be integrated into courses see the exemplars taster of e-portfolio use . ● There is transparency of purpose for learners. This can be achieved through: <ul style="list-style-type: none"> ○ A course specific purpose such as achievement of competences/standards (Teacher Education, Midwifery, Clinical Practice, Dentistry, NVQ course), CV creation (Journalism) development of academic and employability skills (Psychology). ○ A whole university focus on personal development planning (University of Wolverhampton) employability or graduate

		<p>attributes (University of Edinburgh) the latter being a key focus for Australian Higher Education (see Australian Case Studies).</p> <ul style="list-style-type: none"> ○ Benefits are made transparent to learners and are demonstrated. They need to be outlined when the e-portfolio is first introduced. A video involving past students can be effective such as this one from the Business studies course at Birmingham City University and this Introductory video by Southampton Solent University describes the potential of e-Portfolios to undergraduate students for both assessment and CPD/employment purposes.
<p>2. Learning activity needs to be designed to suit the purpose.</p>	<p>Familiarity with the e-portfolio tool is needed in order to understand what learning activities it can support.</p> <p>This enables:</p> <ul style="list-style-type: none"> ● conscious pedagogic decisions to be made about use ; ● an understanding of the scaffolding students need to carry out the e-portfolio based learning activity. 	<ul style="list-style-type: none"> ● Staff ideally should develop a pilot e-portfolio themselves to understand its potential for learning. Some institutions encourage staff to use an e-portfolio themselves to support their continuing professional development and this can develop an understanding of appropriate application with students (Thanet College) others make its use compulsory on the new lecturers course (University of Bradford) . ● Learning occurs from effective practice within the institution or elsewhere by seeking advice provided by: <ul style="list-style-type: none"> ○ Central support staff, for example the Blended Learning Unit at the University of Wolverhampton ○ Champions/mentors - the use of early adopters to support staff was a common feature of most case studies, e.g., Birmingham City University and Southampton Solent University. ○ Attending e-portfolio conferences such as epic , Mahara and PebbleBash. ○ Accessing events and resources such as those provided by JISC , and the Centre for Recording Achievement. ○ Participation in internal/external projects, e.g., JISC projects and the Inter/National Cohort for Electronic Portfolios Research network.
<p>3. Processes need to be supported technologically and pedagogically.</p>	<p>Support for the technology can be offered centrally and e-portfolio tools may offer some generic pedagogic support, e.g. for action planning.</p> <p>However what is required for processes such as reflection and presentation may vary across courses and so there is a need for course specific support.</p> <p>It is important not to underestimate the level of support needed for both staff and students who may lack technical and/or the 'new' learning skills such as</p>	<ul style="list-style-type: none"> ● An effective central support team is in place. This was a common element in all the case studies where implementation was established across the institution - see the governance sections within the case studies. ● The e-portfolio tool chosen has the necessary functionality to support the processes involved, such as information capture & retrieval and presentation - see How do we decide which e-portfolio to use , and technical support is also provided centrally. This functionality and support is particularly important in work based learning contexts. ● Completed example e-portfolios are provided and there are many examples within the cases studies, e.g. Fine Arts , Business Studies . This could be a draft example or template with instructions . ● Pedagogic support is in place for reflection, peer review, information selection, presentation etc. - see University of Bradford example and Southampton Solent University case study. ● e-safety aspects of what is shared in an e-portfolio are introduced, for example as part of an Internet

	reflection.	Safety module .
4. Ownership needs to be student centred.	<p>Both learners and those they need to share their e-portfolios with, need to access the e-portfolios to support the learning activity and understand the expected learning outcomes; but the e-portfolio in process needs to be private to the individual learner.</p> <p>How can the learner understand the value of the learner centred part of this process until they have experienced it?</p> <p>How can access be provided in all contexts including work based learning ones?</p>	<ul style="list-style-type: none"> It is recognised that, even though the purpose within a taught course will have been defined by the lecturer rather than by the learner, the e-portfolio is a personal and private space whilst in construction, and elements of it are shared only when the learner decides to share them. It is also recognised that this aspect of e-portfolios has implications for some students with learning difficulties - see Thanet College case study . The e-portfolio is made available to all students and staff for use during their studies alongside the careful integration in courses - there is evidence that this results in rapid uptake by students, e.g., Birmingham City University and Southampton Solent University, that provides a learning environment that encourages peer support. The ability to use the e-portfolio and/or export this to other e-portfolios beyond the period of study is provided for. Student voice should be used to promote effective use - see the Business studies at Birmingham City University student video, also this video of students on a construction course at Dumfries and Galloway College and this University of Wolverhampton student reflection.
5. Transformation (disruption) needs to be planned for.	<p>The benefits and implications of using the e-portfolio in a particular context are unlikely to be fully understood by others outside that context.</p> <p>This means that in spite of all the guidance and support that is available, a careful consideration of the ways the context may be unique and ongoing feedback from users is needed to ensure effective implementation.</p>	<ul style="list-style-type: none"> It is understood that each particular instance of e-portfolio use is likely to mean new practice will need to be developed by learners and those who are supporting them. The implications of this 'new' practice are planned for. This has been covered in 1, 2 and 3 above and the case studies provide examples of carefully thought through implementations. Evaluation of practice needs to be ongoing. This was a key feature within the case studies and wider evaluation of pilot use of e-portfolios was common, in some cases more formal evaluation occurred - see the University of Bradford and Southampton Solent University case studies.

