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# ePortfolios: Models and Implementation

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# TABLE OF CONTENTS

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1	Summary
3	Introduction
7	Study Design
17	The Studies
29	Conclusions and Ways Forward
31	Appendices
39	References



## SUMMARY

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This paper explores the use of ePortfolio tools to support teaching, learning and the personal and professional development of postgraduate students at the Institute of Education, University of London (IOE). The needs of tutors and students are considered alongside the affordances and limitations of specific tools in relation to these needs.

The study involved five areas of postgraduate study at the IOE, one at PhD level, two at Masters level (MA in ICT in Education and MTeach) and two PGCE courses (PGCE in ICT and Post-Compulsory PGCE). Preliminary discussions with IOE staff revealed five common themes relating to the perceived purpose of an ePortfolio: **model, ownership, collaboration, accessibility and support**. The first theme relates to the definition of the ePortfolio, whilst the remaining themes address questions relating to ownership, control, use and user needs/development. In this paper, each of the themes and the questions raised within those areas are addressed in detail and a cross-comparative table of responses across each of five teaching scenarios is provided with levels of importance measured on a scale of 1 (low) to 4 (high).

Key issues arising at this stage of the study focussed on whether the ePortfolio should be student-owned and generated or institutionally-owned and controlled. Issues of access to, and sharing of data inside and outside of the institutional context ranged high in importance, as did identification of the ePortfolio with a particular course or community of practice and ways of implementing this. Levels of access related to Registry staff, external mentors, Course Tutors, Course Leaders, etc. In addition, perceptions of the purposes of an ePortfolio tool emerging at this stage suggested four key foci: **assessment, content management, repository/reflexive, and professional development**.

Following this preliminary stage, three test scenarios (PhD, MA in ICT in Education, and PGCE in ICT) were selected and evaluated using three alternative ePortfolio tools: the Blackboard internal ePortfolio, Mahara and the BLE Expo. These tools were selected as being tools which could be adapted by the institution and incorporated within existing learning environments. This is in contrast to, for example, commercially available professional development ePortfolio solutions such as BlueSky which are maintained externally to the institution and ostensibly "owned" by the user (although such ownership is usually facilitated by the host institution).

The evaluation and testing of the three ePortfolio tools confirmed the points of importance raised in preliminary discussions with staff, revealing a complex web of user needs and technical features which need to be considered if an effective and appropriate selection of ePortfolio tools which best fit user needs is to be made. Blackboard represented the easiest option to configure within courses, Mahara was

aesthetically pleasing and easy to use but lacked extended functionality and was more suited to individual than institutional ownership. The BLE Expo tool, when used with pre-configured templates offered the highest level of functionality/flexibility for individual, group and institutional use.

Overall, the study revealed that use of these ePortfolio tools to support teaching, learning and professional development is complex and requires considered pedagogical planning and preparation if they are to be usefully appropriated as a support for postgraduate study and development.

# CHAPTER 1: INTRODUCTION

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This paper describes an exploratory study of the potential of a range of ePortfolio tools, (the Blackboard internal ePortfolio, the BLE Expo and Mahara<sup>1</sup> to support teaching, learning and the personal and professional development of postgraduate students at the Institute of Education, University of London (IOE). In addition, the paper provides a review of tutor-expressed needs and desires relating to the use of these ePortfolio tools to support postgraduate students and their tutors and mentors at the IOE and elsewhere over the course of their studies.

## **ePortfolios: Tool or Model?**

The paper portfolio as a collection of work has been around for a long time and is well established as a vehicle for monitoring progress, e.g. a teacher's professional development. In fact, the career entry and development portfolio (CEDP<sup>2</sup>) is a key feature of the student teacher and newly qualified teacher's entry into the profession. To date, and despite an increased interest in electronic portfolios (or ePortfolios) generally, the paper-based portfolio continues to dominate in areas like initial teacher education (ITE) although the commercially produced ePortfolio solution Bluesky<sup>3</sup> used by many schools for monitoring teachers' professional development, represents an interesting attempt to plug this gap. Bluesky is, however, a heavily tailored stand-alone ePortfolio tool designed to cater for a specific audience of schools, schoolteachers and LAs. It is designed, managed and monitored by an organisation external to the institutions and individuals who subscribe to it, which means there is little flexibility for institutional restructuring to suit the needs of their own community.

In the early years of ePortfolio development, the focus centred much more on the ePortfolio as a tool for assessment and its potentials as a repository (Butler, 2006) than on issues of ownership, identity, participatory design, and the kinds of complex e-learning contexts reflected in the wider collaborative communities now operating in HE (JISC, 2008) . More recent studies (Barrett, 2007) portray the ePortfolio as a tool of shared ownership, not only between student, tutor and institution but between students and the wider world. This, in turn, has led to a changing perception of the ePortfolio not merely as a repository of resources (Douglas, Milligan and Margaryan, 2007; Mitchell et al., 2008) or a tool for reflection, assessment and feedback for the individual but also as a tool which potentially connects a student with a much wider community of peers and experts external to the institutions within which they

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1 See appendix 3 for a more detailed description of these software options

2 <http://www.tda.gov.uk/teachers/induction/cedp.aspx>

3 <http://www.blueskyeducation.co.uk/>

are based. The rise of social networking tools and the Web 2.0 style toolkits of the participatory web is also generating a shift in the ways in which the nature and value of ePortfolio tools are perceived (Agerbæk, 2008). However, attempts to incorporate similar potentials into existing VLE structures such as Blackboard and WebCT has not been without difficulty (Manton, Gaitan and Jankowska, 2008; Pursey and Morey, 2008).

There are two key reasons for this difficulty (1) the profusion of available ePortfolio tools and (2) the incompatibility of these tools with conceptual models around what an ePortfolio is and what it needs to provide for the user and/or user community. Whilst currently available ePortfolio tools confirm that the ways and means of tracking progress, and/or collaborating and sharing content are many and varied, understanding which tool provides the most effective solution, and why, requires further exploration and experimentation in context-specific studies where the issues and implications of ePortfolio choice, in terms of costs, skills, training, interoperability and the divergent needs of multiple users can be ascertained, and the tension between user needs and tool can be most effectively identified and framed.

This paper addresses the tension between available ePortfolio tools and the needs of user communities and seeks to identify key issues around the form, implementation and use of ePortfolio tools as a support for teaching, learning, and personal and professional development in the postgraduate community at the IOE.

The aim of this study is to provide an overview of issues and implications relating to the use of ePortfolios for academic staff at the IOE. Staff may be interested in using these tools to support and facilitate student reflection and/or collaborative communication with their supervisors, tutors, mentors and other interested parties, e.g. Registry staff at the IOE. The paper outlines possible solutions to particular needs identified by staff and these are presented as informative examples for is other academic staff as to how and to what extent currently available ePortfolio tools can be used in the context of their courses. The study draws on five different scenarios:

- communication between PhD<sup>4</sup> students, their supervisors and Registry staff
- an online module in Computer Mediated Communications (CMC) on the MA in ICT in Education to be shared with tutor and peers
- collaborative communication and assessment between IOE tutors, student teachers and their school-based mentors on the PGCE in ICT
- a multi-access repository and private reflective space for students on the Post-Compulsory PGCE to share materials with their tutors and mentors
- a professional development portfolio for MTeach students.

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4 PhD is used throughout this paper as a collective term which is inclusive of EdD and DEdPsy and other Doctoral School courses of study



The first two scenarios are concerned with supporting postgraduate study and are mainly contained within the IOE, whilst the latter three scenarios are concerned with the professional development of trainee and qualified teachers and lecturers and involve liaison with key partners (e.g. school- or placement-based mentors) located outside of the IOE.

Following a brief review of the literature and outline of the methods employed in the study, the report is presented in three parts:

1. **Scenarios:** A review of discussions with tutors and administrators from all five course areas identified above to consider the implications of ePortfolio use across the IOE.
2. **Cases:** An examination of the practical implementation of (a) the Blackboard internal ePortfolio (b) Mahara and (c) the BLE Expo (respectively) as:
  - a. a support for PhD study in the Doctoral school;
  - b. an assessable artefact within the CMC module of the MA in ICT in Education; and
  - c. a collaborative resource for the PGCE ICT
3. **Evaluation:** A review of all three ePortfolio solutions.

The paper concludes with a summary review of issues and implications relating to the implementation and use of these ePortfolio systems at the IOE and highlights considerations for future research.



## CHAPTER 2: STUDY DESIGN

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The study draws on data collected from discussions with participants from a variety of course areas across the IOE. Supporting data was collected and reviewed in the form of notes on previous ePortfolio trials and using extracts of portfolios which are currently paper-based and stored in ring binders (e.g. PDPs for initial teacher education) or which are produced electronically but generally transferred between parties via email (e.g. the PhD Annual Review of Progress). These data were used to produce a general overview of user needs and desires in relation to the use of ePortfolio tools and to contextualise these needs against previous experience and practices of both paper-based portfolio and ePortfolio implementation at the IOE.

