Background

Education policy in the United Kingdom has espoused ePortfolios as a tool for lifelong learning, and funding has been provided steadily over the last ten years or so for a range of ePortfolio projects, especially in higher education. Many of these focus on the development of tools and implementations of ePortfolio systems in and across institutions. There is an increasing demand from policy makers and the practitioner community for accessible, rigorous evidence of the outcomes of ePortfolio practice and the documentation of these projects creates a potentially rich source of data. In this paper we identify a need for specific kinds of repositories and tools to make better use of this information and suggest a strategy for joining up research-significant outputs to inform a range of stakeholders.

The wide range of stakeholders with interests in the ePortfolio field in the UK includes individual learners, teachers, and counsellors, and at the institutional level, schools and colleges, FE, HE, and advice and guidance organisations. Policymakers, funding agencies, professional associations and industry (employers receiving portfolios; software developers) also have a variety of interests.

Project-based funding often results in multiple, yet individual, case studies and bodies of data that remain disconnected from each other. Common themes across cases and sectors can easily be missed and the sustainability of new ideas can be affected. In addition, the nature of relatively short-term funding models for development projects sits uncomfortably with the longer-term funding of research councils. Fully aware of these pitfalls, the Joint Information Systems Committee (JISC) for example, strives for larger-scale coherence by encouraging proposals from multi-institutional and regional consortia and organising the resulting projects into evaluated, themed programmes. For some years now, the CRA website has been building a collection of case studies and constructing an overview of Personal Development Planning (PDP) in the UK. But there is still more that could be done.
Although practitioners are well-placed to conduct research into the implementation of ePortfolios, they rarely have the time, motivation or specialist research training to engage in formal data collection, analysis and writing. In 2006 Becta commissioned two studies: one to scope ePortfolio research and another to identify the impact of ePortfolios on learning. We look forward to the reports of these studies. In the meantime, this paper begins to consider ways in which large-scale research could be implemented as a means of capturing the data required by policy and funding bodies, and presents a model of practitioner-researcher relationships designed to build local knowledge and shared expertise in a growing community of practice.

Our proposal is based on a model for ePortfolio research that takes into account the varying purposes and audiences for the research and its results, and joins up many dimensions of this topic, across sectors and institutions, formal and informal settings, and among practitioners and researchers. We suggest using multidisciplinary approaches with a view to linking practice and theory in relation to policy and further developing both these aspects internationally.

**Practitioner input**

This paper reports on preliminary information gathered within a workshop group of twenty-four people that included ePortfolio practitioners from nine universities and the 14-19 sector of schooling, a university student, university researchers, representatives of policy and funding agencies, and an FE College Senior IT Manager. A ‘think-pair-share’ activity elicited information from the group in answer to ten question prompts.

One participant began by raising the fundamental question: ‘What is the problem that ePortfolios answer?’ as a means of grounding the discussion. The group went on to identify broad purposes for research that covered issues of design, policy, use and evaluation of outcomes. It was suggested, for example, that research is needed to inform the design of effective ePortfolio systems and their user interfaces, and to identify the portfolio purposes that are found to be most useful, particularly in crossing boundaries between formal and informal learning. Other research areas focused on ePortfolios as part of a system, including the extent to which ePortfolio technology solutions integrate previously separate activities such as Individual Learning Plans (ILP) and information, advice and guidance, and how automated services in the technology assist learners. Here it was suggested that it would be useful to understand why social networking has become so popular.

The audiences for future research were many. Participants suggested that they included learners; teachers and lecturers, and those who train them; systems designers; open source and commercial software developers; government bodies and policy makers (with a view to clarifying where the government needs to intervene and where it does not).

The group tended to suggest a shift from researching ePortfolio implementation towards issues closely related to teaching and learning. Focus areas included the extent to which ePortfolios support learning, how reflection is recognised and measured, aspects of digital literacy, the interaction between pedagogy and ePortfolios, and their impact on curriculum. Given the current emphasis on
personalising learning, it was suggested that lay people must be included in the research and both mandatory and voluntary use should be considered. Participants suggested these specific questions:

- How can ePortfolios assist a learner to cross the boundary between formal and informal learning?
- How can ePortfolios condition, frame and assist a lifetime of learning?
- What is the impact of ePortfolios on employment and admission to appropriate courses?
- Why would learners want to use ePortfolio processes if they were not required to do so?

One broad and fundamental question suggested was ‘How will ePortfolio processes drive, support or hinder the modernisation of current industrial revolution-style education?’ Similarly from another participant: ‘How do they link with Every Child Matters?’

In terms of outcomes, research areas included the impact of ePortfolios on admission processes at several levels, and the extent to which the use of ePortfolios by learners enhances integrative learning and employability. Influences on career success could be ascertained over time.

A range of methods was suggested, including some currently being used, such as case studies, personal narratives, ethnographies, experimental methods (including control groups), cost-benefit analyses and action research. An important point was made by a workshop participant: ‘Make researchers’ assumptions explicit’. The data already available, or to be collected, include project reports, institutional case studies and statistics, comments on online forums, demographic data, usage statistics, rich user data over time, financial data and user feedback. There is a need, a participant suggested, to gather the evidence embedded in established practice in existing areas. This could be achieved, said another, through literature reviews. However access to these data is often difficult for those outside a particular project team, while ethical issues around access to personal data must also be addressed. While project reports are available on funders’ websites, they are frequently not easily searchable for common themes.

Data could be analysed in a more fine-grained way, breaking ePortfolio use into discrete processes (both of learning and of technology support). For longitudinal research, it was suggested that a minimum period of 3 years would be required to track a cohort, and that projects should be cross-sectoral.

**A way forward**

In the spirit of the workshop reported here, an agenda for ePortfolio research is being developed at The University of Nottingham, through the Centre for international ePortfolio Development, the CETL for Integrative Learning and the Learning Sciences Research Institute. It is intended that the model of continuing longitudinal interlinked projects (over more than 2 years), with regularised data collection and reporting frameworks will equip and strengthen the community of researchers, practitioners and users. Figure 1 shows how the model could work.
Figure 1: A model for joined-up eportfolio research

The top level of Figure 1 acknowledges the local practitioner and user projects currently occurring across the country, with the addition of links (from the outset) with dedicated researchers. This level addresses local contexts and issues, allowing a broad definition of portfolio ‘users’.

The second level of the model is informed by research methodologies and the particular expertise of researchers, working with practitioners, policy-makers and other stakeholders to identify and address both grand research questions, and practical, priority issues – and to foster greater convergence between the two.

At the third level, technology is required to enable searchable repositories of rich pooled data created within the first two levels. This requires systematic planning, collection and analysis of local and large-scale data that is then made available to practitioners, researchers and policymakers and others interested in ePortfolios.

Finally, as ePortfolio projects continue to increase, the fourth level allows for the largest-scale, longest-term approaches to research and reflection through meta analysis that identifies trends, themes and problems.

Hence the research model reflects many of the processes of developing ePortfolios themselves (collecting, selecting, reflecting, presenting, etc) and has the potential to lead to a dynamic knowledge bank that can be mined for rich data to inform future developments. In order for this approach to work, funding agencies would need to require a common approach to establishing new projects so that they collect the requisite baseline data, such as through common survey tools. Improvements to the current reporting formats over the life of projects would also support the model. This paper has attempted to raise specific issues and to suggest a framework for a way
forward, and we welcome ongoing dialogue with colleagues as we continue to develop appropriate methods for the work.

**Acknowledgement**

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