Inter/National Coalition for Electronic Portfolio Research Final Report
Cohort IV 2009/2010

What are the facilitating and inhibiting factors in building capability and capacity in staff to support the use of ePortfolio across the wider University?

This paper will explore the diverse range and breadth of eportfolio based learning across the University of Wolverhampton. It will discuss staff perceptions of what eportfolio based learning is in relation to the wider context of learning in Higher Education. Embedding, scaling and sustaining eportfolio practice institution wide involves not only up skilling eportfolio based learning practices but potentially changing learning, teaching and assessment practices as well as on a much bigger scale influencing institutional cultures.

With this in mind, embedding eportfolio has to be seen as an institutional change process, a process that needs more perspectives than any one eportfolio project can address alone. Joyes et al (2009) discusses the lessons learned from a series of JISC eportfolio implementation projects and though some are transferable to wider initiatives, there is room in the field to look at large scale, institution wide scalability and sustainability issues. The University of Wolverhampton has had an eportfolio system since 2005 and are regarded as established users of eportfolio in the sector.

The purpose of this case study paper is to draw together findings of research projects carried out at the University to inform future scalability and sustainability initiatives within the University itself. Additionally, it is to share our experiences with the wider sector, especially institutions that are moving from implementation to large scale adoption, colleagues who may benefit from our lessons learned and our 'if we knew then what we now…'

Introduction

The University of Wolverhampton has provided an institutionally wide ePortfolio since 2005 and has been involved in a number of ground breaking research and practitioner projects, based on engagement, usage and potential of the ePortfolio. This level of expertise was initially possible due to a small core of 'enthusiasts'' who were early identifiers of the personal development value of the ePortfolio. The ePortfolio is now available to all 22,000 students enrolled at the University (both home and distance learners) and current usage figures for the ePortfolio are significant with 19,000 active users in the last 30 days. However, even with high usage figures, much of the ePortfolio practise remains at module level. Interestingly, ePortfolio practise exists in every academic school and in many support departments, but only 2 out of 9 schools have ePortfolio embedded at programme level. It is this inconsistency of ePortfolio uptake from staff that has highlighted an area of concern and made it vitally important to identify the factors that might potentially impact on the sustainability of the institutional ePortfolio.

Factors that will be considered within the overarching research question are:

- Identifying the issues for assessment (both formative and summative) of learner development and achievement using technology based systems:
- Exploring how ePortfolios can be used to support professional development for students:
- Investigating how capacity and capability of staff can be built which will aid them to engage with technology supported systems:
- Considering how new technology can be embedded institution wide in a pedagogically effective way that benefits both students and staff;

Additionally, this report will be supported by two contrasting case studies which highlight a variety of barriers, pressures and facilitating factors which have directly impacted on the result of embedding the ePortfolio within a programme module, potentially taking ePortfolio out of 'pilot', through 'consolidation' and into 'maturity'.

Existing research and theory

The University is in a fortunate position as it has been a member of 2 consecutive cohorts within the INCEPR. The work of Cohort III was within the frameworks of implementation strategies, early adopter and diffusion of innovation theory (Rogers, 1995) (Pettigrew et al 1991) and (Waterman et al, 1980). Through this we aimed to identify the factors within our 2 early adopter schools that contributed to the successful early implementation and subsequent programme level embedding they have in those schools. Institutionally we needed to look at ways to meet the demand for requests from others to work with these innovative early adopters and learn from their work to inform scalability and sustainability strategies. The additional aim of cohort IV was to research the factors affecting the movement from early adopter to looking at factors affecting the embedded practice across the institution. Through this we hoped to accelerate the rate of innovation diffusion by building on the earlier projects identified and ensuring early adopter activity was observable, trusting and enabling reinvention in other contexts and numbers, creating room for change and leading by example (Berwick,2003).Although the research focuses on scalability and sustainability of eportfolio, it was quickly realised that the theoretical frameworks most closely aligned with our findings were that of institutional change and change management, irrespective of what the focus of change was. Overlapping both Coalition Cohorts research areas was the influential HEA funded Pathfinder project www.wlv.ac.uk/pathfinder. The Pathfinder project aimed to embed ePortfolio based PDP (Personal Development Planning) in 2 modules in each of the academic schools within the University. It is important to

consider the findings and lessons learned from this project as it was the first step in embedding ePortfolio practice across the institution. The project involved 25 staff and 1800 students and highlighted elements from (Joyes et al, 2009) perspective of the disruptive nature of ePortfolios, that 'from a pedagogic, technological and an institutional perspective because they tend not to fit exactly within existing systems. This has implications at an institutional level as they have implications for the nature of the curriculum and its assessment as well as staff workload and pedagogic and technical support, particularly in novel work-based learning and life-wide contexts'. This 'fit' (or 'non-fit') with existing systems is a strong theme that is apparent not only in the pathfinder outcomes but is still a consideration whilst researching this current question and has had a clear impact on the success of one of the micro case studies.