Following this preliminary stage, three test scenarios were selected and evaluated using three alternative ePortfolio tools: the Blackboard internal ePortfolio, Mahara and the BLE Expo. Two of these scenarios related to postgraduate study, one at Doctoral level and one at Masters level and one related to initial teacher education. It was not possible, due to time constraints, to test all five scenarios outlined earlier in this report but there was sufficient overlap between three teaching scenarios (PGCE ICT, Post-Compulsory PGCE and MTeach) that exploration of one of these areas (PGCE ICT) would be likely to provide findings relevant to all three areas.

Participants in the study were drawn from a variety of course areas across the IOE where academic staff had independently contacted the Learning Technologies Unit for advice regarding the use and implementation of ePortfolios in their courses. These included the Doctoral School, the MA in ICT in Education, the PGCE in ICT, the Post-Compulsory PGCE and MTeach courses.

The Doctoral School and the MA in ICT in Education were primarily interested in the ePortfolio as a support for teaching and learning and students' personal development as learners and researchers, whilst the latter three course areas focussed on the practicalities of using the Blackboard internal ePortfolio as a support for teachers' professional development and collaborative networking between IOE tutors and school and placement-based teachers and mentors.

### **ePortfolio Scenarios**

#### ***Case 1: The Doctoral School***

The Doctoral School ePortfolio vision was that of a co-owned content management system, accessible by both supervisor and student, each of whom would have equal access rights in terms of editing, uploading and downloading documents. The ePortfolio would operate as a tracking system, preferably linked to Registry records and accessible on a more limited level by Registry administrators as a means of tracking deadlines and successful completion of Doctoral School requirements relating

to supervisory meetings, the annual review of progress, completion of compulsory assignments and attendance at core research courses. A key focus of this ePortfolio vision was the development of doctoral level competencies and professional academic identity. This scenario was tested and evaluated using the Blackboard internal ePortfolio.

### **Case 2: MA in ICT in Education**

The ePortfolio vision framed by the online Computer Mediated Communication (CMC) module for the MA in ICT in Education was that the ePortfolio would be student-owned and designed to contain student-created teaching resources (i.e. a content management system) together with reflective commentary on their use (e.g. in the form of a blog). These core elements might include (but are not necessarily limited to) a tool for students to reflect on their personal and professional development across the life of the course module, including audio, visual, video and written materials (an instrument of self-reflective practice); a flexible, easy-to-edit environment to facilitate student engagement with research-based literature (a research-focused bibliographic management system); an identity space (a personal profile); and would also operate as a space for students to comment on each other's work and reflections (i.e. as a social network, a community of learners). Alongside these student-focused elements, the MA in ICT in Education ePortfolio was also viewed as a vehicle for monitoring professional and academic development and achievements assessed via student, peer and tutor-generated commentary on portfolio-based assignments and activities.

Although the portfolios were to be individually owned, identification with the MA course and module were considered key factors in the cohesive development of a community of learners and for this reason, it was felt that it was desirable to develop a general template for key areas of the CMC ePortfolio to which students could also add their own elements. It was also deemed important, for this same notion of cohesion, that the ePortfolio be embedded within the course structure in Blackboard. A key focus of this ePortfolio vision was the development of a narrative formation of the learner's personal and professional identity within the wider academic context. This scenario was tested using two alternatives: the Blackboard internal ePortfolio and Mahara.

### **Case 3: PGCE ICT (ITE)**

The ePortfolio vision shaped by the course leader for the PGCE ICT course was one which focused sharply on the community of practice that exists between student teachers, their IOE tutors, subject leaders and administrators, and school-based mentors. A key focus of the ePortfolio was the collation of materials required as part of the student teacher's career entry and development profile (CEDP). There was a desire for particular deadlines relating to the CEDP to be trackable within the ePortfo-

lio system and for multiple levels of access for the many participants involved in the CEDP process. Issues relating to access to student ePortfolios by external members of the learning community were anticipated, e.g. the inability of school-based mentors to access online networks managed by the IOE for reasons of confidentiality and licensing rights relating to use of tools such as Blackboard. The fact that these individuals changed frequently and, being outside of the control of the IOE, were difficult to monitor was also an issue. Desirable features of the PGCE ICT ePortfolio were identified as:

1. Checklist for Standards for QTS
2. Mentoring log
3. Lesson Observations Summary Forms (one set of five for each school placement)
4. End of School Report (Assessment Record Form)
5. Response to School (Assessment Record Form )
6. CEDP (Induction Statement)

Items 1 and 2 were deemed to be highly desirable, 3 was of medium importance and 4-6 were deemed to be of lesser immediate importance. In this particular ePortfolio vision, the issue of timing in the implementation of the ePortfolio and levels of privacy (given the nature of the content to be shared) was very important. An export facility for content stored within the ePortfolio (to Word or pdf format) was also deemed desirable. A key focus of this ePortfolio vision was the shared, collaborative production and review of student teachers' personal and professional development resources within a relatively formalised framework of training and assessment. This scenario was tested using the BLE Expo.

#### ***Case 4: Post-Compulsory PGCE – Adult Literacy Specialism***

The Post-Compulsory PGCE course currently operates an Individual Learning Plan (ILP) which is, in effect, a booklet owned and completed by students, who use it to note down targets, reviews and discussions. Currently, this is paper-based with electronic forms being made available via Blackboard and these are accessible by students and course tutors. The key issue here is that the forms are not available to placement-based mentors who as non-IOE staff would not normally have access to internal IOE networks and students frequently lose these forms or forget to take them to placement-based mentor meetings. The ePortfolio vision of the Post-Compulsory PGCE for Adult Literacy is that students would be able to generate an online ePortfolio of their teaching practice which would be used to track their progress over the course of study. During the year, students complete four or five modules, the first two of which are completed offsite. What is desired, here, is the collation of shared ePortfolios for each module generated by students within Blackboard, and

made available to tutors and placement-based mentors with the added option of using elements of these as a shared set of resources amongst students using the Received Portfolios<sup>1</sup> option in the Blackboard internal ePortfolio area. Further discussion clarified that the features of the ePortfolio that were specifically desired were:

- an individual space for each student (personal ePortfolio)
- availability to all tutors (permission generated by student)
- availability to mentors (each mentor being able to see the allocated student's space)
- possibility for tutors and mentors to upload documents to that space.

The ePortfolio in this case is essentially an individual space belonging to the student. Permission to access all or part of the ePortfolio is given by the student. As each student only has one placement-based mentor, mentors may only see that particular student's space and, within that remit, only those elements the student chooses to share. Each student may, however, have several IOE-based tutors and each of these would also require access.

Due to there being insufficient time to implement ePortfolio usage before the start of the academic year, this scenario was only discussed with tutors and was not tested or evaluated as part of this study but a similar pilot is currently being implemented by two PGCE Post Compulsory courses (PGCE Literacy/ESOL and PGCE Post Compulsory General) as a pilot using the BLE Expo.

### **Case 5: MTeach**

The ePortfolio vision for the MTeach was that of a collaborative community where students would not only create and develop an online ePortfolio of resources and reflections during their course but that the ePortfolio might also be used to facilitate the development of a community of learners beyond the course. For this reason, a combination of available tools: Moodle (VLE) and Mahara (ePortfolio) was deemed the most desirable option. Key issues for this scenario were how to monitor students' progress, and methods of sharing, with whom and how this could be done effectively. The kinds of activities deemed desirable were the ability to view, edit, upload, download and, generally, share content digitally. The desire to facilitate students' continued use of their ePortfolios beyond the end of their course presented an additional issue – that of licensing restrictions for non-IOE mentors. In this scenario this was not, however, deemed to be a problem as the course management system being

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<sup>1</sup> This feature allows students to make their ePortfolios visible to others within the same course through selection of a "share with course" option within Blackboard. All shared ePortfolios are then added to a list which is made available to all course members within the course area in Blackboard.

used (Moodle) was operating outside of the general IOE Registry systems. The notion of retaining students' expertise within the MTeach community was described as a desirable feature as it would generate increased debate and wider use of resources between past, current and future students. This scenario was discussed with course administrators but was not tested or evaluated as part of this study.

### **Developing an ePortfolio Model: themes arising from initial discussions**

In initial discussions with the five groups of IOE staff, a pattern of common questions around potential users' perceptions of ePortfolios emerged. These were categorised into common themes as follows:

Theme	Questions
Model	What is an ePortfolio? How can it be used to support learning, development, assessment? How can/should it be organised/structured/managed? Who would/should monitor development and progress? What are the benefits to the student, tutor, supervisor, mentor and/or Institution?
Ownership	Who is it for? Who has overall control/ownership of it?
Collaboration	How, what, and with whom can it be shared?
Accessibility	How can it be accessed? Who can/should/needs to have access to it and at what level?
Support	Can it be integrated or linked to other systems, e.g. Registry? What are the practical issues and implications of implementation? What costs are involved? Which system should be used and what are the alternatives? What training is needed and how could this be delivered?