References

- JISC (2008a) [effective practice with e-portfolios](#)
JISC (2008b) e-Portfolios infoKit <http://www.jiscinfonet.ac.uk/e-portfolios>
Joyes, G. and Gray, L. (2010) The trouble with e-portfolio implementation: A threshold concepts perspective In [The PDP newsletter Issue 20](#)

Appendix B: [Implementation guidance for senior managers](#)

What implementation approach would suit your institution?

The following assumes that the drivers for e-portfolios are understood and that, whether or not the drivers are recognised at a senior management level, pressures will emerge from lecturers or middle managers to engage with them. Three models were found in relation to the **initiation** of large-scale e-portfolio implementations. These are:

- **Top-down:** initiated by senior managers to support institutional goals
- **Middle-out:** initiated by e-portfolio managers - *this is a common but less frequently acknowledged model*
- **Bottom-up:** initiated by practitioners

Each model has its advantages and disadvantages and these together with examples of the approaches are outlined in [initiation models](#).

What needs to be in place to support these models?

1. Trusted expertise within the centre

Importantly, for **ALL MODELS**, the ePI study found that the e-portfolio implementation manager role was critical for effective implementation. However this central support role was undertaken by quite different people in different institutions - for example, a Pro-Vice Chancellor (Curtin), a seconded academic, professor, senior lecturer or lecturer (Birmingham City University, Southampton Solent University, The University of Wolverhampton, Thanet College and, Dumfries and Galloway College), a student support manager (Newham College). These e-portfolio managers had lines of communication into senior management and enjoyed the trust of senior colleagues, whilst also having knowledge of innovative work at practitioner level and good relationships with lecturers. They all worked closely with Information Services technologists while they were often located in central units outside Information Services. It is important to note that these units are often under threat from financial pressures and the successful completion of an implementation journey can be jeopardised by this. For two examples of the central unit and its role in the implementation journey see [the central unit role](#).

2. A recognition that implementation is a staged process that needs to match the institutional context and takes time

While each version of an implementation model was a response to the particular context within a specific institution, all implementations demonstrated four broad stages in the implementation journey, listed below. Because the context is fundamental to the implementation journey a stage 0, or pre-implementation stage, has been included. Typically the activity comprising stages 1 to 3 takes three years, but for the institutions who pioneered the way, it took longer.

0. Context: Developments and conditions prior to implementation - all institutions had some pre-existing use of portfolios/e-portfolios

1. Planning: This work was informed by reflection on and response to the institutional context

2. Adopting: This involved piloting with volunteer practitioners who became champions

3. Embedding: This involved sharing practice and widening adoption

4. Sustaining: This involved some institutional change

To find out how these phases have looked in practice see [UK Case Study summary pages](#)

3. A recognition that e-portfolio implementation is a professional development process.

The section on [How e-portfolios and VLEs differ](#) covers the reasons why this process is necessarily a professional development one and seems to require a staged process. Across most partner institutions, the ePI study found a wide range of uses occurring, illustrated by the following overview. If the implementation process is a managed one, co-ordinating developments at these different levels according to institutional priorities, then benefits can be realised more effectively.

