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HEALTHCARE
Context
The Intercollegiate Surgical Curriculum Programme (www.iscp.ac.uk) combines an explicit syllabus for each level of surgical training with a trainee management web-based portfolio which is a secure record of learning plans and achievements for the individual trainee. The provision of excellent care for the surgical patient, delivered safely, was at the heart of the curriculum. The aims of the curriculum were to ensure the highest standards of surgical practice in the UK by delivering high quality surgical training and to provide a programme of training from the completion of the foundation years through to the completion of specialist surgical training, culminating in the award of a Certificate of Completion of Training (CCT). All four surgical colleges and nine Joint Committee for Surgical Training surgical specialty associations contributed to plan the common parts of the syllabus and a shared learning and assessment system compliant with General Medical Council and Postgraduate Medical Education Board standards.

Many theoretical approaches were available for the development of competence-based training and assessment. The project deliberately adopted an approach that affirmed the importance of professional and educational values and the concept of professional judgement whilst ensuring the key interest was to promote the safe delivery of care to the surgical patient. The curriculum was founded on the following key principles:

- A common format and similar framework across all the specialties within surgery.
- Systematic progression from the end of the foundation years through to the exit from surgical specialist training.
- Curriculum standards that are underpinned by robust assessment processes, both of which conform to the standards specified by the GMC.
- Regulation of progression through training by the achievement of outcomes that are specified within the specialty curricula. These outcomes are competence-based rather than time-based.
- Delivery of the curriculum by surgeons who are appropriately qualified to deliver surgical training.
- Formulation and delivery of surgical care by surgeons working in a multidisciplinary environment.
- Collaboration with those charged with delivering health services and training at all levels.
- Enable trainees to develop as generalists within their chosen surgical specialty, to be able to deliver an on-call emergency service; and to deliver more specialised services to a defined level.

The Surgical Portfolio - www.iscp.ac.uk
The system became compulsory for all trainees entering surgery from August 2007, and was designed for trainees preparing to practice as consultant surgeons in the UK.

In order to promote high quality, safe care of surgical patients, the curriculum specifies the parameters of knowledge, clinical skills, technical skills, professional behaviour and leadership skills that are considered necessary to ensure patient safety throughout the training process and specifically at the end of training. The curriculum therefore provides the framework for surgeons to develop their skills and judgement and a commitment to lifelong learning in line with the service they provide.

The ISCP website is divided into two separate areas, being the public area and a separate password controlled members’ area. Anyone can browse around the public part of the website which includes the overview of the curriculum and the curriculum for specialty training in all nine surgical specialties. However in order to use the members’ area users need to register.

Trainees using the curriculum will set up their Levels and Placements and then be validated by their Programme Director. They can then start to record information about their training and build their portfolio, including uploading a Learning Agreement and Workplace Based Assessments. Their
Portfolio is used as the basis of their Annual Review of Competence Progression (ARCP) where they are assessed for suitability for progression.

Other users of the interactive website assessing or supervise trainees through the use of the electronic forms which support the assessment of trainees.

Some of the benefits of the system have been that:

- There is now a central repository of all the details of surgical placements within UK training programmes, making much of the previous paperwork redundant and allowing constant but secure and appropriate access to records.
- ISCP data is managed through an external hosting provider and therefore data are more secure than in the past when paper regularly went missing.
- Progress of training can be monitored appropriately at any time by the relevant individuals – the Educational Supervisor for the local hospital trainee; the Programme Director for the group of trainees he organises; the SAC member for his liaison area can gain access to the records of relevant trainees. This can detect difficulties in both trainees and training environment so that corrective action can be taken.
- The web-based system has emphasised the need for clear learning plans and focussing of training in an era of reduced working hours.
- Workplace based assessments recorded on line encourage feedback to trainees.
- The ability to feedback the levels of activity in these relatively new areas of learning and assessment has stimulated those involved to improve their performance.
- Information material about surgical training and the new system can be downloaded.
- Some of the successes of the website have been that Pilot projects and a series of improving versions of the website in response to user feedback have led to the current version 8.
- Programme Directors can allocate trainees to hospitals, send and receive messages, monitor trainees’ progress at any time and arrange and record ARCP results.
- Educational Supervisors and trainees are led through the formation of a Learning Agreement with clear commitments to training activity by both parties.
- One month after the launch in August 2007 7,418 users had registered - this has steadily increased to 33,000.
- ISCP is now used in all deaneries and Schools of Surgery in Scotland, Northern Ireland, England and Wales. The daily hit rate can now exceed 3,000 visits.
- The percentage of validated trainees who have created a Learning Agreement has risen from 15% in November 2007 to now being 90%.
- The average number of online WBAs has increased from less than one per trainee in November 2007 to now 18 each.
- The number of ARCPs recorded on-line has tripled.
- A helpdesk facility is contactable by phone or email.

The Planned Project Phases

At the outset of the project it was decided that the phases of the project should be as follows:

**Phase 1 - Initial Development (March 2003 – September 2004)**

This involved the development of a curriculum framework. The specialty syllabuses identified what trainees should know and be able to do at each stage of surgical training. This earliest stage also included the trialling of individual assessment tools for operative competence and generic professional skills; Initial faculty development; and the development of a website to support these activities.

**Phase 2 - Pre-Pilot Phase (December 2004–March 2005)**

This phase had the two main objectives of firstly pre-piloting the new surgical curriculum and secondly producing a needs analysis of the learning and teaching resources required to modernise and reform surgical training.

Five deaneries self-selected themselves for the pre-pilot and an assessment was made of the local, regional and national systems that underpinned training in these deaneries. The ISCP team engaged
with each deanery in a variety of ways, including visits, administering questionnaires and holding consultative discussion groups. Throughout the pre-pilot phase, data was collected on how surgery is taught and learnt; the resources and systems which underpin surgical training; and management issues which would affect the implementation of the new training programme.

This enabled the project to begin to identify the relationship between existing resources and those needed to support the implementation of the new training programme, and a report was written by Professor Michael Eraut (of the University of Sussex).

**Phase 3 - Pilot Phase (September 2005 - July 2007)**

This comprised a pilot of the syllabus content, assessment strategy and tools, interactive portfolio and website concentrating on trainees in ST1 and ST2 pilots in six deaneries. Other trainees and consultants were also encouraged to participate in the pilot to ensure both national and specialty coverage for trainees at different stages of training. The concentrated pilot study was supplemented by nationwide awareness raising activities and preparations for implementation including:

- Stakeholder meetings involving trainers, trainees, deanery staff and health care management professionals;
- Consultation forums with trainers and trainees;
- A faculty development programme for key surgical and deanery educators;
- User testing of the website; both the open access part of the site housing the curriculum and the secure area housing the trainees' portfolio and learning agreements.
- The pre-pilot had raised the concept of schools of surgery as a means of assisting in the delivery of the new curriculum and clarifying the contributions and roles of those delivering training. During the pilot, the concept of schools of surgery started to become a reality and seven heads of school were appointed in this phase.

**Phase 4 - Review and Evaluation Phase (April 2007 – March 2008)**

The evaluation was a multi-strand investigation building on the pre-pilot evaluation results. Four sub-projects were commissioned which included:

- An analysis of the processes through which the intercollegiate surgical curriculum faculty groups are developed in trusts and the success of these groups in implementing the curriculum.
- An investigation of clinically-based learning under the intercollegiate surgical curriculum with reference to the interaction of learning agreements and website tools to support the learning process.
- Investigating whether specialist training posts provide appropriate experience and support for future surgical trainees.
- Evaluating the impact of changes in continuity of care on stakeholders in the new surgical curriculum.
- The study results were submitted to Professor Michael Eraut, who produced a comprehensive report based on the evidence obtained. In addition the assessments recorded in the ISCP ePortfolio, including the context in which they were made and the stage of training to which they refer, created a unique database of trainees' progress through the ISCP curriculum and specialty training.

**Change Management – Lessons Learnt**

At the outset of the project it was felt that four interlinked areas were identified as key to successful implementation, being as follows:

- Focused training programmes underpinned by clear standards with defined levels of progression.
- Support to consultants to promote high-quality teaching and learning and reliable assessment.
- Rigorous and fully integrated regulatory systems, informed by curriculum standards.
- Adequate staff, resources and reward systems to support trainees in attaining competence to CCT level.
- However now that ISCP has been live for a number of years, this has given an opportunity to firstly reflect on how activities happened in practice, and also to consider what lessons were
learnt about the implementation of an educational portfolio for professionals within the healthcare environment.

It is hence suggested that to best manage the change required to introduce a portfolio, plans could be clustered into the following stages.

**Asking for changes**

An intentional change management strategy should be developed early on in the process, and part of this should ensure that input into the specification of change should only be allowed which align with the strategic aims of the key stakeholder organisation(s). An Implementation Plan should be created which would include clearly documenting both the drivers for change and the associated risks involved. These plans should be as flexible as possible, since it is likely that different people will use the various parts of the system(s) in different ways, and also this should ideally allow some degree of intentional local deviation, for where different regions and/or specialties carry out activities in their own ways.

It needs to be recognised that different stakeholders will not only have different requirements from the system, some of which may appear to be competing requirements, but also that these key stakeholders will need to play different roles within the project.

Early on it needs to be ensured that it is clear who is responsible for the agreement or sign-off of key changes, and then those documenting requests for changes needs to be given clear guidance about what is within their remit to be able to change (and possibly also what is not).

**Selling changes**

It needs to be considered and openly admitted that most people are naturally resistant to change, and therefore some degree of work will be needed to gain buy-in from all key stakeholders.

Expectations of both users and stakeholders need to be carefully managed, and the benefits of changes should be widely communicated.

However where possible the project should try to avoid substantial change unless really necessary, and where this is needed various priorities should be weighed up to avoid clashes of requirements, timing should aim to be not at crucial periods, and clear communication will be needed of why and when changes are being made prior to that change happening.

**Making the changes**

When changes are implemented requirements should be clearly document, and sign-off of requirements should be recorded prior to the start of development to ensure than both scope creep is avoided and those asking for requirements clearly consider what is required and do not unnecessarily change their mind mid-project.

Business requirements then need to lead to a written technical specification, and intellectual property rights need to be clarified.

However planning needs to be realistic regarding deadlines, and it should be ensured that prior to release and implementation of live changes independent testing should be undertaken.

**Training for changes**

On the ground face-to-face training may be needed for where either change may be perceived as difficult for technophobes or people are resistant to change.

Any faculty development should be undertaken as near to actual launch as possible

Change should be only introduced once people have been informed and understand the relevant processes, and those using new systems each understand the role they will play.

Coping with changes

System introduction should be realistic about the level of IT knowledge of users, and also both the extent and specification of IT equipment available in organisations.

Policies need to be updated or possibly even implemented regarding data protection, and assurance may be needed regarding data governance structures.

Communication needs to take place to alleviate any concerns people may have about security, even if these fears are not real.

**Post Change**

Feedback mechanisms need to be provided to enable systems users to suggest improvements.
Any resulting successes should be openly celebrated and clear acknowledgement should happen regarding the contribution of stakeholders to such achievements. Evaluation should take place of how well changes well implemented, and where possible corrections should be made to improve the systems.

**Conclusion**

It is recommended that when implementing an educational portfolio for professionals within the healthcare environment, to best manage the change required plans should be clustered into the following stages:

- Asking for changes
- Selling changes
- Making the changes
- Training for changes
- Coping with changes
- Post change

The use of ePortfolio as a learning medium in clinical nursing training

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Background

The project is an empirical study of how and to what extent an ePortfolio promotes learning in clinical nursing training. In the Danish education system focus is placed on, for example, how e-learning can help strengthen and promote learning (Ohrt & Trend 2007, Wallin 2007, Fredskild 2008, Lund 2008, Keiding 2009, Nielsen et al. 2009, Nørgaard et al. 2009). The nursing education programme at Holstebro has used ePortfolio since 2007 as a study tool with a view to promoting learning and making a connection between the theoretical and clinical aspects of the course (Olesen & Nielsen 2006 & 2007, Ardal & Nielsen 2007, Nielsen 2007 & 2008). At evaluation after one year on average 33% of all informants (students, nurses and nursing teachers) considered that ePortfolio did not support the students' learning process enough, while 33% felt it supported their learning to an average degree, and 35% to a higher than average or to a high degree. The explanation for the low level of support was partly technical problems, while many expressed opposition to written reflection.

In 2008 a new National Curriculum opened up the possibility of working with new pedagogical forms. We thus co-operated with the nursing programmes in Århus, Viborg and Holstebro to create a new ePortfolio based on these forms. This ePortfolio is constructed with a view to enabling the student to provide written reflections of his/her current knowledge level, learning needs and of the dialectic between theory and practice. The portfolio includes a “toolbox” with pedagogical instruments designed for different ways of learning – for example seeing, listening and trying out. The tools can be included in the learning process as and when needed. The supervisors give feedback on the reflections and the ePortfolio is thus also a tool for joint working between the students, the clinical supervisors and the nursing teachers. This ePortfolio was tested in a pilot project in 2009 and from the outset the students took a learning styles test. The test used was inspired by Honey and Mumford and developed by @ventures, Competence Centre for e-learning, under The National Knowledge Centre for e-learning in Denmark (Honey & Mumford 1986, www.ventures.dk). The test was to give an impression of the students preferred learning styles. The project was evaluated by questionnaire. The study showed that 93% of the informants answered that a learning styles test was a useful tool as a starting-point for joint working around the students' learning, 84% answered that ePortfolio supported reflection on practice, and 74% said that it created a greater connection between the theoretical and clinical aspects of the course (Nielsen et al. 2009). The majority of the informants felt that ePortfolio was a helpful tool. One individual expressed that ePortfolio was not of any help, while others evaluated that it could provide a modicum of support. This raises the question as to the extent to which ePortfolio is used as intended, and whether there are aspects of the clinical teaching course that are not best served by ePortfolio. Therefore there is a basis for a closer study of the use of ePortfolio in practice.

Literature review

To clarify existing knowledge about ePortfolio in nursing courses a search was conducted using the databases: forskningsdatabasen.dk, Nordart, ERIC, SvedMed, Cinahl, PubMed, Cochrane and Wholis and based on the keywords: portfolio, portfolio & nursing (in Danish and Norwegian), portfolio & care, portfolio & nursing. In all, 98 hits were returned, of which eight articles were chosen as relevant, in that the content focused on the use of ePortfolio. Four articles were reviews based on single studies using different methods, the preferred method being questionnaires (McMullan et al. 2003, McCready 2006, Jones et al. 2007, McColgan 2008). In the remaining four studies one was based on interviews (Scholes et al. 2004), and three on questionnaires (Corcoran & Nicholson 2004, Coffey 2005, Nairn et al. 2006). The relevant findings were that ePortfolio seems to have some significance for learning, since it offers the opportunity to reflect on nursing practice as well as one's own strengths and weaknesses (McMullan et al. 2003, Coffey 2005, McCready 2006, Jones, Sackett, Erdley & Blyth 2007), that ePortfolio in the UK is an acceptable method to evaluate nursing students' competency levels, that the students learn a more analytical approach and relate to the
learning at a higher level through portfolio work (McColgan 2008), and that ePortfolio is suitable for adult learning (ibid.). However, studies showed that there were also limitations: there was a considerable time factor (Corcoran & Nicholson 2004, McCready 2006, Jones, Sackett, Erdley, Blyth 2007, Lund 2008, Nielsen 2008), and that the portfolio work was prioritised at the expense of learning the practical craft of nursing (Scholes et al. 2004). It is a problem if a lot of time is devoted to ePortfolio at the expense of learning the practical side of nursing. The craftsmanship must be emphasized. The purpose of the ePortfolio is to qualify nursing practice, not to suppress it.

It is important to investigate this dilemma further. Since there continues to be a lack of empirical knowledge on ePortfolio in nursing training courses, both internationally (McColgan 2008) and nationally, the research interest is to study how ePortfolio is integrated in students' learning processes in a Danish context.

Aim and research questions
The aim is thus to study the extent to which an ePortfolio that focuses on students' individual learning styles promotes the students' learning of nursing in clinical training. The aim will be addressed based on the following research questions:

- How is ePortfolio employed in clinical training?
- Does ePortfolio support learning of nursing in clinical training? Does ePortfolio support reflection in clinical training?
- How can learning styles be discussed in relation to ePortfolio in clinical training?

Frame of reference
To clarify my preconceptions and theoretical approach to the study, my interpretation of the following key concepts is outlined below: nursing, learning, learning style and reflection.

Nursing is what is being learned, and encompasses both general theoretical and ethical knowledge and practical ability. The students have to learn to make a professional judgements build on theoretical knowledge and ability, gained insight into the unique patient situation and ethical considerations about relationships with various stakeholders. They also have to learn which actions should be taken based on their judgements. The aim of nursing is a caring practice that include both helping the patients to improve their own health and prevent illness, helping chronically ill patients to learn to cope with their condition and to relieve suffering (Scheel 2005, Bach & Østerberg 2005, Pedersen & Hougaard 2008, Scheel, Pedersen, Rosenkrands 2008).

Learning is understood here as a lifelong and reciprocal process. It can be initiated by both internal and external motivation, and takes place both in the learner and in the learner's relation to the world around them. The process of learning is both unconscious and conscious, and includes both habitus as reflection, learning by feedforward and feedback, toil and gain. Learning can emerge as a new knowledge, skill, emotional reaction, or behavioural or attitudinal change in the learner (Hermansen 2003, 2005). Therefore, the benefits gained by the students in working with ePortfolio in their clinical training must be observed in the context where care is practised and learned.

Learning style is here defined broadly as the habitual manner in which the learner receives, perceives, interprets, understands, values and integrates new information (Young 2009). The qualifications of the students are different, and therefore teaching and supervision must be differentiated, in order to meet individual learning needs. Differentiation implies didactic considerations, and in this context theories about different intelligences, thinking styles and learning styles can allow for new perspectives and make differentiation more operational (Hermansen 2006). Despite criticism of the phenomenon of learning styles, based on fear that it can lead to oversimplification of the learning process and branding of the learner (Hermansen 2006, Dalsgaard 2006), I dare to explore the phenomenon. The intention is to uncover new knowledge on students' complex learning processes. In order to attain a Bachelor of Nursing qualification, students need to acquire not only competencies of reflection, reasoning and oral and written argumentation, but also competencies to carry out nursing in changing situations and contexts. To reach this goal, students need help to develop theoretical, ethical and practical skills (Kirkevold 1996). The Danish philosopher, Søren Kierkegaard, made the following statement regarding the secret of the art of helping:

"when [...] one wants to succeed in leading a person to a certain place, one must first and foremost find him there and begin from there ..." (Kierkegaard (1948) 1962, bd. 18, p. 96)

And Kierkegaard continues:
"In order truly to be able to help another, I must understand more than he does – however, first and foremost I must understand what he understands. If I don’t, then my higher understanding won’t help him at all" (ibid. p. 97)

People perceive and learn differently (Jarvis 2007, Scheel 2005, Hermansen 2003, 2006) and if it helps a student to begin by learning the practical aspect of what is to be learned in a competency, this does not rule out the fact that the ethical and theoretical knowledge can subsequently be acquired. At best, a successful experience at the start of a learning process can provide motivation to learn the rest. In the worst case, it does not help but neither does it do any harm. So, in facilitating different ways of learning, we cannot deprive the students of gaining benefit from this option.

Reflection, according to Hermansen, is an essential aspect of the learning process (Hermansen 2005). It is a process of creating meaning in relation to thinking and learning. The need for reflection with regard to actions in practice occurs when the identified problem cannot, as would be expected, be solved by familiar actions. The situation and the problem have to be investigated and redefined afresh in order to find workable actions. It is both about discerning the unknown in the situation and transforming the intuitive approach to the issue. Supervisors can promote reflection by asking the learner questions directly or indirectly in ePortfolio (Schön 2001, Agerbæk 2011, Qvortrup 2010). It is essential to study what role the indirect questions in ePortfolio play in relation to promoting students’ reflections in clinical training. Thus print-outs of the students’ written reflections should be included as data. Agerbæk argues that ePortfolio creates extra space for reflection and communication between the learner and supervisors (Agerbæk 2009). When ePortfolio is combined with thinking about reflection and learning styles, it can be assumed to contribute to a synergy effect in the students’ learning processes. However this must be studied in the field where ePortfolio is employed.

Materials and methods
The study is qualitative in that its intention is to convey meaning and significance in relation to events in people’s lives – in this case nursing students. The scientific framework is phenomenological-hermeneutic and inspired by the French philosopher, Paul Ricoeur’s works around narratives and interpretation (Ricoeur 1979, 1993, Pedersen 1999, Pedersen & Delmar 2003, Lindseth, Norberg 2004).

The study takes place within the Nursing training courses at VIA, University College in Denmark. Data are generated through narratives, field observations and written material from ePortfolio in order to highlight different perspectives of the issue.

Informants
Eleven randomly chosen students from study group number SH2010 with 40 students were included in the study. The group began the course in February 2010. The inclusion criteria were: students on Module 4, use of ePortfolio as a study tool and that the students had undertaken the learning styles test by @ventures. The whole group undertook the learning styles test. In that way it was possible to divide the group into four sub-groups based on how they learn best. The name of each student tested to have the reflector style was entered into a programme with a random number generator, from which three students were drawn. The names of the students that were tested to have the theorist, activist and pragmatist styles were randomised in the same way (Andersen 1999). The group of informants consisted of eleven randomly chosen students, as there were only two students in the group with high scores for the pragmatist style. The exclusion criteria were if the students did not want to participate in the project or if they were about to change course or learning institution.

Generation of data
Data on learning outcomes from ePortfolio were generated by field observations, interviews and print-outs from the students’ ePortfolio (Hammersley and Atkinson 1998). Table 1 illustrates that the data generation took place at the start and end of the study period. The reason for this was that it afforded the opportunity to study whether there was a development in the students’ learning levels.

<table>
<thead>
<tr>
<th>Generation of data in the study</th>
<th>First data generation: weeks 1 to 3 in Module 4</th>
<th>Second data generation: weeks 8 to 10 in Module 4</th>
</tr>
</thead>
</table>

Table 1. Overview of data generation
a) Participant observations | Each student is observed for one day during basic nursing training. | Each student is observed for one day during basic nursing training.

b) Narrative interviews | Immediately after carrying out care, the student relates what he/she thinks he/she has learned from it. | Immediately after carrying out care, the student relates what he/she thinks he/she has learned from it.

c) Print-outs from the students’ ePortfolio | The students reflect in writing in the ePortfolio. | The students reflect in writing in the ePortfolio.

d) Narrative interviews | Immediately after written reflection the student relates what he/she thinks he/she has learned from the written reflection. | Immediately after written reflection the student relates what he/she thinks he/she has learned from the written reflection.

The participant observations focused on: context/room, the students and the relations and activities they took part in, utensils used and time allocation. The observations were noted continuously. The narrative interviews started with open questions: Can you tell me about what you have learned in connection with the care you have carried out? Can you tell me what you have learned from the written reflection in ePortfolio? The narratives were recorded and transcribed (Hammersley & Atkinson 1998). The written reflections from ePortfolio were copied and archived to supplement the students’ reflections from the interviews. Thus all the data material from field notes, interviews and print-outs from the ePortfolio are available as text.

**Data processing**

The entire text material will be analysed based on a method inspired by Ricoeur and will be carried out on three levels: naive reading, structural analysis and critical interpretation and discussion.

Naive reading is an initial learning from the text material. It is conducted by reading and re-reading the transcribed interviews, field notes and written reflections in order to get a holistic understanding of what the texts are about, what moves one in the texts, and which questions are raised in relation to the research questions. This analysis helps to give a holistic understanding of the texts as a whole.

Structural analysis has an explanatory role. The text is here structured based on the units of meaning (what is said) and units of significance (what is talked about) in relation to the research questions. Themes are drawn out from the entire data material. Figure 1 illustrates how in the analysis process there is a constant forward and backward movement so that the process is not just seen as a progressive, linear process, but a process where analysis and interpretation always moves between the part and the whole.

![Figure 1. Illustration of structural analysis](image)

The process is seen as a dialectical process between explanation and understanding; a process that helps to strengthen arguments and grounds for the emerging themes.

Critical interpretation and discussion is based on the themes that have emerged through the naive reading and the structural analysis. The interpretation is conducted with regard to theory and other current research results. The critical interpretation is a process involving a movement from the individual to the general. The results are discussed in relation to the research questions and relevant literature.

**Ethical considerations**

Ethical considerations concerning the informants followed the Ethical Guidelines for Nursing Research in Scandinavia (SSN 2003) and ethical considerations in relation to field research (Hammersley and Atkinson 1998, chapter 10).
Perspective
It is expected that the study can contribute with new knowledge that can increase the scientific understanding of learning processes that are partly mediated by digital technologies. It is also assumed that the clinical training in nursing training courses can be strengthened through the use of ePortfolio. The study is also expected to contribute to curriculum development and didactic considerations both specific to nursing training courses and in other educational courses.

Literature


www.ventures.dk Test din learning style. @ventures, Kompetencecenter for e-learning.
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Continuing professional development (CPD) is a process of lifelong learning that enables individuals to maintain, build and develop their knowledge, skills and behaviours. CPD is therefore inherent to professional practice as it enables individuals to establish, maintain and develop their ongoing competence to practice in an ever-changing world.

Although CPD itself is not a new phenomenon, changes to the regulation of healthcare professionals and employment practices during 2004-5 mean that CPD is no longer just a private matter, but has become subject to public scrutiny. The regulators’ standards for CPD (Health Professions Council, 2006) expect registered healthcare professionals to keep a log of their learning, and to demonstrate how that learning has improved the quality of services and benefited the service user. The introduction of a competency-based framework (KSF) within the National Health Service (NHS) in 2004 means that career progression depends on being able to develop and demonstrate specific sets of knowledge and skills.

The Chartered Society of Physiotherapy (CSP) is the educational, professional and trade union body for 50 000 physiotherapy students, support workers and chartered physiotherapists. Mindful of the regulatory and employment changes and a desire to provide tangible membership benefits, the CSP launched a bespoke version of Pebble ePortfolio during 2008. The timing of introduction was significant – the HPC’s audit of physiotherapy registrants CPD was scheduled for April 2010.

All CSP members were given access to a Pebble ePortfolio account – to replace the CSP’s portfolio guidance which had previously been available to purchase as an A4 manual or CD-ROM. Although the presentation and capacity of the ePortfolio was novel, the content (advice) and tools for recording CPD were comparable to the portfolio guidance manual.

Members were supported to make transition to the ePortfolio via articles and a supplement in Frontline (the Society’s fortnightly magazine). The system was demonstrated at CSP events and during work-based seminars. Members also had access to online support and advice via Pebble, and personalised telephone/email support from a CSP officer.

To date, uptake of the ePortfolio system is limited: 34.5% of CSP members are registered users. Surveys conducted by the CSP during 2010 clearly illustrate respondents’ preference for using paper-based approaches over the ePortfolio to record CPD. The CSP’s ePortfolio is not the only system available to members – there is evidence to suggest that some individuals are choosing to use alternative systems (e.g. eKSF) to record their development.

CSP members were given opportunity to give feedback on their experiences of using the ePortfolio system via surveys and focus groups during 2010. This data highlights issues around ease of use, speed, the need for support (technical and pedagogical), comprehensiveness and inclusivity, and the need for incentives to engage.

Analysis of these sets of data highlights the real challenges of introducing an ePortfolio system to members of a profession whose primary focus is hands-on practice. Members’ access to ICT in the workplace is limited – which immediately creates a practical barrier to individuals’ engagement with the ePortfolio system in the workplace. Physiotherapy employers have traditionally used paper-based systems to document individuals’ progression (e.g. through appraisal and individual performance review), although some NHS employers have introduced staff to an e-based version of the competency framework. The HPC’s CPD audit process in April 2010 was also a paper-based process. The limited uptake of the ePortfolio may therefore be a symptom of limited access to ICT which remains unchallenged because processes related to CPD are either paper-based, or require engagement with alternative e-based systems.

Although the need to articulate the impact of CPD on practice and service delivery was established by the healthcare regulators during 2004-5, members’ contexts of practice have been subject to considerable change in the intervening years. The anxiety this caused together with apprehension about CPD in the context of the HPC’s audit could have limited members’ capacity to engage with changing their approaches to CPD. This anxiety was expressed by members with an increasing demand for the content of the ePortfolio to be made available to download from the CSP’s main website. CSP’s positive response to its members’ request may have inadvertently subverted implementation of the ePortfolio system (as well as creating a content management nightmare!).
Work on the ePortfolio system is now underway, building on the lessons learnt during 2008-10, to address the themes emerging from member feedback, and the current challenges to members’ access to CPD. A virtual learning group has been established to explore the possibilities of the Pebble platform, and to develop a single reference point of information, learning resources and tools that members can personalise. The group’s work is grounded in a critical engagement with pedagogy, technology and the requirements of professional practice. Our ultimate aim is to support the development of lifelong learners who are able to meet the current and future demands of a changing practice environment.
Personal Health Portfolios: myHealthfolio

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With the strong interest from a community of employers in the State of Minnesota, and in collaboration with the University of Minnesota, the development of myHealthfolio has had the advantage of being supported by on-going research to better define the needs of each group of consumers. Avenet has pursued this community wide approach because it has major advantages to the employer and the consumer. It provides integration and customization to complement existing human resources content and decision support tools that are already in place at most employers. It facilitates state of the art research through the University of Minnesota to improve on how to best engage the consumer to improve their control of their own health and health care while controlling health care costs. It allows national portability and consumer ownership, implementation of standards, and maximizes interoperability and exchange of data. It also lowers the cost of development and hosting and encourages wider more rapid adoption and less fragmentation.

Research with myHealthfolio

Among the major distinguishing factors of myHealthfolio is that its development and implementation is based on research defining the specific needs, desires, and characteristics of each population that it serves. The development team carefully studies the population it serves to allow customization of myHealthfolio platform with the features that it will use. The research not only defines the development and implementation but also the revisions that are needed after implementation. For example, the type of research that the myHealthfolio team conducts as part of development and implementation includes:

1. Initial population surveys to both describe and stratify the populations (age, family, gender, and health status) that the system will serve with features that best match it.
2. Initial small stratified focus groups allow one to one discussion with different types of users to solicit direct feedback on their needs and desires.
3. Collaborative evidence based development takes each stage of development and demonstrates it to a small stratified user groups to receive direct feedback on the ease of use and utility of each feature.
4. Immediate post-implementation evaluation surveys to a stratified group of users to identify in initial problems with the system.
5. Post-implementation impact research with a randomized controlled trial to track short term utilization and impact on health care, cost, and health status with a population that uses it versus a population that does not.
6. Long term evaluation of the entire population to track the utilization and impact of MyHealthfolio on health care costs, work productivity, health care safety, and health status within the population.

Engaging Consumers with myHealthfolio

The success of myHealthfolio and other PHPs depends on the ability to engage consumers with practical solutions to their daily health issues. The current evidence suggests that the following principals will help maximize the engagement of consumers specifically with a PHP:

1. Lifetime ownership by the user with portability regardless health plan, employer, and health provider. Users will view the PHP as permanent and will be more motivated to spend the time and effort necessary to ensure it is accurate and complete and learn how to maximize it’s utility.
2. Confidential and secure with authentication, encryption, and access control to allow the user to gain confidence in use of electronic media for the highly personal information.
3. Non-biased credible source of health information by having high standards of ethics and avoiding commercial advertisement and sponsorship by the pharmaceutical and health care industry.
4. Shared vocabulary, data elements, data models to facilitate information and data exchange with electronic medical records, health plan databases and other PHPs.
5. Appropriate level of health literacy to ensure that the widest population of users find it easy to understand and follow.

6. Used by their health plan and doctor to allow exchange of important health data to be used by all parties.

7. Hosted independently of employers and doctors to allow portability and neutrality with regard to content.

8. Integrated in the user’s daily activities. For example, it should include a calendar with reminders of health events that are populated by the user and health providers as well as the health plan database to remind users of age and gender specific preventive health check-ups.

9. Include health plan information including the ability to search for specific health benefits, cost of services, and accounting services for consumer directed health care accounts

10. Include incentives to reinforce healthy behaviors and achieve health milestones.

11. Easy to use, intuitive and simplify in organizing complex health information

12. Must save time and money of consumer

myHealthfolio features facilitate transition to consumer centric health care
Folio Thinking in an On-line Student Learning Community

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Want to observe Self-evaluation and reflection of student-learning outcomes--------online student-learning community?

The meta-goal of this pilot project is to apply the creative supports experienced within MePort, a faculty learning community, to a MePort student learning community. During the 2010-2011 academic year Mercy College faculty within the School of Education and the School of Health and Natural Sciences/Nursing Program, created an on-line student learning community. The development of student competency-based self-evaluation and self-reflection skills are observed. Faculty participants are members of both the MePort Learning Community composed of faculty from five schools and the MePort Leadership Team. Private and shared reflections on monthly team meetings and periodic days of retreat scaffold authentic experiences of collaboration and affirmation. Creative applications of electronic portfolios were shared and discussed. Appropriate risks to expand both ePortfolio applications and the faculty learning community were explored and supported.

Collaborations undertaken within the MePort Faculty Learning Community were driven by a shared search for developmental strategies essential to a learning environment. Academic paths for birthing the mind that would drive life-long/life-wide learning in the 3rd millennium were investigated. Team discussions of Daniel Pink's Drive: the Surprising Truth about what Motivates Us (2009) and Howard Gardner's Five Minds for the Future (2007) remain continuous, developmental and reflective. Strategies to shift student learning from the externals of performance standards toward the development of internal learning standards were explored. Links between the concept of life-long/life-wide learning and the inter-disciplinary nature of the learning community were analyzed. The concept of an electronic-based on-line student-learning community emerged. Support was given to the concept of, and the risk of creating, an online, interdisciplinary on-line student learning community.

The process of creating the student learning community incorporated four sequential steps: First: with the support of instructional designers an electronic classroom was created. Students and faculty held both small group curriculum-specific meetings and larger inter-disciplinary meetings. Second: involved professors, one from the School of Health and Natural Sciences/Nursing Program and one from the School of Education constructed two curriculum-specific competency-based portfolios. Students from both schools picked a total of two competencies total of which one is the common competency for both disciplines specific. Third: from their multimedia artifacts constructed within core courses, students chose the individual artifacts that they perceived to appropriately demonstrate personal mastery of the professional competencies and learning overtime by capturing a test or grade does not illustrate. Fourth: students discussed, received feedback, analyzed their portfolio experiences, reflected on the quality of each chosen artifact and its relevancy to the competency being addressed, and further developed the personal strengths of higher order thinking, reflection, and self-evaluation.

This pilot project suggests that an inter-disciplinary student learning community (i) supports the transformation of competency-based electronic academic portfolios into professional portfolios and (ii) aligns with student’s developmental transition from academia to career (iii) and encourages life-long and life-wide learning defined by current discipline-specific knowledge, and inter-disciplinary experiences.

This pilot project demonstrates that competency-based electronic portfolios, when collaboratively revised and edited within the framework of a student learning community, can foster independent learning defined by autonomy, mastery, and purpose.

The authors conclude that learning communities advance the successful embedding of electronic portfolios in professional degree programs. Peer and faculty feedback is observed (i) to support student self-evaluation and the ability to demonstrate mastery of key discipline competencies (ii) To foster a shared learning environment to students from different disciplines (iii) and to promote diverse patterns of reflection essential to life-long/life wide learning appropriate for success in the 21st century.
Dynamic Learning Maps: Embedding Reflective Learning in Curriculum Maps

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Background
Dynamic Learning Maps (DLM) provide a new way for learners and teachers to navigate and engage with curriculum maps, with built-in support for reflective learning (https://learning-maps.ncl.ac.uk/). This paper describes our approach in developing DLM and its formative evaluation, with a focus on its integration with ePortfolios and support for reflective learning. DLM has been developed at Newcastle University as part of the JISC Transforming Curriculum Delivery through Technology Programme.

Objectives
Broadly DLM supports navigable curriculum maps, which can be viewed in a number of different ways (including hierarchical text, visual mind maps, and lists) depending on user preferences. As well as aiming to improve understanding of complex curricula, educational objectives included promoting reflective learning in a number of different ways:

Firstly, learners have the facility to add personal reflective notes and files to any topic in the map, directly contextualising reflection within the topics of the curriculum.

Secondly, learners can extend the maps or create new personal maps within DLM to record their learning.

Thirdly, learners can make connections between different topics within the map. This may potentially involve ‘meta cognition’ with learners synthesising different aspects of their learning. The connections can include ‘cross-modular’ learning and linking curricula with transferable skills and career pathways.

Technical objectives included integration with ePortfolios using the latest interoperability specifications (Leap2A).

Methods
Formative evaluation has been conducted in Medicine, Speech and Language Sciences, and Psychology – though DLM has been designed for broad applicability. We used mixed methods for formative evaluation of DLM including semi-structured focus-groups, closed questions to large groups using student response systems, and open-ended feedback following demonstrations asking participants to note what they considered to be ‘positives, negatives and interesting’.

Results
Over 250 students and staff participated in the formative evaluation activities. Of 193 Stage 1 and Stage 2 Medical students: 70% thought that DLM would benefit their learning and 79% agreed that having the map would be useful for reviewing and reflecting after a session. Qualitative feedback was also positive. In focus groups, Stage 4 Medical students, liked DLM for “linking the portfolio (which may appear otherwise abstract) with the rest of a student’s education”. One Stage 4 student thought that the “link to portfolio may increase its usage!”

Conclusions
We have developed DLM incorporating support for personal and reflective learning within navigable curriculum maps. DLM can be technically integrated with ePortfolios, which avoids duplication and facilitates re-use of reflections/evidence for other portfolio-related tasks. Formative evaluation indicates very positive feedback from students, including students’ perceptions that DLM would support reflective learning. We are now embarking on implementation in Medicine and continuing piloting in existing and new discipline contexts. Approaches to implementation will be discussed.
References

Dynamic Learning Maps: https://learning-maps.ncl.ac.uk/
Leap2A portfolio interoperability specification: http://www.leapspecs.org/

At the Core of the Curriculum; Embedding and Mobilising ePortfolio Learning

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Background
Since 2005 the School of Medicine, University of Leeds have been using an ePortfolio system to facilitate reflective practice and Personal Development Planning (PDP). The ePortfolio, known as the Progress File, was previously available for students to keep a reflective diary, reflect after assessments and be used as part of their appraisals. However there was as lack of student engagement and only 45% of students made an entry into the system.

Evaluation showed that a lack of tutor engagement was having an impact on how students used the ePortfolio. Expectations were unclear as different tutors gave different instructions and students highlighted the importance of audience and relevance.

In 2010 the School of medicine launched a new curriculum for their MBChB (Bachelor of Medicine, Bachelor of Surgery) course. This provided a valuable opportunity to simultaneously launch a fully embedded ePortfolio curriculum and investigate the impact of this on student learning and tutor practices. The School also launched a large scale mobile learning project with years 4 and 5, which the ePortfolio forms central part of.