These considerations may usefully be summarised as: use and purpose, ownership, collaboration, access, and implications and benefits of ePortfolios to

support teaching, learning, and personal and professional development in and beyond the HE community.

### **What is an ePortfolio?**

Discussions with course tutors and administrators revealed that there was a need to consider what an ePortfolio was and how it would be used. There was a range of different views across courses as to what kind of ePortfolio model was needed and how this could most effectively be achieved. Table 1 provides an indication of views, across the five cases discussed under the 'ePortfolio Scenarios' section above, of academic staff and course administrators about the purpose of the ePortfolio within their respective courses prior to testing and evaluation of the Blackboard internal ePortfolio. An initial evaluation of the Blackboard internal ePortfolio tool was undertaken in face-to-face meetings with members of staff from each course area following initial testing and figures in brackets indicate the changed perceptions of staff members of the Blackboard internal ePortfolio and reflect the perceived limitations of the tool vis-à-vis staff desires.

Course	ePortfolio Model			
	Assessment Tool	Shared Content Management Tool	Student Generated Folio Tool (Repository/ Reflection)	Professional Development Tool
Doctoral School	2 (4)	1 (1)	4 (3)	3 (2)
MA in ICT in Education	2 (4)	1 (1)	3 (2)	4 (3)
PGCE ICT (ITE)	2 (2)	1 (1)	4 (4)	3 (3)
Post-Comp. PGCE	2 (3)	3 (2)	1 (1)	4 (4)
MTeach	4 (4)	2 (2)	1 (1)	3 (3)
	< Institution ----- Student >			

Table 1: Tutor and Course Administrators' Perceptions of ePortfolios as Learning Models prior to and after initial testing and evaluation of the Blackboard internal ePortfolio

Levels shown (1=High importance, 4=Low importance) are approximate and are intended to indicate the level of importance of the ePortfolio model as a support



for teaching, learning and/or professional development. Levels were inferred from discussions with tutors and course administrators around purpose and are not intended as quantitative responses.

Table 1 suggests that Shared Content Management is very important across the majority of courses and the Assessment Tool is the feature which most frequently meets with a reduced level of importance. Interestingly, those elements of the ePortfolio model deemed most important across all courses remained unchanged, i.e. for the Doctoral School, the MA in ICT in Education and the PGCE ICT, Shared Content remained most important, whilst for the Post-Compulsory PGCE and MTeach, Student Ownership was most important. Further, across the models, the order of importance for both the PGCE ICT and the MTeach remained unchanged overall. A possible reason for the latter is that the PGCE ICT had very specific needs whilst the MTeach had the most open, student-oriented scenario.

Of those elements which were deemed most important, the overall perception appears to be that the most effective ePortfolio model is one that is student-generated and/or that enables the sharing of content. Whilst assessment and tracking were initially deemed important across all scenarios, when testing and evaluation of the Blackboard internal ePortfolio tool<sup>2</sup> revealed that this was difficult to implement, this produced a shift in focus away from institutional goals towards student-oriented content production, management and sharing.

### ***Ownership and Control***

The focus on sharing led to additional questions arising around notions of ownership, access and forms of collaboration. All but one of the scenarios envisaged full ownership of the ePortfolio as belonging to the student. There was a mix of views around control and/or ownership of the ePortfolio (Table 2). Whilst the majority felt that the ePortfolio should be student-owned, at least two courses (MA in ICT in Education and Post-Compulsory PGCE) indicated a preference that the ePortfolio should be strongly identified with the course, e.g. via the use of a common layout and design, with at least partial provision of a course-related template. Reasons for this were that this would provide students with an initial framework upon which to build their reflective (and assessed) practices and, at the same time, would provide tutors with a familiar navigational structure across portfolios (for ease of assessment/feedback).

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2 Similar difficulties would also be encountered in use of the alternative ePortfolios used in this study, Mahara and BLE Expo, as the difficulty relates to incompatibility of assessment record systems linked to e.g. Registry and of the higher level of knowledge required to code tracking systems (e.g. through use of specialist language such as php) within web-based html systems.

Course	Able to Access					
	Students	Supervisors or Course Tutors	Institution Course/ Dept	Link Tutors	School or Work-Based Mentors	Registry
Doctoral School	1	1	2	N/A	N/A	2
MA in ICT in Education	1	2	1	N/A	N/A	N/A
PGCE ICT	1	1	N/A	2	2	3
Post-Comp. PGCE	1	2	1	3	3	2
MTeach	1	2	N/A	4	4	3

Table 2: Perceptions around ownership and control of the ePortfolio (1 = High, 4 = Low.)

### **Access and Collaboration**

As indicated above, access and collaboration were key factors of interest to all groups participating in the evaluation of the ePortfolio tools explored in this paper. All ePortfolio tools tested were able to be shared with third parties at the level of basic viewing and/or downloading of materials uploaded by the ePortfolio owner. However, where deeper levels of shared access (uploading, editing, formatting, extended feedback) were required, only the BLE Expo offered this degree of access for external, non-owner, user groups. Whilst both the Blackboard internal ePortfolio and Mahara allowed comments (where permitted by the ePortfolio owner), these were limited to a page of comments and it was not possible to tie comments to specific materials or pages within the ePortfolio, which is not ideal in an assessment/feedback/peer review situation.

The BLE Expo, by contrast, effectively operates in the open editing environment typical of a wiki and therefore affords a very flexible collaborative environment.

### **Use and Purpose**

A key finding of early discussions around user needs was that it is important to develop a clear idea of the intended use of the ePortfolio and the kinds of purpose it is expected to fulfil. What was clear from discussions was that there is a large variety of potential uses, depending on the target user community, the goals which the ePortfolio tool is intended to facilitate, and the relationships between the ePortfolio owner and the learning community to which they belong.

### ***Implications: ePortfolio for learning, development and assessment***

The less the assessment requirements and the smaller the interaction group, the easier it is to implement the ePortfolio. For example, where the ePortfolio model is primarily that of use as a reflective, content management tool owned, organised and controlled by the student, then this can easily be met by all of the ePortfolio tools evaluated in this study. Where, however, specific materials, templates, feedback, monitoring and multiple interactions are required (as with, for example, the PGCE ICT), the use and implementation (including the design, delivery of training and ongoing development) of the selected ePortfolio tool is considerably more complex and requires a more considered review of user needs (where users range from ePortfolio owner to ePortfolio participants).

### ***Issues: training, support, portability, sustaining an online community***

Amongst the issues that arose during the ePortfolio evaluations were training and support, portability of the ePortfolio, and ways of managing and sustaining an online learning community. Training in the use of the ePortfolio tool needs to incorporate not only the technical skills required to construct and develop the ePortfolio but also the pedagogic understanding of the relationship between the aims and objectives of the course of study, the requirement on the learner to engage in this form of activity and the potential benefits to learner and institution.

During the present evaluation, training of staff took the form of a cascading set of support activities, as follows:

- Stage 1: initial discussions with Learning Technologies Unit (LTU) staff
- Stage 2: demonstration of available ePortfolio tools
- Stage 3: collaborative design of course templates
- Stage 4: use of online tutorials (in the form of video clips and downloadable activity sheets)

The question of portability was also raised, and both the Blackboard internal ePortfolio and the BLE Expo enabled the ePortfolio to be exported as a webfolio<sup>3</sup> but none of the ePortfolio tools tested allowed existing ePortfolios to be imported. Mahara indicated that it was possible to export an ePortfolio, however, this aspect of the tool was not fully functional and was not able to be tested during this evaluation.

In addition to the issues described above, there is a sense that, as a support for learning and professional development, there may be a need for the ePortfolio to be framed as a mandatory element of any course of study, with guidelines around its use and/or purpose. Without this, it is possible that there will be a low take up

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3 A standalone website in a folder containing all materials saved to the ePortfolio at the time of export

of these tools by students, who may not fully appreciate the potential benefits of the tools or, even if they do, may struggle to understand how to develop them effectively and appropriately.

**Benefits: ePortfolio as shared communication**

Despite complexities around the use and implementation of ePortfolio tools as a support for teaching, learning and professional development at postgraduate level, staff were able to highlight a range of potential benefits which may go some way to offsetting these initial difficulties, as follows:

1. Ease of access by multiple parties.
2. Ability to monitor and track progress anywhere, anytime.
3. Opportunities for peer interaction, group projects and collaboration both in and beyond the course of study.
4. Opportunities for multiple feedback (peers, tutors, supervisors, etc.).
5. Encouragement of reflective practice and self-development.
6. Facilitation of communication between students and the learning community to which they are affiliated.
7. A showcase for student work.
8. A digital repository students can take with them after their course has finished.
9. Ability to offer a course-related structure for reflective practice.
10. Online presence facilitates networking across multiple contexts.