Inter course – localised use	Inter faculty / school / whole course use	Cross (intra) institution use	Extra curricular use	Inter institution use
For example, one lecturer integrating e-portfolios in an individual module or part of a course	For example, use sustained through all levels of a course or across a programme or faculty	For example, supporting an institutional commitment such as Personal Development Planning or Mapping of Graduate attributes and available to all students at undergraduate or postgraduate levels, or both	For example, Professional Development of staff, student volunteering activities, Work Based Learning	For example, e-portfolio use required across the sector by a professional organisation

The [Exemplars taster](#) provides links to some actual examples of use in partner institutions and the [Case Studies](#) provide further examples as well as an overview of the implementation process involved.

Key issues and effective practice

The e-portfolio implementation guidance for managers table below lists the e-portfolio implementation principles, summarises the associated key issues for managers and provides statements of effective practice. It is important to note that key issues are professional development and pedagogy rather than technology based. The numbers in the table refer to notes that are provided below to provide some indications of differences in practice found by the study. This may be a helpful point of reference when thinking through your own implementation, however you will know your own context best - the key for success is the application of the principles to your context.

e-Portfolio implementation principles	The key issues from an institutional perspective	Statements of effective practice for large-scale implementation (those in italics were not fully established in all participating institutions)
Purpose is aligned to context to maximise benefits.	There can be a range of purposes for e-portfolio use across an institution and there can be tensions between them, i.e. between e-portfolios that map and evidence competence, for example, and ones that have a personal development planning function, or others that are CV	<ul style="list-style-type: none"> • There is a recognition that there are many purposes for e-portfolios AND that some of these may align with institutional issues and goals e.g. employability, progression, retention. (1) • Teaching and learning strategies/ policies include some reference either to the drivers or to e-portfolio use explicitly. (2) • Technical solution/s allow for the range of purposes. (3)

	<p>orientated.</p> <p>How can a variety of purposes be supported effectively? Which stakeholders are/ need to be involved? Which technologies need to be made available? Is there an overarching institutional purpose?</p>	<ul style="list-style-type: none"> • <i>Key stakeholders are involved in e-portfolio implementation (decisions, discussions, review etc). i.e. academics representing different areas and levels of the curriculum, administrators, careers/ employability professionals, staff development personnel, students, alumni, employers, IS and senior managers. (4)</i> • <i>Institutional purposes or drivers are understood by stakeholders and the associated efficiency, enhancement and transformational benefits of e-portfolios are maximised.</i>
<p>Learning activity is designed to suit the purpose.</p>	<p>Professional development opportunities are needed to help staff identify the learning activities relevant to their own practice, needs and aspirations as teachers meeting the changing needs of students, which can be supported by e-portfolio tools.</p> <p>How can practitioners' awareness be raised of the need to link effective student centered learning design to their introduction of e-portfolios? How can the professional development issues be supported across a range of contexts? How is an evolving familiarity with the potential of e-portfolios to be supported?</p>	<ul style="list-style-type: none"> • Learning design practice expertise is developed and shared. • <i>Opportunities are provided for staff to develop expertise in using e-portfolios themselves, e.g., new lecturers' course, staff appraisal/performance review. (5)</i> • A central unit supports/develops knowledge of institutional use • Champions are established to support developing practice
<p>Processes are supported technologically and pedagogically.</p>	<p>Users benefit from having both technological and pedagogical inputs to their developing use of e-portfolios, ideally with some co-ordination between the two. There are efficiency and enhancement gains to be had from sharing practice on supporting processes in schools/departments. Efficiency gains can also be made by identifying some central support for e-portfolios.</p> <p>How can process such as information capture & retrieval and presentation best be supported? How can pedagogic processes be supported? How can this be done efficiently and effectively?</p>	<ul style="list-style-type: none"> • The e-portfolio solution has the necessary functionality to support processes involved across instances of use such as information capture & retrieval and presentation - technical support is provided for these. • Pedagogic support for students, staff, work-based personnel is in place to support users in key learning processes such as reflection, peer review, information selection, presentation etc. <i>e-Portfolios are included in professional development programmes.</i> • Efficiency gains through central provision and/or sharing of induction/ support materials are considered.
<p>Ownership is student centred.</p>	<p>E-portfolio use by individuals and by those with whom they choose to share e-portfolio content 'cannot' be monitored, except when the e-portfolio owner</p>	<ul style="list-style-type: none"> • <i>The holistic student experience is addressed centrally when identifying the potential purposes of e-portfolios.</i> • <i>The nature of the provision is such that personally-driven use can sit alongside a</i>