This case study will outline the use of ePortfolio learning throughout the Leeds MBChB curriculum and go on to discuss some of the preliminary findings from our evaluation. We will focus on some of the more innovative uses of the Progress File including:

- Widening the audience - using the Progress File to facilitate meaningful patient and public involvement. This has been evaluated from the point of view of the patients and carers involved.
- Aiding passport assessment.
- Identifying students in difficulty.
- Embedding the use of ePortfolio learning into teaching practices.
- Linking evidence collection (assessments and blog entries) with the use of mobile devises.

Objectives
- By fully embedding ePortfolio learning throughout the curriculum we aim to:
  - Improve student engagement with the Progress File.
  - Improve tutor understanding of student engagement with ePortfolio learning.
  - Develop how tutors interact with ePortfolio learning.
  - Create a space to evidence both formal and informal learning and improve PDP.

Results
It is now compulsory for year 1 students to use the ePortfolio as part of passport assessment and tutors on two strands of the course now use the ePortfolio to provide feedback to students. In years 4 and 5, where the course is largely practice based, curriculum managers also use the ePortfolio to monitor progress through work based exercises.

Evaluation of the new curriculum is ongoing. We are currently collecting data and will present findings on student usage and impact on learning. Early findings show that all students (n=245) who are part of the new MBChB curriculum have now made at least one entry into the progress file.

Learning
Integration – ePortfolio learning must be seen as an integral part of the curriculum rather than a bolt on. It is important that it is associated with all aspects of learning rather than being isolated to one part of the course.

Training and development - Adequate training and ongoing support are needed for students and staff, both in terms of technology and pedagogy. In the case of staff this support is needed both at a
strategic level, with course managers and module leads, and with tutors who interact with students more regularly and may provide the audience.

Audience – Think creatively about who the audience should be for different tasks. Who is best placed to give feedback? This is a two way process as the audience may also benefit from the extra knowledge about students which ePortfolio entries can provide. When and how presentation points take place also needs to be carefully thought out to allow maximum impact on student learning and PDP.

Student Support – The ePortfolio provided a useful mechanism for identifying students in difficulty early in their studies. It is important that systems are in place for when students in need of support are identified.

Assessment – Using exercises as evidence towards compulsory assessments can help engagement and encourages students to also record more informal learning.
The Impact of Information and Communication Technology (ICT) on the Social Construction of Health Care Student's Knowledge

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The last fifteen years has seen the widespread introduction of portfolios as part of the educational and assessment process, and whilst some doubt exists about their benefit they have generally been accepted as an integral part of the educational process, especially in health care education. Within the adoption of portfolios we have also seen, in recent years, a rise in the use of electronic portfolios (ePortfolios) as an alternative to the traditional paper based portfolio. This has primarily been to take advantage of such things as the general developments in ICT and the associated changes in educational pedagogy. As a result we now appear to be entering an era of increased computer supported learning, where computer supported communication enables the sharing an exchange of information, rather than just the passive and student led information harvesting. ePortfolio uptake has also been driven by policy initiatives such as widening participation, lifelong learning, employment and skills requirements, internationalisation, achievement and attainment recording, retention, and personalisation in learning that will have an impact on how knowledge is constructed.

The general idea of the social construction of knowledge is based on the belief that knowledge is derived and maintained by social interactions and is in itself a social construct. From these general ideas it is believed that knowledge construction refers to the processes by which health care students solve problems and construct understanding of concepts, phenomena, and situations. This knowledge may consist of opinion or conjecture; factual knowledge, partly integrated knowledge, that may contain a comprehensive explanation drawing on community, ideas, questions, information, links, agency, and meta-discourse (long-range goals in a knowledge-creation community). It will also include feedback and interactions from peers, academics, and practice colleagues; any Web 2.0 elements in the ePortfolios; and students own interpretation on how this has happened e.g from their reflections and learning.

Health care students, in this context defined as those who are represented and monitored by a statutory or regulatory body, are often unique in that an element of their knowledge construction involves interactions with individuals in a therapeutic or helping relationship. Demonstration of their knowledge has been influenced by a number of pedagogical beliefs including a promotion of student centred learning, deep learning and reflective learning, but also that they have a potential to encourage the student to identify personal and professional strengths and weaknesses, and develop communication skills. In order to demonstrate their competence health care students are required to pass assessments in theoretical knowledge, practical skills, and personal attitudes/values, traditionally achieved through theoretical examinations and practical assessments. This competence and knowledge is built up from a number of sources both internal and external to the individual. And there has been a transformation from a process of information delivery and skills acquisition to one where the student is expected to be reflective, and a “knowledgeable doer” delivering evidence based care. Knowledge construction therefore refers to the processes by which students solve problems and construct understanding of concepts, phenomena, and situations and this is commonly evidenced through a portfolio of evidence.

The paper therefore aims to draw on literature to explain how the social construction of knowledge for health care students might be influenced by the use of ePortfolios.

It will explore health care knowledge capture within ePortfolios; social construction within ePortfolios; and the impact that ICT it has on both these elements. Would the social construction of knowledge occur more easily, or would ePortfolios become a hindrance?

Whilst far from conclusive the literature surrounding the impact of ePortfolios on the social construction of knowledge for health care students offers some valuable observations related to the use of ICT (e.g. digital media) and Web 2.0 over traditional paper based portfolios.
Factors Influencing Error Reporting Behavior of Korean Nurses

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Aim: The study aims to investigate inhibiting or facilitating factors of nursing error reporting in Korea.

Background

Error reporting is an important strategy for preventing adverse healthcare events and it will be beneficial to promote voluntary error reporting for improving patient safety. However, reporting of others’ errors or near misses is regarded as a betrayal for their organization and colleagues owing to Korean conservative system.

Methods

A cross-sectional descriptive survey was administered to 75 nurses participated in the ‘error-killer program’, which contained web-based error reporting systems (www.errorkiller.co.kr), education for providing information of errors, public relation and reward to promote reporting behavior. The independent variables included the attitude toward error reporting, communication, teamwork climate, reporting intention and demographics. The dependent variable was actual reporting behavior. Multiple logistic regression analysis was performed to determine the factors associated with reporting behavior.

Findings

Reporting intention score was 86.53. On bivariate analysis, significant group differences were noted for attitude toward error reporting (t=−2.534, p=.013), communication (t=2.101, p=.039), and reporting intention (t=2.230, p=.029). Nurses who had good communication with their colleagues, were 1.3 times more likely to report error. Those who had a negative attitude about error reporting were 0.6 times more likely to report error.

Conclusion

Efforts to facilitate error reporting behavior such as organizational effort to make nurses feel good communication and high error reporting intention are needed to improve patient safety.
EMPLOYMENT & EMPLOYABILITY

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Introduction
Given the current economic climate it is likely that more students will need to work in order to fund their studies. This research used an eportfolio template to investigate the current employment situation of second year Information Technology (IT) students, in a post 1992 University, their experience of applying for jobs; current employment status; the skills they have and the skills they identified needed improvement, using a series of scaffolded, eportfolio based activities aimed at helping them gain well paid employment while they study. By implication this would reduce the number of hour’s students may need to work during their studies and increase their graduate employability potential.

Background
Higher Education (HE) in the UK has for some time been going through a period of change as the UK Government applies a ‘supply side strategy’ to the UK job market which focuses on graduates and views HE as a subsystem of the economy (Moorely 2001, p1). This policy has widened access to HE and increased student numbers, leading to accusations that HE is being repositioned as an industry, rather than as a social institution (Gumport, 2000). Employers however have expressed concerns about the level of graduateness and the capability of many of the graduates they now interview. This resulted in calls for greater collaboration between universities and industry (Slotte and Tynjala 2003) and for Universities to collaborate with employers in developing a curriculum which focuses on their needs and which produces graduates that have a range of key and employability skills (Deen 2005). Funding for HE has also altered, moving from government grants to self-funded. This has effectively made students customers and has increased pressure from many quarters to ensure that student investment in education results in well paid employment (Glover 2002). The change in funding has also resulted in an on-going debate in HE relating to the number of hours students taking full time degree course spend working. Research shows a rise from 27% in 1992 to 72% by 2000 (Manthei & Gilmore2006). Although part time work is thought to be beneficial in providing students with employment experience, generally it is considered to have a negative impact on studies, to reinforce social stereotypes and disadvantage students from poorer families (Curtis & Shani 2002; Moreau & Leathwood 2006).

During 2009-2010 the University of Wolverhampton underwent an extensive reorganisation of its undergraduate curriculum. The Learning Works project lead to the inclusion of a year long, thin (ten credits per semester) skills module being included at each level of study to focus on key skill and employability skill development. In the School of Technology (STech) the focus of the second year skills module was employability, with the aim being not only to prepare students for finding work on graduation, but also to assist the students who opt to do a placement year working in industry to prepare for the placement application process. As this module was to run for the whole academic year it offered an opportunity to significantly develop skill sets. It also provided the opportunity to carry out action research that could be responsive to research participants’ needs, as the extended delivery time meant that data could be collected, analysed and changes made to the module. Action research is considered a suitable methodology for investigating and improving educational delivery due to the its participatory nature (Pring 2004) . The employability skills module was core for all Stech awards and had 250 registered students. Due to the large number of students on the module it ran on two different days, had four lecture iterations and ten different tutorial groups.

Because the module aimed to help students maximise the skills they already possessed as well as assist them to develop new skills the investigation into the students’ employment situation was conducted using the eportfolio system, PebblePad. Utilising an e- Portfolio appeared to offer the opportunity for the module to fulfil its true potential, as it provided not only a place for students to deposit their work, get feedback and if they wished to prepare webfolios to support future job applications, but also support for module activities. For the first semester it was decided that the module would focus on job application techniques and cover topics such as CV writing and the
completion of application forms. The employability questionnaire which provided the data for this research was one of the first tasks that the students were asked to complete in order to assess their current career competency levels. If the students turned out to already possess good job application skills then the module would not spend a whole semester on this area but move onto other career related issues. A layered PDP webfolio template was provided for the students which focused on job application skill development and had embedded in it the questionnaire which provides the data for this article and an employability toolkit of forms designed by Lee-Davis (2007). The forms included a SWOTPLOT, TROTPLOT, HOTPLOT, ACE which worked together to encourage the students to reflect on their current employability skills, to identify weak skill sets and to set goals to improve weaknesses. These forms were designed in the e-portfolio so that the students would find them easy to complete and they could be filled in online by typing into boxes, in the same way as comments are added to a chat room or bulletin board.

The employability questionnaire and toolkit were dual in purpose. Firstly they acted as a benchmarking exercise for students to get them thinking about how much exposure they have had in the employment world this far and they assisted students to plan for future employment and develop their confidence. Students were able to work on any employability goals they set as a result of using the toolkit within the module and to update the forms when they felt they had achieved their goals. Secondly the questionnaire collected specific information about the students work experience as they started their second year of HE. Locating the questionnaire within an online template resulted in a high completion rate as students found it easy to complete the form while they were working on other module tasks. No mark was awarded for completing the questionnaire, so it is only its inclusion in the online template that explains the high completion rate. Besides encouraging student reflection, the questionnaire was also designed to gather information about the student co-hort that could be used to shape the teaching and development of the module. Action research can be a slow process if it involves collecting data on paper, the inclusion of the questionnaire in an online template meant that data was collected in a digital format and could be quickly and easily processed. Students were given three weeks to complete the questionnaire and toolkit, after which data from the questionnaire could be speedily analysed and the development of module materials could be modified if it was thought necessary.

Results

A total of 223, or 89% of the module cohort completed the questionnaire, although some students did not complete every question. When data relating to the age of the students was analysed 60% were between 18-21; 23% between 22-25 and the final 17% ranged in age from 26-50. The gender of respondents was 86% male and 13% female, although this gender bias is to be expected given the male domination of the awards they are taking (Holland 2011; Jagger 2011)

Some of the answers to the questionnaire were quite surprising. For instance due to widening participation it had been assumed that a majority of students worked in some way to help with the cost of their studies however 209 students answered the question “are you currently in paid work” and 62% answered no. When the data was analysed relating to the number of hours the 38% of students with paid employment worked, eighty three students answered this question and the mean number of hours worked per week was 20. This figure is misleading though as when the data is looked at in depth the mode number of hours worked was 5 and just over half the students with paid employment worked over twelve hours per week. The type of paid work the students did was variable, four of them owned and ran their own business, but the vast majority were employed in unskilled work as shop assistants, warehouse workers and fast food employees.

A total of 31 students had unpaid work, but 67%, or the majority of these students worked for no more than two hour per week. The types of employment students entered under this heading varied in nature from playing the cornet, being a football coach, working for the Islamic society to working in the family business. Five students worked in family owned shops.

When asked if they had a current CV, 213 students answered this question with 80% claiming that they currently had a CV. However when students were asked to upload the CV to their webfolios for feedback, module staff found that the majority had been prepared as part of college or school work and were not laid out or completed to an acceptable, graduate level.

The students were asked if they had experience of completing a formal job application form 211 students answered this question with 87% claiming that they had experience of completing application forms. When asked how many application forms they had completed, 184 students answered this question and the mode number of forms completed was 10 and the average 5.

However when the students were given the task of finding a job advert online then downloading and
completing the job application form and adding it to their webfolio, the ability of most students to complete an application form to a level which would give them a chance of being interviewed for the job was found to be low. The students made common mistakes such as not following the instructions on the form, not providing all the information requested, not filling out the area that was provided for additional information or put down hobbies such as ‘drinking’. Clearly the majority of the students failed to realise the important role that the job application form plays in securing an interview.

The final question asked students about experience of formal job interviews. A total of 163 students answered this question. The results showed that over 74% of these students had attended a job interview. The median number of interviews students had attended was 3. In order to explore these results further one tutor group of students were asked to describe the sort of interviews they had taken part in. As a result of this exercise it became clear that the students probably did not fully grasp the difference between a formal and informal interview and that their prior experiences had been mainly informal, had not been competitive and had involved no testing of any kind.

The questionnaire results clearly identified that some key job application skills needed to be targeted for further development. Due to the module running over the entire academic year it was felt that semester one should focus solely on the preparation of appropriate employment documentation with the aim of improving students’ CVs and their ability to complete job application forms. Lectures were therefore cut to a minimum, as were f2f tutorials and the emphasis of the last part of semester one teaching focused on providing online formative feedback relating to webfolio content. Semester two teaching it was decided would focus on the interview process by looking at psychometric tests and interview skills and techniques.

Lessons Learnt

A key factor in using the eportfolio in this research was that it simultaneously benefited both researcher and student. Embedding the questionnaire in the webfolio template resulted in a high completion rate and in responsive teaching. In contrast traditional questionnaires benefit the researcher but not necessarily the student as they have a poor response rate and take time to collate and analyse data. Although other online questionnaires provide the same ability to process data quickly, they also been found to have a poor level of response (Fricke and Schonlau 2002; Wilson and Laskey, 2003). Having the questionnaire embedded as part of the employability toolkit meant that the students did not have to rely on links sent to them in an email or return pieces of paper; it made the process simple and painless. Having the toolkit available online in a format the students could easily complete was also a significant factor that contributed to its use and it provided the opportunity for students to go back to answers they provided originally and change them to show a picture of their employment landscape at different points in time. The high response rate to the questionnaire meant that valuable feedback was received which enabled teaching on the module to be targeted to address perceived shortfalls.

Although this module had achieved some outcomes which would not have been possible without using an e-portfolio one lesson learnt was that the educational experiences e-portfolios are capable of offering are in reality not always achievable. This module had a large cohort of students and ran on two different days. A small number of staff had two tutorial groups, so they were responsible for up to fifty students whose work they had to look at and provide formative feedback on and this proved an impossible task. Some of the tutors allocated to the module were more interested in teaching employability skills than others. Tutorial attendance had a direct correlation to the tutor’s attitude to the module with many of the students changing tutorial groups and attending those where they felt the tutor had more interest in the topic, resulting in some tutorial groups being overcrowded and others empty. For feedback purposes tutor gateways had been set up in the e-portfolio and in the first week students were shown how to copy the webfolio template into their own and their tutorial tutors’ gateway. One of the main reasons that an e-portfolio was chosen was to allow regular formative feedback on student work. As already mentioned the delivery of taught lectures and tutorials on the module was cut back in order to provide staff with more time to give feedback and support students. Some tutors used the time in this way, others did not. This led to students who had shared their webfolio with a tutor who did not provide formative feedback sharing multiple versions of their webfolio with any tutor on the module that their friends had received feedback from. Overall this resulted in the feedback experience for the students being an uneven and stressful experience. Providing software tools that have the ability to make education an interactive interesting experience has no effect unless teaching staff have a commitment to its use, unfortunately in this instance using the e-portfolio probably resulted in a poorer educational
experience for some students than if the module had been paper based, which was completely unexpected.

References

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Secure Exchange within Employability Services

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Introduction

Kenteq is one of the demonstrators of the TAS³ project (Trusted Architecture for Securely Shared Services). This is a project in the innovation Framework Program (FP7) of the EU.

The TAS³ Integrated project aims to have a European-wide impact on services based upon personal information, which is typically generated over a human lifetime and therefore is collected & stored at distributed locations and used in a multitude of business processes.

The main demonstrator challenge is to prove that the TAS³ system is sufficiently generic to deal with the demanding trust, security and privacy requirements of both the employability and healthcare domain. For employability this will considerably help to grow the nascent employability services market.

The objective of the TAS³ demonstrator is to prove the generic applicability of the TAS³ trust network for exchanging and managing personal information in different applications.

Kenteq explores the use of TAS³ in a legacy application setting in the Netherlands. The TRIPOD consortium consisting of existing actors in the employability field has been established and full collaboration of the different service providers has been obtained. The scenario chosen is of high likelihood in the current difficult economic situation.

Most important is to provide valid and reliable career information and job descriptions on which a personal competency profile and career plan can be based. The translation of these job descriptions and core tasks are the key in successful development for new jobs and required competencies. These Employability Services are provided by the specialists of Centres of Expertise like Kenteq.

In the search for appropriate employability services, the employee meets different organizations and each organization needs his personal information for their services. It is a chain of services where personal employability information is supplemented and each time the information is exchanged between the service providers.

Use case CAREER STEP

The objective of the use case is to prove that the TAS³ trusted network can perform in a realistic scenario for which no current system exists. We want to demonstrate that TAS³ can work with a variety of existing national legacy systems to meet a real problem. So reliable access to a transfer of legacy data is a major driver for this use case.

In the use case scenarios “Career Step” the TAS³ network should or will be able to support in order to have a trustful data exchange of personal employability information. Added value from TAS³ in this use case is a trustful exchange of the personal data, a single sign on for all services and seamless steps from one service to another where his personal data can be reused. Important is the data discovery services that allows users to search within the TAS³ network at what providers personal data is stored.

A brief overview of the process in 10 steps, each step needs to be completed before the next one can happen.

1. A company wants to upgrade their staff.
2. The company signs a contract with Tripod employability services.
3. All employees are given the opportunity to do an APL assessment.
4. The employee login on the Tripod website.
5. His HR data (from the HR system) are transported to the APL provider.
6. The APL provider executes the APL process.
7. The APL results are transported to his ePortfolio.
8. In his ePortfolio he describes his career plan.
9. His HR manager reads his career plan and gives comment.
10. He can make a career step.

**Tripod Consortium for employability services**

Kenteq and Paragin are working together in the Tripod consortium to provide large scale employability services using the TAS³ architecture to ensure a safe and secure environment for personal data.

**Kenteq**

Kenteq is the centre of expertise and advice for technical craftsmanship in the Netherlands. With the ambition to contribute to high standards in technical craftsmanship, by means of knowledge transfer, guidance, education, training and advice. The products and services focus on career development of workers and increasing the craftsmanship available to companies.

**Paragin**

Paragin is a software developer in the Netherlands that has a strong focus on employability and education. They provide an employability Portfolio.

**TAS3**

The TAS³ project researches & develops a trusted architecture and set of adaptive security services which will preserve personal privacy and confidentiality in dynamic environments. Specifically, TAS³ will provide a next generation trust & security architecture that is ready to:

- meet the requirements of complex and highly versatile business processes,
- enables the dynamic user-centric management of policies,
- will ensure end-to-end secure transmission of personal information and user-controlled attributes between heterogeneous, context dependent and continuously changing systems.

This includes a trust and data protection infrastructure for managing & assessing the risks associated with identity authentication (level of assurance) and the trustworthiness of actors.

**Workshop BOOST YOUR CAREER**

In this workshop we demonstrate how an employee can have control over his personal employability data of the services he wants for his next career step:

- Explaining the working of the TAS³ trusted network.
  - The participants get instructions about the scenario and a user name and password.
  - They log into the Tripod site.
  - Searching for personal information within the network.
  - Give consent for reuse and transfer of this information.
  - They go to the assessment application to do a test.
  - They create an ePortfolio.
  - Grant the HR manager access to look into the ePortfolio.
  - We want to invite a few people of the audience to participate live in the use case scenario with their own device.
  - The participants in this workshop have a live experience of boosting their career involving an APL assessment, (Accreditation of Prior Learning), the reuse of personal data and an ePortfolio in a secure network.

In this workshop the participants are employees at NewCarFactory (NCF), who wants to give their employees the opportunity to make a career progression within the company. You will be able to reuse your existing HR data from NCF in the APL service. The results of your APL can then be exported and reused in your ePortfolio from Paragin. Then you can grant secure access to the HR manager at NewCarFactory, to show him the evidence of your APL within your completed ePortfolio.

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Evaluation of Job Fits as Part of ePortfolio

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Introduction

The value of fit for existing employee is elaborated by two different levels. The most general level of fit, person-organization (P-O) fit, is broadly defined as the compatibility between individuals and organizations (Kristof, 1996). For matching purposes, this P-O fit dictates a need to select persons whose personalities are consistent with (or complementary to) the distinctive features of the employer's culture or personality. Research suggests that P-O fit can be used to allocate employee based on the degree to which they demonstrate congruence with organizational values (Boxx et al. 1991; Judge and Bretz, 1992; Posner, 1992), support organizational goals (Vancouver et al, 1994), match the organizational climate (Bowen et al, 1991; Burke and Deszca, 1982), and possess preferences or needs that are fulfilled by the work environment (Bretz and Judge, 1994).

The next level of fit, person-group (P-G) fit, is important to allocate employee into situations where success is often determined by the degree of match between an individual and his/her work group or organizational subunit (e.g. department, geographic division) (Kristof, 1996). Werbel and Gilliland (1999) argued that P-G fit makes the new joiner integrate with his/her immediate supervisor and coworkers. It is because the performance of other group members whose job performance is partially dependent on the newcomer's ability to effectively interact with them (Werber and Johnson, 2001). The need to screen employee based on P-G fit is suggested by growing use of project teams (see Katz, 1997) and by evidence that new joiners often perform on teams responsible for tasks such as system development, management of projects, and customer service (see Kristof-Brown and Stevens, 2001).

The notion that employers seek to allocate employees based on their “fit” to job and organizational characteristics has been recognized in the management literature for more than 30 years (Tom, 1971). With multi-skill labors in a competitive environment like Hong Kong, the perspective of using fit as a screening criterion for employee arrangement would be more preferable. It is because a company needs to wisely allocate tasks to employee in order to be competitive. This screening approach suggests that organizations try to fit persons whose knowledge, skills, abilities, interests, values, etc. into certain teams or tasks to supplement the values or organizational leaders (i.e. supplementary fit) or make the environment “whole” by filling an existing void (i.e. complementary fit) (Muchinsky and Monahan, 1987).

For the evaluation of P-O and P-G fits, we would rely on situational interview (SI) which has shown practical and psychometric support for the usefulness of this behavioral interview method (Latham et al. 1980). Past studies of structured interviews have shown great promise for increased validity over unstructured interviews (e.g. McDaniel et al. 1994; Wiesner and Cronshaw, 1988) with situational interviews (SIs) in particular having criterion-related validity (Latham & Sue-Chan, 1999; Taylor & Small, 2002). Beside SI also demonstrated free from the influence of race, gender, and age bias, and is resistant to gender based effects on reliability and accuracy (Maurer, 1997). These features strongly support the confidence in the quality and appropriateness of SI based staff-allocation decisions. Moreover, studies cited by Maurer et al. (1999) proved that the SI to be a highly valid predictor of performance in a broad array of entry level managerial and professional jobs in a variety of employment settings. There are some studies investigating whether situational interview (SI) from Latham et al. (1980) can be used to examine the extent to which a candidate fits to an organization, its group as well as the job within the organization (e.g. Maurer, 2006).

The SI is among the few interview techniques grounded in theory, namely, goal setting theory. Goal setting theory is situationally specific and cognitively based. Goals and intentions are said to be the immediate precursors and regulator of much, if not most, human behavior (Locke and Latham, 1990). The SI presents job-related situations to applicants and asks them what they would do if they were in that situation. The SI is designed to measure intentions by presenting interviewees with a dilemma that requires them to state what they believe the interviewer wants to hear them say. A scoring guide is developed to assist interviewers in evaluating the interviewee responses. The interviewers are trained to ask each interviewee the same questions using the same tone of voice (Latham, 1993).
Criterion-related validities can be expected to differ for situational and past behavior interview questions. Several authors (Latham and Skarlicki, 1995; Pulakos and Schmitt, 1995) have suggested that situational questions are likely to have higher validity than past behavior questions due to higher inter-rater reliability. With situational questions, they argue, all interviewees respond to the same situations, without the need for further probing, leading to less variation in interviewees’ responses and thus less difficulty for interviewers to arrive at consistent judgments about interviewees’ answers. Two other reasons for expecting situational questions to have higher validity than past behavioral questions have also been suggested: (1) that interviewees with no prior experience may be unable to respond to some past behavior questions (Pulakos and Schmitt, 1995); and (2) that past behavior questions may be more susceptible to social desirability responses, as interviewees reveal past incidents that place them in the most favorable light (Latham and Skarlicki, 1995).

For the management of P-O and P-G fits which are essential for job assignment and job training, it is nice to record these data in the e-portfolio within the human resources department. Besides skill sets, the P-O and P-G fits would be another perspectives in the allocation of employees to certain tasks/groups. Furthermore, the corresponding fit data need to be update in a regular period and be parts of the evaluation for an employee. Nowadays, a multi-national company has usually various ad-hoc projects relying on talents of different expertise fitting together. With this enhanced e-portfolio, the human resources executives would manage the employees in a better and dynamic way.

**Methodology**

With regard to person-organization (P-O) fit, the goal is to determine the elements of individual and corporate culture that need to be examined in a SI. The P-O analysis might use O’Reilly, et al. (1991) eight elements of organizational culture as a basis for designing SI questions to examine the degree to which the individual's innovation (e.g. willingness to take risk and to experiment), attention to detail (e.g. concern with results and achievement), aggressiveness (concern with competition and pursuit of opportunities), supportiveness (willingness to praise and support others and to share information), emphasis on monetary/professional rewards, team orientation (e.g. desire to work in a team and promote collaboration), or decisiveness (respect for decisiveness, predictability, and low decision conflict) matches the organization.

Yet studies also show that employers continue to be challenged in their efforts to find people in high value jobs that possess leadership competency skills (e.g. leadership and interpersonal skills) (Dell and Hickey, 2002). Together, these factors call attention to P-G fit as an allocation criterion because a high level of individual fit with the group has been found to be related to individual performance in teams (Bretz and Judge, 1994) and a key factor in creating effective group behaviors, attitudes, goals, values, and personality (Weldon and Weingart, 1993; Klimosky and Jones, 1995). These findings are consistent with the similarity-attraction hypothesis (Byrne, 1971) and its promise that agreement in group attitudes will enhance team member attraction and thus improve group-socialization, cohesion, and affiliation. Hence, we are going to identify goals typically held by teams/groups and to develop scenarios that test the employee's understanding and acceptance of such goals in situations where critical conflicts between individual and group might arise.

Past researches showed that interviewers are less likely to be affected by gender or racial bias for those African-American applicants in making fit assessments by Hispanic, White or mixed panels. The SI interviewers exhibited significantly less race similarity in ratings of White and Hispanic applicants (Latham et al., 1980; Lin et al, 1992). However, it is interesting to test the framework in Asia where people may be different value and culture as compared with western countries. Thus, this study will be conducted in Hong Kong. The data collection will be conducted within sampled companies.

**Conclusion**

With the e-portfolio related to employee’s organizational fit and group fit, it would enhance the job allocation and a better management of employee. This study will establish a theoretical examination on SI for P-O and P-G fits and carry much practical value on future HR practice.

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Re-locating the ePortfolio: Empowering the Individual through an Employability Ecosystem for Lifelong Learning

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Background
The UK educational landscape is currently undergoing major changes. New fee regimes and a reduction in state funding are marketising Higher Education and ushering in learner as customer. UK Government ideology is positioning education as a commodity, selling a product which promises customer satisfaction in terms of employability. The choices individuals make about their future learning pathways and careers are ever more important as the job market becomes increasingly competitive and uncertain. At the same time, services to support learners to make choices about their careers are being cut back, leaving a vacuum which has yet to be filled.

When times are hard, creative opportunities are often realised. New cost-effective solutions need to ensure that individuals have access to personalised information about careers and employment. The stakes are high, with an ill-conceived decision having lifelong ramifications. Distributed technology and learner-owned tools have a major role to play in providing a platform to choreograph and aggregate personal, open and institutional data and to display it in an interpretable format, relevant to the particular user.

An Employability Ecosystem
The Centre for International ePortfolio Development at the University of Nottingham is developing the concept of an Employability Ecosystem. This describes a loose network of lightweight systems and services, flexibly joined through web services and open interoperability standards to provide individuals with access to information, content and the personal connections they need to manage their lifelong learning journey, including transition into and out of education and employment.

This concept has evolved through project work implementing ePortfolio and open standards with regional learning communities, connecting employers, learners, education institutions and careers services via a web-service enabled set of functions and interfaces.

Locating linked functions to support the lifelong learning journey
Lifelong learning involves choice at many points in the journey. These choices are influenced by a multitude of factors; education and skills, and no less relevant, lifestyle. The JISC-funded SALAMI project is demonstrating how linking skills, learning and environment-related datasets can produce new routes into course and career-related information used to make choices. Using open data, and associating datasets to provide a linked-data service layer is delivering diverse information into the ePortfolio landscape.

The JISC-funded SAMSON project is forming new student-employer-HEI relationships around a flexible architecture of services, using Shibboleth and oAuth technologies to manage access, of which ePortfolio performs the dual role of learning tool and learner portal.

New work is also being undertaken to place the user-centric technologies developed through involvement in the EU TAS3 research into processes whereby students can open up their career interests and knowledge to employers through their ePortfolios and track and manage subsequent relationships developed as a result of employer interest.

Opening up linked data relationships
Common themes running through all this work include opening up data silos through use of open standards (such as Leap2A and XCRI) and web-service technology, and making use of seemingly peripheral open data sources available on the web. Educational institutions and government departments contain vast amounts of knowledge-related data, including learner-owned content. These data sources include courses information, ePortfolio-related data, research expertise, competence profiles and learner-destination data. Opening these up and applying open standards and service-oriented techniques and combining these through common vocabularies and ontologies with open data sources such as geographical positioning services, labour market information and
trends, employment opportunities, transport and business information allows a powerful, and empowering, sub-strata of related information to be aggregated in numerous and unpredictable ways.

**Personalising the data journey**

The challenge is then to provide useful, coherent and personalised views into the wealth of information related to an individual's lifelong learning processes, and enable users to control their interactions with these in a usable and coherent way. Perhaps then, the ePortfolio, a learner-owned and personal tool, can be re-positioned to provide the central and crucial role of aggregator and manager of the data and personal communication networks for choice, learning and employability.
Don Presant
Learning Agents, Canada

Career Portfolio Manitoba is a pilot project whose lifelong/lifewide vision is to use Essential Skills developed through all forms of learning as a key framework for helping Manitobans build ePortfolios for employability. This blended learning solution is adapted from a robust paper portfolio program. It is inspired by other regional solutions such as Careers Wales Online and eFolio Minnesota.

Career Portfolio Manitoba serves a diverse audience of career changers, including youth, mid-career transition, return to work, older worker and immigrant populations. It is a community solution currently unaffiliated with any formal education institution.

Career Portfolio Manitoba is built on Mahara in tandem with Moodle for select resources and activities. It also leverages Web 2.0 technologies such as YouTube, Slideshare and Screenr.

This presentation will explore the vision, program and current progress of Career Portfolio Manitoba. The presentation will include a demonstration of the system and sample eportfolios.
INITIAL EDUCATION
Are Second Or Third Grade Students Too Young For Arranging An Eportfolio?

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Background

Today assessment has not just centered around the tests techniques. We can focus on two subtopics about assessment. These are ‘assessment of learning’-summative assessment- and ‘assessment for learning’-formative assessment-. ‘Assessment for learning’ is as important as ‘assessment of learning’ and there is so many methods for it. One of these are ‘portfolios’.

To be an individual in the future students need to show their experiences which comes from their background. Portfolios offer promise for enriching students through an authentic assessment of ability and growth, and simultaneously for identifying gifted students. Portfolios may be defined as systematic collections of student work selected to provide information about student’s attitudes and motivation, level of development and growth over time (Kingore, 1993: 3).

Portfolios display selection of student’s products which shows their performance. It gives students chance to decide where they are on their learning, where they are going to be on their learning and how can they get to the next point in their learning by self assessment, peer assessment and pupil feedback, teacher feedback, using a rubric and sharing learning intentions ect.

Shulman discusses five benefits in the use of portfolios:

Portfolios permit the tracking of longer episodes of teaching more effectively than single observations do.

1. Portfolios encourage important connections between process and product, through bridging what goes on in teaching with how it is manifested in portfolio products.

2. Portfolios institutionalize norms of collaboration, reflection, and discussion.

3. A portfolio introduces structure to the field experience and can be seen as a “portable residency.”

4. Portfolios shift the responsibility for demonstrating learning back to the student teacher, as a participant rather than an observer. (Shulman 1998 qtd. in Barrett 2003, 4 and in Lombardy 2008).

5. In this decade children have lots of chance to use information and communication technologies. So they can easily transfer their knowledge to technology environment, on the other hand they can reach the information from the different information and communication technologies. So it is not unpredictable for a portfolio which has prepared with using information and communication technologies. So a portfolio or an ePortfolio are not different terms at all. Both are the same terms but we can say that an electronic portfolio is a digital collection of works.

From early paper formats in fine arts and creative writing departments to today’s sophisticated electronic versions, portfolios are now widespread in a variety of fields. Databases and Web sites are now devoted to collecting, categorizing, sharing, and discussing the electronic portfolio. Students can now use digital cameras, camcorders, Web cams, scanners, and file transfers to demonstrate skills that cannot be conveyed via traditional paper portfolios. A range of resources, Web sites, books, and materials on portfolio development and management continues to expand rapidly. The portfolio not only offers a tool for authentic assessment but also a means for students to be reflective practitioners, emphasizing the how and why as much as the what. Time spent in portfolio assessment is not time taken away from teaching or academics, but time refocused and redefined, with the portfolio viewed as a natural complement to learning (North Central Regional Educational Laboratory 2005). Although students and portfolio scores may be resistant to them because of the workload they represent, portfolios are now widely accepted and used in hundreds of colleges and universities to evaluate student work. Despite the price of progress, portfolios are here to stay (Lombardi, 2008).
According to Clerkin (2009) in the light of the an ePortfolio study students can learn self and peer assessment, receive teacher and peer feedback, recognize success criteria and learning intentions. The use of electronic portfolios has been successfully incorporated into assessment for learning processes. Choosing suitable software and structuring ePortfolio content were necessary preparations. Eportfolios provided valuable opportunities for affective learning.

If students are good at using use information and communication technologies we can guide them to arrange an ePortfolio. But at which grade they can begin to study on an ePortfolio?

Objectives
This paper will compare the study about a paper type portfolio and an ePortfolio, and will try to explain students and parents views about these different applications.

Methods
In this study 22 students take part in for two years (second and third grade). In the first year (at second grade) they prepared a paper type portfolio and also an ePortfolio (using flash flip page program). In the second year (at third grade) they prepared a paper type portfolio and also an ePortfolio (prepared web page). All works of students are scanned, recorded them picture format. They wrote their reflections on the works by using Adobe Photoshopt. We put their ePortfolios on the web and they present it. After that we asked both students' and parents’ views about advantages and disadvantages of preparing a portfolio in a file or an ePortfolio, views about presentations of students.

Results
Students' Views
We ask students this question to the students when they are at second and third grade: What is your views about an ePortfolio and a paper type portfolio? And we record some of their answers directly.

İdil Akhan
(2. grade) Preparing an ePortfolio was very enjoyable. I prepared it successfully and I believe that I can prepare my ePortfolio much more successfully at third grade.

(3. grade) I presented my ePortfolio everybody who came to my home. It was enjoyable.

Uygar Doğu Aslan
(2. grade) After this study I believe that I can use computer better from now on. When I was at first grade it was very difficult for me putting my works in a file for arranging a paper type portfolio and I was tired. I think it is easy preparing an ePortfolio. And it is also easy to present it, because we present it at home. My parents didn't have to come to school. I can present my portfolio everywhere.

(3. grade) I believe that presenting my e-portfolio is much more enjoyable.

Defne Alar
(2. grade) There is lots of difference between my portfolios. When I at first grade we prepared a paper type portfolio and my parents had to come school. At second grade we prepared an ePortfolio and I presented my portfolio at home to everybody and I feel myself happy.

(3. grade) I think that preparing and presenting an ePortfolio is much more enjoyable.

Damla Ürün
(2. grade) I think that after I present my a-portfolyo my parents should get proud of me, because I prepared it successfully and present it fluently. I think I am getting older.

(3. grade) Preparing an ePortfolio is much more easy. I think it doesn’t take too much time. Preparing a paper type portfolio is much more tiring.

Baki Onur Eser
(2. grade) I think I expressed myself better when I present my ePortfolio and it was easier to prepare because you are not feeling tired when you are putting your works into files.

(3. grade) I feel myself more relax when I am preparing my ePortfolio. It is easy I think.
Batu Şenol Kaya
(2. grade) I believe that I am using computer better and I think that this school is wonderful!
(3. grade) I prefer preparing an ePortfolio rather than a paper type portfolio.

Umut Özkan
(2. grade) When I presented my ePortfolio I showed all of my knowledge.
(3. grade) I think I am successful. Because I am good at preparing an ePortfolio. When I presented it I felt myself very confident and relaxed, because I was at home.

Aslı Simge Kara
(2. grade) I think I presented my ePortfolio as a professional.
(3. grade) I believe that preparing an ePortfolio is much more useful. I can present it everywhere.

Parents' Views
We ask students this question to the parents when their children are at second and third grade: What is your views about an ePortfolio and a paper type portfolio? And we record some of their answers directly.