## CHAPTER 3: THE STUDIES

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As indicated earlier in this report, a series of short empirical studies was conducted which sought to test and evaluate the potential and limitations of the Blackboard internal ePortfolio, BLE Expo and Mahara. Three cases were selected with the focus of the first (the Doctoral School) on the institutional experience, of the second (the MA in ICT in Education) on the students' experience and the focus of the third (the PGCE ICT) on the tutor experience.

### **The institutional experience: creating a PhD ePortfolio using the internal Blackboard ePortfolio tool**

The Doctoral School ePortfolio was created using the Blackboard internal ePortfolio. The requirement for a co-owned content management system between student and supervisor was only partly achieved in the sense that the student had overall control over content and the supervisor was only able to view, download and comment on materials but was not able to edit or upload them. The desire to make use of the Doctoral School ePortfolio as a monitored tracking system, linked to Registry records was not possible. Whilst it was possible to share the portfolio with Registry staff on a 'view' basis, it was not possible to port information between the two systems. Further, it was felt that manual tracking of materials would be inordinately time-consuming for Registry staff.

Where the Doctoral School ePortfolio was deemed most effective was in its use as an online repository and reflection tool which would enable doctoral students to manage and share key resources (e.g. publications, presentations, work in progress) as well as information relating to supervisory meetings, the annual review of progress, completion of compulsory assignments and attendance at core research courses. In terms of its suitability as a tool for students' development of doctoral level competencies and the construction of their professional academic identity, the tool provided a useful space for organising and managing students' PhD experiences.

In terms of the institutional experience, the Blackboard internal ePortfolio is not easily adapted to cross-institutional purposes such as inter-system tracking of progress and/or multi-user assessment. The interoperability of the ePortfolio tool as it stands is negligible and whilst the ePortfolio tool integrates with course management tools within Blackboard, the system is not capable of porting tracker-type systems such as the survey or assignment tools into the ePortfolio setting. Whilst it is, technically, possible to set up php<sup>1</sup> enabled templates to facilitate tracking within the ePortfolio,

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<sup>1</sup> A dynamic computer programming language used to transfer data from electronic forms, etc.

this would be beyond the skills level of most users and would place additional time, cost and administrative burdens on course tutors and administrators (in negotiating planning of templates) and on staff from the Learning Technologies Unit (LTU) or Information Services (IS) in designing, maintaining and supporting users in their use and management of course templates.

Based on the current test and evaluation, it was found that the most effective use of the Blackboard internal ePortfolio for Doctoral School purposes was as a student-owned and managed portfolio which could be used both as a repository and a shared content system with access available to supervisor and/or Registry. Sharing would be limited to viewing and downloading materials and opportunities for feedback in the form of online comments. The latter facility has the disadvantage, however, that all comments are kept in a single page within the ePortfolio and cannot, therefore, be attached to individual elements within the ePortfolio.

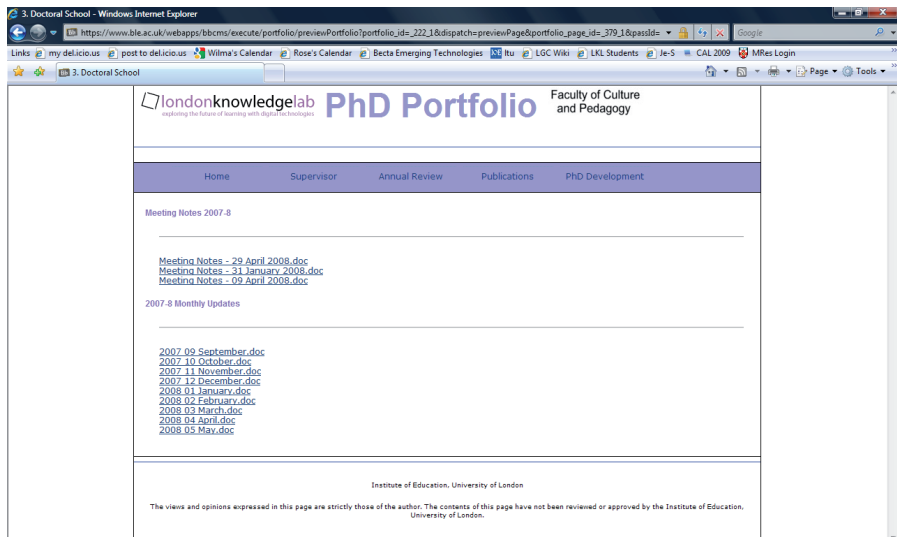


Figure 1 : PhD ePortfolio as a shared content management system using the Blackboard internal ePortfolio and a pre-designed template

It is likely that overall effectiveness of the Blackboard internal ePortfolio will depend largely on the ways in which students perceive the tool, the way in which it is introduced to them and the level of facilitation provided in terms of the technical and pedagogical skills required to develop their ePortfolio. This will also hold true, of course, across all scenarios explored in the study.

Table 3 provides an overview of the degree to which the Blackboard internal ePortfolio met the needs for collaborative communication between student and

supervisor expressed by Doctoral School staff prior to the evaluation, alongside the desire for access by Registry staff. Overall, the selected tool worked well as a shared repository for documents relevant to the student’s PhD experience but was limited in terms of its collaborative potential (i.e. as a shared space for assessment, feedback and or discussion). With a pre-designed template, the ePortfolio was relatively easy to use, however, the management of artefacts is complex and students are likely to need additional orientation in order to make effective use of the tool.

Feature	Low	Medium	High
Interoperability	<----->		
Assessment and Feedback	<----->		
Identification with Course of Study			<----->
Collaboration	<----->		
Ease of Use	<----->		

Table 3. Summary of features identified as important to the Doctoral School<sup>2</sup> and degree to which these are met by the selected ePortfolio tool (Blackboard internal ePortfolio)

### **The student experience: creating an ePortfolio for the MA in ICT in Education using (1) the Blackboard internal ePortfolio and (2) Mahara**

The ePortfolio for the Computer Mediated Communication (CMC) module for the MA in ICT in Education was tested and evaluated using two different ePortfolios: the Blackboard internal ePortfolio and Mahara. The major part of the evaluation was managed using the Blackboard internal ePortfolio (template design, general content creation, etc.) and just one section was transferred to Mahara as a test case – a section relating to a student project on Second Life (see Appendices 1 and 2).

In both cases, the desire that the ePortfolio be owned and managed by the student was largely met. However, the desire that the ePortfolio be clearly identified with the course was only met with the Blackboard internal ePortfolio. Whilst Mahara facilitated easy management of student resources, including the ability to generate folders, page management was not as successful using this tool as it was using the template facility in the Blackboard internal Portfolio. In both cases, collaboration between the ePortfolio owner and peers and tutors was low, although there was scope to share materials via the course area in Blackboard and, in Mahara, to generate topic-focused groups. Feedback in both instances was available via a commenting facility, authorised by the ePortfolio owner. Other than the commenting

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2 The features identified in Table 3 are drawn from the initial discussion outlined in the first case

facility, it was not possible in either case for users other than the ePortfolio owner to contribute content directly to the ePortfolio.

Whereas the Blackboard internal ePortfolio afforded the user greater control over the organisation, management and navigational structure of resources (Figure 2), the Mahara ePortfolio tool provided better facilities for embedding reflective tools such as blogs (Figure 5) and incorporating RSS feeds and visual and/or audio content easily. Whilst blogs and wikis are available as add-on tools in Blackboard, these are not presently available via the Blackboard internal ePortfolio unless generated in the BLE Expo and added to the Blackboard internal ePortfolio manually as a live link.

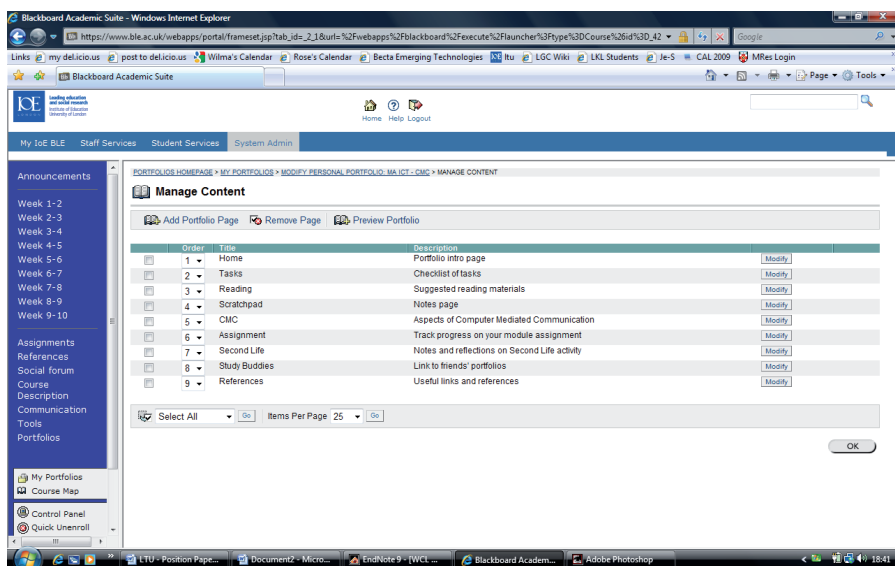


Figure 2: MA in ICT in Education Blackboard internal ePortfolio – organisation and management of pages

Both the Blackboard internal ePortfolio and Mahara met the criteria for a personal identity space and a space within which students could share and comment on each other's materials. In terms of its suitability as a tool to support students' personal and professional development during their course of study, the Blackboard internal ePortfolio appeared to meet this requirement more successfully than Mahara mainly through its identification with the course of study (Figure 3), the use of templates, and the ability to enable users to generate and organise multiple ePortfolios across the period of study. By contrast, Mahara is essentially a single ePortfolio comprising multiple pages and the evaluation suggested that these would rapidly become



unwieldy and unmanageable in the format in which they are presently organised and managed by the software (Figure 4).