	<p>chooses to share part of it with a member of staff.</p> <p>Students may prefer to use their own tools for some or all of their e-portfolio work.</p> <p>What input might students have in choice of tool and in promoting and supporting use? How can the e-literacy issues in relation to e-portfolio use be addressed? How can the students take their e-portfolio with them on work placement and when they leave the institution?</p>	<p><i>number of learning activities and both curricular and extra-curricular uses are incorporated. (6)</i></p> <ul style="list-style-type: none"> • Student recommendation is recognised as a key factor in disseminating the value of e-portfolio use - approaches to evaluation have a significant student voice element. • <i>Student expectations are a major consideration in strategy development.</i> • Lifelong and Lifewide Learning uses of the e-portfolio are supported either through using a tool which is compliant with interoperability standards such as Leap2A or by providing one that allows use to continue after graduation either free of charge or at minimal cost.
<p>Transformation (disruption) is planned for.</p>	<p>Individuals involved in using/supporting e-portfolios across a range of purposes are in a unique position to support implementation, highlight transformational benefits and manage potential disruption.</p> <p>How can awareness be raised of this potential for disruption, in a constructive way? How can issues related to transformational e-portfolio use inform practice and strategy at institutional level? How can the institution demonstrate its understanding and valuing of the contribution of the e-portfolio manager/champion?</p>	<ul style="list-style-type: none"> • The issues of student ownership are considered in relation to the potential for transformative benefits AND the potential for disruption. • There is an identified 'expert' person with responsibility for e-portfolio developments who is able to alert the institution staff i.e. senior managers, key strategic groups etc. to efficiency, enhancement and transformational benefits that are appropriate to their institutional context. • <i>Strategic documents on teaching and learning, employability, etc. reference e-portfolio purposes and/or processes.</i> • Resource is in place to provide central support to maximise identified benefits. • <i>Systematic evaluation is in place to ensure efficiencies and benefits are maximised. (7)</i> • e-Portfolio tools interoperate with other institutional systems. e-Portfolio use is a key element in VLE and/or whole systems review. • <i>Experiential use of e-portfolios by staff is considered, in the form for example of embedding in the new lecturers' course, in staff appraisal/ performance review and/or professional accreditation</i> • <i>An approach is in place to manage possible unintended consequences, i.e. disruption of established teaching paradigms.</i>

Table 1: The threshold concepts framework for large-scale e-portfolio implementation

Differences between implementation approaches

1. e-Portfolios in some instances were central to the implementation of wider university strategies, for example, the integration of Personal Development Planning ([University of Wolverhampton](#)) graduate attributes ([University of Edinburgh](#)) and a five-year university plan ([University of Bradford](#))
2. Typically, across the ePI study institutions, e-portfolios were not mentioned in documents such as learning and teaching strategies (although both the [University of](#)

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[Wolverhampton](#) and the [University of Bradford](#) identified e-portfolio use as a student entitlement), but e-portfolio purposes, such as e-PDP and employability, tended to be stated explicitly.

3. The processes of choosing the technology across the institutions differed widely, ranging from informal conversations that led to installing the software on the VLE server ([Birmingham City University](#)) to the lengthy development of a bespoke tool ([University of Wolverhampton](#), [University of Newcastle](#), [Dumfries and Galloway College](#), [Curtin University](#)) or a formal evaluation ([Bradford University](#)) or procurement process ([University of Edinburgh](#), [RMIT](#), [Newham College](#)).
4. Approaches to involving stakeholders also differed widely and included: working closely with Careers ([Southampton Solent University](#)), engaging all staff in developing an employability strategy ([University of Edinburgh](#)) and working closely with students, achieving regular and systematic feedback ([Newham College](#)).
5. Use for continuing professional development of staff was central to some strategies, for example for professional accreditation of lecturers ([Thanet College](#)), learning technologists [University of Wolverhampton](#) and for new lecturers [University of Bradford](#).
6. Institutions make the e-portfolio freely available to all students; in some instances the online support provided strategically promotes wide student use ([Southampton Solent University](#)).
7. Evaluation ranged from formal, externally-led activities ([University of Wolverhampton](#)) or formal internally-led ones ([University of Bradford](#), [Southampton Solent University](#)) to a (more typically) collection of examples of use and recording of student experiences used to support the Embedding stage ([Birmingham City University](#)).