An ePortfolio develops students’ creativity, critical thinking and communication / presentation skills.
Students are conscious about what they are doing and have the chance of presenting collaborative works.
Students are using computer better.
Students are excited but on the other hand confident to themselves when they are making presentations.
When I compared my sons’ presentation skills with my students who are at university, my son is better than them.
It is a very effective way to using information and communication technologies for our children.
There was no time limit and my child made presentation in a wide range of time. We talked about every work in detail.
I think my child will make better presentations in the future.
I shared my son’s ePortfolio everywhere with my friends because it was on the internet and reachable.

Conclusions & Recommendations
EPortfolio can develop students’ creativity, critical thinking and communication / presentation skills, they can have chance of presenting collaborative works, they can develop using information and communication technologies skills, it can give much more time to make a presentation, it can be more reachable, preparing it enjoyable, easier for students, students can feel themselves more relaxed and confident when they making presentations.

How this study can be done in a useful way, and reachable for the whole school community? There can be more user friendly way to develop ePortfolio students by themselves. They are not too young for arranging an ePortfolio but they can use easier ways.

References

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Abstract
This paper aims to highlight how the use of a specific ePortfolio tool, Mahara, within a primary school has led students to a different perception of the subjects and the content of the lessons studied. Writings produced by 18 students during the last year of primary school will be investigated in order to show how the use of ePortfolios could support reflection and construction of a personal learning path in 11 years old students. In addition, this research will highlights how the use of ePortfolios could produce an improvement of learning through the stimulation of students’ motivation. The analysis of the activities and comments shows how, starting from a partial reflective attitude, and from the perception of the single lesson as an isolated event, students learn to reflect on their learning pathways, generating views that try to grasp the meaning of the whole learning path and the relationship between their learning and the future development of their student career. Starting from a limited reflecting attitude through which students could only discuss their present time, the improvement of their reflective skills could support them to plan their future. Some features of the tool used, such as its friendly “look and feel” and its structure, similar to that of many social software, have acted as a powerful motivational factor in overcoming difficulties often associated with the use of ePortfolios.

Introduction
A great amount of studies on portfolios and electronic portfolios in education have examined the impact of this tool on students reflection (Grant, 2009; Rossi & Giannandrea, 2006; Jafari & Kaufman, 2006). Indeed, research on ePortfolio use in primary education, is still rather limited (Barrett, 2009; ESUSD, 2009) and this area needs further investigation, expecially in the Italian school context.

EPortfolio can be considered as a useful tool to support authentic assessment (Hartnell-Young, 2006). An analysis of its characteristics can highlight that it can also be considered as a tool to enhance the reflective attitude of students (Doig et al., 2006) and to help them in order to develop a better awareness of their pathways (Flanigan & Amirian, 2006). For this reason, its characteristics should be modeled on the needs of students.

Through the use of ePortfolios it is possible to create a link between the scholastic context of students and the reality that they live outside school. In this way, ePortfolios can establish a convergence between formal learning and informal learning, a winning strategy in order to create an efficient formative environment (Prensky, 2001; Jenkins et al., 2009).

This paper aims to highlight how the use of a specific ePortfolio tool, Mahara, within a primary school, has led students to a different perception of the subjects and the content of the studied lessons.

The use of an ePortfolio has fostered the construction of a personal learning path in 11 years old students in order to prepare them to their transition in secondary school. The growth of students’ motivation could produce an improvement of learning. The social aspects associated with using Mahara have influenced the positive perception of the school work. The presence, within the online learning environment, of social tools like blogs, forums, groups of friends to ask for contact and friendship, has meant that the ePortfolio building work was mediated and supported by social activity (Ito et al, 2010). During the first phase of the work students concentrated mainly on the relational aspects of the tool (Giannandrea & Sansoni, 2011) and only in a second phase they focused on aspects related to the disciplinary and classroom activities. The similarity of some of these activities with social software that some kids use every day outside the classroom has increased the motivation to use and familiarize with it almost immediately.

Background and context
The research was conducted within a primary school, in particular within the institute Vincenzo Monti of Pollenza (Macerata).
The group that took part in the research consists of 18 pupils that attend the fifth and last class of primary school. The choice was not accidental, but the result of at least two fundamental considerations. The first concerns the idea that, perhaps, 10 years old children may be able to manage and work with ePortfolio tools both in the design aspects, and in terms of technology. The second is related to the fact that we considered appropriate to conduct this type of activity in a particular stage of schooling, that anticipate a change perceived as exceptional: the transition to secondary school. In this case, ePortfolio would reveal all its opportunities, as a tool that can follow the individual during the whole course of life, in particular way during more critical situations. Students could use it to know themselves in a better way and to make a self-assessment before embarking on a new journey, perceived as more challenging and complex. Teachers may use them to make an assessment at the end of the path even more authentic. Last but not least, teachers of secondary school could look at it to know the work done by students during the last year of primary school and to prepare linking activities of mutual understanding.

From the beginning of the experience, the children assumed a positive attitude towards our initiatives. In spite of this general euphoria, we had immediately to deal with the existence of relatively limited resources. The class had got eight computers. Just five of them were properly connected to the Net. Moreover, during the course of the experience one of them has stopped working, so there were only four machines for eighteen children. Anyway, in spite of all these difficulties, children’s participation in the project has always been high. The number of entries in the platform and the frequency of access show a regular and continuous involvement throughout the duration of the project. This fact is also documented by the number of groups created (over 90) and the amount of materials inserted (each student has added an average of 8 artifacts with their comments, during a period of about 2 months).

We can outline three phases of work. At a first stage, student accessed the platform and used it as a social software, discovering most of all the playful aspects of creating groups and searching friends. At a second stage they were engaged in collecting and choosing materials to insert in their personal space. In the third phase students developed a growing awareness of the potentiality of the tool and their reflection deepened. In this final situation they started to think about future perspectives of learning and change.

**Structure of the experience**

We used the resources that we had in order to create a comfortable context that could help children to understand the sense of the project. At the beginning, we let them some time to become familiar with Mahara and its functions. During this phase they were very attracted by its communicative aspects. Few days later they spontaneously understood how to carry out their own profile, how to take friends and how to share groups of interest. After this initial moment of knowledge with Mahara, we showed children how to interact with that tool in a quite different way. So, we told them to choose the most meaningful works among all the ones made at school. Then, they could put them on their ePortfolio, linking an explanation of the reason why they had chosen each material. Later on, we invited children to open and see the virtual folder in which they had put their artifacts. We would like to show them that through that collection they would live again the fundamental moments of their learning path. So, we asked them to select, this time among all the works collected, those that they considered the most important ones. These works could became accessible in a structure called view, by all the users, together with a text through which they could analyse the whole learning path.

Analysing the texts produced by the children we have searched traces and data to support our research hypothesis. In particular, we investigated if the use of ePortfolio could allow users to improve their reflective skills, to improve motivation among students and to help them projecting themselves towards future.

**Data collection**

Analyzing the materials produced by the children during the process of collection of artifacts in the ePortfolio and during the phase of production of the first views, we can see that there has been a progressive improvement in their reflective skills. This is what emerges, for example, by reading the descriptions associated to the materials posted by Alessandra:

15/11/2010 – I have liked this text a lot even because I have got a very good mark and because my teacher has liked it a lot.

22/11/2010 – *I have liked this text because I have got eight and because I like Greece.*
27/01/2011 – I have chosen this design because I have liked it a lot, even because my sister is lion. 14/02/2011 – I have liked the poem because I have invented it.

At the beginning, like many of her classmates, Alessandra says that she chose a text because she liked it a lot. Then, she adds that the reason why she liked it was that the teacher had given her a good mark. In this case, therefore, the selection of Alessandra seems to be influenced by external factors, in particular by her teacher’s evaluation. With the second material it happens something that is apparently similar, but basically different. Actually, Alessandra, says that she liked a text about Greece because she loves Greece and because she had a good mark. This time, therefore, the motivation is both intrinsic and extrinsic. When she posts the third work, the design of a lion, Alessandra continues to make a reference to other persons, but this time it is someone connected to her everyday world and family, that is to say her sister. Her reflections became closer and closer to the real world of Alessandra outside school. Finally, Alessandra chooses a poem explaining that he did so because she had invented it by herself. Even if it is the shortest reflection, it is also the most meaningful. Now the child is totally focusing on herself and on the learning path that she lived and built. The most interesting thing to note is how this capacity is reached by passing through different phases. Initially she was linked to the opinion of other people related to the school context, then she moves towards an emotional point of view and, finally, she is completely focused on her potential.

Not all the children have followed the same path. In some cases, for example, from the beginning some of them have been able to focus on their own experience, without external interferences. The change, then, has happened in a different way, as in the case of Camilla, of whom we propose two descriptions:

18/11/2010 – I have chosen this poem because it has got very beautiful words.

06/12/2010 – I have chosen this summary because I have liked the story a lot and even because I have understood that it is necessary to be friends for ever.

At the beginning the child concentrates on the characteristics of the selected products, then she begins to think about the relationships between the topics addressed at school and the world outside school. Her reflection, therefore, is no longer confined to the analysis of the surface of the artifacts included, but reaches a deeper level, since Camilla begins to think about the meaning of what they have learned.

Also Chiara is able to focus her attention on herself, producing some of the most interesting explanations, such as the following:

13/12/2010 – I have chosen this poem because I have liked it a lot, because it has touched my heart. Thanks to it I have understood the pain and the sufferings that Ungaretti lived during the war. I have understood how much the war can be difficult, cruel and painful.

27/01/2011 – I have chosen this problem of geometry because I have engaged myself in making the figure, even because, in the whole class, I was the only one that managed to solve it.

In the first case Chiara reflects upon an Italian poet of the twentieth century, therefore, she is talking about a fairly complex topic. In the first part of the discussion she explains the effect that the poem caused in herself. Later on, she refers to the poet to tell the emotions felt by the man during the First World War. Finally, she comes back on herself to express a very important fact: Chiara now has understood how war can be painful and hard. Chiara, then, makes explicit what she thinks to have learnt on that occasion. In the second case, the attention of Chiara on herself is even more evident. She tells us how much she has been involved and expresses a sense of personal pride when she declares to be the only in the whole class to have successfully solved that problem in geometry.

In other occasions Chiara talks about her involvement, like when she describes an artifact that she did not like very much:

24/02/2011 – I have not liked this text because I have made a lot of mistakes, and because I haven’t liked this kind of text, in fact, I haven’t engaged myself very much!!

In this case, the reflection reaches very high levels, because the child now is ready to admit to have engaged herself not so much and to deal with her difficulties. She also states the reason for her weak performance, claiming not to like that kind of work.
When children have begun to produce the first views, their thoughts have become more articulate. In some cases, the students take again the descriptions made during the process of insertion of materials and extend what they had previously written. In other cases, however, there is a change related to content.

In the case of Elia, of which we propose two extracts from his first view, you may notice a progression in thinking within the same text:

I have been attracted by different arguments and activities. The topics that I have liked most are all the people that we have been studying, but also I have liked to discover my region, that is to say the place in which we are living and its characteristics.

In the first part of the quotation, Elia makes a superficial and indiscriminate analysis of the activities experienced at schools. He states that he has appreciated them in general. Soon after, however, he makes a specific choice, telling that the subjects that he has loved most are history and geography. Finally, linking these materials to his world, he argues that it was exciting to discover the characteristics of the region in which he lives. In this case it is interesting to notice the verb that Elia decides to use: to discover. Geography is seen as a breakthrough, of which the child is a protagonist and not only as something that will allow him to receive a mark.

The greater complexity of thought leads Elia, at the end of the same view, to project himself towards the near future and to discuss his points of strengths and of weaknesses:

I have to try to engage myself more in oral tasks. Instead, when I am doing written tasks or when I am drawing I usually engage myself. Thanks to school I have been learning a lot, but I would like to improve in all oral tasks and I would like to know foreign languages.

Elia exhibits the ability to distinguish between tasks that he could solve better and those that he cannot. Elia, moreover, does not merely list the subjects where he gets better results but is able to understand the difference between written and oral activities.

Also Diego has demonstrated to have good reflective skills, as you can see reading the first lines of his first view:

The subjects that I have liked most are the following: geography because I have discovered a lot of traditions and cultures about the Italian regions and history because I think that the Etruscans were very cool!!. I have liked them as people and I really would like to study the whole history of Rome. I am waiting with anxiety the written test of geography and history because I want to engage myself in the best way and I hope to improve more in all the subjects.

The reflection, in this case, is particularly spontaneous. We can notice it from the fact that he chooses to use informal expressions and words to express his preference for two scholastic subjects, such as history and geography. This means that the child applies to the scholastic dimension the typical way of family communication, establishing a link between those two areas. Finally, as Elia has done, Diego thinks about himself in the immediate future, saying that he is waiting with anxiety the test of history and geography, because he would like to gain an official recognition of his commitment and his dedication.

Another interesting case is that of Chiara:

Going to school I learned many new things, but there are materials that have impressed me and I liked more than others. For example, in history, our teacher made us write an outline on the "Ancient Italian people", although it was very tedious to write, the review helped me a lot for the written examination, in fact, I obtained a very good mark. So I have to thank the teacher for helping me in order to get a good mark.

Like many other children, even Chiara at the beginning expresses a general appreciation for the matters addressed at school, which she describes as "new things". Later on, she makes a specific choice for history. Her analysis becomes more detailed when she decides to talk about a single task: the realization of a scheme. This task is defined with specific terms, as it is boring, but at the same time useful. According to her preferences, therefore, doing schemes does not represent an attractive activity. Yet, the depth of reflection leads her to consider the usefulness of the same activity, that helped her to prepare for the written test. Finally, Chiara would like to thank her teacher because she helped her, a very interesting phrase which shows that Chiara feels the cooperative nature of the relationship with the teacher, who does not impose something but suggests a task and Chiara now understands its effectiveness.

Another text that we can propose is the following, written by Michele M.:
The activities that I have liked most are: the project about the study of the human rights and the nice moment that we gave to old people at a nursing home. In the Mahara-portfolio I have been putting a lot of my works. For example the draw that I cannot do, but after a lot of practise and a lot of engagement I became able to do it. When I made this draw I believe that I was good in engaging myself and I am happy to have got it in my electronic portfolio.

When Michele talks about the most important activities for him, he makes an interesting choice, because he describes a visit to a nursing home for old people. Through his reflection the child has understood that the school is not just math, history or geography, but it is also made of experiences that can help us to understand all aspects of life. Later on, he chose to talk about a plan that initially he had failed to do. Engaging himself and practicing over and over, at the end he managed to do it. For this reason, he expresses a sense of pride and evaluates himself as a good student. Finally, he declares to be happy, because now he can put his artifact in his ePortfolio, that he considers as a place where you can show your successes.

When children realized their last views, their reflective skills reached high levels. This fact allowed them to project into the future, discussing their entry into the secondary school and, in some cases, discussing their professional future.

The first example that we can propose is that of Francesco:

I think that in the future I will need a lot all these things. For example I could explain them to my children, if I will have children and when I made these works my brain has received knowledge and information. When I will go to secondary school, I think that the first few days I will not feel so good and I will be sad because I have to leave my teachers and primary school, but I’m sure that after a while everything will change and the things I have learned here in primary school will help me a lot for the secondary school, for the college (if I will go there) and also in my life and my future. I will be also helped by the things and curiosities that my beloved and adored parents have showed to me, including my brother, of course.

At the beginning, his explanations are not very clear, especially when he talks about his future as a parent. Later on, he wrote something about his brain, which, during the course of the year, has been receiving new information. From his words it is possible to imagine that Francesco sees the school as a place where you can learn new things. Yet, he considers it as a place where you only receive information without any personal processing. All this things may help us to understand the child’s general attitude towards school, an attitude quite passive. During the rest of the text he faces with more evidence the question of his transition to secondary school, that he lives with fear, like many of his classmates. In the case of Francesco, moreover, there is also a certain nostalgia for the fact that he must leave the primary school. In the final part of the text, Francesco links his reflection about the scholastic future to his family life, declaring that he will need everything he has learned from his parents and brother. Although in this case he shows his passive attitude towards learning, Francesco is able to consider his growth as something that occurs both in a formal context, such as school, and in informal context, like that of family.

Another child, Michele V., through reflection became able to project himself into the future, but he does so with greater precision:

I really would like to become an archaeologist and then I will need two topics that we have done in history. But I will need also “horror” text (they studied different kind of text and produced poems, novels, police fiction and trillers n.d.r.), that I will need in secondary school. Thanks to the work with Mahara - Portfolio, now it is as I have studied the same topics twice.

In the first part of the text Michele V. shows that he firmly knows what he will be as an adult: an archaeologist. For this reason, he says that he likes history and that the activities made in that area might be useful in the future. The interest for history is confirmed in the section of the posted materials, which mainly belong to this area. In the second part of the text he makes a meta-reflection about ePortfolio, supporting its effectiveness. He declares that he considers it as a tool that has helped him to study, because it was useful in order to return several times on the same topics.

Another girl makes a similar reflection, talking about ePortfolio as a site that she would continue to use throughout her life:
I’ll use this site when I grow up, although I will have not so much time because I will be working a lot. Talking about the work, I want to open a farm with a friend of mine, named Mary, who agrees with me! Many people think this is absurd, even Marilena perhaps ... I hope not! However, I truly believe in this decision, so I will attend the agrarian school and then ... maybe ... if it is necessary, I will go to University!!!

Even Chiara, therefore, closes her reflection thinking quite clearly about her future projects that she shares with one of her friends. At the end of the text we can see how the child consider the ePortfolio as something public, because she is worried about how other people might perceive her dreams. This indicates that Chiara has perfectly understood the difference between the sections of the portfolio that will be visible only to her and those, like the views, which will be accessible by any registered user. In spite of her fear, however, she is able to describe her intentions, sign that she perceives her ePortfolio as a place where you can express yourself with freedom.

**Conclusion**

In conclusion, this experience shows that the constant viewing and revisiting the great amount of work inserted in their Mahara ePortfolio has made the children aware of development, achievements, strengths and weaknesses of their artifacts. This kind of activity fostered reflection, implementing a three stage process, because at first children reflect on the selection of the artifact, after they focus on the whole amount of the work produced, and finally they have to choose several different pieces of their work to compose a view. This trajectory supports a reflective attitude, made of private choices and public comments and explanation. The analysis of the writings describes how reflections became deeper and more competent during the three phases of the use of the ePortfolio.

In terms of the impact on learning, we can say that some children manage to change their initial perception of disciplines from a first viewing of different separate contents, detached from each other, to a perception of a unified and holistic space of knowledge bringing together all the pieces of knowledge studied.

In our opinion, the use of ePortfolio technology, has acted as a bridge to facilitate the shift from primary to secondary school. The idea to use a software that supports reflection processes, but also allows to organize planning, materials and actions facilitates the transition and permits the children to access all their “old” products and to bring them to the new school.

From the secondary school teachers’ point of view, having a tool where learning evidences are available and collected, makes easier the welcoming and the starting phase of the new class.

Finally, the social aspects that in the first phase collected all the attention of the children, could be seen as the motivational factor that could foster the adoption of the ePortfolio in further school level.

In our research plan we design to maintain the Mahara ePortfolio for the next three years, during the first phase of the secondary school, in order to analyze how the social aspects of the tool affects learning experience and modify the use of the communication tools inside the ePortfolio, such as forums, blogs, etc.

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Comptence-based portfolio for primary education

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Abstract

This paper describes the use of an electronic portfolio for the evaluation of basic competences in Primary Education through personalized goals and assessment which measures the students’ level of acquisition in the aforementioned skills. Likewise, the acquisition of such competences will be more effectively fulfilled through the adaptation of content to the user’s profile and the integration of personalized goals. In the light of the above mentioned premises, we state that portfolios are educational tools that facilitate a reflective assessment of the learning process and increase students awareness of their progress so they become more deeply involved and take decisions in the pursuit of more effective learning.

Keywords: adaptive portfolio, primary education, competence-based learning, rubrics

Introduction and context

Portfolios used for educational purposes try to collect information from teaching activities with the aim of recording learning and allowing children to regulate their acquisition of knowledge through the guidance of the teacher [1]. In this case the students have a key role in the process of assessment since they participate actively and moreover they are aware of their learning process and know at any given time which aspects they have learnt and which are outstanding or need improvement. This is because the portfolio is a record of the student’s evolving learning process. It is also worth noting that the use of the portfolio allows the integration of assessment by competences or skills [2].

This work is carried out because of the change in evaluation that was introduced into Spanish legislation by the Royal Decree 1513/2006 [3] which speaks for the first time of competence-based learning in Primary Education (students from 6-11 years). The objective of this Royal Decree is to establish minimum primary education contents. The basic competences concentrate and identify all the teaching that is considered essential for the integral development of the child [4]. Each of the basic competences is fully developed through the study of several areas of knowledge, and an area of knowledge contributes to the development of several basic competences. Due to this change in education and the cross-sectional character of the assessment by competences a new model of evaluation is needed. So we think that a portfolio would be a valid tool to record competences developed in the subjects of Primary Education and thus allow a competency-based evaluation because the portfolio records each competence in the areas of knowledge. This record may be complex due to the nature of the competences, for this reason having a tool with such characteristics will help the teacher with the implementation process.

Another motivating point for this research is to undertake personalized learning providing students a set of personal goals, adapted tasks and recommendations. Students will develop a series of objectives that are established in the curriculum of Primary Education, and through personalization it will be ensured that these objectives are appropriate to students’ achievements. This will certainly contribute to the identification of weaknesses and achievements of each of the participants. Adaptive teaching tries to personalize the learning process taking into account the students’ characteristics, objectives, and needs [4]. Adaptation refers to the methods that provide customization in the education system through an electronic tool [5]. To achieve this adaptation computer systems are based on the characteristics of each user [6]. Therefore through adaptation it attempts to increase the level of student’s participation in their education, an ability that guaranteed by the use of a portfolio. So we aim to develop a highly-developed system of tracking students where students themselves are participants in their learning.

1 This royal decree recognizes eight basic competences: as Linguistic Communication, Mathematical competence, Knowledge and Interaction with the Physical World, Information processing and Digital competence, Social and Civic competence, Cultural and Artistic competence, Learning to Learn, and Autonomy and Initiative
Objectives

Through this work we design and create a tool for recording students’ activity which allows the assessment of skills in primary education. This tool has two main aspects that are important to highlight:

- Firstly, an electronic portfolio will record all the students’ activity by recording the tasks the teacher provides the children and the association of competences to them. Thus, this system will allow an assessment of competences.
- Secondly, the system will allow personalization of the teaching thanks to the activity record that the tool elaborates. This will be done by using recommendation and adaptation through personal goals and adapted tasks. The system must display these personalized goals to students so that they become aware of their learning process.

Portfolio assessment

The use of this portfolio intends to create a series of adaptive goals for each student providing personalized education to complete the objectives/skills of the course and as far as possible improves individual learning. The objectives/skills for Primary Education that the student must overcome/acquire come pre-established by national legislation. When speaking of goals we refer to a series of objectives adapted to the capabilities, attitudes and talents of each of the students.

The overall evaluation process throughout our system begins when the teacher sets goals that students must pass and which are supervised by the teacher (Fig. 1). (1) According to the objectives students must achieve, (2) the teacher designs tasks that students will do to develop the competences, exercise their knowledge and achieve the proposed objectives. (3) Then students prepare to perform the task. (4) At this point the teacher assesses these tasks taking into account the objectives achieved and the skills developed. As a result of this assessment, (5) the student receives a series of recommendations in the form of adapted tasks and brief guidelines that the teacher proposes. At this time the student also receives a series of personalized goals or objectives in relation to their achievements. (6) From this it can be deduced that students will have new goals to achieve. Goals, tasks, the implementation of results, task evaluation, and recommendation results will be included and presented throughout the electronic portfolio. In this way, and through this system, the child will have free access to his learning process.

Regarding the operation of the portfolio, we can distinguish two main processes throughout the course, recording tasks and stage monitoring. The task recording process will be done frequently, even several times a day. However, the stage monitoring will be carried out throughout the course every time you a stage assessment is made.

Stage monitoring is a more general process than task recording and the former covers the latter. At the beginning of a period the teacher defines the objectives students must achieve by the end of this phase. As the stage advances teachers offer their students a record of tasks. At the end of the stage in the portfolio there are a series of evidences that show students’ evolution across the stage. With these evidences the teacher can give an appropriate result in relation to the student’s evolution.

As for the creation and recording of tasks, this portfolio is based on a 5 process model [7]:

![Portfolio assessment diagram](image-url)
Definition of objectives and the context of creating a digital portfolio.

- Recording, selecting and linking evidences towards a specific learning goal.
- Reflecting and steering of the learning process.
- Presentation and transfer of ePortfolio evidence.
- Assessment and evaluation of the learning process and acquired competences.

This model is applied to each of the tasks students undertake. Firstly, teachers define the goals the students must achieve with the realization of the task and the competences developed by the task. Once completed, the task and all the information concerning it will be recorded in the portfolio. Secondly, it continues the process of reflection, explanation, and understanding led by the teacher to help students do their job properly. After that, the results of the completed tasks are reflected in the portfolio providing the student's assessment. Finally, the assessment results are included in the portfolio in the form of recommendations, tasks and adapted objectives, thus serving as a guide for students.

Competence assessment

The skills assessment will be undertaken through tasks completed by students throughout the academic year. These tasks are included within each of the subjects of the course. It should be remembered that not all the tasks develop skills in equal measure. For this reason, the portfolio will provide an opportunity to quantify the development of skills in each task.

In this sense, students will demonstrate their skills through the completion of the tasks and the teacher will assess the competences. This portfolio offers several methods of evaluation: the first one is an assessment of the whole task and therefore each competence will have a grade depending on the contribution of that competence to the overall task. The second one is an assessment of competency, either by giving an individual mark to each competence according to the student's development of the task (in this case the mark of the task will be the arithmetic average of each of the competences' marks) or by rubrics.

The portfolio will include a rubric manager that will allow teachers to create, modify or add items to the rubrics. The use of rubrics for assessment will be recommended but not compulsory. Rubrics work as a guide for students.

Adaptive task

To pass each course of Primary Education students must achieve a series of predetermined targets in the curriculum. The record of students' activity that our tool creates allows the development of personalized learning plans. The aim of this system is to create a series of adapted goals for each student so that they can achieve the course objectives. Thus, students' objectives change as the school year progresses through the creation of personalized goals. When talking about goals we do not refer to the course objectives, but to a series of planned achievements adapted to the skills, attitudes and abilities of each of the students. These goals are based on the initial objectives of Primary Education, plus all the information contained in the portfolio indicating students' achievements and their characteristics. While some students may need some educational support through adapted goals and recommendation, it is expected to provide personalized education for each student, always with a spirit of improvement and motivation.

Once the class assignments are evaluated, they will have provide evidence of the objectives achieved by the child. According to the result, the child will be given tasks through the portfolio adapted to his/her evolution. These adapted tasks differ from the class assignments because each student has personalized tasks depending on their knowledge and needs. The purpose of these adapted tasks is to promote and improve the children's abilities. In addition to these adapted tasks, the child will receive a series of tutorials, with direct feedback from the teacher who will direct their efforts with the aim of improving children's learning.

To improve the adaptation process, the electronic portfolio will try to determine the patterns of learning. These patterns will be determined on the basis of the objectives achieved by students through class work, through the implementation of adaptation tasks and the results of the recommendations. In this way our tool will try to learn from student's behavior and how adapted work affects them. Thus, the system will be able to propose new objectives and more suitable task.

Conclusion

Regarding the need for a new evaluation model in Primary Education an electronic portfolio that supports this new model of evaluation can be a useful and appropriate solution. In this respect
teachers will be equipped with a simple and effective way to keep track of the competences that are
developed with each of the areas of knowledge.

Taking into account the record our tool makes of students’ activity, the system’s functionality will
increase providing a personalized teaching to each child’s achievements through recommendation.
From the preceding argument we can draw the following conclusion: this system promotes
participation and the child’s integration in their learning process, achievable only with the use of a
portfolio.

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HIGHER & FURTHER EDUCATION
INTEGRATE: INTerlinking and Embedding GRaduate ATtributes at Edinburgh

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The INTEGRATE project uses the PebblePad ePortfolio to embed graduate attributes and their link to employability into three distinct degree programmes, spanning UG, PGT and PGR levels with links to professional practice where relevant.

Using the data (case studies) obtained through the project we hope to enrich the student experience, encourage PDP through an appreciation of not only the subject area of the degree obtained but also the skills achieved.

The project aim is to produce three rich case studies based on three project’s strands (three degree programmes).

The three project’s strands are:

- UG: Undergraduate Academic Skills and Graduate Attributes (School of Divinity);
- PGT: Professional and Personal Development course (MSc in Advancing Nursing Practice);
- PGR: Principal’s Career Development PhD Scholarships.

UG: Undergraduate Academic Skills and Graduate Attributes (School of Divinity) – this strand is building a framework for embedding graduate attributes within Divinity's existing online academic skills course, using PebblePad. It is an academic skills course in 1st year which aims to ensure all students have the basic skills they need for their academic career e.g. essay writing, using the Library. The course is an SCQF level 7, non-credit bearing, compulsory course for all School of Divinity Degree Programmes in order to graduate with Honours. Until September 2011 this course has concentrated primarily on basic skill development to ensure students have the foundational skills they require for their academic study. These skills include Library usage, IT and writing skills.

Within the School it is widely appreciated that students are picking up numerous highly employable skills throughout their academic life (and beyond) but the students themselves do not recognise this. Students of Divinity have numerous future career pathways available to them and need to be able to articulate the value they can bring to the workplace to a vast range of possible employers. University of Edinburgh's Graduate Attribute framework provides an excellent leverage for students to start engaging with the skills, abilities and attributes they are developing. However, students need to be introduced to this early in their University life and encouraged to engage and reflect on their development as they continue with their studies and beyond. Focussing on this compulsory, first year course ensures that students are introduced to the key concepts early in their academic career and pathways put in place to encourage on-going engagement. They also have an opportunity to take ownership of PDP and their skill development - to reflect on skills required within and outwith the formal academic structure.

This strand focuses on the steps that are being taken to introduce graduate attributes to students early on in their academic life through a structured approach that will hopefully encourage the start of a process for further engagement.

Much of this work has been done under the Course Manager’s secondment to the Institute for Academic Development within the University of Edinburgh. This has provided time to develop and discuss the proposed re-structure of the course to provide a graduate attribute focus. This has involved a number of brain-storming sessions with colleagues in the School of Divinity engaged with teaching first year students at a subject level and colleagues in the Career Service and Employability Consultancy. As this work was part of a secondment, some of the time taken has been to ensure that the model being developed is re-usable by other parts of the institution. It is planned that the model will be easily re-usable and customisable by other parts of the University of Edinburgh.

The PebblePad ePortfolio is being added as the tool for students to start recording, reflecting and planning their graduate attribute attainment/growth. Within PebblePad a series of scaffolding components are being built that will aid students to start on this path – these include some self-assessment questions, encouragement to use the blog and action plan tools in particular. These are seen as starting blocks to enable students to start the process of engaging with PebblePad the tool but also PDP in general.
PGT: Professional and Personal Development (MSc Advancing Nursing Practice) - this strand focuses on templating and modelling an already successful implementation of embedding PDP within a degree programme.

Eportfolios have been used at Nursing Studies to help encourage reflection, creativity, problem solving, lateral thinking. As part of the new curriculum for UG and PG nursing students – all of them will be expected to monitor their professional and personal development (something that is required from all nursing professionals) through eportfolios. Since 2008, this local eportfolio initiative has been driven very strongly by Dr Anne Robertson. As a result of that work, the vast majority of academic staff at Nursing Studies are now supportive of the idea of utilising PebblePad for reflection and various other curricular tasks.

The first group of Nursing students who were introduced to PebblePad included postgraduate students taking part in the MSc in Advancing Nursing Practice programme. Within that programme, the traditional ‘supervised reading’ component has been replaced with PebblePad webfolios (worth 20, 40 or 60 credits). Students now can develop and submit the webfolios for assessment through the PebblePad gateway tool. Each student is offered very detailed guidance before they start working on their webfolios. The marking process is supported by a detailed marking criteria sheet.

The criteria for the assessment of ePortfolios include the same criteria that are used to assess coursework. All webfolios are expected to have a learning plan which includes reference to personal and professional development and incorporates the student’s philosophical stance. The rationale for the production of the ePortfolio should be included. The organisation of the materials, artefacts within an ePortfolio should facilitate ease of navigation for the reader. Evaluation and reflection are key components of all nursing webfolios. The marking of those webfolios is viewed in the same way as the marking of a course paper or dissertation. The principle that although, for example, when marking a course paper, elements of the paper such as referencing, cohesion and arguments are considered, it is the overall integrity of the piece of work that is given the final mark. Marking guidelines also highlight the importance of reflecting professional/personal growth; including evidence of self reflection and assessment and identifying future professional/personal development. The MSc in Advancing Nursing Practice programme offers induction sessions on self-reflection and webfolio creation in PebblePad. The webfolios can also be submitted as dissertations.

This strand provides an insight into the “journey” that Nursing Studies have gone through - split into sections-stages so that others could follow or stop (depending on needs). The ‘story’ will include things to avoid and solutions, handy tips - anything useful to other programmes or departments wanting to adopt PDP, or learn more about the challenges associated with blending University graduate attributes with professional competencies in PDP.
PGR: Principal's Career Development PhD Scholarships – The scholarships are being introduced in 2011-12 to provide an opportunity for postgraduate research students to undertake a package of training and development allowing them to gain the necessary skills required to meet their career choices. These include teaching, public engagement, entrepreneurship, and research.

This strand of the project focuses on recording and reflecting on individually tailored career development activities for doctoral students, using PebblePad, to help research students to identify and plan for progression and deepening of their experience during their PhD. This includes areas of teaching expertise as well as public engagement – key areas as students move into academia.

From these three strands it is intended that the lessons learned and principals developed can be rolled-out wider within the University. For each strand the principal aim is to ensure our students graduate with awareness not only of their academic achievements in their chosen discipline but also of the core attributes, skills and abilities they have developed throughout their time at University – essential as they seek employment or move to further study. Student engagement is key element of this project as are links to the University’s employability strategy. This is reflected in the project team which includes the Students’ Association, members of the Employability Strategy Group as well as practitioners in the three areas.

The INTEGRATE project is also part of the Scottish Personal Development (PDP) Institutional Development Programme, supported by the Higher Education Academy, QAA Scotland and the Centre for Recording Achievement.
What Role Does the ePortfolio Play in Higher Education?

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For years, higher education has looked for a way for the ePortfolio to play a role in the preparation and success of our students. I believe Kennesaw State University may have found that role.

For nine years, the Kennesaw State University, outside of Atlanta, Georgia, has used what we refer to as an Online Career Portfolio (OLCP) for our students. The OLCP on our campus was introduced in the First Year Experience classes and has spread to major classes in areas such as Biology, English, Education (they will use it for NCATE accreditation), Computer Science and Accounting. As of today, over 20,000 KSU students have been introduced to the Online Career Portfolio and it is currently also used at a local technical college in Atlanta.

This OLCP tool was created by me in 2002. After researching many tools that were being used throughout the United States, I determined that the way to better serve our students and achieve the desired learning outcome was to create the tool myself. The significant aspect of our eportfolio is that it was created as a developmental tool that emphasizes the importance of skills. The tool encourages students to explore not only that they experienced something, but that because they had the experience they enhanced skills that could benefit them in their future career. The tool’s major purpose is to show the student that their college experience both in and out of the classroom has relevance to their future success. By allowing the student to be aware of how a group project in the Biology class can prepare them for a position in project management with a research organization, we are showing the student the importance of this exercise. When a student understands the need for leadership skills, they may be more likely to join a student organization to enhance these skills. The hope is that if a student understands why the experience is important, they will do a better job in the experience.

The progression, retention and graduation of our students are critical goals for most universities. Demonstrating how their college experience can lead to success in life, will support these goals. When a student understands the relevancy of what they are doing, they are more likely to stay with it. The OLCP allows the student to see how their skills are developing as a result of their experiences. By using the OLCP, the student is also better prepared to present themselves to potential employers. More and more employers are looking for the skills a candidate can bring to their organization. In this difficult economy, the student that can articulate their qualifications confidently to an employer will succeed over their peers. The OLCP is assessable to KSU students after graduation. Our hope is that they will continue to use the tool throughout their career.

The Online Career Portfolio has proven to be an outstanding compliment to the teaching that we offer here at Kennesaw State University. When we survey our employers who interview our students here at the KSU Career Services Center, 91% state that our students are equal or better than students at other schools and 96% rank our students better in interviewing skills. Each year, more academic departments have added the OLCP tool to their curriculum as a way to verify learning outcomes.

I am aware that many other colleges have tried to promote eportfolios to their programs with limited success. I am proud of the results that we have seen here at Kennesaw State University and would welcome the opportunity to share our program with others at your conference. I believe the presentation of how the OLCP was introduced on our campus and the methods of encouraging its use could benefit other universities who wish to expand the usage at their institutions.
It’s written on the wind\textsuperscript{2}: Capturing the tangible benefits of using a Personal Learning space

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Context

This short paper will report on an attempt to measure the impact of ePortfolios, or personal learning spaces (PLS) on learning and administrative processes.

In an era when institutions are under mounting pressure from a variety of stakeholders to increase efficiency and reduce costs, it makes sense for institutions to evaluate return on investment and look at the impact technological innovations have had upon these stakeholders. Having access to information that highlights the benefits of integrating technology into teaching and learning contexts has a number of advantages. It helps alter attitudes amongst staff who may be resistant to change, and it helps identify where resources need to be targeted when future decisions are being made. This is particularly important when considering the effective support of learners.

Since the major cost item in instruction is personnel spend we know that reducing the time that faculty and other instructional personnel spend and transferring some tasks to technology-assisted activities constitute the key to cost savings in instruction. (Twigg 2000:48)

In the current climate many practitioners will find themselves having to justify investment in technologies such as a PLS even though they may be convinced of the range of pedagogic and administrative benefits to the stakeholders.

Before considering the impact that the introduction of a PLS has upon stakeholders such as learners, tutors, administrative and support staff, it is necessary to clarify the purpose of the introduction.

The introduction of a PLS may be due to a combination of the following purposes:

- To solve an existing problem such as how to keep track and store paper based portfolios (Clarke & Hardham 2010), or how to reduce the departmental travel budget (Haigh & Currant 2010).
- To seize an opportunity to reach a new market such as work-based learners.
- To enhance the learners’ experience (through timely feedback for example).

Putting a numerical figure on the economies made is hard to calculate, even when staff can describe where the impact of introducing the PLS has been greatest. The challenge is how to quantify the impact when the benefits can be so intangible and there are challenges around isolating how a specific technological change has made an impact. There are also recognised challenges in quantifying how a change in teaching practice has yielded an economic benefit.