Additionally, resonating across the life of the project has been the 4 key factors identified by Richards and Holder (1999) as drivers for successful change initiatives and collaborative activities "**Local champion:** commitment of one person critical but may place heavy burden on them. **Critical mass**: cross section of stakeholders = shared investment; larger the group more diffuse it becomes. **Time:** sufficient time affects success. **Liking:** mutual liking resulted in commitment to initiative". All of these elements have been experienced throughout the course of the project and a number have been revisited multiple times.

Fundamentally, when working across an institution in trying to implement or manage change trust has to be established and maintained within all the relationships involved. (Trim, 2001) and (Outram, no date). We have relied heavily on our early adopters and enthusiasts within the schools to help build new relationships and move the project forwards and have used practice based evidence and drawn on the good practice and lessons learned from these colleagues as a way of encouraging wider change throughout the schools and across the institution. (Outram, no date) It is important to consider that individual people can make significant difference in sustainability and scalability. If these key people are moved from the context where eportfolio has been initially developed it can sometimes slow down or halt the process of continuation in a wider context. The research aimed to develop strategies to minimise the potential impact this scenario could have.

Methodology

Using a case study approach with a grounded theory methodology, this study will report on findings from staff across the institution identifying institution wide themes, trends and possible discipline specific factors that affected scalability and sustainability to the use of the ePortfolio.

Three case studies were undertaken to inform this report, one at macro level and two at micro level.

For the macro level study, initial data was harvested and drawn out of interview transcripts from the previous ePortfolio Pathfinder project, held within the Institution, which asked participants about the inhibiting and facilitating factors of using the ePortfolio in their practice and supported by qualitative research carried out on the 2009/10 staff cohort of PGCert students whose use of the ePortfolio is fully integrated within this programme of study. Additional qualitative information was sought from a group of ePortfolio enthusiasts, members of the University's ePortfolio user group (ePug). Experience of and ability to use the system varies in this group of users. These group of participants were particularly chosen as it was felt that they were ideally placed to identify the main issues that effect staff

engagement with the ePortfolio, taking into account not only the tangible issues surrounding ePortfolio use but also placing their experience within the intangible cultural paradigm of their own subject based area.

The micro level studies are school level eportfolio for assessment case studies that identify how in one case the eportfolio practice was scaled up to other modules and levels and the other, how a module running for 2 years using eportfolio was replaced with an alternative technology this year. These case studies will be used to ascertain models of good practice and to share that practice across the cohort.

Findings

Five strong themes have emerged from the findings of the case studies undertaken.

1. Sharing of best practice / pedagogical approaches

Findings indicate that the sharing of best practise of using the tool clearly has a motivating factor, with more members of staff being enthused and inspired to make initial steps with the ePortfolio. Additionally, the creation of reusable resources within the ePortfolio could make a significant impact on uptake of the system making some inroads into confidence or usability issues.

This is counteracted by impact on staff time and the difficulty in having to 'persuade and convince' colleagues in module teams to change their pedagogical approaches which are just some of the barriers identified for preventing ePortfolio scalability.

2. Support – internal and external

Both sets of initial findings show very clearly that the support from both the central Blended Learning Unit and relevant colleagues are integral to members of staff embarking on embedding ePortfolio practises within their teaching. This support gives both knowledge and confidence of the system which would aim to counteract the very strong inhibitors of worries about confidence and of students knowing more about the software and combined with the best practise sharing discussed above, is a powerful way of facilitating and supporting the use of ePortfolios across the Institution.

However, there are strong indications that there is a need to allocate both time for the extra workload involved in the initial resource design and funds to tutors embarking on the ePortfolio journey. Some feedback indicated that the short term project funding culture present within some schools of the institution and the expectancy that the creation of these resources had to done in the tutors own time had a detrimental effect on any substantial embedding of ePortfolio learning and teaching resources.