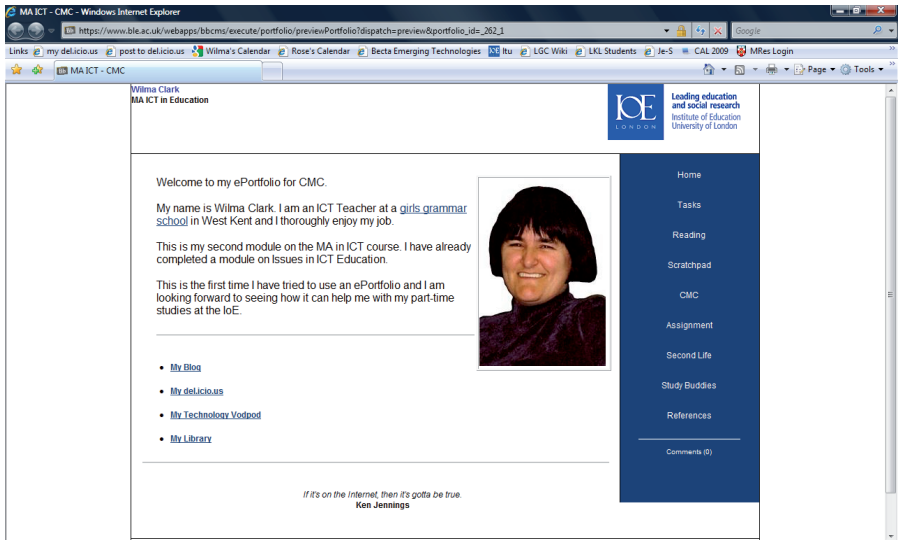


Figure 3 MA in ICT in Education Blackboard internal ePortfolio – front page

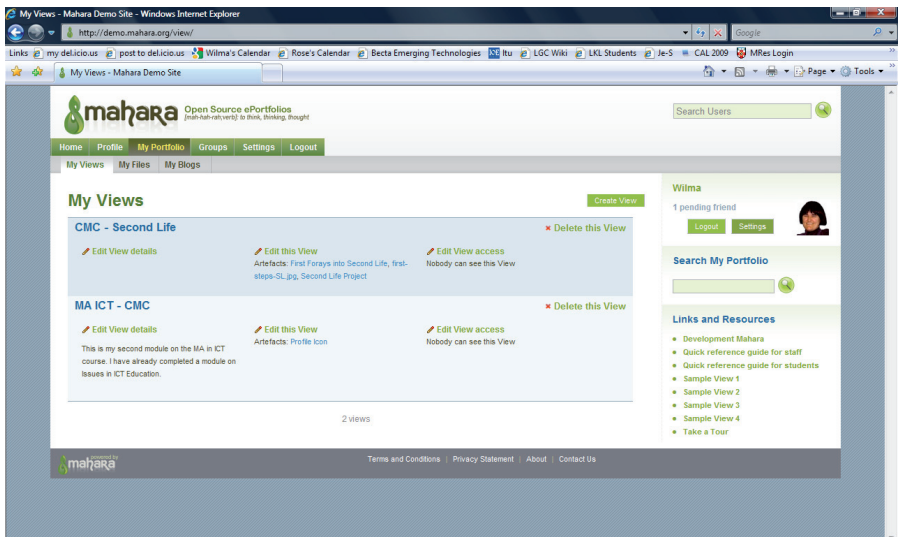


Figure 4: MA in ICT in Education Mahara – organisation and management of pages (views)

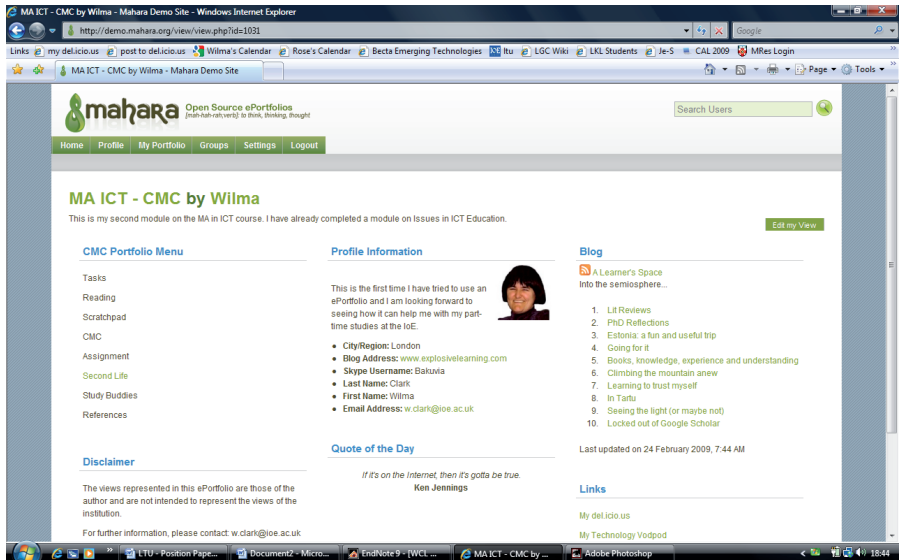


Figure 5: MA in ICT in Education Mahara – front page

Based on the current test and evaluation, it was found that the most effective student-owned, course-related ePortfolio was the Blackboard internal ePortfolio.

Feature	Low	Medium	High
Identification with Student	<----->		
Ease of Use		<----->	
Template Availability			<----->
Aesthetics	<----->		
Assessment and Feedback	<----->		
Collaboration	<----->		
Portability		<----->	

Table 4. Summary of features identified as important to the Student<sup>3</sup> and degree to which these are met by the open selected ePortfolio tool (Blackboard internal ePortfolio)

Table 4 illustrates the degree to which the selected ePortfolio (in this instance, the Blackboard internal ePortfolio) met the needs expressed by MA staff and the student

3 Features for Table 4 relate to discussion outlined in Case 2 and are also drawn from elements identified as important by student test user.

test user prior to and during the evaluation of the ePortfolio. As can be seen, overall, the selected ePortfolio worked well as a shared repository for documents relevant to the student's course of study but again was limited in terms of its collaborative potential (i.e. as a shared space for assessment, feedback and or discussion). The provision of a pre-designed template facilitated ease of use, however, the embedding of the ePortfolio in the course area and the use of a course-based template reduced the student's sense of overall ownership of the tool. In terms of general aesthetics, the tool does allow embedding of multiple forms of content and offers scope for reflective practice (see, for example, Appendix 1) however, embedding visual content such as screenshots or video clips can be problematic in terms of page layout, sizing and the availability of acceptable video formats.

Table 5, by contrast, illustrates the degree to which the selected ePortfolio tool (in this instance, Mahara) met the needs expressed by MA staff and the student test user prior to and during the evaluation process. In comparison to the course-based ePortfolio illustrated in Table 4, Mahara generated a higher level of student identification and ownership and concurrently a reduction in institutional control. The tool is relatively easy to use on a surface level but lacks the complex functionality in terms of formatting and organisation of materials offered by the Blackboard internal ePortfolio. Aesthetically, Mahara was very pleasing (see, for example, Appendix 2), however, management and organisation of artefacts and portfolio pages (views) was cumbersome. Whilst Mahara works well as a student-owned repository and reflective space, it was not, overall, as successful as a course-based component as the Blackboard internal ePortfolio.

Feature	Low	Medium	High
Identification with Student			<----->
Ease of Use		<----->	
Template Availability	<----->		
Aesthetics			<----->
Assessment and Feedback	<----->		
Collaboration	<----->		
Portability	<----->		

Table 5. Summary of features identified as important to the student test user and degree to which these are met by the selected ePortfolio tool (Mahara)

## The tutor experience: creating an ePortfolio for the PGCE ICT using the BLE Expo

The ePortfolio for the PGCE ICT was tested and evaluated using the BLE Expo. The

BLE Expo was the easiest and most flexible of the ePortfolio tools tested and evaluated as part of this project. The toolset within the BLE Expo is based around wikis and blogs. For this case study, a template was first created by a staff member of the Learning Technologies Unit (LTU) using the BLE Expo management panel within the Blackboard administrator area. The content of the template was designed in discussion with the Course Leader for the PGCE ICT as outlined earlier in this report. As the selected ePortfolio is based on a wiki structure, the use of a template was highly desirable in this instance to ensure that all students made use of the same format and navigational structure. As the default organisation for new pages is alphabetical, it is necessary to add page numbering to ensure pages are stored in the correct order. Students are able to add additional pages and/or to link to a related blog if they so wish.