Benefits that are difficult to quantify, but which are nevertheless important to the evaluation of the investment, present particular challenges….assigning a quantifiable or financial value to these benefits may be difficult without resorting to the type of very broad assumptions that bring into question the value of techniques like formal Cost-Benefit Analysis. (Breslin & Cullen 2010:15)

Added to these complexities is the fact that many investments in technology are seen as pilots. There may be economies of scale that can potentially make greater savings when rolled out at faculty or institutional level. Many innovations are originally led by individuals who can envisage the benefits, yet research tells us that effective use of technology to make savings has to involve whole course teams making collective decisions (Twigg 2000). So, as the lyrics of the song in the title suggest, many ePortfolio practitioners feel that a PLS makes savings, but how do we ‘let it show’? It is clearly important that the information is readily available and accessible to a range of different audiences, particularly as the decision making processes within an institution about which investments to make, are rarely left to the teaching staff alone.

\textsuperscript{2} Love is all around written by Reg Presley
Background to this paper
This work was undertaken by a freelance ePortfolio practitioner for a commercial personal learning system developer. The remit of the work was to discover the impact their PLS has had on customers, with a focus on how implementing the system has yielded savings on costs and time when replacing alternative processes. Frequently, these processes are paper-based and are in place, more for historical reasons than practicality. In reality paper-based processes, particularly for recording and reflection upon learning are expensive, cumbersome, slow and inconvenient, making them labour intensive to manage.

Approach to the work
13 higher education institutions and two professional bodies who use the PLS under discussion were contacted and invited to participate in face-to-face interviews with the freelance practitioner. Those interviewed included heads of departments, programme leaders, lecturers, IT managers and learning technologists. The interviews were conducted informally, with follow up conversations if necessary. Questions were centred on what impact has the PLS had upon the practitioner, their learners and the administrative processes in their department or institution. Most of the evidence gathered by those interviewed had been collected through a customer-focused approach with particular attention paid to students as ‘service recipients’ (Breslin & Cullen 2010: 7).

The data gathered for this report was grouped under general themes but it was impossible to apply any quantitative analysis as each interviewee had a specialised and unique perspective. For example, it would be unusual for an IT manager to comment on whether the software had enhanced student learning or not.

Outcomes
The brief from the developers proved to be a challenge to complete. This was for distinct reasons, many of them positive.

Enhancing the student experience
The first reason is very encouraging: all those interviewed said that they had chosen the PLS for ‘pedagogic merit’ with the sole aim of enhancing learning or improving the student experience. For the vast majority of interviewees, they felt that this had been achieved and, for a number they were able to demonstrate this through their own pedagogic research. There was a recurring theme that the software had enhanced student reflection:

"Our academics...say that it's enhanced student learning, especially the students’ reflective ability, and it's improved their own ability to provide constructive feedback to their students."

There was also a sense that the use of the PLS supported students throughout their studies, providing a ‘durable record’:

"With PebblePad we give students a tool that actually enhances their learning. This is their lifelong learning journey in a protective environment."

Some interviewees were aware that the administrative processes ushered in by the PLS, also had a positive effect upon student development. One interviewee linked use of the PLS to an improvement in students’ digital literacy, yet the push for using the PLS had been in an attempt to overcome the problem of integrating multimedia into paper-based portfolios. Now instead of submitting a paper-based portfolio with CD Roms included, students submitted an ePortfolio with links to their evidence hosted in YouTube. This change in submission had increased efficiency and had improved students’ IT skills.

One interviewee reported that the use of the PLS revealed ‘complexities of multi-layered learning’ that were not possible in a paper-based system.

Tutors also reported that using the PLS gave them an opportunity to continuously support their learners

"With PebblePad, tutors have a window into what the students are doing and the portfolio becomes a ‘live document’.

Isolating the impact
It was often a challenge to isolate the impact and attribute any benefits to the introduction of the PLS, particularly if, simultaneously, there had also been a curriculum redesign. Very few of the
interviewees had kept account of the cost of the processes that the PLS was replacing, or could suggest where to find this information out. In many cases, introducing the PLS was seen as an opportunity to completely revamp the pedagogic approach underpinning the course, so making comparisons between systems was, in their eyes, irrelevant. Issues such as student retention provoked a cautious response from most of the interviewees who were in a position to comment. However, early indications from one cohort of learners do suggest that the swift feedback on formative work did contribute to a reduction in student dropout rates. This cohort of learners was first year undergraduates who were encouraged to blog regularly, sharing their blog with their tutors and their peers.

**Priorities**

Financial evaluation was not a priority for many of those interviewed. This is not to say that financial evaluation was considered unimportant, it is more that those interviewed were mainly concerned with the student experience and student attainment, priorities which are notoriously hard to evaluate and attribute to technological investment. There were instances where those interviewed could identify significant efficiencies. These examples of these efficiencies included:

**Reduction in travel costs if supporting work placements.**

One institution had made significant savings when replacing one placement visit with an activity on the PLS and the student received detailed feedback from the tutor. Although the tutor spent an equivalent amount of time reading and giving feedback as they would have in a face-to-face visit, there was no time or fuel spent on travelling to and from the placement. This was a substantial saving of up to 1.5 hours per student if they were on placement far from the campus. The quality of feedback that the student received was not diminished, and in fact, it could be argued that it was enhanced because dialogue took place in less pressured circumstances, and there was a record for the student to reflect back upon.

**Reduction in expenses for external examiners.**

At least two institutions reported a reduction in external examiner accommodation costs due to the use of the PLS for assessment of portfolios. The external examiner received an external account which gave access to the online manuscripts stored in the PLS. In previous iterations of the course, the external examiner had to travel to the institution the day before the exam board to review the assessments, which were too bulky to put in the mail.

**Increased efficiency when tracking submissions and marking.**

Programme and module leaders reported that they felt more in control of the assessment processes being carried out in their modules because the processes were more transparent than paper-based processes.

Compared to using a paper-based portfolio, using PebblePad has been convenient and efficient. Being able to see the 1st and 2nd markers’ discussions in the tutor blog enables the Programme Leader to feel more involved in the programme and confident about processes.

**Faster assessment turnaround time.**

Having the assignments available to mark online did speed up the assessment process. 1st and 2nd markers can simultaneously access manuscripts and there is no need to photocopy manuscripts and send them in the internal mail. However, this is probably no different to using the virtual learning environment where e-submission of manuscripts has been available for a number of years. The PLS enhanced the e-submission when learners had authored the assignment in the PLS environment. This meant that markers did not have to wait for manuscripts to download in order to open them. In addition, when the assignment is a complex portfolio of evidence, the marker does not have to flick forward and back checking the evidence in appendices. With large cohorts of students, this can speed up the marking of a portfolio by hours.

**Reduction in inconvenience of moving and storing paper-based portfolios.**

One interviewee reported that prior to using the PLS, for portfolio work, tutors on her programme used to mark up to 15 student portfolios at a time. Each one was at least one ring binder and several inches thick. Moving these paper-based portfolios around had been cumbersome and inconvenient. There were a number of interviewees who reported whole rooms being devoted to storing assignments. This was not just a temporary inconvenience. Students were reported to be slow to collect marked assignments and this could be problematic for office staff who then had the dilemma of deciding when to dispose of uncollected assignments.

**Elimination of risk of losing a portfolio of work**
Two of the interviewees highlighted the risk of losing a portfolio of work. Losing a paper-based portfolio, particularly if the student is on a professional course, is a major inconvenience and can be time-consuming to recreate if the student has to get a reissue of certificates. One tutor described the consequences of losing a paper portfolio as ‘enormous’. This is one area that, at first glance, looks like an administrative advantage of using a PLS that is learner controlled. However, if the loss of such an important document causes the learner stress, it has a direct impact upon the student experience.

**Discussion**

The findings from the work described above do reflect the concern with the student experience as highlighted in Breslin and Cullen’s Evaluation Framework and Toolkit (2010). Evaluating the student experience using a customer focused methodology may be effective when trying to persuade like-minded audiences about the value of a technological investment, but to return to our opening statement, this is an era when institutions are under pressure to justify costs. This may involve persuading a different set of stakeholders who may not value the same methodological approach. There is already evidence that redesigning courses with a technological tool as an integral part of the design, does lead to a reduction in costs and an increase in student satisfaction and achievement (Twigg 2000). There is also recognition that most UK institutions would appreciate more support when evaluating technological investments ‘particularly when operating in an educational context where benefits from investment are often difficult to identify and measure.’ (Breslin & Cullen 2008:4). The challenge now is how to provide a range of evidence that persuades a variety of audiences, ensuring that innovations we feel add value to the student experience, are counted as valid for whichever evaluation method is preferred by decision makers.

**References**


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A Tribe Learning to Survive? An ePortfolio community of practice

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Introduction
This paper reports on a JISC funded project that aimed to create and nurture an online community of practice around ePortfolio based pedagogies. The project ran from September 2010 until March 2011 and was led by the University of Wolverhampton.

The intention behind the project was to provide practitioners with an opportunity to work collaboratively in identifying key principles for engaging with work-based learners through ePortfolios. The project was seen as an opportunity to share experience and best practice, benefitting those new to ePortfolio based learning and those who were more experienced. It was anticipated that this online community of practitioners would communicate with other areas of educational development, and be informed by, and inform work in related fields. Initially the plan was that all communication would be online, however there was a face-to-face event at the end of the project.

Background
Whilst the introduction of new technologies, such as ePortfolios, reinvigorates the offering that can be made to non-traditional constituencies of learners, there is a risk that the introduction places pressure upon teaching staff:

Not only are new activities demanded of them, but also, perhaps more importantly, staff need to be equipped to work in an environment where change is increasingly the norm.

(McDonald 2009:9)

One way of meeting the challenge of equipping staff to work in a fast changing environment, is to strengthen informal networks that are built around a particular educational approach. This paper will discuss how a community was built with the intention of supporting staff to manage changes in their pedagogical approaches through sharing of expertise and good practice. It was envisaged that the membership of this community would consist of lecturers and those with ‘hybrid roles’ (McDonald 2009) such as learning technologists.

There are a number of interest groups or communities that are concerned with ePortfolios, but at the time this project received funding, there were no non-membership groups that existed irrespective of the ePortfolio software selected. This project grew out of a sense that there was a need for a community of practice concerned with ePortfolio based pedagogies. This project identified a group of key practitioners, largely drawn from the JISC Lifelong Learning and Workforce Development (LLWD) Programme who were using ePortfolios and invited them to share their experiences with other interested practitioners. Because of the theme of the LLWD Programme, the community of practice discussions centred on work-based learning and the use of ePortfolios to support this specific group of learners.

Implementation
The project employed a ‘technical steward’ (Wenger et al 2009) to work with the project manager in identifying key practitioners who would be willing to lead a week long discussion about their JISC funded project. The following projects presented their work during the lifetime of the project:

The ePPSME project, led by the University of Wolverhampton, discussed ePortfolio based pedagogies to support work-based learners.

◦ Co-Gent, led by the University of Gloucestershire. Representatives from the Co-Gent project discussed constructive alignment and how this approach to learning design impacted upon their project.

TELSTAR, led by University of Central Lancashire explored the challenges around using an enquiry based learning approach with work-based learners.

ePI, led by University of Nottingham, discussed their project that is investigating large scale implementation of ePortfolios.

In addition there were weeks led by experts with an interest in ePortfolios including Kevin Brace from University of Aston and Rob Ward from the Centre for Recording Achievement who provided an overview and context for the discussions.

The face-to-face event included presentations from a range of practitioners who were supporting work-based learners, including practitioners from professional bodies, a number of whom are in medical and allied professions.

The community did need to have credibility if it was to be of value to the wider community. Therefore the selection of the technologies to support the community was considered to be critical to the success of the community. Cloudworks49 is a system developed by the Open University and this platform became the community’s main space for communication. Table 1 highlights the challenges and solutions in selecting appropriate technology:

<table>
<thead>
<tr>
<th>Challenge or criteria</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum administration when accepting members into the community</td>
<td>Cloudworks allows users to create their own accounts encouraging all with an interest to join.</td>
</tr>
<tr>
<td>Protection offered against spam</td>
<td>Cloudworks uses Molom to guard against spam attacks &amp; the site is moderated by OU staff.</td>
</tr>
<tr>
<td>Online presence had to remain after the funded period</td>
<td>Cloudworks site will remain for the foreseeable future.</td>
</tr>
<tr>
<td>Asynchronous discussions necessary</td>
<td>Cloudworks has a discussion board.</td>
</tr>
<tr>
<td>Synchronous discussions necessary</td>
<td>ElluminateMark was available to the community through the LLWD Programme and recordings were hyperlinked from Cloudworks.</td>
</tr>
</tbody>
</table>
| Resources e.g. slides from presentations need to be accessible to the community | As Cloudworks does not allow for documents to be uploaded the project used the following online sites to host documents relating to the community theme:  
  1. Slideshare  
  2. YouTube  
  3. Flickr  
  4. Wordpress |

Results

The discussions, both online and face-to-face, revealed that there was interest in ePortfolios and learning design for a work-based setting, with acknowledgement that there are a set of principles that can be applied to this specific setting. Felce and Purnell (2011a and b) provided detailed explanation, discussion and examples on these principles. (See also the ePPSME project website (http://www.wlv.ac.uk/eppsme). Within the online and face-to-face discussions there was recognition that the employer does have influence upon how ePortfolios are used and that there are a number of implications around this including: language and shared understanding between employer, lecturer and student; authentic activities and assessment, and purpose of the ePortfolio.

Participation in the community was varied and could be divided into the following activities:

Leading an activity

- Contributing to a discussion
- Providing a link to relevant resources
- Attending an Elluminate session
- Attending the face-to-face event (held in May 2011).
Statistics of visits to the Cloudworks site reveal that there were visitors from across the globe (USA, Canada, Australia and New Zealand as well as from the UK). In addition the number of visits from different IP addresses were high (the number of distinct guests with different IP addresses who used Cloudworks was 1257). A substantially smaller number of people actively participated (approx. 30) in one, or more, of the ways outlined above.

Discussion and challenges
The statistics from the Cloudworks site suggest that there have been a number of people viewing the site as ‘legitimate peripheral participants’ (Lave and Wenger 1991), and there have been a number of key activists including a ‘technical steward’ (Wenger et al 2009). Every project involving technology will present some challenges. The choice of Cloudworks, whilst meeting the project’s criteria, may have inhibited some discussion as the discussion board is highly visible and there is no method of finding out who is viewing the site. This presented the challenge of motivating people to contribute to a topic for which research is only just emerging.

The other main challenge is sustaining the community post funding. There was enough interest to suggest that the community could continue, either as a special interest group within another community or as a stand-alone with practitioners volunteering to maintain community momentum.

To return to McDonald’s point about staff keeping up with the fast pace of change, although this project may be a valuable way of informal development for staff, it still is not without challenges.

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A self-regulated oriented ePortfolio in order to promote 21st century life and career competencies

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Abstract
The ubiquitous presence of technology changes the educational perspective and highlights the importance of life and career competencies. We suggest Electronic Portfolio (ePortfolio) as an innovative tool which combines important characteristics for the development of the 21st century learner. We emphasize on the impact of Web 2.0 and social software on the ePortfolio process and the need for accommodating a pedagogic model which will strengthen learner's competencies. This paper proposes the implementation of a self-regulated oriented ePortfolio in order to promote 21st century life and career competencies. Based on the positive outcomes of ePortfolio implementation we propose a conceptual framework that aligns the aspects (cognitive, motivational, affective and social) of cyclical model of Self-Regulated Learning with the 21st century life and career competencies, which can be embedded in other e-learning solutions.

Keywords: ePortfolio, Self-Regulated Learning, Competencies, Tertiary Education, 21st Century Skills, Life and Career Competencies

Introduction
The ubiquitous presence of technology changes the educational expectations and the life and career path of individuals (OECD, 2009). Young people, who will be the future labour force has to be equipped with the set of key competencies which are suited to the knowledge-driven global economy (Voogt & Roblin, 2010). Tertiary education which is a central connector of knowledge and labour market should accommodate the growing diversity of qualifications and expectations of students and to provide high-level occupational preparation in a more applied and less theoretical way (OECD, 2008). The educational perspective should overcome the upgrading of work-related competencies and highlight the importance of life and career competencies for the 21st century learners (competence as a set of knowledge, skills, attitudes and values) (Ananiadou & Claro, 2009). Based on the aforementioned context the challenge is ‘How individuals could develop and support their life and career competencies, on the context of digital technologies?’

We suggest Electronic Portfolio (ePortfolio) as a learner-centered tool, which supports students to become active, to engage in self-reflection, to assume responsibility for their own learning and to promote themselves professionally (Barrett, 2000; 2004). The purpose of the ePortfolio (assessment, presentation, learning, personal development planning, multiple owner and working) is an important aspect of the implementation of the tool (IMS, 2005). We focus on the fact that the ePortfolio implementation in tertiary education should be integrated throughout the learning process (Stefani, Mason & Pegler, 2007). Thus, we suggest the development of an ePortfolio integrated into an academic course where learners are able to customize and configure the learning environment. We emphasize on two fundamental aspects of ePortfolios: technology and pedagogy in order to promote 21st century competencies. Firstly, from the perspective of technology we emphasize on the impact of Web 2.0 and social software on the ePortfolio process (personalized learning experiences, networking, interaction and collaboration) (Bryant, 2007). Secondly, from the perspective of pedagogy there is a need for accommodating a pedagogic model which will strengthen learner's competencies (Blackburn & Hakey 2006; Abrami et al., 2008). These fundamental aspects of ePortfolio can be combined with the principles of self-regulated learning which is an active, constructive process whereby learners set goals and then attempt to plan, monitor, regulate, and control their cognition, motivation and behaviour (Pintrich, 2000; Zimmerman, 2001).

Theoretical Background
ePortfolios: Technology and Pedagogy
EPortfolio is an innovative tool which combines important characteristics for the development of the 21st century learner. To this end, ePortfolios can satisfy multiple purposes such as assessment, teaching, learning, presentation and personal development planning. In other words, the ePortfolio
tool can be addressed to learners (students, preservice and in service teachers) while studying (Sherry & Bartlett, 2005), to graduates who seek a position in the workplace (Milman & Kilbane, 2005) and to institutions for programme assessment or accreditation purposes (Lorenzo & Ittleson, 2005). This means that, the implementation of an ePortfolio consists of many advantages as encourages learners to become active, to set goals for learning, to engage in self-reflections and self-evaluations, to make career decisions and to promote themselves professionally (Bull, Montgomery, Overton, & Kimball, 1999; Barrett, 2004).

The implementation of an ePortfolio is a multilateral process that combines the statement of the ePortfolio purpose, the content, the curriculum, the vision of the various stakeholders and the decisions about the software, the platform or the tool (Stefani et al., 2007).

Recent technological enhancements to ePortfolio software have broadened the available features (Strivens, 2007). It is argued that there are many strategies to implement and develop ePortfolios, depending on the choice of available software tools: Generic and Customized tools (Gibson & Barrett, 2002) such as web-building tools (templates and web-editing software), stand-alone commercial products, open source products (e.g Open Source Portfolio software), university-designed software, virtual learning environments, learning management systems and Web 2.0 technologies.

The implementation of ePortfolios based on Web 2.0 technologies provides individuals educational opportunities, combining informal and formal education (Dysthe, 2007). Furthermore, Web 2.0 technologies have profound potential for inducing change in tertiary education due to web data-sharing and exchange mechanisms (Franklin & Van Harmelen, 2007; Bryant, 2007) as well as support participation, students’ educational planning, collaboration, reflection that can be aligned with the purposes and specifications of ePortfolios (Ehlers, 2009; Roder & Brown, 2009). It is identified a gap in the research around the development of ePortfolios in tertiary education considering the integration of Web 2.0 technologies (Attwell, 2007; Roder & Brown, 2009). Furthermore, the widespread use of blogs, ePortfolios and social software there is still the need for reports and analyses in order to validate the educational outcomes (Zdravkova, Ivanović & Putnik, 2009). It is argued that, students, who develop ePortfolios in the context of their institution, in order to demonstrate progress or to assess learning, fail to familiarize with the final outcome (Stefani et al., 2007). To this direction, we emphasize on personalization of learning, in the context of ePortfolios. As, students have the opportunity to customize and configure their ePortfolios, which is a key to creating a sense of ownership of the end product (JISC, 2008). Research on ePortfolios has shown that in order to support learning effectively ePortfolios should be able to accommodate pedagogic models and different instructional designs (JISC, 2008; Abrami & Barrett, 2005).

ePortfolios and Self-Regulated Learning (SRL)

Towards the implementation of an effective ePortfolio which supports learning efficiently, the proposed tools should be integrated throughout the learning process (Challis, 2005) and students should be introduced into the ePortfolios scope and rationale (Chang, 2005; Klenowski, Askew, & Carnell, 2006). It is important, to create ePortfolio pedagogy where students should be encouraged to become dynamic participants in their own learning (Kimball, 2005). To this end, ePortfolios appear as powerful instruments to monitor transversal competencies, which meet the ‘soft’ domains of the pedagogical framework of self-regulated learning (Carneiro, Lefrere & Steffens, 2007). Furthermore, ePortfolios are connected with student’s ability to self-regulate his own learning and to enhance competencies, skills and abilities (Wade, Abrami & Sclater, 2005). Considering that, the process of an ePortfolio allows students to think critically, and to act in an independent and a self-regulated manner (Blackburn & Hakey 2006; Abrami et al., 2008). This means that the nature of ePortfolio can be combined with the principles of self-regulated learning (SRL) which is defined as ‘self-generated thoughts, feelings, and actions, which are systematically oriented toward attainment of students’ own goals’ (Zimmerman & Schunk, 1989). Several models of SRL have been proposed, the majority of which derives from socio-cognitive theory of Bandura (1986). Zimmerman (2000) developed a cyclical model of SRL which applied to education (Zimmerman & Martinez-Pons, 1992). Zimmerman’s (2000) cyclical model of SRL includes three phases:

- **Forethought phase** consists of processes that precede any effort; they involve the beliefs and attitudes of students. Important aspects are goal setting and strategic planning.
- **Performance Control phase** represents processes that occurring during learning efforts. Important aspects are self-control and self-observation.
- **Self-Reflection phase** processes occurring after learning or performance involves reflecting on the self-monitored information to evaluate one’s performance and to make adjustments.
during future learning attempts. The two general processes in this phase include self-judgments and self-reactions.

21st Century Skills and Competencies
The ubiquitous presence of technology creates new opportunities for innovative approaches in education, the workplace and society. This means, that the individual of the 21st century needs to be equipped with a set of skills and competencies which are suited to the knowledge economy. These skills and competencies are often referred as 21st century skills and competencies, to indicate that they are more related to the needs of the emerging models of economic and social development than with those of the past century, which were suited to an industrial mode of production (OECD, 2009). It is argued that the concept ‘competence’ is broader and may actually comprise skills (OECD, 2009) and involves the ability to meet complex demands (including skills, attitudes and values) in a particular context. In practice the concepts, competencies and skills, used depending on the importance attributed to them or interchangeably or with different definitions (Ananiadou & Claro, 2009; Voogt & Roblin, 2010). For the purpose of this paper, we use the term ‘21st century Competencies’, as an overarching concept for the knowledge, skills, attitudes and values individuals need to be able to manage in order to be successful in the knowledge society.

Life and Career Competencies
The need for cultivating and developing 21st century competencies guided the formulation of conceptual frameworks. There are many initiatives such as the Partnership for 21st skills, the Metiri Group and NCREL (2003), the American Association of Colleges and Universities (2007), the Organization for Economic Cooperation and Development (2005) with the Definition and Selection of Competencies (DeSeCo) Programme and the Programme for International Student Assessment (PISA) (Dede,2010).

We emphasize on the fact that young people need to equip with competencies rather than with subject matter knowledge (Ehlers, 2007). It is important to use knowledge and competencies to meet real-life challenges and to be able to solve complex problems in a collaborative manner. Individuals (students, workers and citizens) should be able to develop life and career competencies, like (Partnership for 21st skills, 2009):

- Flexibility and Adaptability: Individuals should be able to adapt to changes and to be flexible.
- Initiative and Self-Direction: Individuals should be able to manage goals, time, to work independently and to be self-directed learners.
- Social and Cross-Cultural Skills: Individuals should be able to interact effectively with others and to work effectively in diverse teams.
- Productivity and Accountability: Individuals should be able to manage projects and to produce results.
- Leadership and Responsibility: Individuals should be able to guide and lead others and to be responsible to others.

Method
Rationale of the study
This paper proposes the implementation of a self-regulated oriented ePortfolio in order to promote 21st century life and career competencies. We aim to support learners in order to become active, approach learning tasks in a mindful manner, manage their own learning in many different ways, proactively set goals and develop a plan for attaining those goals (Boekaerts, Pintrich, & Zeidner, 2000).

Context
We conducted a research within an undergraduate computer science programme in tertiary education, in a course titled “IT –centric Professional Development” (in a case: How to improve your academic and career profile?). One important aspect of the research design is the alignment of the ePortfolio purpose with the course objectives. This course reviews theories, skills and competencies necessary for the development of effective performance in the changing nature of IT working environment.
Participants
The participants were 41 undergraduate students, who voluntarily signed up for acquiring new knowledge and enriched experiences through the implementation of ePortfolio. Since all participants had no experience of creating an ePortfolio, they attended a session of workshops in order to understand the fundamental characteristics of ePortfolios.

EPortfolio tool
The study was designed in order to give emphasis to the ePortfolio tool as an emerging web 2.0 technology which encompasses the new technologies and services and enhances students’ 21st life and career competencies. For the purpose of this research, we selected, an open source social networking engine, Elgg (http://www.elgg.org) and the ePortfolio tool was named ‘MySelf ePortfolio’. The fundamental idea is to highlight the benefits of a social networking tool for enhancing self-regulated learning and life and career competencies.

MySelf ePortfolio: Experimental Procedure
This research supports the idea of implementing an ePortfolio tool following the principles of SRL. The experimental procedure consists of three phases based on Zimmerman’s (2000) cyclical model of self-regulation: forethought, performance control and self-reflection phase. Each phase of SRL highlights the cognitive (task analysis, goal setting, self-instruction), motivational (self-motivation beliefs, self-efficacy), affective (self-reflection, self-satisfaction/affect) and social aspects of learning. Based on the model of SRL (Zimmerman, 2000), student had to enter the cycle of SRL from forethought phase then pass to performance control phase, which in turn influences self-reflection phase. In every phase of the model we propose several learner-centered activities with reflective questions in order to construct MySelf ePortfolio for academic and professional development (Alexiou & Paraskeva, 2010) (Figure 1):

- **Forethought Phase.** Firstly, student enters the cycle of SRL which includes several activities: self presentation, time management, goal setting and designing goal achievement.
- **Performance Control Phase.** Secondly, student passes to performance control phase where he gathers information that will be used to evaluate the effectiveness of the strategic plan and to improve future learning attempts (Clearly & Zimmerman, 2004). The performance processes engage students in specific learning activities such as SRL assignment, writing a curriculum vitae and exercise on experiential scenarios in order to employ self-control and self-observation.
- **Self-Reflection Phase.** Thirdly, student attains self-reflection phase where he reflects on the self-monitored information to evaluate his performance (Clearly & Zimmerman, 2004). This phase includes self-judgements and self-reactions which performed with self-evaluation and self-monitoring rubrics.

Figure 1: The cyclical model of SRL (Zimmerman, 2000) for the implementation of MySelf ePortfolio
Discussion and Conclusion

The research design explores the potential of implementing a self-regulated oriented ePortfolio so as to promote 21st century life and career competencies. Based on the positive outcomes of ePortfolio implementation and on the fact that ‘self-regulation of learning involves more than detailed knowledge of a skill; it involves the self-awareness, self-motivation, and behavioural skill to implement that knowledge appropriately’ (Zimmerman, 2002), we propose a conceptual framework that aligns the aspects (cognitive, motivational, affective and social) of cyclical model of SRL with the 21st century life and career competencies, which can be embedded in other e-learning solutions (Table 1).

We suggest that 21st century life and career competencies (Flexibility, Adaptability, Initiative, Self-Direction, Social and Cross-Cultural Skills, Productivity, Accountability, Leadership and Responsibility) (The Partnership for 21st Century Skills, 2009) can be aligned to the phases and subprocesses of SRL model. SRL can be viewed as an interaction of personal, behavioural, and environmental processes (Bandura, 1986). To this direction, we suggest that individuals should use specific learning processes, level of self-awareness and motivational beliefs in order to be self-regulated learners. This could be achieved with cyclical model of SRL:

- **Forethought Phase** consists of the processes: Task Analysis, Goal Setting, Strategic Planning, Self-Motivation Beliefs, Self-Efficacy, Outcome Expectations, Intrinsic Interest/Value, Goal Orientation.
- **Performance Control Phase** consists of the processes: Self-Control, Self-Instruction, Imagery, Attention Focusing, Task Strategies, Self Observation, Self-Recording, Self-Experimentation.

Table 1 A conceptual framework that aligns the aspects and phases of cyclical model of SRL (Zimmerman, 2000) with the 21st century life and career competencies

<table>
<thead>
<tr>
<th>Life and Career Competencies</th>
<th>SRL Model - Phases</th>
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<tr>
<td><strong>Flexibility and Adaptability</strong></td>
<td>Forethought</td>
</tr>
<tr>
<td>Adapting changes</td>
<td>Self-Control</td>
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<tr>
<td>Being flexible</td>
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<td>Using feedback</td>
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<td>Problem solving</td>
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<tr>
<th>Initiative and Self-Direction</th>
<th>Forethought</th>
<th>Performance Control</th>
<th>Self – Reflection</th>
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<tbody>
<tr>
<td>Managing Goals</td>
<td>Task Analysis</td>
<td>Goal Setting</td>
<td>Strategic Planning</td>
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<tr>
<td>Managing Time</td>
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<tr>
<td>Working Independently</td>
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<tr>
<td>Being Self-Directed Learners</td>
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<tr>
<th>Social and Cross-Cultural Skills</th>
<th>Forethought</th>
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The major outcome is that through the suggested process of structuring an ePortfolio, student learns how to acquire skills that empowers him to actively engage in the development of his personal, life and career competencies.

For future studies, we propose this conceptual framework for further implementation and evaluation. In our future work, we conduct research on ePortfolios for the development and assessment of self-regulated learning competencies.

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Advancing ePortfolios as a Mode of Learning through Task Design

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Background
The ability to change one's own practice, which includes both knowledge transformation and skills transformation due to critical reflection of internal and/or external forces, is widely known as reflective practice. Portfolios in general (and ePortfolios in particular) have great potential as instruments to foster so called deep learning as a result of a lively interplay of “reflection-in-practice”, “reflection-on-practice” (Schön, 1990, p. 34ff) and “reflection-between-actions” (Bräuer 2009). This has been demonstrated in theoretical terms at great length (e.g. Wolf et al, 1995, Winter 1999, Bräuer, 2003, Häcker 2007 Zubizarreta, 2010), but not exhaustive in empirical terms (at least in a European context).

This project combines research and development in order to change existing practice in higher education. We aim to implement and evaluate a prototype of ePortfolio work which unlocks the potential of ePortfolios for fostering reflective practice through task design while overcoming three major shortcomings often associated with this type of learning activity: (1) the inability of the learners to recognise and critically scrutinise their own practice; (2) the lack of tasks prompting written reflection with the quality of deep learning; (3) the inefficiency of institutional frameworks for portfolio work to motivate long-term reflection by students and teachers

Research Question
What types of inputs (“prompts”) are needed at the level of individual task design, procedural structure and institutional framework to foster students’ ability for reflective practice?

Setting
Two ePortfolio learning arrangements will be set up at in Freiburg and Basel. The study will encompass two target groups with 20-40 students each. The students in first group, located in Freiburg, study for a B.A. degree in German as a foreign and second language. This group encompasses the “beginners”. The students in the second group, located in Basel, study for an M.Ed. in teaching English at secondary level (i.e. vocational schools, high schools, Gymnasium). This group encompasses “returning students” who already possess an academic undergraduate degree in English and take part in graduate teacher training. Both groups will work with the same internet application (“Mahara”) and refer to a shared HTML structure (“FolioQuest”) containing materials relevant to ePortfolio work (course curricula, instruction manuals, individual tasks for learning etc.).

Task design
The overall settings will be structurally similar and rely the same types prompts, while the individual task design will be geared to the specific goals and objectives at the two institutions. Both settings will contain three main task-types:

(1) “Understanding Scientific Texts”: Students summarize their understanding of a central scientific text from the course curriculum in a blog and discuss their personal understanding with a peer on the online platform. This discussion becomes the basis for a common summary of the text, which is shared and commented upon in the seminar context. Theses activities are meant to deepen students’ understanding of the subject matter and give them perspectives for applying their new insights in their own practice. The text-type (genre) associated with them is that of the “scientific summary”.

(2) “Analysing Personal Practice at University and in the Profession”: Students examine their own biographies as writers and/or teachers of writing. They reflect on “key moments” in their own careers and discuss them with a peer, analyzing the advantages and disadvantages of their writing practise based on the theoretical insights gained in the first group of tasks. They then change perspective and do a profile of the prevalent writing practices of their co-operating peer. This
analysis in turn becomes a foil for analysing and improving their own writing practice (Freiburg) or their own ideas of how to teach writing to pupils (Basel).

(3) “New Perspectives on One’s Professional Practice”: These tasks involve students designing and implementing a concrete writing-setting either for their own studies (Freiburg) or for their future pupils/classes (Basel). In Freiburg, students prepare an academic presentation consisting of manuscript, Power-Point presentation and handout. In Basel, they design a writing arrangement that could be presented to the school administration in order to gain additional funds.

Writing Prompts

These tasks will be accompanied by various levels of writing prompts in each semester:

(1) “Linguistic Prompts”: Prompts at this level will initiate the students’ individual text production directly. Individual prompts will be geared toward different levels of reflective practice embodying different qualities of knowledge construction and formation. These prompts are given following current models of self-regulated learning (Winnie, 1996; Zimmerman, 1999), which posit that students should be assisted to elicit both cognitive and meta-cognitive learning activities. They include documenting (learning to realise and see in detail what is happening); analysing (learning about why things are happening, understanding the circumstances of one’s own performance); assessing/evaluating (learning about the consequences of one’s own performance with regard to one’s own set of values and beliefs and external expectations such as the educational institution); and planning (learning about how to foster strengths and how to cope with weaknesses in individual performance).

(2) “Procedural prompts”: Prompts at this level concern the way in which students regulate their learning. In existing studies, prompts of this nature ask students to resolve their comprehension problems with the help additional learning materials or by going back to their own learning protocols. If they detected a comprehension problem during the monitoring of their cognitive learning processes, they could plan and realize concrete regulation activities, such as reading a specific passage in the lecture text. Existing studies also show that the possibility for such regulation is necessary for prompts to support learning. In this present study, prompts on the procedural level are concerned with the way students orient themselves based on learning materials, how they interact with peers, and how they organise their activities within a pre-defined learning environment: Activities in using “FolioQuest”, a stand-alone HTML structure modelling and facilitating the process of ePortfolio work, will provide a better understanding of how students orientate themselves while working on their tasks. Activities performed on “Mahara”, a web-based software for ePortfolios, will provide a better understanding of how students produce texts, how they arrange documents of their choice, how they interact with peers through forum and the “friends” functionality, and how (often) they reflect their own practice in their personal blog. The aspect of planning is included through logging information from the personal calendar.

(3) “Institutional prompts”: Any official document provided by the educational institution and related to the task of producing an ePortfolio for a specific purpose that has been pre-defined by this study will be defined as “institutional prompt”. These prompts are not directly related to the immediate writing and working process of the students, but, on the contrary, are means of embedding ePortfolio work within the syllabus of a course and the curriculum of an institution as a whole. To study the influence of such institutional prompts on the students’ work and motivation in an ePortfolio, the following documents will be analysed: (1) course syllabus, (2) description of module(s), (3) exam regulations. While the other two levels of prompting in Basel and Freiburg will not be compared systematically against each other due to significant differences between the groups of learners in Basel and Freiburg, the level of institutional prompting in both places will be compared. This will help to point out either positive or negative impact of existing (or non-existing) documents at either location.

Implementation

The implementation phase will last four semesters (two full academic years). The ePortfolio settings will be re-designed after each semester in the light of subsequent evaluations. This research design allows comparing the effects of different types of tasks on the competence and motivation for reflective practice and finding an optimal set-up both for beginning and returning students.

The initial round of tasks in the first semester will be accompanied by writing prompts on all levels of reflective practice; we here speak of “multiple task design”. Before the start of the second testing phase (second semester) a revision will take place based on the results of the first testing phase.
Revision will focus on both content and structure of the ePortfolio including a fading out of reflective writing prompts and other scaffolding activities and information (Gavota et al., 2010). This fading will essentially consist reduction of explicit prompts on different level, so that we speak of “complex task design”. After the end of the second semester, results of both semesters and groups will be compared and further revisions will take place with regard to the set-up of the ePortfolio settings in Freiburg and Basel.

After one year, the same procedure will be applied with a revised design and two new groups of students. The learning arrangement will be improved on the basis of the results from the first two semesters. This procedure allows the two cohorts of phases 1 and 2 to be compared in order to study whether students’ ability and motivation for reflexive practice increases in the improved setting (see p. 20 for Research Design and Process Chart).

Data gathering and analysis

A mixed-method design including data triangulation will be pursued as different levels of evaluation are necessary to investigate the development of an ePortfolio prototype. Before the start of the project, important key variables of participants will be determined, i.e. information about the person (age, gender etc.), academic record and career (previous schools and degrees). To assess participants’ affinity with computers and media, a computer aptitude questionnaire will be used (experience with computers, types and length of use, presence in online-forums, blogs etc.). It will be determined whether any of these control variables interacts significantly with the dependant variables (i.e. the different prompts) and influence the development of students’ competencies and/or motivation in the ePortfolio setting.

(1) Assessing the quantity of online activity with regard to the ePortfolio:

Data will be retrieved through the individual activity reports of the ePortfolio (“Mahara”) and FolioQuest, a stand-alone HTML structure modelling and facilitating the process of ePortfolio work. Analysis of these activities (number of log-ins, length of stay, number of texts up- and downloaded etc.) will serve to evaluate “time on task” and the intensity with which students worked on writing prompts. For this purpose, special software will be developed for “Mahara” in co-operation with the Team of Prof. Klaus Himpsl at the University of Krems (Austria). Data generated by these activity reports can be compared to students’ self-assessments concerning the scope and intensity of their ePortfolio work. Furthermore, these data will be triangulated with results of students’ motivational questionnaires to determine whether there is a correlation between the development of students’ motivation and the amount of time and energy they invest in ePortfolio work.

(2) Assessing the quality of online activity as knowledge transformation:

The development of students’ competencies in reflective practice will be operationalised in rubrics (construct specific design) and measured directly in students’ ePortfolio documents and activities in “Mahara”. Two independent raters will assess key online activities as either leading toward knowledge transformation without knowing the experimental conditions of the research. In order to get a more holistic set of data, information from questionnaires and personal interviews will be used as complementary resources (data triangulation).