3. Training

Tutors made clear that it was of great value to have training which gave a clear understanding of the software and also a space to explore and embed the tool away from their normal environment. The effects of not having this training led to a reliance on the software help document without the tutor entirely understanding the full facilities within the software. This occasionally led to a lack of skills and confidence in using the ePortfolio and proved a barrier to the tool being embedded within the module or programme. Of particular benefit to staff was the retreat training model, where staff are taken away from

the institution in module or subject teams and have that time to learn about ePortfolio and develop tools and strategies to embed the tool.

4. Fit for Purpose

When tutors were asked what would engage them in the process of ePortfolio learning and teaching, the majority wanted a visually appealing piece of software that would engage students and also support personal development. Making the software applicable to the tutors' specific subject was also identified and links into issues and themes surrounding training and best practise. Additionally, although it was seen with some tutors to be a positive step to have the ePortfolio tool available to all staff and students, there was also an underlying fear that the students have too many technologies already and providing more would be a dilution and confusion to the learning and teaching tools already available.

There was clear concern from tutors over the perception of software stability and lack of institutional wide technical application support.

5. Student impact

Seeing a tangible benefit to the learning experience was a high motivator for staff to instigate and continue with an ePortfolio pedagogy. The ability to give iterative feedback was attractive to tutors, enabling them to interact more with students in a different forum to a traditional tutorial and encouraged learner engagement through formative and summative assessment. Tutors have also found that in the modules where iterative feedback is used consistently, that there was a significant increase in the submission of work. Although this may mean that students were not selecting the correct pieces of work and possibly just submitting all work, the positive side might indicate an increased motivation to not only complete the work but to read and act on the feedback given. Some tutors felt that student motivation to use the tool was low, possibly because it is still used in 'pockets' of modules rather than being completely embedded. It was also felt that the training barriers above had a direct impact of the engagement of the student as the tutor has to be committed and up skilled in the use of the ePortfolio in order to enthuse students. An unexpected outcome from this research has been that the ease of communication with tutors and ability to create communities of practise within the tool has also led to the early identification of students at risk. It is encouraging that these students feel confident enough in the tool to use it as a channel in times of difficulty.

Implications for practice

Learning, teaching and assessment practices are so embedded and naturalized into institutional cultures that they are often invisible, not seen until the point at which small scale, often externally funded implementation projects need to gain momentum and scale and sustain internally. With this in mind, moving towards embedded ePortfolio practice across an institution can be as much about unlearning as it is learning. When practices have been a certain way for a number of years the adage of 'if it's not broke, why fix it' does resonate. Often, it may not be broke but what ePortfolio can often do is not to try to replace traditional practices but offers an alternative way of delivering and supporting these practices. An implication for practice is how to move successfully and seamlessly from project to embedding the much needed continuation strategy that is necessary for all projects. Often the people involved in implementation projects are early adopters and enthusiasts for the cause anyway. One of the major implications for practice is finding the extra time in workload for staff who then may be interested in trying the interventions proven in the project but cannot see where the time will come from to get started. The top

answers from all research participants when asked what was the main barrier to starting to use ePortfolio or to move current practice across levels or more modules was that of lack of time (top answer) and difficulty in sometimes persuading colleagues in larger module team to the benefits of scaling practice. We were fortunate during the INCEPR project that it coincided with a University wide refocus of the undergraduate curriculum from a 15 to a 20 credit framework. This was an opportunity for entire course and module teams to work together and redesign curricula. If the potential for ePortfolio based learning can be discussed at course level and the benefits can be seen across the life of a whole course by identifying where it fits together can make the motivation for scalability and sustainability much stronger. Modularity can make sustainability through levels difficult. We have seen excellent ePortfolio based learning at modular level. However, when ePortfolio is embedded at programme level, it is easier to join the episodes of learning together.

The research has also identified a number of other lessons learned that should be considered for practice. There needs to be a soft place to fall (or at least have a sit down for a while); the research has further illuminated the fundamental need for a stable and robust IT infrastructure, for both resourcing and support for staff and students. Staff need to be able to get anytime, anyplace help, support and guidance for ePortfolio based learning, whether it is for button pushing, problem solving, curriculum design advice, pedagogic direction and examples. This support needs to be completely reliable and knowledgeable. If the first time a staff member takes a risk with a new technology such as ePortfolio, any part of the process does not work (and they cannot get immediate help), it is often an insurmountable barrier. The importance of communities of practice is also key for sustainability. Being part of a shared community of people (in the University's case the ePug) gives you the ideal environment to recharge your ePortfolio enthusiasm batteries when (and if) needed. Finally, strategy can open up office doors previously shut tight; getting ePortfolio learning and teaching into strategy targets is a great motivator. Since the University launched its Blended Learning Strategy entitlement that all students will have the opportunity to engage with ePDP (ePDP primarily is supported through our ePortfolio) this new motivator has created a whole new group of staff looking at the potential ePDP. This however must be treated with some caution and not become 'what do I need to do to tick the strategy target as met' exercise. Strategy also encourages additional senior management buy in, which can help tremendously at individual school level.