The BLE Expo offered the most flexible collaboration scenarios and can be shared with users internal and external to the institution at multiple context levels, so that users can have “view only” access which can also be time limited or users can have shared access at all levels (to include content creation, uploading, downloading, formatting, etc.).

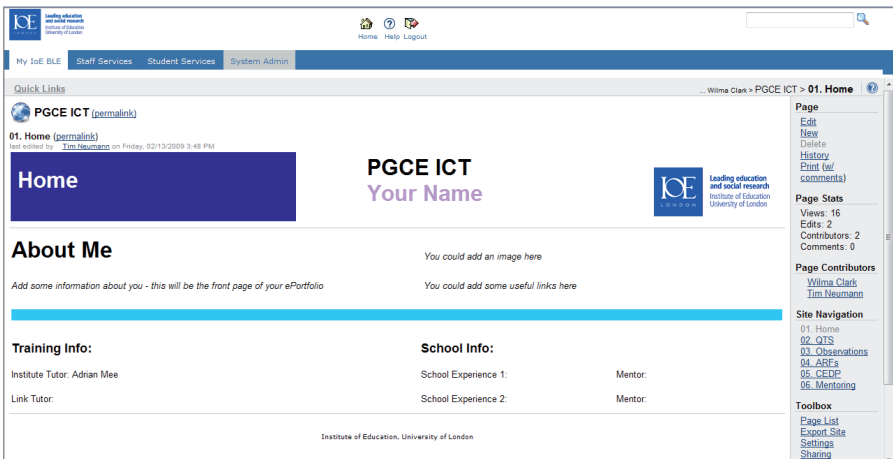


Fig. 6 BLE Expo template for PGCE ICT

In essence, the BLE Expo successfully met all of the requirements expressed as desirable by the Course Leader for the PGCE ICT, with the exception of automatic tracking, which is not possible without the use of additional coding within the template, e.g. through use of php and dynamic html. Whilst the BLE Expo is not embedded within the course area of Blackboard, it is possible for students to share their BLE Expo ePortfolios within the course area, so that they appear in a designated

area of the course for easy tutor access and review. Further, the use of templates allows a strong identification with the course, despite the ePortfolios location outside of the course area (Figure 6).

As can be seen from the navigation menu on the right of the screen, it is possible to export the ePortfolio as a standalone website. A coherent design and layout is generated via the template and general instructions and points of adjustment (e.g. addition of student name) are easily catered for.

The screenshot shows the PGCE ICT ePortfolio page for a user named Wilma Clark. The page is titled "PGCE ICT Your Name" and features a navigation menu on the right with options like "Page", "Page Stats", "Page Contributors", "Site Navigation", "Toolbox", and "Privacy". The main content area is divided into two sections: "QTS Standards" and "My Evidence".

Standard	More Info	Date	Evidence
<i>Descriptions of the Standards</i>	<i>Links to TDA Descriptors</i>	<i>Add date</i>	<i>Describe evidence and link to uploaded documents or materials</i>
Relationships with children and young people	<a href="#">Q01</a> , <a href="#">Q02</a>		
Frameworks	<a href="#">Q03a</a> , <a href="#">Q03b</a>		
Communicating and working with others	<a href="#">Q04</a> , <a href="#">Q05</a> , <a href="#">Q06</a>		
Personal professional development	<a href="#">Q07a</a> , <a href="#">Q07b</a> , <a href="#">Q08</a> , <a href="#">Q09</a>		
Teaching and learning	<a href="#">Q10</a>		
Assessment and monitoring	<a href="#">Q11</a> , <a href="#">Q12</a> , <a href="#">Q13</a>		
Subjects and curriculum	<a href="#">Q14</a> , <a href="#">Q15</a>		
Literacy, numeracy and ICT	<a href="#">Q16</a> , <a href="#">Q17</a>		
Achievement and diversity	<a href="#">Q18</a> , <a href="#">Q19</a> , <a href="#">Q20</a>		

Figure 7 BLE Expo links to internal and external resources

The screenshot shows the PGCE ICT ePortfolio page for a user named Wilma Clark, specifically the "06. Mentoring" section. The page is titled "PGCE ICT Your Name" and features a navigation menu on the right with options like "Page", "Page Stats", "Page Contributors", "Site Navigation", "Toolbox", and "Privacy". The main content area is divided into two sections: "Date" and "School-Based Mentor Sessions".

Date	Institute Tutor Mentoring Sessions	Date	School-Based Mentor Sessions
<i>Add date</i>	<i>Add description of Tutor Mentoring and link to uploaded notes</i>	<i>Add date</i>	<i>Add description of School-Based Mentoring and link to uploaded notes</i>

At the bottom of the page, there is a footer that reads: "The views and opinions expressed in this page are strictly those of the author. The contents of this page have not been reviewed or approved by the Institute of Education, University of London."

Figure 8 BLE Expo management of feedback from multiple participants

The BLE Expo ePortfolio is particularly useful for linking between internal and external resources (Figure 7) and in providing areas for management of content and feedback from multiple participants (Figure 8).

The BLE Expo ePortfolio allows for efficient management of student experiences and each student is provided with a general portfolio management system which is capable of storing multiple portfolios (Figure 9).

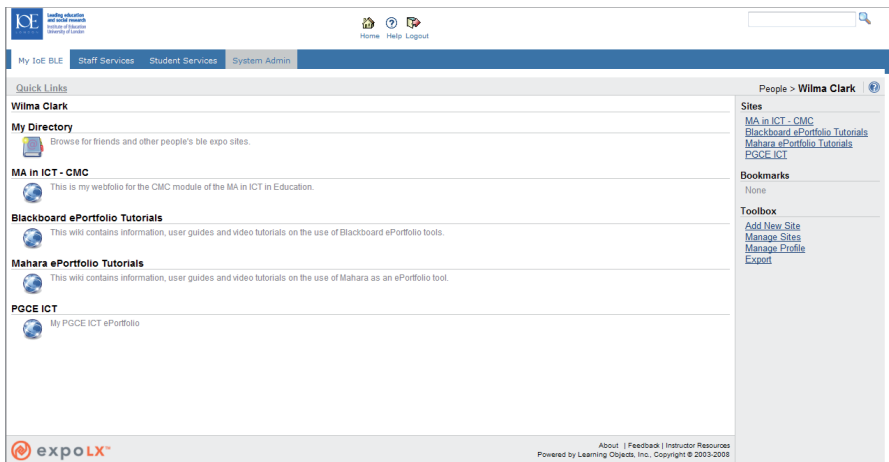


Figure 9 Student-Owned ePortfolio management tool in BLE Expo

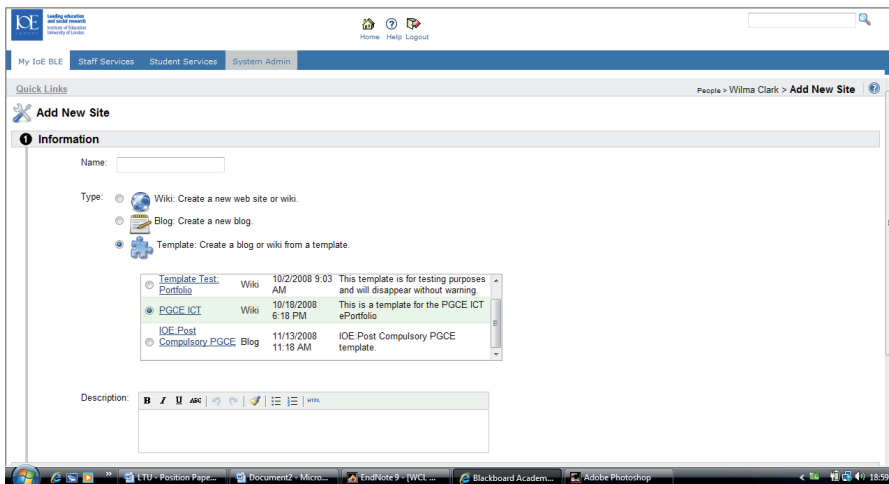


Figure 10 BLE Expo – adding a new site using a pre-existing template

Creation of a new ePortfolio using the BLE Expo template system is a relatively easy procedure. After selecting the option of adding a new site<sup>4</sup>, users are presented with a list of available templates, e.g. as here (Figure 10) for the PGCE ICT.