(3) Assessing the levels of the reflection in student texts:

Two additional independent raters will score the amount of cognitive and meta-cognitive strategies for each participant in selected texts and reflections from personal learning log, group forum and final text presentations (“views”) in “Mahara”. These raters will be using a 6-point rating scale ranging from 1 (=dimension not present) to 6 (=dimension clearly present). Raters will be trained using example-texts from existing ePortfolio settings (Freiburg) to ensure sufficient inter-rater reliability (\(\kappa > .7\)). Standard examples from texts will help them score these categories in a transparent and objective way.

(4) Assessing students’ motivation for using the portfolio as a mode of learning:

Students will be asked to respond to a “learning self-regulation questionnaire” (Black & Deci, 2000) and an intrinsic motivation inventory (IMI) (Deci et al. 1994) at the beginning and at the end of the first semester of ePortfolio work as well as at the end of the second semester. In addition, their motives in engaging with the ePortfolio and its tasks will be assessed in individual focus interviews. Five students in Freiburg and Basel will be chosen after each semester, depending on their texts and work in the ePortfolio setting during the semester. The function of these interviews is to get a better understanding of students’ work and their motives relating to the ePortfolio. In addition, a “usability
“test” (Opdenacker et al., 2009) will be employed which will focus on the setup of the ePortfolio ("Mahara") and the suggested procedures to maintain the ePortfolio. Participants start with an open card-sorting (Deaton, 2002) on an individual basis. They afterwards discuss their individual card-sorting and find common ground in a collaborative version. Based on this final version they receive clarification questions from an independent focus group facilitator who will in the end summarise the results on behalf of the research team.

**Outcomes**

The aim of this project is to create a prototype for ePortfolio work that is empirically validated and adaptable to different context of higher education. It looks to deepen and enlarge existing experiences (e.g. at the Universities of Teacher Education in Basel and in Freiburg i.Br.), and to study the development of students’ competencies and motivation for reflective practise in response to different settings, tasks and learning prompts. It will be valuable for institutes of higher education looking to foster deep learning and “reflection-in-practice” in their courses.

**Bibliography:**


Making Learning Visible at Boston University: Bridging Transitions from High School to College

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Innovation Summary
In just one year, with the support of the provost’s office, Boston University (BU) students are “making their learning visible by collecting, selecting and reflecting on their college work in an ePortfolio, using multimedia digital formats housed on the web. Students at BU, both graduate and undergraduate, are currently developing ePortfolios in pilot projects across both campuses: in Public Health, Dentistry, Arts and Sciences, Fine Arts, and the Writing Program. This session will address the question of how students and faculty are using ePortfolios to MAKE LEARNING VISIBLE to develop a comprehensive assessment system for the classroom in order to best assess and teach all students across the developmental levels of high school, college and graduate school.

This session will first describe what recent research says about assessing adolescents as students with diverse language and learning needs. Then it will show exemplars of how best practice that undergrad and graduate faculty assess competencies and skills of students using ePortfolios. Finally, it will present a sociocultural framework for faculty classroom assessment that responds to the complex social, political, cultural and linguistic factors related to language and learning.

LEVEL OF STUDENTS- High School (Boston University Academy), Undergraduate and Graduate

EDUCATIONAL OBJECTIVES AND BENEFIT OF INNOVATION

Foster the One BU Model with Evaluation and Assessment:

Documenting The Process and Products of Student Learning.
A Comprehensive Assessment System available at a high school, undergraduate, and graduate level at Boston University, the first of its kind in the United States, offers opportunities to capture what Gardner called the “Multiple Intelligences” of its diverse student population including learners at all ages.

Personalize Learning and Assessment to Accommodate Individual Differences
A comprehensive assessment system for students at Boston University can document evidence of learning over the course of their personal development program or IEP of Individualized and Personalized Educational Program. Unique to Boston University, a Personalized Educational Program is possible in the course of study at a large university like BU given the multiple measures of assessment that take place in courses, in extracurricular experiences, in internships, and on campus jobs etc. Simply put, the whole BU experience can be captured in a Digication ePortfolio to make learning visible on a website with multimedia collections of student academic, emotional and social development over their career.

Piloting 21st century Assessment for Learning Models using ePortfolios
As universities, colleges and schools across the world begin to define what student’s need to be able to do when for graduation, the evidence of their learning that is collected in a portfolio needs a set of standards to guide its development. In implementing portfolios used as assessment for learning, artifacts are selected by students to tell the story of their learning, which may include tests, projects, culminating experiences, internships, and performances, captured in text, image, audio file, or video.

The portfolio is maintained on an ongoing basis throughout a class, term or program. Portfolio and artifacts are reviewed with the learner and used to provide feedback to improve learning. The primary audience for a formative portfolio is the student and often their parents in student-led conferences. The focus is on formative assessment: what are the learning needs of students in the future? How has the learner improved over previous work? When used for formative assessment, these types of portfolios have the potential to improve student self-esteem. In contrast, when looking at portfolios as assessment of learning, a student submits specific required artifacts that are mandated by the school to determine outcomes of instruction. Summative portfolios are usually developed at the end of a class, term or program. Portfolio and/or artifacts are usually “scored” based on a rubric and quantitative data is collected for external audiences.
Document the BU Experience in a Digital Media to Share with Future Employers or Graduate Programs

Students leave most universities with classroom notes, textbooks, and a diploma. There is strong evidence that suggests this is changing dramatically, and the strongest piece of evidence is the rapid growth in popularity of (ePortfolios) in universities (5400 in 2 years) These are electronic collections of work-curricular and reflective-collected over time showcase students learning in and out of the classroom during the course of their university education. They may include text, photos, video, and audio, completed work as well as drafts and sketches. Many believe that the ePortfolio will replace the traditional résumé in just a few years, as employers seek students with a breadth of experience and tangible evidence of success in writing, creating, performing, designing, and engaging in team work.
ePortfolios in 21st-century Higher Education in the UK – What Do We Mean Now by 'Student Centredness'?

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Abstract
This paper considers the possible impact of current changes in the politics of higher education (HE) in the UK on the future of eportfolio learning. Key changes include the drive to engage employers and companies much more closely in HE and the proposal that course fees payable by students should increase and in many cases treble. As a result, universities are looking to make a demonstrable impact on the employability of students, as part of a wider and strengthening institutional agenda focused on the student as customer and increasingly referred to as 'The Student Experience'. The paper considers how far there are synergies and/or conflicts between the idea of student-centred eportfolio learning and customer-centric public policy for higher education.

The prioritisation of The Student Experience marks a dramatic shift of emphasis towards valorising both the student’s perspective and a radically wider definition of student learning than academic institutions have traditionally recognised. This paper discusses a recent successful eportfolio project at the University of Nottingham in the light of the Student Experience phenomenon and considers its implications and potential for eportfolios, posing questions about the future for eportfolios in the tougher, more strongly client-oriented times which UK higher education now faces.

Keywords: Employability, placements, Mahara, student-centred, holistic

Introduction: Policy, ‘The Student Experience’, Student-Centredness and Eportfolios
This paper considers some current changes in the politics of higher education (HE) in the UK and their possible impact on the future of eportfolio learning. Key changes include the drive to engage employers and companies much more closely in HE, not just through research contracts but also student placement programmes, sponsored studentships, involvement in curriculum design and commissioning of continuing professional development courses (CPD) for workforce development and lifelong learning (HM Treasury, 2006). A further proposal is that course fees payable by students should increase and in many cases treble, funded by the government but for repayment by graduates, once their earning power reaches a certain level (Browne, 2010; BIS, 2011). As a result, a major performance indicator for universities becomes their ability to make a demonstrable impact on the employability of students, enhancing their chances of getting good graduate jobs.

What is the role of eportfolios in all this? This paper provides an example of an unusually successful eportfolio pilot, in a complex learning context which is well established in the department concerned, and which illustrates many of the conditions associated with business engagement and student employability which other parts of the HE sector are now confronting for the first time. An outline of key features of this pilot leads into a discussion of the implications for eportfolios of the new climate in the UK, relating eportfolios’ long association with student-centred learning to the newly intensified client-orientation which government policy is creating across the sector.

Student employability is just one item within a wider related agenda currently preoccupying UK universities and increasingly referred to as ‘The Student Experience’, a concept aired by Lee Harvey in the 1990s and subsequently highlighted and promoted by the 1994 Group of universities in the UK (Harvey, 1992; Kay, 2007; Norton, 2009; 1994 Group, 2011). The Student Experience agenda foregrounds the student as a customer and consumer, and now constitutes a major influence upon institutional decision-making. Institutions are rated each year on The Student Experience, and the outcomes, which are published through the National Student Survey, influence public perceptions of the standing of individual universities.

The challenge posed by the advent of the Student Experience reflects a dramatic shift of emphasis to valorise both the student’s perspective and a radically wider definition of student learning than academic institutions have traditionally recognised. Analysing the step-change involved here, this paper compares the holistic and student-centred approaches to learning often associated with eportfolio use with the implications of the broad, client-centred concepts promoted in the name of
The Student Experience. It poses important questions about the future for eportfolios in the tougher, more strongly client-oriented times which UK higher education now faces.

The following list summarises some of the main learning behaviours associated with student-centred learning:

- Active learning
- Deep learning and understanding
- Increased learner responsibility and accountability
- Increased autonomy, choice, personalisation
- An interdependence and mutual respect between teacher and learner
- A reflexive approach to teaching and learning processes on the part of both teacher and learner. (Adapted from Lea, 2003: 322)

Affinities between these behaviours and the characteristics of eportfolio-based learning are strong. However, the ideal of student-centred learning has not gone unchallenged by any means, and the arguments on both sides have been reviewed helpfully by Mary Thorpe (2010). By comparison with ‘student-centredness’, the concept of ‘The Student Experience’ is broader and deeply pragmatic. With its implications for employability, it has potential as a major new arena for eportfolio implementation for the future. What new opportunities might the new policy and imperatives around The Student Experience create for eportfolios, and how differently might they impact on eportfolio use in learning institutions?

**A Possible Model?**

The successful eportfolio pilot at the University of Nottingham, which is our starting point here, was part of the JISC-funded SAMSON project (CIePD, 2011(a)). Using eportfolios for Masters students’ research project placements in companies in the food and biotechnology industries, close to 100% student engagement was achieved, even though the eportfolios were not assessed.

The University of Nottingham work placement programme in BioSciences is designed to meet the needs of employers. Companies specify research projects related to immediate business needs and the programme manager has recruited and retained a number of companies over some years who have found the programme helpful to their business and who keep returning for more. The same companies may also develop research collaborations with University staff, so the relationship built through the student research projects can carry wider importance for the University. There are significant benefits to students’ learning, traditionally: insight into real-world operations and issues, greater understanding of the application of academic learning to specific contexts in industry and a foretaste of the experience of working in the sector. This discussion of the SAMSON pilot weighs the significance of context, level and multiple stakeholder viewpoints in the design of the eportfolio-based processes developed, and assesses the contribution of ‘student centredness’ to its success.

The SAMSON eportfolio implementation used two cohorts of students enrolled on masters programmes in the School of Biosciences. There were just over 100 students studying either Applied Biomolecular Technology or Food Production and Management. They had work placements in organisations ranging from large multinationals to local small or medium-sized enterprises. The deployment of Mahara eportfolios in this context provided the opportunity to address a nexus of challenges:

- Difficulty in tracking progress of large student cohorts distributed across many companies in the UK and internationally
- Unrealised opportunities for university-company relationship-building, through partnerships around student project placements
- Lack of student awareness of the full benefits to their learning and employability of the skills and experience provided by project placements
- Resource-heavy administrative and management processes.

In the pilot project the students were required to use eportfolios for a very specific purpose – namely completing and sharing a weekly report. The students were able to demonstrate professionalism, by explaining their research outputs and weekly achievements for a range of audiences and through
presenting their information in company-specific formats. Students also demonstrated evidence of behaviours associated with student-centred learning: showing an enhanced understanding of what they were doing and why, and exhibiting increased learner responsibility in terms of planning future work. In some cases learners were encouraged and rewarded with feedback from employers who opted to engage with the eportfolio system themselves. A further unforeseen benefit was that some students spontaneously harnessed other functionality within Mahara, and started sharing learning resources which were of value to particular groups. Academic staff perceived the eportfolios as enhancing the quality of their engagement with students in that the administrative efficiency gains ‘... allowed us to utilise the time for more effective communication with students.’ Students commented that they felt motivated to engage with the system because of the increase in tutor feedback which it facilitated. ‘I have motivation to upload my reports because I get comments, I get to know the status of my project.’ In addition to improving the frequency and quality of tutor-student communications around research placement activities, the eportfolio succeeded in supporting all the stakeholders and the full complexity of the intersecting dialogues which need to take place in order to underpin worthwhile student placements. The advanced technology of the SAMSON project made it possible for data to be shared with ease across the university-workplace boundary, connecting university tutors, placement programme managers, students and workplace supervisors.

The key outcomes were as follows:

- Employers voluntarily engaged with the eportfolios and found communications with students and the university improved.
- Student learning and skills were enhanced by regular progress reporting, planning, writing for multiple audiences and receiving feedback.
- Staff and students reported positive impact on professional development.
- Key user suggestions for implementation and wider use of the eportfolios were identified and built into a second implementation.
- What were the keys to success in this eportfolio pilot? The crucial factors included excellent leadership and support by staff, the choice of a particularly student-friendly tool and a careful matching of selected activities to the immediate needs of several different players.

The eportfolio use developed in this case is basically a version of the professional development model, a model well established as prime territory for successful eportfolio implementations within traditional learning institutions. The use of the eportfolio is selective, focused, specific and maps to formal learning objectives. It does indeed promote student ownership of learning and employability, but, in terms of a major issue in this paper, student-centredness is probably not the key.

This pilot was a success because the use made of the eportfolio was both less than that of a traditional learning eportfolio and also, in other respects, more. It was highly selective in terms of learning purposes and activities and also the criteria for selection were clearly led by the needs of the administrative staff managing the placements programme, not by the tenets of student-centred learning. The main initial driver was the manager’s wish to have a more efficient system for running the programme, tracking the students and optimising student completion and employer satisfaction. There were gains, however, both for learning and for employer engagement. The students’ use of the eportfolio enhanced their academic learning by making them more active learners, facilitating the provision of formative feedback to them, increasing their sense of ownership of a more personalised and more professional research project process. In this pilot, the feedback came not just from tutors, but also from the programme manager and in some cases the employer too, and the scope of the student’s learning extended to include professional workplace behaviours.

As a result, the student’s learning was situated at the centre of multiple dialogues and communications, formative exchanges and collaborations between a wider circle of stakeholders than before, inside and outside the academy, supported by the SAMSON technology, using the Mahara eportfolio, and achieving sophisticated levels of interoperability.

‘The Student Experience’ and the Future of Eportfolios

How far was this pilot a model of how eportfolios may be deployed in support of The Student Experience?

The BioSciences context provides an established example of the serious valuing of workplace learning within an academic course. As such, it mirrors the radical widening of the definition of valuable learning and achievement which is essential to the concept of The Student Experience. The holistic and personalised approach to individuals’ development which The Student Experience
embodies is reflected in other, parallel developments in UK HE – the strengthening of the movement to widen access to HE, requiring the validation of a wider range of prior learning experiences; the trend whereby more and more UK universities are defining their students’ generic employability in the form of lists of Graduate Attributes which are attained both inside and outside the curriculum; and the proliferation of student award schemes across the sector, designed to give institutional endorsement to students’ achievements beyond their courses of study. The SAMSON pilot also highlights another aspect of the new HE environment, the understanding that the student’s experience of the institution is much more than the traditional image of a bi-lateral relationship between student and tutor, or student and department. It took account of a much richer network of purposeful contacts and interactions which, in reality, the student experience depends upon within the institution. It made room for more peer engagement and a more inclusive concept of staff-student relationships (tutors, placement programme managers, learning technologists, careers advisers - the learning institution). The next step is to revisit the project from a genuinely student-centred perspective, developing the processes and the technology (including the role of the eportfolio) to join things up fully from the student’s point of view. This work is going forward through a follow-on project entitled ESCAPES, as part of a programme funded by JISC to centre on The Student Experience. (CIePD, 2011(b); JISC, 2010)

JISC is funded by the Higher Education Funding Council for England (HEFCE) and the re-orientation of both bodies towards a student-as-customer focus is clearly signalled by the following passage from the most recent government white paper on HE reform, which is called ‘Students at the heart of the system’ (BIS, 2011). The bid to justify high student fees by requiring an improved service to students dictates much of the rhetoric, as this extract shows:

• … we will empower prospective students by ensuring much better information on different courses. We will deliver a new focus on student charters, student feedback and graduate outcomes.

• We will oversee a new regulatory framework with the Higher Education Funding Council for England (HEFCE) taking on a major new role as a consumer champion.

• … The Coalition will reform the financing of higher education, promote a better student experience and foster social mobility. Our overall goal is a sector that is freed to respond in new ways to the needs of students. (BIS, 2011, Foreword, pp.2-3)

What does the government mean by ‘a better student experience’ and, far from promoting synergies with eportfolio learning, might the implementation of this policy pose a threat to it? While eportfolio learning can only be enriched and validated by an official endorsement of lifewide learning, inside and outside the curriculum, which must therefore be welcomed, this move by the government to maximise client-orientation in the sector may introduce a rather different take on treating learners holistically. Learning itself, whether understood broadly or narrowly, may be devalued or relatively sidelined, to give space to other factors which are important to the customer. The status of learning could be reduced to that of just one of many components of The Student Experience, such as the standard of the catering and the quality of the social life. In addition, much new technology is already committedly customer-oriented, in the sense that it is designed to give students what they want, how and when they want it. If the whole culture of client-centredness in HE strengthens significantly, will the challenges of eportfolio learning be lost? This is a serious question because the rich potential of eportfolios to support active, developmental learning depends on their demanding nature. Which of the players in the client-oriented university will need eportfolios? – and what will those eportfolios that survive be like?

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Abstract

Portfolios are most typically used for learning assessment tasks and competencies. However, this case study has also encompassed the effects that the continued use of the tool has on certain competencies (information management, reflection on the learning process, personal planning and planning for learning). These key competencies, among others, have been chosen because they appear to be related to the cognitive activities carried out by students as they use the portfolios.

Several groups of university students in standard courses have used a tool designed specifically for university portfolios (Carpeta Digital, or Digital Folder). Two questionnaires, one regarding its effects on study and one on the assessment experience, were carried out at the start and end of the academic year. Individual opinions and reflections were also recorded. The results show positive changes, although they only affect some of the analysed dimensions, along with a very clear impact on the students’ perceptions of the consequences that the use of e-portfolios has on the aforementioned competencies.

Introduction

This article concisely describes and analyses the results obtained in respect of the main objectives of our research, which are as follows: 1) to demonstrate a positive change in the perception of users (students and teachers) with regard to the use of e-portfolios as an evaluation and learning tool; and 2) to demonstrate a significant improvement in the general competencies of planning for learning, information management and reflection on learning. These objectives stem from the more general question: How do e-portfolios improve general competencies?

The research

Background

Since the creation of the EHEA (European Higher Education Area), much thought has been given to how to improve university teaching practice, taking it to a more practical yet reflective level, with the goal of ensuring that students not only learn concepts in an abstract manner but are also capable of applying them in their environment (competencies).

These competencies tend to be split into specific competencies (those related to each university area of specialisation) and key or cross-cutting competencies (those which are common to almost any professional or personal activity). The latter constitute the focus of our research. Several competencies are considered cross-cutting and "obligatory", including digital competencies, lifelong learning and communication etc.

Although learning begins within the institutional environment, the personal dimension is gaining increasing prominence as competencies become incorporated in the evaluation process. In this context, the need arises to equip students and teachers (mainly) with tools that facilitate the implementation of the set objectives and that are in tune with the theoretical frameworks concerning the construction of learning.

The Horizon Report (2009), among others, highlights the need to train students academically in new competencies such as informational, visual and technological literacy, the ability to work in a team, as well as in the content, multimedia design and underlying codes of the applications that they use day in day out. In addition to these needs, university classrooms nowadays usually include a virtual campus, the use of which requires the learning of competencies. These include the ability to communicate asynchronously in an efficient manner, the management of learning while allowing time for reflecting on learning, the new forms of evaluation and the possibilities of negotiation regarding these forms.

The use of e-portfolios is becoming common practice in Higher Education. They offer some intrinsic advantages that closely match the needs of students and teachers alike: they introduce a virtual environment, they offer an alternative to traditional assessment, they improve competencies and they enable two-way feedback (Jafari & Kaufman, 2006; Krämer & Seeber, 2009; Poyatos & Allan, 2004; Rodríguez Illera et al, 2009; Yáñiz & Villardón, 2006).
As we have explained, our hypothesis is that the continued use of a portfolio system, in conjunction with pedagogical action to ensure that students use it in the best possible way, should show improvements in several competencies, particularly in some key competencies. This idea is based on a Vygotskian idea concerning the influence of the social environment and the actions that we perform, attempting to understand how we end up assimilating these actions as mental operations. Along the same lines of thought, Salomon et al. (1992) distinguish between the with effects and of effects of the use of technology. The former are based on actions that we may carry out with technology while the latter are the permanent residual effects that technology has on us when we have used it for a certain amount of time.

E-portfolios involve a similar approach and it is to be supposed that the mental operations carried out with them will improve over time and will perhaps leave cognitive residue, although they should also enable us to improve some operations in the short term, i.e. those that we carry out when we use them. With this in mind, we have chosen some competencies that, to us, seem prototypical of certain types of use of e-portfolios: information management (i.e. selection and organisation of evidence), reflection on learning through assessment with the teacher and, finally, planning for learning.

Methodology

A case study has been carried out on the use of an e-portfolio platform, entitled Digital Folder [DF], in two different subjects from a Pedagogy degree and one from an Audiovisual Communication degree, all taught at the University of Barcelona. The DF platform has been developed using pedagogical criteria regarding interaction and evaluative feedback and has been adapted to the needs of competency-based evaluation (Rodríguez Illera, 2009). Teachers are given specific training on the use of the tool since they use it to carry out training assessment throughout the academic year. The Pedagogy students are familiar with the use of paper portfolios for assessment purposes, although they have not used e-portfolios. Meanwhile, the Audiovisual Communication students are not assessed through portfolios, although they are accustomed to using professional portfolios in their area. As such, all the students have received training at the start, during and at the end of the experience on the methodology of e-portfolios, on the use of the DF and on examples from previous academic years.

Although a large amount of data has been collected, in respect of the aforementioned objectives we will focus on certain aspects of it: direct observation of the e-portfolios, students’ reflections through the portfolio evidence, and two standardised questionnaires: one on the student’s attitude towards the portfolio (Segers, Gijbles & Thurlings, 2008), adapted to e-portfolios, and another on the assessment experience (Gibbs & Simpson, 2003).

We have focused on how students have progressed in respect of motivation and strategy regarding both the use of the e-portfolio for learning during the academic year and the corresponding assessment. These two aspects, in line with Biggs’ analysis (2001) will enable us to know whether students act effectively in the acquisition of significant learning (deep approach) or not (superficial approach). For the three subjects we have carried out a pre-test and a post-test, obtaining 55 responses for the first questionnaire and 69 for the second. The results of the two questionnaires have been analysed as a whole and also on an item-by-item basis, in relation to the three competencies under study.

Secondly, we have analysed the students’ reflections in their portfolios. In one of the three subjects they have written reflections on their experience with the DF tool, along with their opinion of it as future educators. For the analysis we have used a mixed method of content analysis (Taylor & Bogdan, 1987).

Results

Learning and assessment approaches in a student context

In line with the idea of learning approaches (superficial and deep, Biggs, 2001), we have looked at data from the start and end of each academic year, i.e. before beginning work with e-portfolios and at the end of this work. In general, little progress has been observed (table 1), although one aspect is worth highlighting. According to Recio (2008), to identify the progress of Higher Education students it is important to consider the intensity level and not only the change in the learning approach, which often does not occur. In this respect, progress has been observed in the intensity of the approach: although most students (71.7%) showed a low intensity level at the start, within the deep approach, by the end of the implementation of the e-portfolio 15.2% of students had shown an improvement, rising to a medium intensity level. Furthermore, the significant value in the approach is 0.031 (<0.05).
Table 1. Deep Approach learning categories at the start and end of the implementation of e-portfolios and the intensity of each one.

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>Moment</th>
<th>%</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>DEEP APPROACH</td>
<td>PRE</td>
<td>83.6%</td>
<td>71.7%</td>
</tr>
<tr>
<td></td>
<td>POST</td>
<td>83.6%</td>
<td>56.5%</td>
</tr>
<tr>
<td>DEEP MOTIVATION</td>
<td>PRE</td>
<td>96.4%</td>
<td>83.0%</td>
</tr>
<tr>
<td></td>
<td>POST</td>
<td>90.9%</td>
<td>84.0%</td>
</tr>
<tr>
<td>DEEP STRATEGY</td>
<td>PRE</td>
<td>65.5%</td>
<td>80.6%</td>
</tr>
<tr>
<td></td>
<td>POST</td>
<td>65.5%</td>
<td>80.6%</td>
</tr>
</tbody>
</table>

This questionnaire, the R-SPQ-2F, has revealed that students work more on the basis of motivation (<90.0%) than strategy (65.5%) in learning, despite there being a slight drop at the end of the e-portfolio process (which may be due to other factors related to the end of the academic year). However, the differences between the averages are significant between the superficial strategy and its intensity and not in terms of motivation (table 2).

Table 2. Frequency Comparison of the Motivation and Strategy categories at both points in time and significant value

<table>
<thead>
<tr>
<th>Category</th>
<th>Motivation</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre (%)</td>
<td>Post (%)</td>
</tr>
<tr>
<td>DEEP</td>
<td>96.4</td>
<td>90.9</td>
</tr>
<tr>
<td>SUPERFICIAL</td>
<td>1.8</td>
<td>5.5</td>
</tr>
<tr>
<td>UNDEFINED</td>
<td>1.8</td>
<td>3.6</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Sig. (bilateral)</td>
<td>0.568</td>
<td></td>
</tr>
</tbody>
</table>

The second questionnaire, AEQ, is split into 4 dimensions: 1) Amount and distribution of the effort, 2) Portfolio and learning, 3) What you do with feedback (Effects of Feedback) and 4) Portfolio assessment and learning. Each dimension is composed of 5 items, except for the third, which contains 6. The AEQ questionnaire is scored on a 5-point Likert scale (1= strongly disagree – 5= strongly agree), so the total possible in each dimension is 25 points, except in the feedback dimension, where it is 30. Once again, similar results are obtained at both points in time (pre and post), as shown in the table below, but the results in the first and third dimension are significant.

Table 3. Comparative and significative results at both moments (initial and final of e-portfolio process).

<table>
<thead>
<tr>
<th>PAIRS</th>
<th>Test-related samples</th>
<th>t</th>
<th>gl</th>
<th>Sig. (bilateral)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRE-POST</td>
<td>Amount and distribution of effort</td>
<td>3.165</td>
<td>68</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>Portfolio and learning</td>
<td>0.318</td>
<td>68</td>
<td>0.751</td>
</tr>
<tr>
<td></td>
<td>Effects of feedback</td>
<td>-2.430</td>
<td>68</td>
<td>0.018</td>
</tr>
<tr>
<td></td>
<td>Portfolio assessment and learning</td>
<td>-1.46</td>
<td>68</td>
<td>0.885</td>
</tr>
</tbody>
</table>

The interpretation of amount and distribution of study effort is that students work on their portfolios over the weeks, and topic by topic, but increase their activity as the deadline for handing in their e-portfolio (sig. 0) draws nearer. The students have altered their perception about being less selective with content and believing that this approach will work well. Now they are reflecting on the content (sig. 0.03). The students believe that in this way they will improve and that they are doing a good job. In fact, they work throughout the period and some activities are reviewed individually and also in class to facilitate this progress. In short, the students see the learning process with the e-portfolio as something clear and stimulating, but which in itself requires understanding.
Feedback from teaching staff is not excessively frequent, perhaps because it is carried out face to face through reviews in class and in small work groups. However, feedback on the portfolio is carried out in particular at the start (also addressing organisation, structure, formal presentation and other aspects of the portfolio), halfway through the academic year and on completing the process within the DF. One of the functionalities is a module entitled Dialogue, devised to monitor learning. This is used by the students when initiated by the teachers and its purpose is to help them improve in the subsequent learning activities and actions.

The Portfolio and learning dimension indicates that the students have perceived the e-portfolio as a positive influence on the quality of learning carried out during the academic year, during reviews and during the result of the e-portfolio. The students perceive that they have learned the functioning of digital environments and the development of competencies.

The students' voice

The students have been creating their e-portfolio for these subjects while they were being taught. On completion of the subjects they have reflected on the use of the DF. These reflections have encompassed their initial experience with the tool, their learning experience and the development of certain competencies, among other related issues. All of this information has been classified in 5 families: creation of the e-portfolio, learning (in general), content learning process, DF functionalities and, finally, relations (student-student, student-teacher, student-tool). Each family contains from 5 to 7 quotations.

The concepts with the most mentions are as follows: organisation (n=31), feedback (23), monitoring (22), other uses (21), advantages (18), usefulness (17), ease of use (16), assessment (14), planning (13) and learning of the subject (13). These results are derived from the applied methodology and probably from the philosophy behind the tool. Some students stress that the privacy offered in the DF, enabling students to edit their evidence and make the e-portfolio public for teachers when they feel the time is right to do so, has helped them to improve their assignments on many occasions:

“I find the DF a very positive educational tool because it’s a person’s very own personal space, and, what’s more, it enables you to create, delete and edit as you go. In other words, if one day you write something and the next day you don’t like it, you can delete it, since the space belongs to the person in question, who decides whether to post something or not” [student 1].

Feedback is another aspect that has driven students to improve their evidence and obtain better results, despite the fact that they have mostly received feedback on just three occasions. As has been stated above, feedback (or communication) is provided at the start of the subject, encompassing formal aspects such as the appearance and structure of the e-portfolio, and has helped in some aspects related to students’ digital competencies. The remaining feedback sessions have also dealt with the same content in addition to the assessment of evidence.

Improving competencies with the e-portfolio

Going back to our main question, namely how the use of e-portfolios improves the development of key competencies (planning for learning, information management and reflection on learning), the quotations of students’ perceptions have been sorted into the three stated competencies plus one other, digital literacy, which has appeared in most of the reflections.

The planning for learning competency requires time to develop, since the very idea of planning is a projection of organisation towards the future, which means that the results and comments cannot be considered final. Nevertheless, students have mentioned its presence very clearly during the creation of the e-portfolio in reference to certain aspects such as the review of content and self-correction to achieve learning objectives:

“In my opinion, I consider that the DF is a good learning tool since it enables the student to summarise the content incorporated over the course of the training process, in turn enabling the more careful and individual reflection on the abilities and knowledge assimilated during a subject or academic year” [student 2].

On referring to information management, they highlight the possibility of selecting, classifying and organising evidence and keeping it grouped together and accessible in an easy and permanent way. As such, one student says: “It enables students to organise their work and observe their progress through the teacher’s feedback. We believe that this application enables us to keep several portfolios simultaneously, which can include all the topics and subjects in a single place” [student 3]. And again: “The digital folder is a good educational tool since it helps to compile all the completed
activities and to place them in it quickly and efficiently. Having it all stored makes it easier to search for it. The digital folder allows you to place activities according to topics in this case, obligatory activities, reflections... and this helps to keep it all well-organised and when we want to consult it, we can do so more easily” [student 3].

Reflection is an essential aspect of portfolios, although not all students are aware of carrying out this activity. Most of the evidence has an introduction or a conclusion that sums up the content. In turn, this content refers to articles, messages by the actual student or by companions in forums, references to past learning experiences, to work experiences and to thoughts and suggestions, etc. Reflection can therefore be found in each item of evidence, in each section of the e-portfolio and through the creation of the portfolio. Some reflections are clear in nature while others are more implicit.

All the students have previously used paper portfolios, making it easier for them to refer back to and make comparisons with this past experience and think about how they would react in similar future situations, as well giving them foresight in terms of experiences, knowledge and motivations. Most of the students would like to use the Digital Folder for other subjects (21 comments) due to the advantages that it offers in terms of editing, organisation, storage and the feedback process in comparison with the paper portfolio. Another frequently mentioned aspect is its use in searching for employment. This is an aspect worth mentioning since it is related to the idea that the Digital Folder enables continuous and future use by Higher Education students.

The fact that students are using a digital tool that offers different possibilities from what they are accustomed to (in general they only use Moodle at university) has meant that this new digital literacy has become a parallel learning process through which they have been able to produce their e-portfolios. Some students recall that at the beginning of the subject they did not really understand why they should use the tool and that they also experienced technical difficulties: “I haven’t had any problems with the e-portfolio since this is the second year that I’ve been using it. But I did have some difficulties last year with the Pedagogy of Communication material, when it came to creating files. I was investigating on my own, trying things out and I finally managed it. Since then, I haven’t had any more problems” [student 4].

This student, for instance, has needed time to understand the tool and has finally been capable of using it without problems. Others state that it is very straightforward and intuitive, but that it is necessary to attend the training sessions.

Discussion

The present study forms part of the research project entitled "Assessment of the design and use of electronic portfolios in the context of the EHEA (European Higher Education Area), as tools for assessment and learning skills". This article focuses on discovering whether students improve key competencies by using the DF and their perceptions on the matter.

As we stated at the beginning, we have homed in on some of the competencies that students may improve through the use of an e-portfolio tool, such as planning for learning, information management and reflection on learning.

The data that we have gathered from the questionnaires and reflections have enabled us: a) to establish a series of cognitive changes with regard to the practice of studying and assessment through the use of e-portfolios, b) to improve the development of the DF, c) to confirm the development of the three competencies detected in our study and d) to obtain data to improve teaching practice.

Significant differences between the two points in time in the questionnaires and the final reflections in the e-portfolios suggest real improvements in the development of competencies, as well as a change in assessment and learning strategies thanks to the use of e-portfolios. Generally speaking, our students have deep learning approaches. This has made it possible in their case for the Digital Folder to change the traditional 3P model (Biggs, 2001) successfully.

Each factor of the 3P model (presage, process and product) affects the others as a system. The R-SPQ-2F questionnaire has made it possible to prioritise the students’ factors to modify the final presage together with other factors.

In line with Bloom’s revised taxonomy (Anderson & Krathwohl, 2001), the 3P model indicates that under the reflection conditions in the e-portfolio, students are situated at a higher thinking skills level, to the point where they are even assessing the DF tool using their own criteria. As an indicator and result (at the same time), students would like to apply the portfolio to other uses (mentioned
above): “For all these aspects, I think the portfolio is a good digital tool that can be used not only in the academic sphere, but also professionally” [Student 5]. Other recent data shows that some students who have not been involved in these experiences have also requested to use the tool, on the recommendation of the students who have used it. On completion of the subjects, most were grateful for the opportunity to use this system for monitoring their learning. They have also sent e-mails in which they explain that they have continued to use the DF to display their curriculum vitae and some of their hobbies.

Meanwhile, the use of the DF is related to a change in their approach to learning practice. The students have needed training and practice sessions to understand and appreciate the use of the e-portfolio. It is possible that some students may require more time, which may explain why improvements have not been detected in the "motivation" dimension of the learning approach. The students themselves stress the variable amount of time required to learn how to work with e-portfolios and to grasp how they may improve learning evidence.

Conclusions
The Digital Folder (DF) is a tool that has been designed to help in the creation of e-portfolios in an academic environment and focusing on students as its main philosophy. The students have deep learning approaches and the use of the DF has improved some aspects of their learning and of the assessment process.

Biggs (2001) points out, and we agree, that results and improvements of this kind are the responsibility of students and teachers alike. With this in mind, in future implementations, we will attempt to establish practices geared towards improving strategies of a deeper nature (positive), along with motivation.

The methodology used with our students has incorporated Lambert’s principles (1995) regarding the constructivist approach: active learning, metacognition and reflective practice, meaning making, beliefs, values and experiences. In this respect, we believe that the DF design has helped to improve those aspects through some specific functionalities, precisely considering the effects of this technology on learning: privacy, property, private feedback with teachers, organisation, reuse of evidence, competence tags, media inserts.

Through their perceptions, the students have proposed ways of defining competencies (planning for learning, information management and reflection on learning) on the basis of developing new digital competencies as they consider new scenarios for publishing their e-portfolios. In this respect, future research will focus on using the results obtained now as a platform for further progress. It will also focus on improving the competencies of planning and the personal management of learning in situations of long-term use.

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A Practical Approach to Guiding Students Through the Transition from FE to Beyond

Philip John Perry, Lisa Danielle Webb

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“A frequent refrain from academic staff is that the quality of students has declined over recent years. Common complaints are that they are less able to recall what they have been told and less able to learn independently. New students have often experienced extended periods in secondary school or college and an examination of the qualifications being taken in these establishments has led to ideas of teacher dependent and risk averse strategies.”


With the landscape of education in a seemingly constant process of shift, the HE sector finds students entering degree programmes from a variety of pre-HE / access courses, and at various different points in their lives. Having taught in higher education in art and design for ten years, the authors of ‘A practical approach to guiding students through the transition from FE to beyond’ have recognised a distinct move toward art courses receiving students from not just Foundation programmes, but also from BTECs, HNDs and other ‘Foundation equivalents’. More significantly, perhaps, we are seeing an increase in A-Level applicants applying to, and being accepted at, higher education institutions.

So how does this affect us in the higher education sector? Although taught to rigorous standards by schools and colleges, we find students entering degree programmes with various amounts of life and academic experience. At the application / interview stage, we might wonder in very practical terms, “How will this person manage in a very different environment?” It is an unfortunate truth that we see a small percentage of students struggle, and at worst withdrawing from university courses, because they feel ill-equipped to manage their learning and find that other students are capable of moving, learning and ‘fitting in’ to the university structure much easier. An issue, it seems, is this: for the student, higher education can feel significantly different to their pre-HE experience. HE expects its students to develop increasing autonomy as part of their development as emerging practitioners, and it is the ‘culture shock’ of the new that results in a number of level one students withdrawing from courses, often within the first ten weeks of the first term. As Yorke and Longden (2008, p7) noted, “Roughly one-third of respondents said that academic work was harder than they expected it to be.” Jon Scott and Maria Graal (2006, p41) suggesting a range of further student concerns.

Drawing on successful PDP innovations across the School of Art & Design, and in response to work developed as part of a 5-week induction programme, Philip Perry and Lisa Webb have worked with Karen Johnson and Dave Hassell from Coventry’s Hereward College to develop teaching material intended to assist in the cultural and academic transition from HE to FE. A series of ten handouts has been developed, with consideration for both traditional and digital journaling methods (specifically pebblePAD and Mahara), that provoke FE students to engage with reflective practice as a part of their FE course. By recognising and actively participating in autonomous learning, reflection, self-criticism and action-planning, the student becomes more self-aware and understanding of learning styles and teaching approaches that they will encounter the following year.