Future research

There are two key findings that not only potentially provide motivation to change practice in the ways discussed previously, but also provide the tangible evidence of value and benefit needed to support wide scale adoption from a strategic perspective. These are ePortfolio based learning as an agent for the early identification of students at risk, supporting key drivers of retention and progression. Secondly, the increased submission of student work through electronic submission, which supports and potentially strengthens the financial position of Higher Education where institutional funding is directly linked to assessment submission rates. Future research opportunities lie in these 2 areas. There needs to be thorough quantitative research completed that measures and analyses progression and retention rates of ePortfolio supported modules, against previous cohorts or against department or school averages where previous cohorts may not exist. The same statistical data needs to be sought for assessment rates and grade averages too. It has long been debated that it is difficult to get statistical evidence that attributes progression, retention and achievement improvement to ePortfolio alone or indeed any one intervention. This is true; there are a number of factors that can influence why a student who may have considered leaving does not and ePortfolio supported learning may just have been one

factor. However, through qualitative student evidence we know that there is something that happens through ePortfolio based learning that might not have been achieved in other contexts. Two current students have recently been quoted saying “Using PebblePad for has helped me understand what I have learned in this module and in relation to other modules” and “I found that by using PebblePad for my portfolio of evidence it could be as simple or as complex as I wanted it to be, linking together multiple topics, evidence and reflections; and I have also been able to showcase my experiences to employers... I start my new job in the New Year!’ So if we are able to take this kind of qualitative evidence and are able to also attribute evidence that progression, retention and achievement rates also improved in these contexts then we are surely moving towards strong indicative, if not direct causal links that ePortfolio based learning can support retention, progression and assessment improvement strategies. No one intervention can solve these three issues and if ePortfolio based learning can be proved as another tool in the toolbox for improvement then that will be a considerable move forward in the value of ePortfolio in Higher Education. An additional research opportunity is to look the numbers of courses of modules that have added or taken away ePortfolio as part of our recent refocusing of the undergraduate curriculum project. This was a wonderful, if not once in a lifetime opportunity where every member of staff was required to rethink and redesign their curricula from course level down. The University central support department and Blended Learning Advisors were involved in as many as possible of these conversations and it will be important to evaluate not only the project as a whole obviously, but whilst doing this a parallel evaluation could gain some statistics on the institutional trend and movement of ePortfolio based learning.

Final Thoughts

It is clear that the road to institutional change to embed eportfolio is not straight or free of bumps. We can take comfort in the words of Francis Bacon who said ‘we reach greatness by a winding staircase’ and know that we are still climbing.

References

Berwick, D. (2003) Disseminating Innovations in Health Care
JAMA. 2**89**(15):1969-1975.

Joyes, G., Gray L. & Hartnell –Young, E (2009) *Effective Practice with e-Portfolios: how can the UK experience of e-portfolio implementation inform practice?*

Outram, S. (-) *Discussion Paper 6: 53 Interesting ways in which colleagues resist change,* (York, HEAcademy).

Pettigrew, A. and Whipp, R**. (**1991). *Managing Change for Competitive Success*. Oxford: Blackwell

Richards, G. & Horder, W. (1999) Mental health training: the process of collaboration, *Social Work Education, **18**(4), 449-458.*

Rogers, E. (1995*) Diffusion of Innovations*. 4thed. New York: Free Press,

Trim, P. (2001) A review of educational partnership arrangements in further and higher education: pointers for managers in further education, *Research in Post-Compulsory Education, **6**(2), 187 - 203.*

Waterman, R. H. Jr, Peters, T. J. and Philips, J. R**.** (1980). Structure is not organisation. *Business Horizons*, June. Foundation for the School of Business, Indiana University

Appendices

Case Study

A successful use of the ePortfolio for assessment purposes

John Brown*, School of Computing and Technology, University of Wolverhampton
*fictitious name

Scenario
Having a new way to provide interactive feedback with students was the main driver and attraction for John to use the Institutional ePortfolio system. John decided to use the ePortfolio for his Computing and Computer Science students as a way of submitting summative assessments.