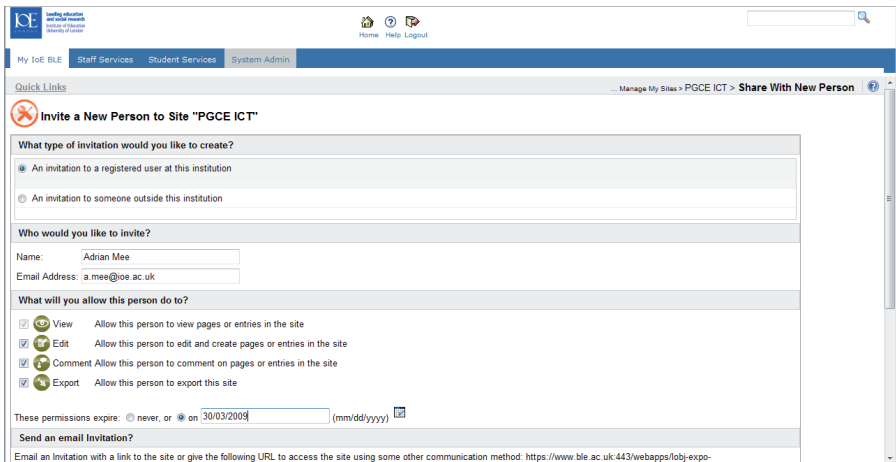


Figure 11 BLE Expo - sharing and collaboration features

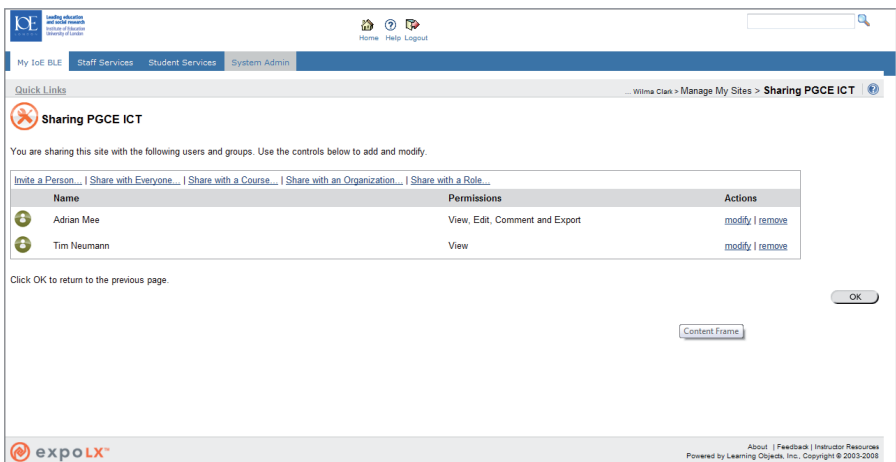


Figure 12 BLE Expo sharing – permission levels of shared users

4 A 'site' is the equivalent of an ePortfolio.

The most useful feature of the BLE Expo and one that was particularly relevant to the user needs of the initial teacher education learning community was the ability to share and collaborate at multiple levels and with multiple users both within and external to the institution (Figure 11). The BLE Expo was the only ePortfolio to allow this level of collaboration.

Table 6 illustrates the degree to which the selected ePortfolio (in this instance, BLE Expo) met the needs expressed by the Course Leader for the PGCE ICT prior to the evaluation process. The tool is very easy to use, is highly flexible in terms of content management and sharing, and identifies strongly with both course and student at different levels. Whilst aesthetically, the tool may be regarded as somewhat dull by some students, this is more than made up for by the flexibility of the tool in other areas. This tool was the most successful of all tools evaluated in meeting the needs of the user.

Feature	Low	Medium	High
Identification with Student			<----->
Ease of Use			<----->
Template Availability		<----->	
Aesthetics		<----->	
Assessment and Feedback	<----->		
Collaboration			<----->
Portability		<----->	

Table 6. Summary of features identified as important to the Course Leader for the PGCE ICT<sup>5</sup> and degree to which these are met by the selected ePortfolio tool (BLE Expo)

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5 Features identified in discussion – see Case 3.



## CHAPTER 4: CONCLUSIONS AND WAYS FORWARD

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The evaluation and testing of the three ePortfolio tools (the Blackboard internal ePortfolio, Mahara and BLE Expo) in this study reveals a complex web of user needs and technical features which need to be considered if the effective and appropriate selection of an ePortfolio tool which best fits user needs is to be made. In this connection, the issues raised in initial discussions with participants in the study provide some initial ideas with which to develop a possible framework for developing a pedagogic model for ePortfolio use within the IOE. In addition, the review of available ePortfolio tools and their benefits and limitations has provided a general overview of the complexity of these resources and the kinds of planning and preparation required before these can be appropriated for use as a support for postgraduate study and/or professional development, with issues around ownership, control and portability rating high in this area. It is also clear that the implementation of ePortfolio tools at the IOE does require some level of support and training and it may be that this can be met through the use of online tutorials in the form of video clips and/or supporting materials in pdf format which may be downloaded.



## APPENDICES

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Appendix 1:

Content Management using internal ePortfolio for MA in ICT

Appendix 2:

Content Management using Mahara ePortfolio tool

Appendix 3:

Comparison of ePortfolio Tools Evaluated

# Appendix 1: Content Management using internal ePortfolio for MA in ICT

MA ICT - CMC - Windows Internet Explorer  
 https://www.lie.ac.uk/webapps/bbcm/execute/portfolio/previewPortfolio/portfolio\_id=2621&dispatch=previewPage&portfolio\_page\_id=481&passId=6pas...

MA ICT - CMC

Melina Clark  
 MA ICT in Education

Leading education and social research  
 Institute of Education  
 University of London

Home  
 Tasks  
 Reading  
 Scratchpad  
 CMC  
 Assignment  
 Second Life  
 Study Buddies  
 References  
 Comments (0)

**My Avatar:** Bakavia Deranjaya

I find the whole online identity thing fascinating. You even manage to surprise yourself in the choices you make. When I was creating my avatar for Second Life, I was intrigued at the choices I was making. Should I be male, female, old, young, realistic, fantastical? It seems you can't be old in Second Life (well, at least not in the initial stages – maybe you can change those things later - when you start to earn some money and build a virtual life for yourself).

I decided to document my first forays into second life (you can see the results in the file below). That was kind of interesting in and of itself as it made the experience exploratory and reflective at one and the same time. Still, there's one thing I've only just noticed that I hadn't realised when I was 'enculturating' myself to the online world and that is the fact that, actually, you never see yourself. Surely you must see yourself from the front? Hmm, I guess you need a mirror for that. Weird though!



**Second Life: First Steps**

I enjoyed exploring the online world and was particularly struck just by how driven you are and how you want to socialise and make friends. "grr" How you pick and choose (or are selected) by your friends was also funny. For myself, I mostly just explored quietly and that makes me smile, thinking now, as actually, sometimes I'm like that in real life and sometimes I'm not. It depends whether I want to discover people or to discover places. In the screenshot below, I'm discovering spaces. I liked the grey pattern on screen.



Ah, easy peasy – controls – play media...

**Second Life in Education**

**Educational Uses of Second Life**  
 ★ ★ ★ ★ ☆



[Second Life Education Island](#)

This is a link to the SLURL for the CMC course for Second Life activities.

[First forays into Second Life.pdf](#)

This document is a summary with screenshots of my first forays into second life. It was a fun, if strange experience!

The views represented in this ePortfolio are those of the author and are not intended to represent the views of the institution.  
 For further information, please contact wclark@ioe.ac.uk

## Appendix 2: Content Management using Mahara ePortfolio tool

CMC - Second Life by Wilma - Mahara Demo Site - Windows Internet Explorer

http://demo.mahara.org/view/view.php?id=1032

Search Users

Home Profile My Portfolio Groups Settings Logout

### CMC - Second Life by Wilma

Edit My View

#### CMC Portfolio Menu

Tasks

Reading

Scratchpad

CMC

Assignment

Second Life

Study Buddies

References

#### Education Island

[Second Life Education Island](#)

This is a link to the SLURL for the CMC course for Second Life activities.

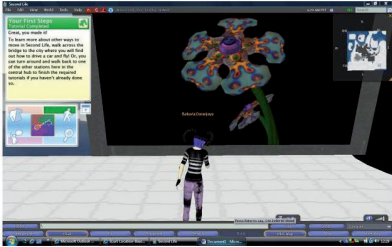
#### First Forays into Second Life

**First For...ond Life**  
This document is a summary with screenshots of my first forays into second life. It was a fun, if strange experience!  
2.6MB | Sunday, 05 October 2008

**Second Life Project**

- First Steps in Second Life Project on 05 October 2008, 11:32 PM

#### First Steps



Ah, easy peasy - controls - play media...