Dates are recommended for the dissemination of this material, based on expected UCAS deadlines and typical key dates during the year. The tenth handout, to be issued at the end of the pre-HE course, asks the student to address their independence, audit their accumulated year’s worth of personal and academic skills, and consider how this will be relevant to the coming year of HE learning.

Following a successful pilot study in the academic year 2010-11, a 52 page A4 paperback containing each handout for pebblePAD, for Mahara and for other online / paper-based journaling technologies, will be made available for free download and online purchase.

This paper discusses the role of scheduled interventions in FE programmes as a means of aiding retention in and transition into HE level.

Student testimonials about the ‘transition’ handouts and journaling process:
• “It had helped me to accept failure – or relative failure – as a natural process, and is not something to be frustrated about.” Mark Andrews

• “It allows you to note down your strengths and weaknesses and allows you to carry on with your work and improve the weaknesses later on” Anon

• “It helped me to be more focused in what is important to me and my ideas, and also fortifying the area I want to follow into a career.” Lee Ahodes

References

When Knowledge Spans Borders & Academics Transform: Valuing ePortfolios in a Globalized World

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As popular sentiment and debate both for and against ePortfolios transpire throughout academia, educators, students, and, simply, more than those aforementioned fail to realize the true benefits associated with ePortfolio development. Basing knowledge and promotion of the tool mainly on student assessment, “integrative learning,” and classroom applications to the real world, those in the academic realm lose sight of the significant impacts an ePortfolio can have on education both in a local and in a global context.

Thinking locally, ePortfolios, even on the smallest scale, can make a difference. A student’s reflection in an ePortfolio challenges modern day, 21st century school of thought. With a lack of thinking on a global perspective defining students today, reflecting will broaden a students’ outlook. If students reflect what is learned through ePortfolios, educators revive the ability to think conceptually and perceptively - the historic mindset popularized by philosophical thinkers like Socrates and Aristotle. Thus, by using ePortfolios, we can re-stimulate that sense of thinking in our students. Simply, because students will broaden their outlook on the world and what is learned through reflection, ePortfolios help spark thought and inspire innovation in the mind. As students continue to document their work and reflect on what they have learned in their ePortfolios, they learn to look to their past experiences to see the changes in ideas that brought the world today; and, consequently, have a foundation of work to secure a better tomorrow.

Still, of the more important benefits is an ePortfolio’s online establishment. Understood as a place for web-based documentation of coursework and/or life experiences, education is now unbound. With modern-day fear of books being obsolete and the loss of mass historic knowledge, as long as technology continues to define today’s society, all the work placed in an ePortfolio is archived online forever. In that sense, with the mere use of ePortfolios, our work and knowledge will never die; and now, in fact, will span borders and education, it results, is only a click and a keyword away. As students place coursework online, people, regardless of their geographic location, can learn from it. Thus, as more students develop ePortfolios and demonstrate their learning, they can pass on what is and should be learned to others, regardless of where they are. Now, while still receiving an education, through the use of ePortfolios, students, without the title of a Masters or a PhD, become educators as well.
Using ePortfolio as Web 2.0 tool to foster reflective learning

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Introduction

New approaches in technology enhanced learning (e-learning) are associated with adoption of student-centred teaching model based on the reflective learning and the usage of Web 2.0 tools and services. Web 2.0 is an environment in which everyone can make contribution using the Web applications that provide rich user experience and dynamic content (Anderson, 2007).

Until recently, the main trend in e-learning was the usage of web based learning management system (LMS) that integrates tools needed for all activities performed by teachers and students. A limitation of such systems is that, in great number of cases, are used mostly by teachers to publish their course materials and classroom presentations, for online testing of students' knowledge, and for forum discussions (Sclater, 2008; Oliveira, & Moreiraz, 2010).

The new generation of LMSs include some Web 2.0 tools (usually wiki or blog) in order to promote collaboration, but these tools are usually less attractive and with less possibilities comparing to the other popular Web 2.0 tools for social networking, collaborative writing, media sharing, social bookmarking, etc. Students are used to tools such as YouTube, Flickr, WordPress, Wikispaces, Facebook, Ning, Mahara, and similar, so in order to increase students' motivation in learning teachers should integrate those tools in their courses.

However, a disadvantage of the use of Web 2.0 tools is that the students' contributions are distributed all over the web. The problem especially occurs when students create a large number of artefacts that they are supposed to share with teachers and other students who are enrolled in a specific course (Bubas et al., 2011; Oliveira, & Moreiraz, 2010).

It seems that ePortfolio can help to integrate presentation of the students artefacts created in a course with Web 2.0 or some other tools, together with the course materials published by the teachers (Balaban et al, 2010; Bubas et al., 2011). It promotes social networking by creating groups of connecting students and forum discussions as well as reflective learning (Cambridge, 2001; Carroll et al, 2007; Batson, & Chen, 2008; Prasad, 2010) by using blog tools as an electronic diary. The student’s work collected in ePortfolio could demonstrate student’s effort, progress, and learning so it also serves to teacher as a tool for assessing student’s learning process and outcomes (Chan, 2010; Bubas et al., 2011).

According to that ePortfolio is considered a powerful tool for learning and assessment.

This paper presents work-in-progress with the aim to identify ePortfolio as valuable Web 2.0 tool that enables learning according to reflective learning paradigm, as well as a supporting tool for teachers in the process of student's assessment.

Background

The course “Teaching Methods in Computer Science” was designed for senior students in the graduate program in Computer Science major at the Department of Informatics, University of Rijeka.

Students who attend this course are future elementary and high school teachers and on completion of this course they should be able to apply various teaching and learning approaches to Computer Science lessons. They are also introduced to the use of various ICT tools in education and to the basics of instructional design.

Since the academic year 2004–2005, a blended e-learning model (Hoić-Božić, et al., 2009) has been introduced by combining learning activities in a traditional f2f environment with online activities using a learning management system (LMS). Course activities are designed according to different learning paradigms: behaviorism, cognitivism, and constructivism, and include independent learning, online discussions and problem-based learning (PBL).
Objectives and Context
Since the last academic year 2009-2010 we have started the innovation of existing learning model into two directions: 1 - towards e-learning 2.0 approach, by combining LMS with applications available on the web that will enable organization of collaborative activities, and 2 - towards reflective learning that will help students to gain deeper understanding of subject matter, and thus fully achieve course learning outcomes.

Course-based metaphor of the LMS was not appropriate for this new educational context because the content in the form of lessons and online tests were not the important elements any more. We needed a tool that would support the concept of independent work on seminars, collaborative work, and reflection on what students have learned in the context of the course. We also planned to introduce to the students, as future teachers, various open source Web 2.0 tools and other software tools that were appropriate for using in primary and secondary schools. Since the students were supposed to create a large number of artifacts and share them with teachers and other students who were enrolled in the course, we also required a tool that would serve as a repository of materials.

We decided to introduce ePortfolio because it supports desirable technological and pedagogical shift from closed Moodle LMS environment towards Web 2.0 tool that makes possible both: collaboration and reflective learning. Furthermore, it supports teachers in evaluating students’ work (Batson, & Chen, 2008; Balaban et al, 2010; Oliveira, & Moreira, 2010; Bubas et al., 2011).

Widely used ePortofolio system based on the open source product Mahara was chosen because it includes features like resume builder, weblog, and social networking system for connecting users and creating online communities. Mahara is considered as one of the best open source options for colleges and universities that have already adopted the Moodle LMS (Prasad, 2010; Bubas et al., 2011).

Mahara allows student to create ePortfolio consisting of multiple views with different combinations of artefacts. It also gives them control over who can access their views which encourages reflection through sharing of content. To ensure collaboration and sharing of artefacts, students and teachers joined the private ePortfolio group at the beginning of the course (Figure 1). All members of the group have permissions to access the views of other members.

Learning Activities
During the course the students learned about various tools and services appropriate for teachers of Computer Science in elementary or high schools. They were supposed to define learning objectives for chosen teaching unit from a computer science course according to the Bloom’s taxonomy, and to create a conceptual maps using CmapTools software toolkit. Students used HotPotatos tool to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill Web tests, appropriate for summative or formative assessments in schools. They were
also expected to develop a short course in Moodle LMS, with various multimedia elements, online tests and communication tools.

In the context of the course, Teaching Perspectives Inventory (TPI) is introduced to students and they were supposed to take a TPI questionnaire in order to summarize their views and perceptions about teaching.

Important activities of the course are related to methodological practice in computer science in elementary and high schools. Students are obliged to monitor the classes in school, to attend exemplary teaching class hours delivered by mentor, and to individually prepare (using written preparation form) and deliver at least one class hour.

It was important that students continuously publish results of above mentioned activities in their ePortfolios together with posts in learning diary. Students were supposed to write their reflections on the used tools, the course activities, and their performance in general. Especially important was their reflection on teaching practice in schools and on ePortfolio as a tool for learning.

Student’s Mahara ePortfolio contains three main elements:

1. Personal profile (CV or resume),
2. Repository of materials made during the course consisting of following artefacts:
   - interpretation of their Teaching Perspectives Inventory (TPI) test results,
   - learning objectives list and conceptual maps of the selected teaching unit from a computer science course in primary or secondary school,
   - URL of Moodle course created for the same teaching unit,
   - HotPotatos tests,
   - preparation form for one-hour lecture held in elementary or secondary school,
3. Learning diary (Figure 2.) in the form of blog with reflections on the accomplished tasks including impressions about ePortfolio (in general, and as an educational tool).

![Figure 2. Example of an ePortfolio view of a learning diary (in Croatian)](image)

**Grading**

Students can earn points from the several mandatory elements that count towards their final grade. The conceptual maps contribute 20 points, Moodle course 30, and HotPotatos tests 20. Generally, in addition to 70 points for continues work during the semester, students can collect 30 points at the final exam in written form.

Instead of final exam in written form we decided to evaluate students’ ePortfolios. We consider that at the end of semester ePortfolio represents student’s achievements and therefore it should be used in assessment process. Points are given based on the implementation and quality of ePortfolio mandatory elements (personal profile, created artefacts, and learning diary).

Final grades are expressed according to the following scale: failed (1), satisfactory (2), good (3), very good (4), and excellent (5). Students with less than 50 points fail and have to retake the course in the
next academic year. The best grade, excellent (5), is given to the students who collect more than 90 points.

**Preliminary results, conclusions and future plans**

Considering the fact that the described approach was first introduced during the academic year 2009-2010, we cannot present the final results, but only experiences and impressions regarding the use of ePortfolio.

In respect to small number of students (8) who attended the course in academic year 2009-2010, we conducted interviews (instead of surveys) to evaluate our approach. Additionally, we took into account students’ reflections from ePortfolios.

Students’ satisfaction was twofold: they pointed out the usefulness of ePortfolio tool for organizing artefacts related to the course, and they emphasized the advantage of the social networking that enabled them sharing and communication with teachers and peers. Therefore, they could get feedback for created materials, share reflections about the process of their development, and read about other students’ experiences as well. Students were also pleased with the fact that at the end of the course they had digital representation of all their achievements during the semester.

Besides positive feedback based on the interviews, teachers’ satisfaction with this new approach arises from the final exam results as well. All students passed the exam at the first attempt during the first exam session, and the students’ average mark was quite high: 4.12 on the scale from 1 (failed) to 5 (excellent). Average points for ePortfolio assessment were 25,25 out of 30. We cannot compare these results with the other results from previous academic years because the course is a part of new Bologna study program and it was performed in the last academic year for the first time.

Due to the encouraging students’ results and comments, as well as teachers’ positive experiences, we continue to use ePortfolio tool during the academic year 2010-2011. We plan to carry out a survey that will hopefully confirm positive results from the previous academic year. For now, according to the reflections in their learning diaries, the new generation of students shares satisfaction on ePortfolio with their colleagues who attended the class last year. In addition to the previous comments, many of them stressed out that they are very satisfied with assessment form in which ePortfolio is worth 30 points and substitute the final exam.

Students’ satisfaction with ePortfolio brings hope that they will continue to utilize its advantages in their (lifelong) learning and promote the use of this valuable educational tool in Croatian schools as future teachers.

In the context of the described course, we plan to introduce more Web 2.0 tools appropriate for e-learning in schools, and to even more facilitate and increase the collaboration and communication among students with the use of ePortfolio.

Additionally, we will introduce ePortfolio to other courses attended by the same students in order to enable them to create more complete ePortfolios with artefacts and reflections about their study and academic achievements.

**References**


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The Elasticity of an ePortfolio Based Pedagogy. Exploring and Expanding a Work-based ePortfolio Model to Inform Use Across Contexts.

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The University of Wolverhampton has had an eportfolio system, PebblePad, since 2005. Since 2005, its use has developed from a tool initially developed to support PDP processes in the early days to the present where it has a much wider context of use across learning, teaching and assessment. Eportfolio based learning at the university occurs across the curriculum, in all schools and across a wide range of disciplines. Practice in these areas are varied and range from the use of individual tools within the system such as action planning, blogging, reflection and skills auditing and other uses of the individual tools within the system to support specific processes. Additional complex uses include the creation of eportfolios from a blank canvas approach or more commonly the adaptation of tutor generated eportfolio template. The university has recently been involved in a JISC funded project as part of the life-long learning and work-force development programme to develop an eportfolio based pedagogy for small to medium enterprises (ePPSME). The project involved developing and supporting a number of discipline based 5 credit units that learners in the workplace study over a 10 week period delivered and supported solely through the eportfolio system. The ePPSME project supported the development of eportfolio templates which included both content and interaction opportunities all in one place, so there is no use of the university’s virtual learning environment. This combined functionality was achieved through a series of eportfolio pages designed for content delivery and 3 types of blog embedded for learner interaction all contained within one eportfolio template a learner would accept at the beginning of the course. The blogs mentioned for interaction consist of a series of weekly activity blogs which contain structured activities based on weekly content, a personal blog for critical incident sharing and one-to-one contact with the tutors and a group blog for collaborative activities within the virtual cohorts.

This presentation will explore the developments that have happened across the institution informed by the ePPSME project over recent months. It will look at how the ePPSME model has been expanded and adapted across a number of contexts. It will look at how the eportfolio pedagogy and template approach developed in ePPSME been used in three different contexts. The first, which is a direct continuation from the ePPSME project is in our School of Technology where the model has been used to support the development of four, five credit units which make up the first 20 credit module of a Foundation Degree currently being validated for the Institute of Clerk of Works Inspectorate in the construction industry. This adaptation of the model uses the 5 credit model as four ‘taster’ units which break down the first 20 credit module of a Foundation Degree into manageable chunks for learners new to HE. The presentation will also explore a different work-based learner perspective and outline how we have used a similar approach to support work-based learners within our own institution for staff who are studying for a professional doctorate. The final example will explore a new learner perspective and illustrate how the model has been drawn on to inform the development of a new Distance Law course online course which will be delivered using the eportfolio system. The pedagogy and model has been adapted to ensure effective scalability can happen from a 5 credit model to the 20 credit modules needed to deliver an entire undergraduate course that does not use the institutional virtual learning environment. All of the models discussed provide varied levels of scaffolding to enable eportfolio based learning that supports the development of ‘a product, encompassing rich and complex processes of planning, synthesising, sharing, discussing, reflecting, giving, receiving and responding to feedback’ JISC (2008).

These new areas are all in different stages of development and implementation but all have a different story to tell in terms of lessons learned so far. Beetham and Sharpe (2007) talk about the need for ‘pedagogy to be re-done and re-thought’ The presentation will discuss how an eportfolio based pedagogy developed initially for a work-based learning has considered both these areas to adapt practice across contexts to provide a contextualised learner experience regardless of discipline which is supported wholly through an eportfolio system.


A defining characteristic of ePortfolios is their ability to capture the processes and products of learning for reflective and assessment purposes (Hartnell-Young et al 2007, Lorenzo and Ittleson 2005, JISC 2009 and JISC 2010). They provide users with access to an online space in which to take a more active and personalised role in how, when and where they learn. As a multimedia platform, they can potentially support a range of content, which reflects the increasingly multimodal and multiliterate nature of modern communication (NLG 1996, Kress 2005, Williamson 2005 & Jewitt 2008).

As a learning platform ePortfolios can offer much more than storage space for evidence of skills, knowledge and achievements. Their effective use has the potential to contribute considerably to the quality of an individual’s learning experiences. As learners come to make their values, attributes, competence and strengths more explicit, they help to facilitate a reflective transformational journey.

This paper outlines how two tutors at the University of Derby, one on an undergraduate Therapeutic Arts course and the other on a postgraduate Leadership Coaching course, are working collaboratively with a learning technologist to embed ePortfolios into the curricular structures of their respective programmes. This has provided learners with a safe space in which to keep a record of achievements, track personal progress and reflect upon their development as learners (Phillips, 2005). The authors illustrate how ePortfolios are employed to encourage learners to view their learning as an ongoing process which exists beyond the boundaries of formal institutional learning spaces such as the lecture theatre.

The authors show how embracing forms of Technology Enhanced Learning (TEL), such as ePortfolios can be challenging for both learners and academics. They demonstrate how collectively they have created a vibrant learning ecology (Cobb et al, 2003) which allows all those with a stake in both programmes to reach out and grow. At a staff level, bringing people together in this way has helped to diminish the rigid inter-departmental boundaries that are known to create silos within HEIs (Nelson, 2005). Creating such a collaborative dynamic emphasises that for learners to feel supported and “safe enough to dare” (Maslow, 1972; cited in Knowles 2005, p49), tutors must also be provided with similar scaffolding.

By adopting a more andragogical model of education, the authors enabled learners to “discover for themselves the gaps between where they are now and where they want to be” (Knowles 2005, p65). This was particularly important when considering themes such as employability and encouraging learners to proactively position themselves in readiness for future opportunities (Senge 1990 cited in Smith, 2001).

The authors’ experiences illustrate how some learners and tutors bring with them varying degrees of curiosity when exploring what ePortfolios offer. Harnessing such inquisitiveness can provide individuals with opportunities to challenge their own values, beliefs and assumptions. However, others, who feel more comfortable in subject specific learning, may regress if moved beyond their comfort zone, (Boud et al, 1985). If this is left unsupported, the “structure and organisation of self may appear to become more rigid under threat” (Rogers cited in Knowles 2005, p47), which could negatively impact upon the instructional value an individual may assign ePortfolios.

Safe Enough to Dare

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Designing eLearning Environments Conducive to ePortfolio Identity Skill Development

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eLearning environments, when appropriately designed, provide excellent opportunities for acquiring digital literacy and critical skills essential for developing an effective ePortfolio identity. ePortfolio identity development is a creative process that creates, organizes (process) and assesses evidence (product) of professional and personal life-long learning. An academic artifact collection that reflects one’s learning journey usually represents a desired balance between information required by specific rubric demands and relevant samples of personal evidence showcasing achievements. Current eLearning environments in educational settings provide valuable training when eLearning class activities are deliberately structured to exercise efolio thinking. Intentionally arranging eLearning environments around engaging efolio assignments offers individuals practical experience and proficiency in effectively reflecting, connecting and documenting their learning. ePortfolio content quality is enhanced if there is a clear articulated purpose, sufficient self-efficacy skills and multiple avenues for feedback. The unique tasks developed in eLearning environments are easily transferable to creating and maintaining ePortfolio identities. These tasks require the acquisition of specific personal habits based on training and applicable successful experiences. This presentation identifies several eLearning applications and techniques consistent with and relevant to ePortfolio development. Pertinent eLearning assignment domains include: Identity Development, Independent Mastery, Metacognitions, Transfer of Skills, Social Feedback and Assessment. Using a popular university Psychology of Stress Management class as an example, this presentation will examine and categorize relevant attributes and similarities. The following will identify pedagogic rationales, specific etool selections and the creative eLearning activities designed to be instrumental in crafting a meaningful ePortfolio identity and facilitating required competencies.

Identity Development & Independent Mastery. The core constructivist teaching philosophy underlying the rationale for several of the selected eLearning assignments are based on Plato’s and Socrates’ maxim, “Know Thyself.” A Psychology of Stress Management university class was selected to demonstrate the corresponding similarity across domains. There is no doubt that 21st Century digital skill literacy and demonstrated proficiencies are required in this age of innovative internet technologies. However foremost, ePortfolio thinking will emerge if class themes are specifically “Learner-Centered” and encourage students to “Own the Learning.” Several assignments in this award-winning class are purposely structured to achieve this aim. Asynchronous participation, self-selected grade contracts, stress self-assessments, choice of semester stress reduction project, self-selected book reports relevant to one’s project and self-ratings of relaxation exercises are but a few examples of the academic applications encouraging evidence of self-development and greater self-reliance for learning.

Metacognitions. Student assignments afford several opportunities for self-reflection through the use of weekly progress diaries, and class assignments requiring personal contributions blogs called “Make it Real” and “Teach Us.” Selecting, collecting and reflecting on both positive and negative personal health habits supports the necessary self-awareness, personal commitment, desirable personalized ownership, as well as the inherent motivation and responsibility for one’s success. Specific rubrics provided for each assignment outline the expectations for each of the assigned tasks. Students write a “Semester Growth Paper” reflecting on how each of the eLearning assignments and their Semester Stress Project contributed to their personal stress reduction. Students’ respective stress reduction project must provide evidence through diaries, charts and graphs illustrating the history of their behavioral change.

Social Feedback and Assessment. Students support one another through weekly progress blogs as well as present their final semester stress reduction projects via PowerPoint to other students. This sharing and networking inherently affords students greater opportunities to observe and discover creative solutions from their peers. This peer engagement also provides a venue to implement relevant peer feedback methods to their own personal stress reduction. Instructor feedback and assessment is provided by the grading of quizzes, exams, book reports, presentations, progress blogs, discussion board postings, growth papers and semester projects. Self-selected learning contracts promote necessary ownership and personal accountability. Frequent and supportive peer evaluations help shape observable learning outcomes.
Transfer of Skills. Each assignment allows students to acquire personally relevant and useful stress management “skills before pills” beyond the academic environment. Permitting students to personally choose and research their own stress reduction interventions allows for relevancy, efficacy and fit. Likewise, these processes teach students to commit, select, reflect, record and demonstrate evidence of their successful achievement. The deliberate efolio organizational structure and eLearning environment in this stress management class promotes independent mastery, self-generated goal setting, reflective critical thinking skills, self-directed motivation, personal commitment, peer support, review of health habits, identifiable progress, and creative problem solving solutions. Personal integration of several of these health-related eLearning attributes influences a significant relevant social issue “stress without distress” while simultaneously providing essential ePortfolio values and skills.

“Just as people don’t judge their self-efficacy in driving by whether they can find their ignition and negotiate entering the roadway, students do not judge their future academic performance (and thus, scholastic self-efficacy) by whether they can repeat what they have learned verbatim. The world is much more complex than that.”

Albert Bandura
TEACHER TRAINING
From trainee to newly qualified teacher: drivers AND barriers to using ePortfolios as an NQT

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Abstract
The potential for ePortfolio processes to support of life long learning has been widely extolled. However the practicalities of extending ePortfolio activity across work/life transitions is under researched. This study reveals some of the drivers and barriers to taking ePortfolio practices developed by trainee teachers during a University based PGCE programme into a professional environment as they begin work as Newly Qualified Teachers (NQTs) in schools. Findings suggest that the ePortfolio context of use appears to have a strong influence on the extent to which the benefits of ePortfolio practices for NQTs can or cannot be realised. Tutor support, allocation of time and the requirements of assessment in part move the ePortfolio process forward during the PGCE year. This was not the case when the trainees as NQTs attempted to continue their ePortfolio work in their first teaching post. Despite trainees’ high expectations and commitment to ePortfolio activity for their NQT year it typically became a predominantly solitary activity that proved hard to sustain.

Introduction
Portfolios compiled by trainee teachers comprising a “structured documentary history of a set of coached or mentored acts of teaching, substantiated by samples of student [work]” 2 (p. 37) and linked to professional standards of practice have been widely used to support and assess trainee teachers’ professional development. This approach is underpinned by a substantial literature base suggesting that engaging in portfolio processes can promote teachers’ professional and personal development through stimulating reflective thinking and practice both during training and beyond. With the advent of digital tools for portfolio development attention has turned to how ePortfolio practices differ from those of their paper counterparts and what differences (if any) are manifest in their impact on teacher development.

There is evidence that ePortfolios also can stimulate trainees to adopt a more reflective approach to their development6 and that when in-service teachers create ePortfolios, it has been noted that it “fostered teachers’ authentic professional development”7. This indicates that it could be beneficial to encourage trainee teachers who have developed productive ePortfolio habits to take these and their portfolios forward into their NQT year. In fact one of the often cited benefits of ePortfolios is that they can facilitate lifelong learning by moving with the individual as their learning journey takes them through educational institutions and beyond into the work place. Heinrich8 suggests that for ePortfolios to support effectively the objectives of lifelong learning, they should be hosted outside stakeholder institutions/organisations thereby shifting the locus of control away from the institution. Other research argues that if the purpose of the ePortfolio activity is determined by the individual rather than by the institution or organisation then it is more likely to be facilitative of lifelong learning1.

There is however little empirical research regarding how individuals experience moving their ePortfolio activities from one context/role to another. This paper seeks to illuminate this issue by investigating whether and how ePortfolios can support trainee teachers’ transition to newly qualified teachers (NQT) through the Career Entry and Development Profile (CEDP). The CEDP is a framework for focusing on goals and achievements and discussing the professional development needs of the NQT.

Aim and methodology
The aim of the research was not simply about looking in detail at what happened in the transition from trainee to NQT but was also about identifying the potential or opportunity for ePortfolios to be used during Induction for i] meeting induction requirements including the national Standards for the profession and ii] supporting NQTs’ professional development.

The research employed a participatory methodology involving trainee teachers, NQTs, university tutors, school based mentors and professional tutors, and the researchers in discussing the potential for ePortfolios in the induction year alongside discussing foci for the research. The study spanned nine months from the end of the PGCE year through to midway into the NQT year and
followed six trainees who had volunteered to take their ePortfolio practices into their first teaching post.

There were several data collection points over this period.

- Focus groups following a participatory workshop with key stakeholders (May 2010)
- Focus group with trainee participants (June 2010)
- Individual interviews with trainee participants (October 2010)
- Individual interviews with trainee participants (January 2011)

A review of the findings from each of the data collection points follows.

**Initial stakeholder views about the potential of ePortfolios for Induction**

An initial participatory workshop was attended by seven professional tutors/mentors (representing 6 local schools), 4 trainees, 3 University tutors, 1 early career teacher and 4 members of the research team attended. Trainees gave presentations on how they used their ePortfolios to support their development; focus groups were held to gather participants’ i.e. users’ views on how ePortfolios could be used to support trainees in their transition to becoming NQTs and their continued professional development. Some specific perspectives on the potential benefits of using ePortfolios with NQTs which were identified were:

- *they enable strengths and weaknesses to be seen at a glance;*

  “It will be really useful to have your ePortfolio with you when you go to your school so your mentor can see what you have done before” (Trainee)

- *they provide continuity with the trainee year;*

  “If I have to do all my CPD electronically over the next however many years then I want to do it in a way that’s going to be useful and know I’m going to be able to access it” (Trainee)

- *they raise expectations that NQTs will engage with practice and reflection.*

  “I think it’s a way of raising the importance of the career entry profile which on the whole I think is usually very poorly done” (Professional Tutor)

There were also observations about the potential challenges to NQTs taking their ePortfolio practices into school settings including:

- *lack of buy-in from the school;*

  “There’s also an element of sharing and discussion in the new school context. You need schools on board with this, I would have thought.” (Professional tutor)

- *efficiency (or not) of school mentors managing different approaches to CPD;*

  “If I was a PT I would like all my NQTs and trainees to be doing it or not doing it.” (School mentor)

- *Staff support in using the ePortfolios as part of the mentoring process.*

  “It seems to me that you need people in schools who understand the software or the system” (School mentor)

**Trainee participants’ expectations for their NQT ePortfolios**

All trainee teachers who had been using ePortfolios during their training were invited to continue working with the research team in their NQT year. Six trainees indicated that they wished to be involved in the study. They had used a mix of ePortfolio platforms including blogs and personal websites, however PebblePad was the ‘default’ platform offered. All trainees had made good use of their ePortfolios in their PGCE year and at the end of their training all trainees were positive about their experience of using an ePortfolio to both reflect on and present their evidence about their professional development against the Standards. They were also enthusiastic in respect of continuing in a similar vein in their NQT year to meet the corresponding Induction requirements. They predicted that the benefits of the ePortfolio in the PGCE year could be translated into the NQT year, although they foresaw the need for support in respect of fit with the new Standards and pro formas. In response to this we set up templates for the participants using PebblePad, similar to those they had used during their PGCE. Thus, all the NQTs started their posts with an interest in using their ePortfolio further.
NQTs' experience of ePortfolios at the start of their professional career

All trainees were contacted and most visited early in their NQT year (September/October) with a further follow-up visit to take place in December/January that included meeting each NQTs’ Induction Manager and subject mentor. It was not possible to carry out follow-up face to face interviews for each NQT due to time constraints on the part of the sample. Where appropriate, telephone interviews and email correspondence replaced face to face interviews.

Two NQTs never started to use their ePortfolio, citing lack of time, lack of support and no requirement to use them as the reasons for this.

“When I reached the end of my PGCE year I was quite adamant to use my ePortfolio not only through my NQT year but also throughout my teaching career. However … I have been unable to continue with my ePortfolio” (NQT)

Four NQTs were interested in using the ePortfolio and discussed its use, its advantages and disadvantages. There was some but not much understanding of the ePortfolio process by their Induction Managers and, in one case, by the mentor.

Not surprisingly, the demands of being an NQT have a significant impact on time for any tasks not directly concerned with teaching or pastoral responsibilities.

“I set up a blog online before the start of term but I have not used it since. I don’t use it because I don’t have time and also I don’t have a requirement to do so.” (NQT)

However, while ill-health (self, mentor, head of department) are unexpected occurrences and therefore difficult to anticipate, there would seem to be no reason for an NQT not to know what the school's expectations were of them in terms of requirements for Induction.

Only two of the NQTs continued to actively use their ePortfolios. Both these active ePortfolio users had some support in their workplace. One had full support from their mentor and induction manager. The other had no support from the mentor but there was praise for the ePortfolio from the Induction Manager. In both cases, however, the NQTs were working on their own; there was reflection and the ePortfolio was being used to record good practice and teaching and learning issues.

“I tend to be a ‘Blitz’ type of person and I blitz the ePortfolio work about every 3 weeks. It helps me to reflect. I am of the generation using computers.” (NQT)

However there was no sharing or feedback for the NQTs which they found disappointing. Both said how different this was from the active use of the ePortfolio in their year as a trainee.

“My portfolio is significantly different compared to my PGCE in that during my PGCE year I constantly referred to it, reflecting on it and was striving to keep it up to date. Currently I am not able to invest as much time into it and it is not playing a significant role in my development, whereas during my PGCE it helped me develop” (NQT)

One of the significant influences on this was the fact that there was no similar requirement from the school to complete a portfolio of evidence.

Drivers and barriers to NQTs' use of ePortfolios

One element of trainee engagement and support for using ePortfolios during the PGCE was the requirement to engage with and produce a portfolio as evidence of progression against the Standards. The PGCE tutors encouraged and supported trainees in the process by, for example, reading their ePortfolios and commenting on them. In one Local Authority the NQT, mentor and Induction Manager were all interested and keen on the use of ePortfolios. The Induction Manager and mentor were also interested in extending such to use for Performance Management. Clearly support from the school was an enabling factor for the continuation of NQTs’ ePortfolio activity. Additional factors were strong personal ownership of the ePortfolio and intrinsic motivation to make it work.

In September (beginning of the NQT year) all participant trainees could still see the advantages to using ePortfolios. Quickly this enthusiasm was eroded as the demands of being an NQT were realised and dominated NQTs’ time and thinking. Time, or lack of it, was a key constraining factor. Both the NQTs who continued with their ePortfolios had scaled back their activity compared to their PGCE ePortfolio work. Those who were unable to continue put forward reasons including being snowed under and not having the time, being off sick, not having access to a mentor as they were too busy, off sick or not interested; and being expected to work with a system that was paper-based.
Discussion and conclusions

There was a significant observable change in that using an ePortfolio was an identifiable supportive factor in trainees’ development but as an NQT, for most, completing it became, at best, curtailed. What was realistic to accomplish as a trainee rapidly became unrealistic as an NQT, particularly where interest and support from relevant agencies was lacking or absent. The ePortfolios developed for the PGCE year could be characterised in Cambridge’s1 terms as ‘standardised’ portfolios where the purpose and structure to a large extent are set by the institution in order to support assessment against the Standards. However the six trainee participants in this study had developed strong ownership over their PGCE portfolios and as such used them reflectively and effectively9. This arguably enabled them to see potential beyond the PGCE year. In the PGCE context the ePortfolio purpose and to some extent ownership may be thought of as shared between the trainees and the University based tutors.

There are requirements in the form of Induction Standards for which NQTs have to successfully demonstrate evidence. Schools and LAs support and take responsibility for this process, in conjunction with staff in schools who have designated responsibility for the induction of NQTs. Variations at both school and LA level were apparent in the sample. Inevitable variations existed in terms of the form that NQTs were expected to use to demonstrate satisfying these Standards. One LA, for example, requiring a paper version, with other LAs not stipulating a particular mode. Strong personal ownership, a potential driver for the use of ePortfolios for lifelong learning, was evident at the start of the NQT year and while two NQTs were using their ePortfolio mid-way through their NQT year this was not a sufficient driver for continued use by all six NQTs. Other factors got in the way such as lack of internal (school) support or external priorities or agencies (LA).

Without exception the participant schools had not developed a purpose for ePortfolios in their Induction process and no shared ownership of the portfolio process existed. Therefore there was no institutional requirement for the NQTs to engage with their ePortfolios. Although two schools accommodated the NQTs’ ePortfolio activity it was not proactively supported. While it has been argued that highly ‘personalised’ ePortfolios1 with strong personal ownership make them more robust to use across work/life contexts, it can also make their assimilation into institutional objectives more challenging. This research indicates that support and reciprocal engagement in ePortfolio activity between individual teachers and their workplace mentors is a key factor in sustaining the use of ePortfolios for teacher professional development.

For schools generally, it seems, (e-)portfolios are not a priority. Whatever the reasonableness that might be accorded as a result of some of the pressures and demands made on schools this is disappointing and contrasts vividly with other professions where ePortfolios are much more integrated into working practice. For example, the NHS requires Foundation Doctors to complete an ePortfolio. This is an integral part of their training and they are supported in this process, for example, by practice managers. If schools were to adopt a ‘standardised’ approach to ePortfolios for CPD this could go some way to supporting NQTs more effectively in the ePortfolio activity. However only where new initiatives complement or resonate with extant priorities are they likely to be supported. Nevertheless, on a positive note, there is the possibility of tapping into the potential of using ePortfolios as evidence of meeting Standards and for contributing to NQTs’ professional development at individual, school and LA level.

References


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Student Teachers’ Needs Satisfaction and Perceptions of ePortfolio in the Context of Problem-based Learning

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The use of ePortfolios for Problem-Based Learning (PBL) has received some attention in recent years. PBL is a pedagogical approach that is organized around a real-world, unstructured problem. It is a learner-centred approach that provides students with opportunities to construct their own knowledge through collaborative inquiry, peer learning and self-directed learning. The PBL process ends with students presenting their solutions and reflecting upon and evaluating their learning process. PBL has been credited with a whole range of 21st century skills.

EPortfolios are seen as a promising tool for facilitating learning as students engage in the PBL process. EPortfolios provide a structure for learning, encourage reflection and facilitate collaboration. As such, they can be an important part of the PBL cycle and provides for the documentation of students’ progress and goals. In addition, one of the potential applications of ePortfolios is to support the process of learning. Once evidence of learners’ progress and achievements is recorded in a transferable form, opportunities arise to use that information to support the learning process. During learning, formative assessment strategies and monitoring facilities can be used to keep track of how learners are performing. This can be used to identify students that may need extra support or more challenging activities. Consequently, ePortfolios are viewed as more appropriate to assessing the goals of PBL than traditional assessment strategies.

However, at present these remain primarily theoretical benefits. Firstly, research that evaluates ePortfolios in the context of PBL is limited. Moreover, one of the limitations of ePortfolios is that monitoring facilities are typically poorly integrated within ePortfolio functions and thus questions remain as to whether the ePortfolio truly fulfills its potential. Secondly, the advantages of the use of ePortfolios both generally as well as in the context of PBL have tended to be advanced from the researcher’s perspective. Less attention has been accorded to users’ perceptions or students’ perceptions of the efficacy of ePortfolios in supporting PBL. Thirdly, even in studies that have evaluated student perceptions, it is unclear as to what are the factors beyond specific features of the ePortfolio that are likely to affect these perceptions. A large body of research seems to suggest that beyond specific technical features of the ePortfolio, characteristics of learners themselves and social contextual factors would also affect how the integration and use of ePortfolios is viewed by students.

In the last two decades, a plethora of research has explored how aspects of the social environment affect students’ intrinsic motivation and learning. According to the self-determination theory, social contexts that support students’ basic psychological needs for competence, relatedness and autonomy will promote intrinsic motivation and engagement. As a corollary, perceived needs satisfaction is relevant since it potentially affects the way students learn and work with the ePortfolio. Perceived needs satisfaction provides a basis for predicting what factors will promote versus forestall students’ perceptions of the effectiveness of the ePortfolio in supporting PBL and are a valid criterion in the evaluation of ePortfolios.

This study seeks to address the lacunae of knowledge by (i) examining students’ perceptions of how the ePortfolio supports or impedes learning in the context of PBL; (ii) students’ perceived needs satisfaction; and (iii) how perceived needs satisfaction is related to and affects students’ perceptions of the ePortfolio.

Participants in this study were 442 student teachers enrolled in the Diploma in Education programme. An educational psychology module that uses PBL was examined. Both quantitative and qualitative analyses were employed. This paper discusses the findings arises from this study and the implications for educational practice.
The Use of the ePortfolio to Enhance Future Teachers’ Learning and Teaching

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Background
In the educational context, the eportfolio allows learners to combine diverse forms of digital outputs (video, audio, graphics and text) into a systematic, transferable and web-ready format. It supports the constructivist approach to learning by encouraging a learner-centered rather than a course-centered view of learning through the provision of a platform for learners to record, share and reflect upon their goals, their work and achievements, thus taking greater ownership of their own learning. Thus, the ePortfolio has the advantage of providing a holistic view of the user’s development through time since it can be reframed and presented in different ways to fulfill different objectives. For instance, it enables (i) past learning to be reviewed, (ii) future learning to be planned, and (iii) authentic forms of assessment of performance using multiple sources of evidence. In addition, the ePortfolio provides a platform for social interaction between users and viewers, allowing comments and feedback from peers, parents, administrators and employers.