Implementation
Help and support for this module was provided by the central support department, although the nature of the school indicates that the integration of different technology is well supported internally with the majority of staff having expert technical ability in the use of software. Implementing the compulsory use of the Portfolio for assessment led to a number of positive factors which assisted the successful use and integration of the system:

Adapting to the ePortfolio
John found that when students were given no choice about how their assessments were submitted, they adapted very quickly to the ePortfolio and its purpose.

Ability to use the software
Even though most students had not seen the ePortfolio before because the use of it was compulsory the students quickly found how to do the basic tasks of creating and uploading assets and posting these to the gateway.

Potential to give fast feedback
John found that structuring assessments so that the feedback for one feeds directly into the next has been successful in achieving a higher level of work, referencing for example. Additionally, with specific students the ability to get fast feedback is appreciated.

Lessons learnt for future practice
There was a tendency for some peer groups to select experts to do certain tasks, like uploading resources to the gateway. Consequently some users can appear competent but surprise with gaps in their knowledge well into semester 2. This could be potentially counteracted by setting more formative individual assessments.

In this instance, this model has worked well primarily due to these main factors:

1. support from a central department
2. a confident module leader and enthusiastic module team
3. a fully integrated, embedded and compulsory assessment criteria
4. a module design that allows ePortfolio pedagogy

Case Study

How a module running for 2 years using an ePortfolio was replaced with an alternative technology

Sarah Brown*, School of Applied Sciences, University of Wolverhampton
*Fictitious name

Scenario

In 2009, a Personal Development Planning Module (PDP) was to be made available to an entire programme cohort within the School of Applied Sciences. This programme initially consisted of 250 students. As part of this formatively and summatively assessed module, students were required to keep ongoing records of reflections, feedback and results. Although not the module leader, Sarah had the position of advising the module team in the best way to plan and run the module. Sarah had also been involved in the Institutional ePortfolio since its pilot days at the University and was aware of its potential for recording and supporting the PDP process. Additionally, Sarah was attracted to the appearance of the software with what was perceived to be a nice friendly interface and also the structure it gave which prompted students to engage in particular types of reflection. A further attraction to the software was the ability to provide iterative feedback without having to download and upload pieces of work.

The module was run with a number of demonstrators delivering the material and overseen by a module leader. The module ran for two years using the ePortfolio because it was seen as the logical tool to use due to the personal reflection aspect of the module.

Implementation

However, although the tool was perfect for the subject, demonstrators quickly became disenchanted with using the ePortfolio for a variety of reasons:

Internal software requirement

The University browser is Internet Explorer 6 which is not as sophisticated as the browser the ePortfolio runs on. The result of this was that gateways within the ePortfolio were extremely slow and cumbersome to use. Students would attempt to upload work and not be able to find the correct gateway or the server would time out before the work was uploaded. This obviously caused a great deal of angst, confusion and frustration for staff and students. It took a lot of time and investigation to identify the problem. The ePortfolio provider worked hard to resolve the Institutions issue as soon as it was identified but it wasn't resolved in time for that particular cohort.

An overload of technologies

Students in that particular school not only have the institutionally tools to engage with but also a school specific tool. The materials for the module were already on the VLE and so the students (level 4, semester 1) were being asked to learn 3 different pieces of software immediately after starting at University. The demonstrators felt that this, married with the difficulties in submitting work to the ePortfolio was providing a detrimental experience to the students. It was also believed that that the system was complex and students needed a lot of coaching in how to use it and a lot of support in how to use it.

Training

Although demonstrators were adept users of the ePortfolio, the students only got an introductory training session on the tool and there was no spare time available within the module teaching times for updates or refreshers on the system.

Module design

It was felt that the module design was not entirely suitable for inclusion of an ePortfolio tool.

Immediate solution and solutions for future practice

Due to the issues above, the ePortfolio was removed from the module and all materials and assessments were implemented through the Institutional VLE. This was unsuccessful in the collection of vast portfolios of student PDP due to the functionality and purpose of a VLE. Therefore, the plan is to re implement the ePortfolio within this module but to consider the following solutions:

The module itself needs to be redesigned with an ePortfolio delivery as its focus rather than combining a variety of different tools to provide the best integrated experience and support for students. The demonstrators also need support in tailoring the module and to ensure that what they are doing and the way that's it's going to be taught is fit for purpose. Within that redesign the questions that need to be asked are:

What is the ePortfolio going to be used for and what are its best features in it?

How do we just focus on those features?

How do we ensure that those features can easily be administered through the gateway?