#### First Steps in Second Life

**My Avatar:** Bakuvia Durasajaya


I find the whole online identity thing fascinating. You even manage to surprise yourself in the choices you make. When I was creating my avatar for Second Life, I was intrigued at the choices I was making. Should I be male, female, old, young, realistic, fantastical? It seems you can be old in Second Life (well, at least not in the initial stages - maybe you can change those things later - when you start to earn some money and build a virtual life for yourself).

I decided to document my first forays into second life (you can see the results in the file below). That was kind of interesting in and of itself as it made the experience exploratory and reflective at one and the same time. Still, there's one thing he only just noticed that I hadn't realised when I was 'enculturating' myself to the online world and that is the fact that, actually, you never see yourself... surely you must see yourself from the front? Hmm, I guess you need a mirror for that. Weird thought!

#### Second Life: First Steps

I enjoyed exploring the online world and was particularly struck just by how driven you are and how you want to socialise and make friends... "grin" How you pick and choose (or are selected) by your friends was also funny. For myself, I mostly just explored quietly and that makes me smile, thinking now, as actually, sometimes I'm like that in real life and sometimes I'm not, it depends whether I want to discover people or to discover places. In the screenshot below, I'm discovering spaces... I liked the pretty pattern on screen.

#### Second Life in Education



Feedback

Wonderful

Wilma | 14 October 2008, 4:46 AM | This feedback is public - Change to Private

Place feedback | Report objectionable material | Print | Add View to watchlist

Terms and Conditions Privacy Statement About Contact Us

Taskbar: E1U - Position Paper; Document2 - Micro...; EndNote9 - WCL...; CMC - Second Life...; Adobe Photoshop...

System tray: 19:09

## Appendix 3: Comparison of ePortfolio Tools Evaluated

### Comparison of Features

ePortfolio Type	Add external links to menu	Add new page	Insert images	Image properties can be easily reset	Upload files	Mpeg/Avi video
Blackboard Basic <sup>1</sup>	Y	Y	N*	N/A	N*	N*
Blackboard Personal <sup>2</sup>	N	Y	Y	N	Y	Y
BLE Expo	N	Y	Y	Y	Y	Y
Mahara	Y	Y	Y	N	Y	Y

ePortfolio Type	Quicktime video	Flash video	Embed audio	HTML coding	Edit page directly	Table
Blackboard Basic	N*	N*	N*	Y	Y	Y
Blackboard Personal	Y	Y	Y	Y	N	Y
BLE Expo	Y	Y	Y	Y	Y	Y
Mahara	Y	Y	Y	Y	N	N

---

1 The Blackboard internal ePortfolio (Basic) was not fully tested in this study but is available as a very simple step-by-step ePortfolio tool

2 Blackboard Personal was used throughout this study as the Blackboard internal ePortfolio tool tested

ePortfolio Type	Requires artifacts for content	Artifact preview	Template facility	Sharing	Levels of control	Anyone can edit
Blackboard Basic	N	N/A	Y	Y	N	N
Blackboard Personal	Y	N	Y	Y	N	N
BLE Expo	N	N/A	Y	Y	Y	Y
Mahara	Y	N	N	Y	N/A	N

ePortfolio Type	RSS feeds	Export site	Comments	Blogs	Wikis
Blackboard Basic	N	Y	Y	N	N
Blackboard Personal <sup>3</sup>	N	Y	Y	N **	N **
BLE Expo	Y	Y	Y	Y	Y
Mahara	Y	N	Y	Y	N

\* Only via the Blackboard Content System, which was not active in the BLE

\*\* Blogs and Wikis can, however, be linked from BLE Expo to the Blackboard internal ePortfolio (Personal).

## Blackboard Basic Portfolio

The Blackboard Basic portfolio is built into the Blackboard Academic Suite product (now Blackboard Learn). It is a course-independent area to create and publish ePortfolios. A step-by-step wizard supports users in the creation of portfolios, and while invited users can leave comments for a whole portfolio, Blackboard Basic portfolios cannot have more than one owner/editor. The feature set of the Blackboard Basic portfolio, including the ability to display other media beyond text, depends on

---

3 Artifacts are building blocks and this feature means that you cannot simply type content directly onto the ePortfolio page

the full activation of the Blackboard Content System, another component of the Blackboard Learn. Without its activation, the content of this ePortfolio tool is largely restricted to text and hyperlinks.

Further information: [www.blackboard.com](http://www.blackboard.com)

The Blackboard Basic portfolio was briefly tested and evaluated in a face-to-face meeting with staff from the Post-Compulsory PGCE but was rejected as there were elements in the step-by-step process of the Wizard feature that were not relevant to students and were likely to cause confusion. Further this version of the Blackboard internal ePortfolio offered only a very limited content set and did not allow students to embed more complex materials such as images, audio, video, etc.

## **Blackboard Personal Portfolio**

The Blackboard Personal Portfolio is an alternative portfolio tool built into the Blackboard Academic Suite (now Blackboard Learn). While it does not have a step-by-step wizard, it is largely independent from the Blackboard Content System and has some additional flexibility in the design of a portfolio, including the design of institution-provided templates. Like the Blackboard Basic Portfolio, each portfolio can only have one single owner/editor.

Users, however, have greater control over the look and feel of their ePortfolio. The editing toolbox is more complex, allowing audio and video to be embedded. This ePortfolio model allows students to generate a web-style ePortfolio into which they embed content blocks (referred to as artefacts). The separation of content from the ePortfolio enables students to use content across multiple ePortfolios if needed (e.g. personal information) and also facilitates organisation of materials. Nevertheless, this added flexibility does bring with it an increased complexity to ePortfolio management and students' may require a more structured orientation to the available tools.

Further information: [www.blackboard.com](http://www.blackboard.com)

The Blackboard Personal portfolio was one of the most successful amongst those tested and evaluated. Although the relationship between portfolios and artefacts within this ePortfolio tool is initially difficult to grasp and whilst management of artefacts requires some planning and forethought, the opportunity to use course-related templates and for students to have multiple ePortfolios which could be shared both within the course and with external stakeholders and which enabled them to store a range of artefacts (including files, images, video clips, etc.) made this a useful support tool. There were, nevertheless, some drawbacks and limitations and these related to lack of interoperability (e.g. with Registry systems), low collaborative opportunity and non-intuitive page design and layout for users with low technology skills.



## **BLE Expo**

The BLE Expo tool is the local name of the product Learning Objects Expo LX. It is integrated into the Blackboard VLE as a building block (plugin) and provides personal areas where users can create their own blogs and wikis, which were used in this context as ePortfolios. Built around a collaboration model of online activities, it comes with a range of flexible sharing options. An advanced, stand-alone and VLE-independent version has been released as CampusPack Fusion in early 2009.

Further information: [www.learningobjects.com](http://www.learningobjects.com)

The BLE Expo was the most successful of the ePortfolio tools tested and evaluated in the study in terms of meeting user needs. Not only did it allow the most flexible route in terms of sharing, collaboration and feedback, it also offered the most effective content management structures with direct editing on the page, easy layout and design through use of tables, the ability to generate, manage and link multiple ePortfolios within one student-owned ePortfolio management space. Identification with specific courses was facilitated through the template design facility. Furthermore, the BLE Expo offers students the ability to be linked to institutional courses, tutors and peers. The only real limitation of the BLE Expo was the inability to add links to external pages to the main navigational structure on the right side of the screen on the entry page to the user BLE Expo area.

## **Mahara**

Mahara is an open-source ePortfolio system from New Zealand, started in 2006. At the time of writing, it did not provide Blackboard integration, and access to Mahara was obtained through a piloting agreement with the University of London Computing Centre. Mahara can be used as a standalone tool or combined with Moodle as a VLE. It has the look and feel of many social networking sites and, in many ways, functions much like one.

Further information: [www.mahara.org](http://www.mahara.org)

The Mahara ePortfolio seemed at first to be an ideal solution. It was easy to use (at least on a surface level), could be integrated with the Moodle VLE (but not Blackboard), and enabled users to manage, organise and share a range of materials. It worked well as a personal development tool (in terms of building a personal CV) and as a reflective space (it incorporated a blogging tool) and also offered the ability to incorporate RSS feeds for regularly updated materials. The tool offered good social networking resources with the ability to share portfolio materials with groups and friends.

Where the tool was lacking was in its organisation and management of content. The content block facility which made it easy to construct a page also reduced user flexibility in the design and layout of the page, so that it was not easy to mix and

match images and text across multiple columns. Further the ePortfolio operates as a single portfolio and multiple pages are not automatically linked together in an easy to follow navigational structure, nor is there a template facility which would enable the user to generate a navigational structure which could then be used across all pages. Whilst this tool works well as a student-owned personal development tool, it does not work well from an institutional perspective as the inherently 'personal' nature of the tool does not fit well with the potential need for students' experiences to be linked across multiple contexts, courses and years. Furthermore, and more importantly, the tool does not currently offer a fully functional export facility which means that students cannot easily transfer resources, whether for assessment purposes or to accommodate future shifts in learning and development needs (e.g. on departure from the Institute).

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