Objectives
The National Institute of Education (NIE) is the sole institution providing initial teacher education in Singapore. Although student teachers go through a rigorous program that equips them with an understanding of general and domain-related pedagogies, as well as the relevant classroom management and teaching skills, some of them experience difficulties in bridging the theory-practice link. Furthermore, until recently, there was no means of capturing the extent to which student teachers were able to integrate their learning from the various courses offered, and of gathering evidence for the attainment of their teaching competencies. Finally, there was a need to provide a common channel of communication and sharing for both staff and students within the institution. To address these issues, the use of ePortfolio has been introduced in the Post Graduate Diploma in Education (PGDE) program. This paper presents findings from the first phase of this project, involving a select group of student teachers enrolled in the Junior College (Grades 11 and 12) track.

Methods
The study aimed to provide answers to the following questions:

(I) To what extent did student teachers find the eportfolio platform effective in terms of user-friendliness, user-satisfaction and efficiency?

(II) What were student teachers’ perceptions of the effects of the eportfolio on their ability to self-regulate and integrate their learning?

(III) To what extent did the ePortfolio assist in bridging the theory-practice link in initial teacher training?

A commercially developed eportfolio platform, designed by Desire2Learn Incorporated, was partially adapted to meet the requirements of the NIE PGDE program. The participating student teachers were granted access to the platform for the entire duration of their one-year program, in the course of which, they were provided with the relevant support and guidance on the use of the eportfolio to chart their learning and practice of teaching.

At the end of their program, an evaluative survey was conducted to gather feedback from the students on their perceptions of the effectiveness of the eportfolio as a learning repository, a communication and sharing platform and a tool for reflective practice.

Conclusion:
The findings of the study will inform users, administrators and service providers of some of the key requisites of an effective eportfolio platform. This research will also add to the literature on how the eportfolio can assist in the practice and demonstration of effective pedagogy.
From Trainee to Newly Qualified Teacher: Drivers and Barriers to Using ePortfolios as an NQT

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Context and background
This research explores whether and how ePortfolios can support trainee teachers’ transition to newly qualified teachers (NQT) through the Career Entry and Development Profile (CEDP). The CEDP is a framework for focusing on goals and achievements and discussing the professional development needs of the NQT. This project builds on previous research with trainee teachers studying on a PGCE programme which indicated that ePortfolios have the potential to help trainees engage with recording evidence of their professional development in a way that facilitates and enhances reflection on their work and progress.

Methodology
The research employed a participatory methodology beginning with a stakeholder conference held in May 2010, near the end of the PGCE programme. It drew together school based mentors and professional tutors, University based tutors on the PGCE programme, trainees who had made effective use of their PGCE ePortfolios, newly qualified teachers and the research team. The conference enabled stakeholders to discuss the potential for ePortfolios in the induction year alongside discussing foci for the research. After the conference six volunteer trainees were recruited to take their ePortfolio practices into their first teaching post. There were three data collection points;

- individual narratives of experience and reflection collected from trainees (June 2010)
- face to face/telephone/email interviews with the NQT and a mentor/induction manager took place on two occasions,
  - just after starting in post (September 2010)
  - four/five months into the school year (December 2010/January 2011).

Summary of findings
The stakeholder conference generated considerable enthusiasm for the potential of ePortfolios to support CEDP. Specifically by

- enabling strengths and weaknesses to be seen at a glance
- providing continuity with the trainee year
- raising expectations that NQTs will engage with practice and reflection.

At the end of their PGCE training the volunteer trainees were all advocates of ePortfolios having made effective use of them as part of their PGCE. All were enthusiastic to extend their ePortfolios into their NQT year. They were particularly interested in maintaining continuity and making the management of professional development more effective and efficient.

Despite initial enthusiasm two of the volunteer NQTs found it impossible to begin their NQT ePortfolios and a further two stopped during the first school term. Reasons cited included work load, lack of clarity about the induction process, unexpected illness and lack of engagement in the ePortfolio process from mentors or professional tutors. Primarily there was no external requirement for these NQTs to maintain their ePortfolio work.

At the end of the project two NQTs were still actively using a modified version of their trainee ePortfolios (one a blog and the other in PebblePad), albeit at a lower level of engagement than during their PGCE year. Both NQTs worked in schools that supported their ePortfolio activity in some way, although neither had received specific feedback on or via their ePortfolio.

Based on our NQT sample, ePortfolio activity from PGCE to CEDP seems to be facilitated when NQTs have a clear sense of purpose for their ePortfolios,

- are intrinsically motivated by the benefits accrued from their portfolios
- find themselves in schools which value their approach to CEDP.

On the other hand factors that seem to mitigate against ePortfolio activity in the NQT year include;
lack of time and timing associated with increased workload and orienting to a new profession context
Poor alignment with local induction practices e.g. paper systems
no requirement from the school/local authority for an ePortfolio linked to CEDP
ePortfolios not being a priority for the school.

Conclusion and recommendations
The ePortfolio context of use appears to have a strong influence on the extent to which the benefits of ePortfolio practices can or cannot be realised. During the PGCE training year ePortfolio processes are jointly owned by the trainee and the training institution, both parties valuing the outcomes. Allocation of time and the requirements of assessment in part move the ePortfolio process forward. This was not the case when the trainees as NQTs attempted to continue their ePortfolio work in their first teaching post. Instead it became a predominantly solitary activity that proved hard to sustain. Until schools are able to embed ePortfolio practices in their induction processes, perhaps in a similar way to the medical professions, it seems unlikely that the potential schools see in ePortfolios for CEDP will be realised and successful NQT ePortfolio activity is unlikely to be systematically adopted.
Student Teachers' Motivation in Doing ePortfolio and Their Learning During Field Experience

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Background
Research has shown that ePortfolio presents multiple benefits to its users. For instance, Banks (2004) viewed the ePortfolio as ‘a learner-centered rather than a course-centered view of learning’ and hence a channel for ‘learners to take ownership of their learning’; ‘an electronic format for learners to record their work, their achievements and their goals, to reflect on their learning, and to share and be supported in this’; and it enables ‘learners to represent the information in different formats and to take the information with them as they move between institutions’.

Practicum or field experience is considered by experienced and prospective teachers as one of the most powerful components of their teacher education programmes (Bobis, 2007). It enables student teachers to acquire beginning teaching competencies and is a core component of every initial teacher preparation programme. During practicum, student teachers are generally mentored and assisted by their cooperating teachers and supervisors through systematic observations, assistance and advice. Through the experience, they will learn to link theory and practice, to reflect and fine-tune their teaching philosophy, and to acquire the understanding and skills necessary for teaching effectively in a range of classroom situations. It is a powerful learning experience, and the ePortfolio has the potential to help student teachers make sense of their learning. Nonetheless, one of the most critical influences on level of cognitive engagement is motivation to learn (Greene, Miller, Crowson, Duke, & Akey, 2004). Hence it would be important to examine student teachers’ motivation in doing ePortfolio if we want to understand the ePortfolio’s benefits to student teachers during field experience.

Objectives:
In July 2010, The National Institute of Education, Singapore, piloted the use of a ‘Learning and Teaching’ ePortfolio as a tool for student teachers to aggregate and integrate their learning, and to document their achievement of the competencies expected of a 21st Century educator. The student teachers had to maintain an ePortfolio from the beginning to the end of their programme. With the help of the artifacts collected in their ePortfolios, the student teachers were required to share their learning journeys at the beginning and end of their field experience. This paper presents findings from the pilot project, with a focus on the student teachers’ perceptions before and after their field experience.

Methods:
The study aimed to provide answers to the following questions:
(i) What was student teachers’ motivation in doing ePortfolio? Did the motivation change towards the end of their field experience?
(ii) What were student teachers’ views on the benefits of ePortfolio? Did the views change towards the end of their field experience?
(iii) Did student teachers’ motivation in doing ePortfolio affect their learning during field experience?
The sample included 129 Postgraduate Diploma in Education (Junior College) student teachers. Quantitative data was collected before and after their field experience through the use of surveys.

Conclusion:
The findings of the study will help tutors better understand their student teachers’ motivation in doing ePortfolio. It will also help tutors fine-tune the structure and processes of the ePortfolio pilot.
ePortfolio in German Teacher Education – Arrangements and Scenarios

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ePortfolios are still rather novel in German teacher education. As experience in other countries has shown, they build a milestone in lifelong learning. For a University context, concepts need to be established that mediate between self-regulated and self-responsible learning on the one hand and comparable assessment and guidance on the other hand.

In 2010, the TU Darmstadt, Germany, launched a project to support academic teaching and learning through digital portfolios: dikopost. Its aim is to present a platform for all students studying at the TU Darmstadt, while emphasising the importance of ePortfolio use for students studying to become a teacher. These students will be required by the state to use a portfolio during their last phase of education at schools. However, no portfolio use is mandatory so far during their university educational phase and with dikopost, they become a chance to “try it out” before it becomes mandatory for them.

For dikopost, the used platform is Mahara and our project team established a concept where tutors accompany portfolio use in a range of academic teacher education courses across several disciplines. Several formats and scenarios come into play here: from large lecture-like courses (>50 students) to medium sized seminars (~10-50 students) with group work but also including formats of small-sized seminars (<10 people). Also, the type of assessment varies here greatly: from oral assessment based on ePortfolios to written assessment turned in as a portfolio to other types – every course has its own format. Tutors hereby take an intermediate role between lecturers, students and the dikopost project managers. It is on their part to give feedback, help to understand the portfolio system and methodology, as well as organising group and peer feedback opportunities. Also, they serve as peers for their fellow students. In a nutshell, they have to balance several expectations. Therefore, the question is how tutors cope with their role, especially with regard to their different course types they accompany. Also, the different scenarios professors use to implement portfolios in their class work may play a role on how students perceive the tutor role. With regard to teacher education, the question is how tutors may influence or even enhance the reflective practice teachers need to develop during their education at university. One reason we have this assumption is that as peer tutors from the same level of classes students should feel more confident to entrust fellow students with their reflective insight rather than going to the professor.

After one semester of piloting the project, first results are reported. Interviews and questionnaires show crucial implementation factors for each scenario which we would like to present. Also, the tutors’ clear role for both, professors and students, seems to be a decisive factor for a successful portfolio implementation. Furthermore, the different types of portfolios used in courses shapes the view of students, professors, or project managers in different ways. At the end, it is the goal to establish a set of course guidelines and provide scenarios for use for the different types of courses based on tutor, professor and student input. These Best Practice scenarios for the different types shall then be transferred to other similar courses at level of the whole university.
LIFELONG LEARNING, PERSONAL & PROFESSIONAL DEVELOPMENT
Utilising the reflective diary as a tool for continuing professional development: are new technologies the answer?

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Introduction
The value of reflecting on work-based experiences has received increasing attention from management and leadership writers in recent years, including those commenting on the education sector. For Hedberg, reflection constitutes ‘an important tool for practicing managers’, which enables practical experience to become ‘meaningful’. Similarly, Mintzberg suggests that reflection represents an ‘important managerial mind-set or cognitive frame’, whilst in advocating the need for reflective managers Duigan argues that an ‘essential part of leadership [is] an awareness of self, [the] nature of [the] job and [the] roles of others’.

However, such observations also claim that, in reality, few managers practice reflection. According to Gray, this is because they ‘have always placed a higher premium on action.’ Corkindale also offers a similar explanation. The reason leaders fail to ‘stand back and consider issues deeply and to look honestly at themselves as leaders’ is down ‘to the unparalleled changes businesses have faced in recent years’. Hedberg also refers to a ‘frenzied, constantly changing world’ where the premium is on action. In seeking to address this tendency, Gray advocates the reflective diary as a practical method for promoting reflection on practice; although, it is conceded that this represents a ‘potential’ option that has yet to be empirically tested. This paper outlines some of the findings from work being conducted into the ‘real world’ application of the reflective diary and identifies avenues for further enquiry.

Initial findings
Adopting a practitioner-researcher approach an investigation was conducted by the author into the value of the reflective diary to professional practice. The timing of such an investigation seemed particularly opportune. My field of work, which is concerned with university access and lifelong learning, has been experiencing significant upheaval as two key government funded initiatives - lifelong learning networks and Aimhigher - draw to a close and as universities take on primary responsibility for widening participation [WP]. Whilst in preparation for this transition much activity has been focused on producing good practice guides, there is growing recognition that the successes associated with these WP initiatives owe much to the skills and competencies of individual practitioners. Reflective practice has the potential to capture what such individuals do and how they do it, including expertise that, as a consequence of regular application and the passage of time, may have become tacit. Beyond this, a combination of reduced funding and an increasing need to see a return on money invested in WP activities is likely to place greater emphasis on identifying the most effective activities. Again, this process can be facilitated by practitioners exploring what they do that works and assessing why it works.

In terms of data gathering, my initial intention was to keep a reflective diary for a year – representing one professional development cycle. In practice, the diary has been maintained beyond this period; the approach and what was captured being informed by my reading around the subject, consultation with colleagues working in the field of reflective practice, and by my own experimentation with the medium. The findings do much to confirm the purported benefits of the tool, whilst clarifying an approach - in terms of the structure of entries, what practices to capture and the frequency with which the diary is used - most conducive to facilitating experiential learning.

Whilst one of the strengths of the practitioner-researcher method is the detailed knowledge of practice it brings, it tends to offer a limited perspective. To counter this, three focus groups were conducted comprising practitioners from widening participation, lifelong learning and HE teaching backgrounds. In each of these the findings from the practitioner-research were presented and assessed, with participants considering how they would relate to their own practice. The focus group discussions revealed a wide recognition of the value that the reflective diary could bring to individual practice, with reference made to the potential for encouraging greater self awareness, promoting analysis of practice, including ‘actions [that] would otherwise be automatic’, as well as
identifying ‘areas for professional and personal development’, and providing a record of progress in the acquisition of competencies. However, a number of focus group participants also expressed reservations likely to inhibit the adoption of the conventional paper-based diary. These echoed the explanations for non-reflection offered by management commentators, with participants describing the challenge of ‘having [the necessary] time to set aside’, with one individual simply stating that there is ‘no time at home or work’ for diary keeping.

Hypothesis
Could new technologies provide an answer to this challenge? Preliminary findings suggest that many practitioners are likely to be predisposed to a technological solution. A number of focus group participants expressed a preference for using lap-tops over conventional note-pads. For instance, one observed that ‘I personally have completely got out of the habit of using paper and pen (as evidenced by my writing). However, I can type and think at the same time. Electronic recording allows for [the] cutting and pasting [of] bullet points and then making sense of reflection’.

The ePortfolio presents a clear option in this respect since it can provide a means of capturing, cataloguing, selecting and annotating electronic records, including word documents, emails and other files. Whilst those considering the use of new technologies in learning discuss a range of specific ePortfolio tools, there are potential barriers associated with the application of such software in the work-place as opposed to the classroom. Although focusing on teaching professionals, Marx, Blumenfeld and Krajcik make a point that can be applied more broadly in warning that ‘new electronic forms of information storage and retrieval’ are unlikely to be helpful unless they can relate to the practitioner’s work and ‘have fairly short learning curves’ so that the complexity of operation does not deter new users, or distract them from their primary purpose of being a professional development tool. A similar observation is made by Pauli. In considering the use of technology in enhancing personal productivity and time management, Pauli warns of the dangers associated with ‘unfamiliar technologies that add a new layer of complexity’ and impede the process of ‘getting stuff out of your head’. In addition, Hernandez-Ramos draws attention to the potential need for on-going technical support, whilst Richardson observes ‘concerns about’ securing resources for sustainability.

New findings and areas for further exploration
However, feedback from the focus groups suggests that an electronic tool with many of the capabilities of a bespoke ePortfolio is already used by many practitioners working in the field of access and WP: online calendars. In this respect, one participant observed that they ‘currently have a professional diary which has elements of reflection’, and with which they are able to control third party access; a similar point was made by another participant when discussing a ‘functional diary and [effective] archive’ on their lap-top.

Further confirmation of the use of online calendars has emerged during a new phase of this research project. The first element of this phase has involved exploring the diary keeping practices of three managers working in various areas of access and lifelong learning across the UK. Two of these individuals make extensive use of Microsoft Outlook which is employed to record the time, subject and location of meetings, along with attendees. The same tool also captures other scheduled work-related activities, including time set aside for planning and preparation. In one case an element of review has also been incorporated, with the calendar used to look back on what was achieved; a process, it was noted, that helps the manager better understand their role and evolving remit.

This new phase of research also has a second element to it, which is to introduce to these managers to the findings from the initial practitioner-research exercise and the various ways in which diaries can be used to reflect on practice. The managers have then agreed to trial some of these approaches over a three month period. Whilst their experiences will be explored in follow-up interviews, it is worth noting, in the context of this discussion and the potential of online calendars, that two of the managers plan to use Outlook for this purpose.

However, as a corrective to any inclinations to generalise, the third manager intends to make use of a note-pad already employed in a reflective capacity to ‘off-load concerns’, think through challenges and identify actions. It is noted that this medium is preferred over the screen because of its immediate accessibility – ‘there is no need to log on and sort through files’ - pen and note-pad were also considered more ‘personal’ whilst, in contrast, electronic journals were too closely associated with work. In their reports, Pauli and Price identified similar perspectives. The former quotes an interviewee who observed the time it took to ‘turn their iPhone or lap-top on, find the right application and get on to the correct screen’, and the consequent opportunities to be distracted.
during this process. Meanwhile, Price refers to the benefit of creating a psychological space between events and reflection.

Conclusions
The focus group findings suggest a wide acknowledgement amongst practitioners working in the field of access and lifelong learning of the value to professional development of reflective practice in general and the reflective diary in particular. However, the same findings also point a potential barrier in the take up of such practices: that of finding the necessary time. This study suggests that new technologies may hold an answer, not in the form of a bespoke ePortfolio but, rather, in the adaptation of an existing and widely used electronic resource. The online calendar has the capability not only to act as a planning tool but also a medium for reflection.

Indeed, a detailed exploration of diary keeping behaviour amongst a small group of managers working in the field of access and lifelong learning suggests that, in some instances, current usage already includes elements of review. Whilst follow-up interviews with this group will provide further insight into the practicalities of incorporating reflective methods into current practices, and the impact this has on their professional development, what has already become clear is that the screen and key board will not always be the appropriate option. For some there are distinct advantages in retaining the use of pen and paper, as one focus group participant observed, the medium employed will remain a matter ‘horses for course’. Indeed, the evidence so far gathered suggests that the real key to the success of adopting and sustaining a reflective diary is to align this activity with existing record keeping practices.

References
6. Gray (2007), 512. It can be noted that this contrasts with the situation in the classroom, and especially in the training of teachers and health care professionals, where the use of reflective diaries is firmly established. M. A. Jasper (2005), Using reflective writing within research, Journal of Research in Nursing, 10, 247-260.
7. Widening participation relates to increasing access to and engagement in higher education [HE] amongst groups traditionally under-represented in HE, including those from lower socio-economic groups.
10. This approach includes regular and, where appropriate, daily recording; with entries commencing ‘with a description of the selected event(s)’, followed by ‘an exploration of what went well and not so well, and why, before consideration is given to what has been learned’. N. Raven (2011), Identifying and improving management competencies, AUA Newslink, 68, 10.


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An eportfolio based pedagogy for work-based learners: what we did and why

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Introduction

The University of Wolverhampton has used eportfolios to support learning and for personal development planning since 2005. Throughout this time eportfolios have also been used by learners based in work as part of their programme of studies, for instance in clinical placements and teacher placements. The success seen in their use in these areas led to the recognition that an eportfolio offers a potential learning environment for work-based learners. If well-designed, eportfolios can be utilised to support the reflexive learning that is recognised as an essential core element for these learners.

Between 2009 and 2011 the University ran a JISC-funded project to build on the experiences from using eportfolios in the curriculum to develop an eportfolio based pedagogy for work-based learners in small to medium sized enterprises.

This paper explains the participative action research based approach that was used to develop the pedagogy and outlines the design for the learning environment that resulted. Learner and employer evaluation is considered and the impacts of the project for the University of Wolverhampton and for the wider community are explained.

Context

The University of Wolverhampton is based in the English West Midlands. Statistical data from a number of surveys have identified that the workforce qualifications and productivity are significantly lower than the national average (AWM, 2007, AWM and LSC, 2008, UKCES, 2009a and 2009b). It is also known that the majority of local private sector organisations employ fewer than 250 employees and thus fall into the category of small to medium sized enterprises (SMEs). In addition, these SMEs employ approximately 73% of the region’s private sector workforce (CFE, 2009:16). This research into the qualifications of the local workforce and the types of organisations that predominate in the region suggested to the University that there is a potential opportunity to engage with the organisations to offer opportunities to improve qualifications and productivity. Furthermore, the University is committed to developing innovative curriculum, innovative teaching, supporting students from diverse backgrounds and to the “use of technology to enrich and support the student learning experience” (UoW, 2006).

The University has completed a number of projects to develop the use of eportfolios within taught curricula. Two examples of these are ePistle (a JISC funded project) and the Higher Education Academy’s Pathfinder Programme. Staff at the University have also developed foundation degrees delivered through, or with the support of, the eportfolio software and conducted research into teaching and engaging with learners from diverse social, cultural and education backgrounds and experiences.

Hence the University was well-situated, both geographically and in terms of intellectual capital, to develop learning opportunities to up-skill the local workforce, thus meeting the needs of local employees, employers and the local economy as well as fitting with the University’s mission for employer engagement and widening participation.

Key underpinning requirements for the proposed pedagogy were that it was responsive to employer needs and that it took into account particular issues and conditions relevant to work-based learners in SMEs and their employers such as shortage of time to study, balancing a range of commitments and recognising prior and concurrent informal learning. We wanted to develop a pedagogy that would support and enable negotiated curricula to meet identified learner and organisational performance needs, that could be delivered flexibly, that could be delivered in a distance-learning mode, that was based on the need for reflexive learning, provided opportunities to record other learning and achievement and where e-learning and feedback were easily accessible. In order to be responsive to employer needs the curricula were designed to meet common performance needs identified within and across business sectors. The curricula would be developed in small units of learning, equivalent to five credits (fifty notional learning hours), delivered through distance learning,
supported by the eportfolio software. Learners would be able to negotiate different combinations of five credit units to meet their own, and their employers’, specific learning, performance and personal development goals.

The following section outlines the participative action research approach we adopted to develop our pedagogy.

**Participative action research**

Action research is widely used in educational contexts; it “aims to make changes or improvements in a situation through a cycle or set of cycles of investigation, action and reflection” (Costley, Elliott and Gibbs, 2010:88). Key to the approach is the focus on change interventions where each iteration (or cycle) concerns modification or review of the change, or changes, made.

Most writers recognise the consecutive activities of planning, acting, observing and reflecting; identified changes are implemented and a new cycle started where the effect of the changes are monitored. Coghlan and Brannick (2010:44) posit that the focus of participatory action research is outside of an organisation and involves the community whereas McNiff and Whitehead (2002:36) argue that it applies in any context because “the practice we are investigating is always in relation with other people”. We follow this latter view and contend that our project was participatory because we included all key stakeholder groups as part of the research team. As with any team, participants needed to work collaboratively and recognise that “success, or failure, of collaboration is due to a number of factors: mutual benefit, a change in product, process or output, stated, emergent and unstated aims, perceived benefits and mutual trust” (Felce, 2011:63). The participative action research approach allowed us to involve all key stakeholders within and outside the University and to develop a pedagogy that allows the needs of all stakeholder groups to be met.

The project consisted of a series of four action research cycles interspersed with, and supported through, design retreats (day-long) and workshops (half-days). The retreats and workshops provided an opportunity for participants to meet, to discuss progress and to share feedback and emerging findings. Project management was through a Steering Group, chaired by the Pro-Vice Chancellor (Academic), and a Project Team, chaired by the Project Director. Stakeholder groups were represented on either the Steering Group and / or the Project Team. Each cycle comprised the design and delivery of one 5-credit unit using the eportfolio platform; data was collected throughout each cycle and used to inform the design of the next unit. Evaluation of the data collected was through consultation with the project team and the involvement of an independent consultant, a specialist in work-based learning curricula design. An interpretivist approach was adopted in the analysis of the data where comments, documentary evidence and observational data were considered and used to inform the subsequent cycle.

**Reconnaissance**

An essential initial stage in any action research approach is that of reconnaissance (Tripp, 2003; Cousin, 2009). The reconnaissance stage involves an investigation of the existing practice that informs the first stage (planning) for the initial action research cycle. In our project the reconnaissance stage comprised a desk study and survey to audit current practices in the use of eportfolios with learners in work and to draw out lessons learned. We contacted all academic staff within the University, spoke to individuals known to use, or have used, eportfolios and questioned members of existing learning and teaching, e-learning and eportfolio networks. Follow-up interviews were conducted to elicit additional detail to inform the first action research cycle.

Based on the data produced through the reconnaissance stage we identified five academic schools that provided a cross-section of University subject expertise, where eportfolios were used within the existing curricula and who had networks within the local business communities through whom we could encourage participation in the research.

Market research activity was conducted with local SME employers using semi-structured interviews to elicit the organisation’s performance needs which were used to inform curriculum developments for the first cycle.

**Research Cycles**

Each of the four cycles began with a design retreat or workshop where we shared and discussed the lessons learned from the previous cycle and planned the change interventions for the subsequent cycle. Changes were made to the design of the eportfolio, the details included in the learner support information and advice, guidance to academic tutors who were supporting the learners and adaptions to the University systems and processes to enable and support this new genre of student.
Evaluation

Formal evaluation was conducted at key points in the project: following design retreats, mid-unit and end of unit and post-project interviews. A sample of all the stakeholder groups were identified and the semi-structured interviews undertaken by two project officers. The independent consultant sat on the Steering Group and attended the design retreats. Feedback from participants was collected by the consultant and a summary report provided to the Project Director and Steering Group. The approach used to elicit feedback from the retreats was intended to enable truthful opinion to be given because the anonymity of the participant was assured.

The eportfolio-based learning environment

The research cycles confirmed the need to make the learning easily accessible. Learners are based in work and so are studying at a distance with no face-to-face interaction with the tutor or their peers. Their only contact is through the environment we create within the eportfolio platform. Each of the pilot units was in a different subject area so all pilot unit learners were entering their first encounter with the learning environment, and in most cases with the University and Higher Education.

We used the eportfolio to deliver the learning through a webfolio which appears to the learner as a webpage, even though it is housed within their personal learning space. Academic tutors develop a webfolio template that contains unit induction materials, guidance on how to use the webfolio, unit learning outcomes, content and activities as well as space for personal comments and reflections, discussions with the tutor and one for group activities and discourse with peer learners. The webfolio provided a means of scaffolding the learning and the learner journey within the on-line environment (Bruner, 2006; Lipscomb, Swanson and West, 2004; Wood, Bruner and Ross, 1976; Yelland and Masters, 2007).

The IT skills required from the learner are equivalent to basic internet surfing skills but in responding to the activities set and adding personal reflections and comments the learners are populating their eportfolio with individual episodes of their learning. In the longer term, if additional units are studied, the learner will be able to use these individual comments, reflections and discussions to evidence their own learning journey as part of a summative assessment, or for other purposes.

When a learner registers to study a unit they are emailed instructions on how to log-in to the eportfolio software. The first time they open the software they will be asked if they want to download the relevant webfolio template for the unit they are studying. Once they accept this request they will download a copy of the template into their personal learning space within the eportfolio software and publish a link to it so that the tutor can view the learner’s webfolio and enter into a dialogue with the learner, through the medium of the webfolio. Only the learner and the tutor have access to the webfolio (unless the learner chooses to share it with others); the tutor can view each learner’s webfolio and all learners can view the group activity space through a link incorporated into each webfolio.

Learner interactions in the webfolio are achieved through the use of the software’s ‘blogging’ tool. Each template includes a series of three types of blog: activity, personal and collaborative. These blogs reflect the three interdependent domains posited by Garrison, Anderson and Archer (2000) for an on-line community of inquiry: teaching, cognitive and social.

A notional ten-week period is allowed for each unit to be completed. For each of the first nine weeks there is a page within the webfolio for ‘content’ and an associated page for the learning activity blogs. Interspersed across the nine weeks are collaborative activities located within the group blog. In the final week learners are asked to reflect on their learning through the unit and to consider how they have, or could, apply the learning in their work. Learners are encouraged to complete the activities week-by-week throughout the ten-week period but they can progress at a faster or slower pace, depending on their other commitments and preferred method of study. An example webfolio has been posted on-line (Felce and Purnell, 2011).

Participant evaluation

A stated earlier in this paper a range of methods was used to collect data. These data were analysed to elicit evaluative comments about the eportfolio based pedagogy from learners and other project participants. The following lessons were drawn from the data analysis and evaluation.

The eportfolio based pedagogy met the identified needs of work-based learners and supported those learners in recording and reporting their learning. Learners were able to access their learning
on-line and benefitted from the structure we designed within the webfolio templates to scaffold their learning. Learner comments included:

*Excellent course. The course content and the way it is laid out are wonderful. Easily accessible and really useful for me at this point in my career.*

*The contents and activities format is easily followed.*

*The course is easily followed and is being enjoyed.*

*I think PebblePad is a cracking tool and look forward to building up my eportfolio.*

*I am new to this way of studying and am finding it quite challenging, the weekly activities seem to be taking longer than the allocated time and some weeks I am finding it quite difficult.*

The structured activities enabled students to start to develop a reflexive approach to their learning, recognised widely as an important aspect of learning (Boud, 2001; Brockbank and McGill, 1998; Cox, 2007; Gerbic, Lewis and Northover, 2009; Kolb, 1984; Rowley and Dunbar-Hall, 2009; and Schön, 1987).

It has made me look at the culture of our company and this has really made me realise that I am part of the structure shaping the changes in the new culture. It taught me that no business should stand still and if it did it would not survive in business.

*I have learnt that sometimes I don't look at customer/clients relationships as long term and this needs to change.*

In some of the weekly activities learners were asked to identify any business improvements introduced as a direct result of their studies:

*Being made more aware of keeping people up to date with progress on issues raised - working in customer care and being the sole provider for a whole division means sometimes I am unable to communicate as effectively as I would like but doing this course has proved to me that this is an important part of the role.*

*More thought being put in to callers’ needs.*

*I have implemented some of the advertising aspects of the unit. The organisation I work in has found this very useful.*

*My working knowledge of employment law has developed and I am able to actively identify employment law issues when a case arises and direct the HR team or manager to the relevant legislation/regulation.*

Some learners liked the asynchronous on-line nature of the learning as they could access it at a time to suit themselves; others preferred face-to-face opportunities and / or wanted more tutor contact time:

*Being able to complete it in my own time - not rushed, not pressured.*

*(The best thing about the unit was) being able to do this from home.*

*I was able to contact the Tutor when I needed to but replies and feedback were very limited unless raised as an issue.*

*I have at times felt quite stressed at not being actually able to talk direct to the tutor. Responses via blog tend to take time which then puts the added stress on you waiting for a reply. Can be difficult if you are not too computer literate with the internet.*

*Some employers also stated their preference for face-to-face learning models:*

*We have a preference of sending employees on face to face courses and this is also the model of our in house training. For this reason, we would be unlikely to invest in e-learning for management training.*

**Impact**

The primary impact for the University is that it has a proven approach to the design, validation and delivery of learning to meet identified learning needs. The pedagogy that we developed has since been used to design learning opportunities for distance learners on foundation degrees in construction and for distance learning degree courses in law. We have built capacity in the use of
eportfolios in curriculum design, delivery and for the support of learning across a range of subject areas in the University.

As a result of the action research approach and the development of the pedagogy we have introduced a number of internal systems and processes that were needed to support this genre of student. These include new learner identities, alternative short-term or intermittent access to IT accounts and other student services, alternative validation processes for the design and approval of smaller units of study as components of credit-rated modules.

Findings and outputs from the project and the pedagogic principles established as a result of the action research approach are being used to inform the University strategic plans for new approaches to blended and distance learning.

Conclusions
This paper has presented the participative action research approach to the development of an eportfolio based pedagogy for work-based learners in small to medium sized enterprises. It has outlined the project management structure, the involvement of the key stakeholder groups and the key activities in the four action research cycles that were based around the design, delivery and evaluation of 5-credit units of study. An outline of the eportfolio-based learning environment has been given along with evaluative comments from project participants.

The impacts on the University and the wider education and business communities have been significant. Within the University the project is informing future strategy around all blended and distance learning courses beyond that of solely work-based learners.

Use of the eportfolio-based pedagogy has made HE accessible to work-based learners in SMEs through a flexible, distance learning model that provides scaffolded learning opportunities. The model has been used to build a reflexive approach to learning and an environment in which learners can negotiate curricula to meet their personal learning needs.

References
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An Eportfolio as a Personal Learning Space for Work-Based Learners

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This paper will provide an overview of the use of an ePortfolio as a personal learning space for work-based learners undertaking higher level awards. It is a work in progress and will explore how an e-portfolio tool is being used to develop an innovative curriculum to support and enable learners in the workplace. Key principles emerging from the initiative will be identified and discussed. The TELSTAR project, based at Lancashire Business School and funded by Joint Information Systems Committee (JISC) developed the awards. All awards are taught entirely online and provide opportunities for work-based learners to utilise their prior learning, negotiate future learning as well as undertake online taught courses. In designing the delivery of the awards care has been taken to ensure that the ‘on-line learning environments contain a combination’ of the following 7 principles: address individual differences, motivate the student, avoid information overload, create a real-life context, encourage social interaction, provide hands-on reflective activities and encourage student reflection (Johnson and Aragon, 2003), as cited in Bromley & Moss, 2009:48).

The project recognised the importance of a reflective practice based approach and its benefits to learners in the work-place hence the programmes of study utilise an ePortfolio pedagogy. The use of an ePortfolio is aligned to the work context and learning activities are designed to support the purpose and context. The paper outlines how technical and pedagogic support needs are addressed and most importantly how student's own the processes and outcomes. It will show how blogs are used as an alternative to learning journals in order to facilitate learning from experience, increase ownership of learning, develop critical thinking, to support understanding as well as a means of assessment.

The paper provides an illustration of a structured approach that provides a form of ‘scaffolded learning’ to support reflective practice and assist in building a community of practice. Scaffolding is also used to support learners in accrediting their prior experiential learning from work into HE. The paper highlights that the ethos of the awards is that the learner should be able to record their learning in an ePortfolio to support lifelong learning and provide their own personal learning space. Therefore in addition to reflection and other activities, all learning resources are made available to learners in a format whereby they may be copied and retained by the learners for future learning activities or as a refresher. The work based learners in this paper fill the empty space in the ePortfolio with their life-time’s experiences and achievements as well as details of formal or informal learning. This information and data may be combined in a variety of ways to structure small units of learning into larger awards.

The paper will illustrate how the programmes make significant use of blogs as they are a familiar environment for many and have also been recognised as effective in engaging learners to develop reflection and collaborative learning. It will discuss three types of blogs: activity blogs are embedded within the web-folio resources and learners are invited to type their responses; to weekly activities; individual learners use a personal blog as their private learning journal which can only be seen by the individual learner with selected comments used for reflection assessment by the tutor; and a group blog for collaborative activities and to share practice.

As the paper is presenting a work in progress it will discuss the research informed design and then end by presenting some examples of the way the ePortfolio tool is being used as a personal learning space for work-based learners taking undergraduate programmes at the University of Central Lancashire.
The CPD-Eng project set out to address the needs of engineering postgraduates in organising, reflecting on and presenting evidence of their Professional Development to professional bodies in order to become accredited as Chartered Engineers. However the software toolset that was developed has proved useful to other professions, and in a much wider range of learning contexts, including schools, training providers, degrees and foundation degrees.

The main Open Source toolset comprises an aggregator, a tagger, a mapper and a competency framework builder, which together comprise the MyShowcase product (www.my-showcase.org). There are three implementations – a Sakai tool, a Moodle tool and plug-in and a ‘core’ (stand alone) version that is also available as a hosted service. An iPhone app has also been developed to interface with the ‘core’ version. Feedback from developers suggests that the toolset will prove useful, and will be developed further, both in its Sakai and Moodle implementations.

Interestingly, though not a fully-fledged ePortfolio tool itself, MyShowcase has the potential to support institutions in achieving greater ePortfolio maturity, as described in the ‘ePortfolio maturity model’, based on work by Becta. In particularly it supports:

‘Learners are regular and active creators of content in both formal and informal curriculum areas, and make connections between their virtual spaces and multiple identities to support learning.’

And

‘Each individual learner makes personal decisions about the use and content of the ePortfolio, including which aspects of the ePortfolio will be available to others and under what conditions.’

However, it may be supposed that where institutions have not yet reached an equivalent level of maturity in institutional and academic factors, they may not yet be ready to support this level of learner autonomy.

Those who are piloting MyShowcase with groups of users could see a specific rationale for doing so relating to the product’s features.

For example:

To present examples of work to a potential work placement ‘employer’.

For students who needed to present large files, such as those in arts and computing disciplines, because it meant the files did not need to be hosted on the institution’s servers.

To help mature learners to match their work based experience to learning outcomes.

These different uses correspond to different features of the product:

- It has been designed to present evidence of competence to stakeholders outside the learning institution
- It is essentially a cloud-based solution making use of the current high investment in server space for social media use
- It provides a way for students to translate their experiences between different fields of endeavour.

This latter point relates to the original aims of the CPD-Eng project – to find a way for developing engineers to relate their experiences in the workplace and in training to the professional competencies required to become a Chartered Engineer. The product that has resulted from this original concept does all this and more; it allows the learner to aggregate evidence from every aspect of their life and map it against any given framework, whether that be a set of learning outcomes, occupational competencies, or a person specification for a job role. Further, it allows the learner to manage and make use of their multiple identities in pursing an educational or career-related goal.

Although the toolset is still in the process of being piloted, (with user data available in the summer of 2011), it has attracted positive comments both nationally and internationally. Its simplicity and
intuitive GUI makes it distinctive, with both educators and learners who perceive only minimal training requirements and no technical barriers to engagement.
Developmental Effects of Key Competencies by ePortfolio System in Japanese Civic Learning Community Courses

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As learning opportunity for citizen, Japanese Civic Learning Community continues to propose many learning courses by Internet in many area of Japan. Now we had a trial introduction of eportfolio as a learning system to develop Key Competencies of citizens from 2010 to 2011. As the result, we found some developmental effects through learning courses by eportfolio. In this presentation, we will report our Japanese eportfolio study for citizens.