References

Cummings, R., Phillips, R., Tilbrook, R. & Lowe, K. (2005) Middle-out approaches to reform of University teaching and learning: Champions striding between the 'top-down' and the 'bottom-up' approaches, *International Review of Research in Open and Distance Learning*, 6, (1) 1-15 <http://www.irrodl.org/index.php/irrodl/article/view/224/307>

Appendix C: [Exemplars taster of e-portfolio use](#)

This page provides a taster of the exemplars of e-portfolio use that are contained within this wiki. The aim is to provide examples of a wide range of e-portfolio uses from the UK, Australia and New Zealand, rather than signal which are the 'best' examples within the wiki, as all exemplars represent thoughtful practice judged against [the ePI framework](#). It is worth noting that most examples involve a formative feedback process and many involve summative assessment.

Select the links in the table to visit the exemplars

Further Education examples are in italics

Intra course - localised use	Inter/ whole course – cross dept/ school/ faculty use	Cross-whole institution use within the curriculum	Extra-curricular use including transitions into and from the institution, WBL and CPD
<p>Supporting assessment</p> <ul style="list-style-type: none"> • Yr1 Psychology module promoting academic and employability skills <p>Reflective journal</p> <ul style="list-style-type: none"> • Lifestyle Project in Environment and Geography unit 	<p>Support for professional practice courses</p> <ul style="list-style-type: none"> • PGCE-Primary - electronic Record of Professional Development • B.Ed course: Meeting professional teaching standards • Teacher Education in New Zealand: Supporting Teaching Practice • Certificate/diploma courses to support indigenous Australian assistant teachers • Midwifery PDP to support placement and professional practice • Mapping e-portfolio use by NVQ students • PGCE Primary & Early Years Teacher Education Course - Assessment of action research • MSc Advancing Nursing Practice - Assessment by e-portfolio alternative to dissertation • Midwifery Lifelong Learning modules - synoptic reflection of all elements of the course • Masters course in Dementia Studies-support for distance learners <p>PDP and employability</p> <ul style="list-style-type: none"> • School of Law, Social Sciences and Communication Level 3 module 'The World at Work' • Personal development module year one Business 	<p>Students with learning difficulties/disabilities</p> <ul style="list-style-type: none"> • In-folio PILOT - use by students with learning difficulties/disabilities • Research Project into Mobile enabled disabled students. <p>Personal tutoring and guidance</p> <ul style="list-style-type: none"> • Individual Learning Plans <p>Modules studied by all students</p> <ul style="list-style-type: none"> • Internet Safety module <p>Tool available to all students for skills audit and PDP</p> <ul style="list-style-type: none"> • SaPRA (Self and Personal Reflective Activity profiling tool) • Effective Lifelong Learning Inventory (A tool to support reflection) <p>Research students</p> <ul style="list-style-type: none"> • Postgraduate Training e-portfolio 	<p>Work based learning</p> <ul style="list-style-type: none"> • Work-Based Learning 5-credit units for SME staff • Principal's Career Development PhD Scholarships • Pharmacy Practice: tutors, workplace mentors and assessors; • Advance Competency Based Learning in Clinical Practice (Nursing). • Business studies work placement <p>Volunteering</p> <ul style="list-style-type: none"> • Voluntary work placement learning - Sport students <p>Student award</p> <ul style="list-style-type: none"> • Recognising extra-curricular activities <p>Collation of employability skills outside the curriculum</p> <ul style="list-style-type: none"> • Evidence collecting supported by Placement Officers, and Careers & Employability team

	<p><u>Studies - Assessment</u></p> <ul style="list-style-type: none"> • Business Practice and Commercial Awareness for Pharmacists • The student experience of e-portfolios on a construction course - video <p>ICT skills development</p> <ul style="list-style-type: none"> • Yr 1 Combined Studies course core module <p>CV building and self - promotion</p> <ul style="list-style-type: none"> • Core module, Journalism Portfolios <p>Students working in collaborative groups at a distance</p> <ul style="list-style-type: none"> • Yr 1 Combined Studies course core module in Communication 	<p>Progression and Employability</p> <ul style="list-style-type: none"> • Supported Independent Study timetabled sessions for all students to support Progression and Employability Skills 	<p>Transition into the institution</p> <ul style="list-style-type: none"> • Foundation Degree in Learning Support • PGCE-Primary - electronic Record of Professional Development • Recognition of prior learning <p>Transition from the institution</p> <ul style="list-style-type: none"> • Showcasing student employability skills for an employer - Hospitality and Catering <p>Staff Professional Development</p> <ul style="list-style-type: none"> • New lecturers course • Professional Accreditation for Learning Technologists • Reflective portfolio use on an IT Qualification course • Staff performance review and appraisal
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