I. Introduction: Research Summary on Civic Learning Community

1. Social background of this research

2. Research on the Lifelong Learning Platform to activate learning outcome using ePortfolio

A. Purpose of Research

1) To present tactual evidence to use ePortfolio for individual continuous learning

2) To consider about making a policy how to take advantage of learning outcome stacked by ePortfolio to community

B. Goal of Research in 2010

Using ePortfolio:

1) To assess how helpful is it to build the independent-minded learning attitude

2) To assess what educational effects did they have

3) To think out utilization possibility of ePortfolio in the organization of learning support, employment support and companies

C. Some Points of Research

1) Development of model course:

Two courses to facilitate the ability to solve practical problems such as:
• Challenge class for reemployment
• Challenge class for job hunting

2) Development of a prototype system of ePortfolio
   Implement this system to Internet shiminjuku system

3) Implementation of model courses for high school students, technical school students and he/she who seek reemployment

4) Establishment of a learning support system constructed by lecturer, advisor and e-mentor

3. What is Civic Learning Community?
II. Development of ePortfolio System for CLC

1. Development of Model courses

1) Two courses:
   Challenge class for re-employment
   Challenge class for job hunting
   6 weeks learning

2) Real class room + net classroom
   Formal learning + informal learning

Overview of Model courses

The lecturer
The carrier adviser

INTERNET

The First Meeting and lecture
Understanding of Capability development and goal-setting
The guide of goal for learning
The presentations and Self-assessment of the future prospect

Self assessment and understanding of the aptitude and the ability

Learners’ goal-setting, assessment of the goal, future prospect.

The record of the activity records in daily-life and Reflection by records

e-mentors

construction for friendly relationship
Check and confirmation of records
Advice of encourages continuation.

The advice of the Self assessment
2. Scheme of Model courses
Participants in the model courses:
- Students 11 learners: course for re-employment 4 persons, course for job hunting 7 persons including 4 High school students
- Lecturer 1 teacher
- Adviser for employment 1 person
- e-mentors 4 persons

Traits of e-mentors:
- Citizen Lecturer in CLC
- Have skill of coaching and communication
- Participation in voluntary activities

3. Development of e-portfolio system
1) Easy to record on e-portfolio
You learn, anytime, anywhere.
Everyday life and work, it is learning
Meeting people, it is learning

2) Linking learning records
Learning varies in forms
Classroom lectures / distance learning by Internet.
Formal learning / Informal learning.
Records relative to each learning system.

3) Open access and control
Access to e-portfolio records must be controlled by learners themselves.

4) Added an e-portfolio feature to CLC-system
III. Learning outcome in Model Courses

The basis of the analysis:
- e-portfolio records (213)
- self assessment records relative to autonomous learning, before and after
- self assessment records about key-competencies, before and after
- Survey to the Learner (questionnaire, interview) -Survey to the Lecturer (reports, interview) -Survey to the adviser (reports, interview) -Survey to the e-mentor (interview)
- Survey to the teacher in high-school (reports)
- Survey to the job supporter (reports)
- Survey to the education administration of local government (reports)
- Survey to the social education researcher (reports)

1. Effect for practical use: the point of view from the learner

1) Merits of learners.

- They utilized out of the classroom.
- To record e-portfolio was useful for the self understanding.
- They make the autoanalysis from the viewpoint which is different from the advice of the lecturer and the e-mentor.
- They wants to look forward to the communication of the learner and learner, too.

2) The motivation by record

- The existence that the lecturer and the e-mentor watched a record is important.
- They will record continue after the lecture ends. (getting a job is not a goal!)

3) Total opinion to the e portfolio.

- It wasn’t possible to record every day.
- To continue a record needs an effort.
- However, the merit is larger than the labor.
- it recorded much in case of important activity. For example, it was when the result of the examination for employment comes out.

4) About the improvement of the system

- For easy to record, it should make a record item simpler.

2. Effect for practical use in the point of view from the learning supporter

1) Effect of expansion the information.

- The learning supporter became understanding deeper for learner. -It was easy to understand for a change of the learning and the actual action.
- There is an effect for the forming to relationship through the record of the e-portfolio.

2) Effect of Expansion the information.

- The visualization effect to timely support.
- The possibility to the learning support for one to one.
- The effect which is good for the lecture in the class spread. -Reflection and problem consciousness to the goal were expressed, being clearer.
- Changed the attitude and the action which attend a class.

3. Problems for further development

1) Effect of learning depends on for the personal recording.

2) The flexibility of description will be required.
3) The important thing is development of e-mentor, who can make friendship among the learners.

**IV Key competencies for Self Assessment**

<table>
<thead>
<tr>
<th>competency</th>
<th>ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interacting in socially heterogeneous group</td>
<td>Engaging and participating</td>
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<tr>
<td>Acting autonomously</td>
<td>Setting goals Planning and doing</td>
</tr>
</tbody>
</table>

**V Conclusion**

*Formation of autonomous learning*

1) Effect to bring up one’s own thought and role and to deepen self-understanding by reporting
2) Advancement of ability to express themselves by communication with e-mentor and lecturer
3) Advancement of ability to plan with responding to their learning plans and necessity

*Educational effect*

1) Formative Effect of key-competencies
2) Improvement of quality in learning under perfect control of individual learners by lecturer, adviser and e-mentor

*Interface with community*

1) Career education for high school student
2) Advancement of employability

*Assessment from the perspective of lifelong learning*

1) Qualitative measurement for individual learning
2) Indicator and benchmark by objective assessment

Confronting problems

(1) Improvement of ePortfolio system

1) Use of social media, Facebook
2) Transparent and useful device to arrange individual stock data
3) Data sharing and cooperation among social and educational systems.

(2) Arrangement community collaboration and constructing a better system for using

1) Inspection and arrangement this system among learners and community, private companies to use ePortfolio
2) One of devices as social evaluation to propose some certifications of educational qualification
3) Forward to build up a community system to use ePortfolio with many way such as Job card, passport of lifelong learning and information for employment
Introduction

In the light of the provision to every Further Education tutor by the Institute for Learning (IFL) of a reflective portfolio, we wanted to see whether it was possible to deliver a traditionally ‘mapped’ qualification through a reflective narrative to the satisfaction of the awarding body, in this case City and Guilds (London) Institute (C&G). The project concerned the completion of a Qualification in ‘participative technologies’ by 7 teachers, designed by JISC TechDis. We want to see whether we can combine both as a means of improving professional effectiveness in a sector that is dominated by qualifications that are mapped to learning outcomes.

If this is possible, then we see a way in which every FE tutor can use the mechanism of the reflective portfolio to capture directly any training qualification offered either by an awarding body or a training organisation.

We have to overcome four generally held beliefs

1. there is one portfolio suitable for the range of learners in FE
2. that it can be designed as an 'add-on' to another technology
3. that the 'personal' can be 'standardised'.
4. the strong FE cultural barriers relating to the control of staff development

Staff Development in FE

FE colleges use a common pattern of staff development. It is based mainly on the needs of the college and has predominantly focused on statutory requirements that removes risk of error, such as safeguarding, health and safety, and discrete teaching provision such as tutorial practice etc. A criticism of this approach is it's capacity to be complicit in supporting staff who take a passive role in their own development, leaving it to the college to tell them what they need to do. Training is seen as an exercise in compliance, recording nothing more than attendance at an event and evaluation of the venue and speaker. In other words, the evaluation answered the question ‘how was it for the college’.

However, this approach is now open to challenge, believing CPD to be an important part of the behaviour of a professional teacher.

We believe that professional development can be seen as a distinct development process from that governed by the college. The two are related because professional development conditions the mind and attitude of the teacher and thereby improves their contribution to the needs of teaching and learning as prescribed by the college. There is no competition between the two and one certainly doesn’t replace the other. Staff who took part in the ITQ process have gained significantly from the liberating experience of following their own learning path, based on their interests and delivered through a narrative that explains that ‘journey’ and crucially, the application of what they have learnt to inform their professional impact. All this achieved in their own words.

The use of a reflective portfolio forces the learner to describe ‘learning in action’ based on ‘reaction research’.

What we have learned

It is critical that staff understand the pedagogical concepts that underlie a reflective portfolio before they begin to use it. If there is a misalignment between the properties of the portfolio used and the behaviour of the owner, the process will be frustrating and damaging, manifesting itself in criticism of the software because there is no insight into the purpose of a reflective portfolio. Many teachers still think that technology will provide all the answers in all circumstances and make up for any thinking deficiency in the application of the author’s work. It is important to teach staff how reflective portfolios work.

The benefit to the sense of professional practice is immense. Reflective portfolios re-sharpen the intellectual edges of teachers who have not been pressed to justify or validate their thinking since their initial training. All the students have found this taxing yet rewarding.
We hope that the teachers who actively engage in the use of reflective portfolios will continue to develop a stronger sense of professional identity and they see the value of taking personal responsibility for the management of their own learning.

Mastering this skill conditions teachers how to use them with their own students and we expect all students to be using personal learning space of some kind within the next 3 to 5 years.

**Why has it been effective**

There is a case now to be made to say that every teacher should continue their reflective development through the capture of personal experience and formal training and qualification-based learning as a means of **conditioning themselves** to make a better and more effective contribution to learning and we want to make that case as a result of our work.

As every FE teacher owns a reflective portfolio we believe the implications for extending this work are significant.
Non-Traditional Adult Students’ Attitudes, Social Practices, and Usage Patterns in an ePortfolio System Pilot

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Background:
While research has focused on the cognitive and meta-cognitive benefits of using ePortfolios, more research needs to be done to determine the role that situated and social aspects of ePortfolio practice play and how they should be leveraged for deeper learning and understanding for non-traditional or underrepresented students and communities.

As part of my ongoing exploration of socio-cultural factors that influence underrepresented and non-traditional students’ development of ePortfolios and communities of practice, I focused on ePortfolio development by adult students (24+ years old) who are obtaining their bachelor’s degree in an adult undergraduate program in the United States. Through surveys and interviews with adult students and faculty who are piloting ePortfolio software and practice, I explore adult students’ perception of ePortfolio value within their current or future career and their ability to use it to demonstrate prior learning. This study provides insight into the specific features of, and roles that, ePortfolio technologies can play in encouraging adults to form their digital identities and engage with their learning in more meaningful ways.

Objectives:
My objectives for this preliminary phase of research were to (1) better understand how and why adult students (24+ years old) and faculty integrate and develop ePortfolios in a competence-based framework, (2) identify the particular strengths, weaknesses, and challenges posed by ePortfolio software in the integration and development of ePortfolios, and (3) identify adult student usage patterns and attitudes regarding ePortfolio development and software.

I explored these objectives in two contexts: (a) a university-wide deployment of an ePortfolio system, Digication, and (b) a pilot of that same system with a sample of adult learners (24 years old or older). I conducted surveys and interviews with the students and faculty and compared my findings with this sample against existing data about traditional-aged college students (18-24) also using the same system.

Results:
Five faculty members introduced the ePortfolio software, Digication, and associated ePortfolio practice into five college writing courses for adult students over two academic terms (10 weeks each) in 2011. At the end of the term, I surveyed and interviewed the adult students enrolled in these courses about their experience with the ePortfolio software and practice. My preliminary survey and interview results show that the students recognized the educational and professional value of developing ePortfolios in an educational context and shared their ePortfolios with their classmates and instructor. However, they found the process of learning to use the software to be somewhat difficult and felt that additional features and support could be added to make it easier to create, present, and share their ePortfolio. More specifically, they stated that the permissions and creation aspects of the software could be improved to support their ability to share their ePortfolios with others in their same profession, similar interests, as well as with individuals outside of the academic institution. Also notable was adult students’ interest in including photos of their family and community. However, adult students did not have much interest in including videos or audio recordings.

I also interviewed the five faculty members who integrated ePortfolio into their courses for this study and found that they needed more technical support to aid the adult students in creating their ePortfolios. They also felt that integrating the ePortfolio practice in a more structured way (having more check-in points and more supporting assignments) would have given the students more opportunity to “fit” the ePortfolio development into their busy schedules and think critically about its development. The faculty also ran into some technical issues with the permissions (sharing) feature
of the software, which was a challenge when trying to create an ePortfolio development “community” with/for the students.

Conclusions:
The sample for this study valued the cognitive and meta-cognitive benefits of developing ePortfolios in an educational context. The adult students have many personal, professional, and educational experiences to build upon in an ePortfolio, and they would like ePortfolio software that allows them to showcase and share these experiences and network with other adult students and professionals with similar interests. Adult students’ may have a technological learning curve compared to traditional college students, lack of time due to personal and work responsibilities, and/or disinterest in “newer” media. More research is needed to determine if adult students are interested in including more multimedia in their ePortfolios and how ePortfolio software and integration can fit their socio-cultural needs.
Utilising the Reflective Diary as a Tool for Continuing Professional Development: Are New Technologies the Answer?

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**Background.** The value of reflecting on work-based experiences has received increasing attention from management and leadership writers in recent years (Mintzberg 2004, Kouzes and Posner 1995, Duigan 2007). However, these observers also claim that, in reality, few managers practice reflection. A tendency to be ‘action-orientated’ offers a partial explanation (Hedberg 2009), although there is also a need for the provision of tools that can facilitate reflection. Whilst Gray (2007) considers a range of such tools, including reflective diaries, these are presented as ‘potential’ options that have yet to be empirically tested in the field. Adopting a practitioner-researcher approach, an investigation was conducted into the value of the reflective diary to professional practice. The findings identify a range of benefits associated with this method of reflection, as well as offering guidance on what practices to capture, the frequency with which entries might be made and the diary structure most conducive to experiential learning within the workplace.

**The Challenge.** Whilst one of the strengths of the practitioner-researcher approach is the detailed knowledge of practice it brings, it tends to offer a limited perspective. To counter this, three practitioner focus groups were conducted in which the research findings were discussed and evaluated. These revealed a wide recognition of the value that the reflective diary can bring to practice, with references made to the tool encouraging greater self awareness, promoting analysis of practice, including ‘actions [that] would otherwise be automatic’, identifying ‘areas for professional and personal development’, and providing a record of progress in the acquisition of competencies. However, focus group feedback also revealed reservations amongst practitioners that are likely to inhibit their adoption of the conventional paper-based diary. These echoed the explanations for non-reflection offered by management commentators, with participants describing the challenge of ‘having [the necessary] time to set aside’ for diary keeping.

**Hypothesis and provisional findings.** Could new technologies provide an answer to this challenge? Preliminary findings suggest that many practitioners are likely to be predisposed to a technological solution. A number of focus group participants expressed a preference for using laptops over conventional note-pads. Moreover, in a number of instances references were made to current practices that use various on-line tools to capture post-activity thoughts and ideas. The ePortfolio presents a clear option in this respect since it can provide a means of capturing, cataloguing, selecting and annotating electronic records, including word documents, emails and other files. Yet, there are potential barriers associated with the application of such software in the workplace as opposed to the classroom. Although focusing on teaching professionals, Marx, Blumenfeld and Krajcik make a point that can be applied more broadly in warning that ‘new electronic forms of information storage and retrieval’ are unlikely to be helpful unless they can relate to the practitioner’s work and ‘have fairly short learning curves’ so that the complexity of operation does not deter new users, or distract them from their primary purpose of being a professional development tool. However, feedback from the focus groups suggests that an electronic tool with many of the capabilities of a bespoke ePortfolio is already used by many practitioners: the online calendar. Further confirmation of the use of online calendars has emerged during a new phase of this research which is exploring the detailed diary keeping practices of a small group of managers.

**Conclusions.** The focus group findings suggest a wide acknowledgement amongst practitioners of the value to professional development of reflective practice in general and the reflective diary in particular. However, the same findings also point to a potential barrier in the take up of such practices: that of finding the necessary time. This study suggests that new technologies may hold an answer, not in the form of a bespoke ePortfolio but, rather, in the adaptation of an existing and widely used electronic resource: the online calendar.
Understanding the Students’ Experiences of ePDP and the Factors that Shape their Attitudes

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Abstract

Using an action-research approach, e-PDP (electronically-supported Personal Development Planning) was embedded within an undergraduate psychology curriculum at an English university, for over two years. e-PDP was embedded in three ways: (a) information literacy microtasks, (b) logs of learning activities, and (c) e-portfolios submitted at the end of each academic year in which the students assessed their experiences and development across all units. This paper focuses on findings from the qualitative analysis of a sample of interviews with students. We identified a system of interconnected themes at the centre of which are the students’ attitudes towards reflective writing and the construction of e-portfolios. However, these attitudes were closely related to a perception of purpose (many different purposes, but also lack of purpose), as well as technical aspects (experiences of using the software), the guidance received from tutors and the students’ willingness (or reluctance) to disclose personal aspects in their e-portfolios.

Introduction

PDP (Personal Development Planning) was originally conceived of as a framework for higher education institutions in the UK with the aim of giving learners more control over their learning and development through reflection and planning (National Committee of Inquiry into Higher Education, 1997; QAA, 2001). PDP has also been linked to employability in an attempt to provide a life-long learning dimension and highlight the practical relevance of education for the learner (e.g. York, 2007). Many initiatives have taken place with varied outcomes (e.g. Gough et al, 2003). While conceptual critiques of the notion of PDP are indeed valuable (e.g. Clegg, 2004), practitioners often report of significant numbers of students and teaching staff that dismiss it as taking up precious time and having no real value (e.g. Blumhof, 2005). Finally, the switch-over to digital technology (VLEs and e-portfolios) offered many exciting possibilities, but also introduced further challenges (Strivens et al, 2009).

For this project, PDP is understood as comprising activities carried on the part of the learner, but supported by tutors, of the following types: planning (deciding what to learn and for what purpose) such goal-setting and producing action plans, recording significant learning experiences (e.g. learning logs), reflecting on the success of these activities (in order to better understand personal processes of learning and development) and revising one’s plan in order to be more productive next time or re-formulating the goals. These activities are supposed to enhance learning of subject-related knowledge as well as the acquisition of transferable/generic skills. At the University of Bedfordshire, these outcomes are part of the notion of Lerner Development which also includes awareness and motivation (Bridges-CETL, 2007; Atlay, Gaitán & Kumar, 2008). e-PDP simply means the use of information technology to support the PDP related activities mentioned above, mostly in the form of e-portfolio software. In this case, the software chosen was PebblePad, based on the results of pilot study conducted sometime ago on the use of the Blackboard platform for producing e-portfolios at the university with students from the fields of computing and psychology (Gaitán, Manton & Jankowska, 2007; 2008).

PDP in the psychology department has evolved over the years. Initially, it was closely aligned to the role of personal tutors who for several years had groups of 15-20 students and met weekly in the first and second years of the undergraduate degrees. Portfolios were paper-based and were not compulsory. Gradually, the personal tutors groups disappeared and some of the activities were incorporated into the units. In 2008 an institutional Curriculum Review was carried out and skills-training was strongly embedded in the curriculum, with an emphasis on employability and information literacy (McMurray, Roberts, Robinson, Gaitán and Teoh, 2008). While electronic portfolios had been offered as an option in 2007, they were made compulsory in 2008 and given a weight in specific units at levels 1 (‘Introduction to Research Methods’), 2 (‘Social Processes & Lifespan Development’) and 3 (‘Research Dissertation’). However, successfully integrating e-portfolios in the curriculum remained a challenge. While some pilot studies as part of ISLE and other studies (e.g. Frith, 2007 and Brett et al, 2008) provided valuable examples of embedding e-PDP in...
order to enhance learning, (a) they have done so in specific modules, mostly at level 1, and (b) the activities that were selected for enhancement by e-portfolios do not refer directly to subject-specific learning.

In view of the above, an action-research project was designed to explore the following research questions in practice:

How can e-PDP be embedded in a curriculum so that it is closely linked to subject-related learning?

To what extent will students at levels 1, 2 and 3 engage with e-PDP, through the use of e-portfolio technology, when it is embedded in the units they are studying?

How does engagement with e-PDP embedded in a curriculum contribute to subject-specific learning as specified in the learning outcomes, as well as learner development as constructed by the learners themselves?

The study

Approach

Action research is ‘a form of research carried out by practitioners into their own practices’ (Kemmis, 2003, p. 177) with the aim of improving such practices as well as understanding them and the contexts in which they take place. It entails designing an intervention and putting in place procedures to document the process as well as the outcomes, in order to determine whether its aims were achieved and to what extent (planning). The next stage is the implementation of the intervention (action) and monitoring of its effects (observation). This is followed by systematic evaluation of the experience which allows the researcher to understand the extent to which the outcomes were achieved or not (reflection). The understanding gained through this sequence will enable him/her to make adjustments to the intervention which will be implemented again in the next cycle. Since systematic monitoring and collection of data (observation) occurred alongside the implementation, the process can be understood as comprising three stages. The three stages described below took take place in two cycles, each lasting one academic year (Cycle 1: 2008/9 and Cycle 2: 2009/10):

A. Embedding e-PDP in the units involved:

Identifying key learning processes in several units of the new Psychology Curriculum 2008.

Designing micro-tasks involving e-PDP to support key learning processes.

Designing guidelines for the construction of e-portfolios. These portfolios were supposed to document the learner’s (learning and work) experiences, her reflections and development, as well as progress on her employability.

Design assessment of e-portfolios by staff through specific marking criteria for each level, matching the expected learning outcomes for each level.

B. Implementation included

Implementing micro-tasks in the selected units.

Supporting the construction of e-portfolios and their submission in the designated unit.

Supporting the assessment of e-portfolios by staff using the marking criteria designed by the researchers.

The experience of implanting 5-7 entails systematic monitoring and collection of data that will feed the evaluation.

C. Evaluation included:

Assessing student engagement. Attendance records and statistics of use of the VLE (Blackboard), as well as completion/submission of micro-tasks and e-portfolios through PebblePad will be used as measures of engagement.

Assessing of learning and development: this will involve examining the learners’ academic performance as an indicator of achievement of the learning outcomes and also the learners’ perspective through the e-portfolios and interviews.

Evaluation of the marking criteria for e-portfolios: Researchers-Tutors will record their impressions of using the marking criteria. Other tutors will be interviewed.
Participants, sources of data and ethics

All students enrolled on a psychology degree were exposed to the intervention in the sense that the microtasks, the logs and the e-portfolios were essential part of the units they took, and general statistics on engagement were obtained (e.g. submissions). However, they were all invited to sign consent forms. A total of 112 students signed consent forms. 107 consented to having their coursework analysed, 111 agreed to their e-portfolios being analysed and 71 to be interviewed.

However, in this paper we will not attempt to evaluate the success of any of these activities or the quality of the outcomes. Instead, we will focus on students' experiences of e-PDP, in particular the construction of e-portfolios in Pebblepad.

The source of data are interviews about PDP and e-portfolios carried out with five students at the end of the first year -Helen, Basmah, Ali (studying at level 1) and Kate and Ralph (studying at level 3)- and four further students at the end of the second year (Tracey, Sue, Mohammed and Sarah). Helen and Basmah of were interviewed again at the end of the second year. All the names have been changed.

Particular care was given to ethical issues that could arise from the fact that the researchers were also their lecturers, something that is common in action research in educational settings. For instance, students could be led to believe that by signing a consent form they could expect preferential treatment or higher grades in return for helping their lecturers. On the other hand, they could think that their grades could suffer if they did not volunteer. Several safeguards were included such as having a research assistant collect the consent forms so that the researchers would not know the identities of the students who signed the consent forms. Data was anonymised as much as possible by the research assistant, before the researchers received them. More importantly for this paper, all the interviews were conducted by the research assistant after the marking had been completed.

Data analysis

Although some parts of the evaluation involved numerical data (e.g. attendance, submission and grades), most of the data was qualitative (e.g. interviews and students’ reflections). The latter were analysed qualitatively (Bogdan et al, 1998). A Grounded Theory (Glasser & Strauss, 1967; Pigeon, 1996; Pigeon & Henwood, 1997) approach was used to generate and manage categories systematically and enable theory building. The researchers gave particular attention to reflexivity in order to make explicit ways in which their commitments to beliefs and values, their institutional roles, their disciplinary perspectives and their pedagogical relations with the participants may have influenced the research and vice versa.

Findings

After two years, this action research project can claim modest results: (a) micro-tasks aimed at providing training on Information Literacy at levels 1 and 2 were supported through PebblePad in the first year and continued throughout the second year, but no new micro-tasks were designed; (b) a journal of counselling exercises which is part of a level 1 unit was not done on PebblePad and while students are encouraged to write a log of group work experiences in a level 2 unit using the blogging facility in PebblePad, this is not a requirement; (c) all students at all levels produced an e-portfolio that was submitted at the end of the year. The e-portfolio was been made compulsory for the first time in 2009/10. However, this paper will now focus on the interviews.

Themes

Four themes (core categories) emerged which cover most of the material discussed in the interviews: Purpose, technical issues, guidance and attitude. The most important one is definitely purpose, as it encompasses the most material.

Purpose of e-Portfolios

The students’ views were grouped using a simple classification describing them as (a) purposeful, (b) having some purpose, but expressing some concern, and finally, (c) as lacking purpose.

Some students understand that e-portfolios can capture their development in general terms, e.g. “It is so you can see yourself grow between three years” (Basmah, Level 1, line 38), or the acquisition

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4 An evaluation of the first year was presented at the HEA Annual Conference (2009), see Gaitán & Robertson (2009).
of a specific skill, e.g. "I can understand that you would need to show how you can manipulate another software" (Helen, Level 2, lines 24-25). The former student mentioned personal growth which can be observed throughout the three years and possibly implied that a sense of pride is derived from this, but there is no further aim. The latter refers to the possibility of verifying that students have mastered yet another piece of technology and may contain some ironic element, given the general content of her interview. However, in the second year of the project we were surprised to find a student who could articulate a wide range of purposes worth examining in detail: The first purpose for her is to create a memory you can go back to: "Like not only to yourself cos you can think ‘oh yeah I did enjoy that, or oh yeah I remember when I done that, you can sort of remember stuff". (Tracey, Level 2, lines 97-98). The second, more important purpose is to support her learning in different ways: she uses PebblePad to learn from experience: (a) she identifies what works and what does not work ("[R]ight I’ve got to keep a portfolio this is what works, this is what doesn’t work." (Tracey, Level 2, lines 71-72), (b) focuses on instances of poor performance and identify possible causes (see extract 1 below) and (c) reflects on the results in terms of goal-setting and formulation of a strategy, e.g. the need to read in advance of lectures (Tracey, Level 2, lines 227-39).

Extract 1

"I think seeing what you don’t understand is probably better than writing about what you do understand. So you can write ‘oh I done really well in this essay, I got an A’, but that’s fine, you know that stuff, it’s stuff you know ‘oh I got a D-, I’m not really sure on this, I’ve had a little look at this book and that book " (Tracey, Level 2, lines 79-82).

Other students are also aware of the value of monitoring their progress for goal-setting: "I definitely think (...) if you actually spend time doing it every week or every other week writing about your units and whatever, it does show you what you need to be focusing on more to get better grades and what you need to be doing less of in terms of ok (...) what to improve on". (Sue, level 2, lines 32-38).

In addition to using Pebblepad tools to learn from experience, in a way that closely resembles the experiential learning cycle, Tracey used her e-portfolio to integrate knowledge from different areas: “That’s what I do, like I used criminal stuff in Social Processes and Social processes in Research Methods, I just mash them all together, I just mix them all up but I think writing about stuff does help my learning", (Tracey, Level 2, lines 247-29).

The third purpose for using Pebblepad is to learn to reflect and therefore it prepares you for the future. Tracey is aware that becoming a reflective practitioner is a future career requirement: "I want to get into forensic psychology and they require a 3 year portfolio from what you’ve done at the end of unit through your masters and stuff. So this is setting me up, it’s preparing me" (Tracey, Level 2, lines 69-71). Sue sees the similarity with appraisals she has had to do at work, only this is more personal and she understand that the marking of the e-portfolio is more on how you reflect rather than what you achieve.

Finally, Tracey described a fourth purpose which is to communicate with her tutors. This is born out of a need to express what she is doing and be acknowledged for it (see extract 2 below).

Extract 2

"[I]t's sort of like showing to them what you’re doing and then how you’re doing as a student" (lines 89-90) "Because I feel like I do a lot as a student to push myself to get the good grades to go to the talks, writing this and that and it's sort of like had my tutors not read that that I've written in my portfolio they wouldn't know I was doing it." (Tracey, Level 2, lines 91-94)

"[I]t's like a 'look at what I've done, please acknowledge this, sort of thing." (Tracey, Level 2, lines 94-5).

At the heart of this is a sense of pride in all the things that she is doing and the effort she is putting into her studies. This is something that needs to be considered in more detail.

However, she also aims to give feedback to tutors in order to improve things (Tracey, level 2, lines 97-100). See extract 3 below:

Extract 3

A: So it’s a way of sort of hinting at them for certain things as well.
T: Yeah.
A: Actually, I was looking at some, it might have been yours and someone, it must have been yours said hints and tips on how to improve things.

T: I put on there a recommendations page.

(Lines 102-9)

This student genuinely wants to help lecturers improve their practices and believes her comments on her e-portfolio can make a useful contribution.

Other students, however, see e-portfolios as having some purpose, but this is limited or is hampered. Ralph, a Level 3 student interviewed in the second year of the project: "[W]e just saw it as a requirement of some bureaucratic process rather than some useful kind of workload (Ralph, Level 3, lines 63-4)". It is about "engendering reflection about how you work and making people think about the task they undertake and how they could make them more efficient or effective, then if you already do that to an extent it’s sometimes more onerous " (Ralph, Level 3, lines 69-72). So, although there might be some benefit in doing an e-portfolio (planning one’s learning), this is not necessary after the learning has taken place.

Another student, from Ralph’s cohort, stated that "I used it as very much a record of academic achievement and work and employment history and things like that. I wrote very little personal information on it." (Kate, Level 3, lines 237-9) which links to the feeling of intrusion which another student expressed: "The concept of an e-portfolio is great, but asking students to submit it is counterproductive" (Ali, Level 1, lines 17-18). This point will be discussed at greater length later.

Finally, we have statements that express no purpose in using PebblePad or producing an e-portfolio. This is related to a perception that there are no explicit aims or criteria: "...there is no, well, not that I’ve seen, maybe it is my fault for not looking, defined criteria for how whatever you do put in there is valued or graded or granulated " (Ralph, Level 3, lines 32-4). "I had to define my own goals" (line 36). Secondly, some students might feel that the effort required is not worthwhile compared to what they get in return: “Because a lot of the time it’s not marked, but you have to submit it to get an overall mark and it just feels like added work for nothing work really” (Kate, Level 3, lines 131-3). Stronger statements include: “It’s the last thing that’s helped me with my academic studies” (Helen, Level 1, line 290) and “I do think PDP’s a waste of time” (...). They say you need them for job interviews and stuff but I’ve never ever been asked for one” (Kate, Level 3, lines 117-8).

Except for Ali (a Level 1 student in 2008/9) and Tracey discussed above, the rest of the interviews analysed so far do not seem to contain a very elaborate notions of purpose associated with e-portfolios, or completely deny any sense of purpose.

So, it is important at this stage to shift the focus from the e-portfolios to the broader notion of PDP and in particular the element of reflection, which is central to PDP and the difficulties expressed. Firstly, returning to Ralph’s interview, what is implied is that had he engaged in planning, recording, reflecting and improving the learning as part of the learning process an e-portfolio might have made sense, but not now that (as a Level 3 student) he has reached the end of the learning process. So, this might suggest that the e-portfolio divorced from the broader philosophy of PDP as a way of learning, deprives it, at least for some students, of its purpose.

Another source of difficulties lies in the perception that reflection entails a personal element and the idea that it will be read by someone else generates discomfort: “I don’t do reflection... I don’t like writing personal things” (Kate, Level 3, lines 234). While students can be reassured that the readers of their reflection will only be tutors, this is still vague and anonymous (which tutor?). This is expressed clearly again by K: “I don’t actually know who (is) going to (read them)” (Kate, Level 3, line 235) and Ali: “the intrusive factor actually hindered one’s personal development” (Ali, Level 1, line 3).

At one level, one can argue that students are not required to make personal disclosures and can limit themselves to learning experiences, as have complete control over what they include or not include; at another levels, their goals, their insights and reflections on their learning process are nevertheless personal. Therefore, the issue of disclosure is indeed a very complex and deep issue that must be discussed at a greater depth.

The final issue related to reflection is expressed in the following quotation: "I don’t have action plans, to be honest, I jot things down that I need to do and get them done” (Helen, Level 1, lines 230-1). However, the same student interviewed a year later articulated it more clearly: reflection helps understand your experiences and the process of your development (see extract 4 below), but adds that she would still not do it if it wasn’t compulsory.
"Having it written down I guess makes it more official so you kind of have to think about what you’re writing, so as you’re doing that the process itself helps you understand what you’ve done, how you’re developing, what you used to be like, what you’re like now. I guess yeah, in a way it has helped." (Helen, Level 2, lines 60-4). "What reflecting? No, (I wouldn’t do it) unless I had to. In that sense it doesn’t matter if it is email, or Word or PP, unless I would have to do it, I wouldn’t do it." (lines 76-67)

The apparent contradiction that exists between recognising that something is useful but not doing it also requires further examination.

Technical issues

The second theme includes some statements regarding advantages of the software, e.g. “Pebblepad is a very good thing because our tutors can access our assets if we allow them to” (Basmah, Level 1, lines 46-7). However, there are also negative experiences at the start which have long-lasting effects, as we will attempt to argue in the next section on 'attitudes'. Helen (interviewed last year) said that PebblePad kept crashing and it was not compatible with Windows Vista (however, this seems to have been more to do with her machine or an installation issue). A close friend with knowledge of IT had strongly criticised the software. Helen also pointed out that it was slow. However, at the same time, Helen said she “would have given [it] 8 out of 10” and admitted that, apart from the crashing when she tried to upload things, “It did work whenever I needed it. Yeah, that was not bad, the interface that was alright, I managed to do everything, very easy, not a big deal at all” (Helen, Level 1, lines 81-90). Helen stressed that everything she can do in PebblePad she can do in Word and e-mail (archiving, etc.). At the end of the second year, Helen still did not like it, but did not raise any further technical issues. As we saw above, the problem was purpose.

The opposite experience is illustrated in Tracey’s interview: She highlighted integration "You can keep it all in one place. Because you just log in and it’s all there, you haven’t got to go through file and folder and what did I name it? And stuff like that, so I think that’s good" (Tracey, L2, lines 173-5) and simplicity "I love PebblePad; I’m like the biggest supporter of PebblePad. I think it’s so good cos it’s easy, it’s just four little things, it’s not all big and complicated" (lines 58-9). She also enjoyed personalising her portfolio: “I like my homepage, like I changed my homepage and it’s all yellow with pink stripes, it’s all yellow and I’ve got a picture of me and my friends with Bandura and I like my homepage, it’s quite cute and tidy. It’s very me, you know having the control over your own homepage is good” (lines: 332-5).

Both Helen and Tracey are very technically able, but have totally opposite attitudes to PebblePad as software. This suggests a kind of user-software fit, but it is possible that this cannot be entirely separated from the perception of purpose of PDP and e-portfolios. Sue also thinks Pebblepad is an easy platform to use: “An online website where you can record what you want and when you want it by, so it’s basic” (Sue, Level 2, lines 25-26). However, she wishes Pebblepad were more compatible with mobile smart phones.

Attitudes

The third theme refers to quite strong expressions of positive or negative attitudes to PebblePad and e-portfolios associated with the sense of purpose or lack of it, as well as technical aspects described above. Helen, interviewed in level 1, said: "I have a very strong opinion against Pebblepad" (Helen, Level 1, line 3), and a year later "Yeah, they’re still very strong [opinions] against it." (Helen, Level 2, line 2). The technical difficulties and frustration determined her strong negative attitude which has lasted two years despite having produced outstanding portfolios. On the other hand, Tracey points out at the start of the interview "I’m like the biggest waver of the PebblePad flag. I love PebblePad. I love portfolios". And is quick to add “I’ve always liked English and stuff and I’ve done quite well in my GCSE’s and writing to me is like second nature” (Tracey, Level 2, line 15-17). This is indeed an important clue: enjoying writing and having the ability to write. Furthermore, for her, writing about her learning is easy (see extract 5 below).

Extract 5

“It’s just easier for me to write it all down. Maybe other people are more private and stuff; I’m quite an open person. So writing ‘I had a really bad day today,’ doesn’t make me upset, I don’t feel shy to say that. Some people are too proud to say they don’t understand or ‘I’m struggling,’ but I’m ok TO SAY ‘I find this really difficult, can you explain it.’ So I think this might have something to do with why other people don’t like it”. (Tracey, Level 2, lines 251-55).
This relates to the issue of disclosure mentioned above which becomes another important factor associated with reflection which determines the attitudes of students to e-portfolios.

In Tracey's case, the positive attitude translates in three different types of behaviours: (a) overcoming shortcoming (taking notes on Word or by hand and transferring them to Pebblepad later), (b) adapting to circumstances (exporting her blog from Pebblepad to Word when a co-ordinator does not want a log in PebblePad) and (c) avoiding disappointment when she has misinterpreted instructions resulting in unnecessary extra work.

Sue is very open about her peers' attitude: “Everyone hates it. I think I’m the only one that puts my hand up and says ‘it’s alright, I don’t mind using it,’ but I think the general thing is everyone hates doing it because it’s time consuming and because everyone rushes to do it at the last minute” (lines 201-3). However, in her view, this attitude comes from the fact that reflective writing competes with other urgent matters: “[B]ecause at times (when) you are overloaded with work, the last thing you want to be doing is writing about yourself cause all that you feel is, I’m not going to pass, I’m not going to do this, so why am I writing about myself when I’ve got a bit old essay to write or a massive exam to prepare for” (Sue, Level 2, lines 64-68).

Finally, Sue provides some insight into how attitudes towards reflective writing and the production of an e-portfolio may change. Early in the interview she admitted she “used it mainly in [the] 2nd year because I kind of avoided it in my 1st but I still used it, but yeah, 2 years. (Sue, lines 3-4). “It might seem tedious at the start (...). So I think it’s, although at first it’s like ‘why am I doing this?’, I’m talking about myself, which no one feels comfortable doing, once you get in the swing of it and you actually realize OK, this is helping me, it becomes a lot more creative and a lot more better to use, I think” (Sue, Level 2, lines 17-20). So, it is after persevering and practicing that the task becomes enjoyable and ‘creative’. So what enables the change? The sense of mastery (“getting into the swing of it”), and the increase in self-awareness (strengths and weaknesses) in relation to the task at hand which leads to the realisation that ‘this is helping me’.

Guidance

We will not refer to the theme of guidance in detail in this paper, except to point out that students were aware of the tutor’s attitude to PDP, and e-portfolios: Helen in the first year said “One of them was, very very much enthusiastic. The rest were not bothered and one specifically did not like it at all” (Helen, Level 1, lines 150-1).

In the second year of the project, tutors marked the e-portfolios using the marking criteria expressed in grids which vary slightly from one level to the next. Instructions were also provided on how to enter comments on the e-portfolios themselves, i.e. on specific pages and general ones. These comments constitute the most efficient form of feedback as they can be seen by the students as soon as the team decides to release the feedback. By contrast, the feedback grids normally filled in by hand cannot be returned within the academic year and have to be handed in at the start of the next academic year. At the time of this presentation a quick count of the number of Level 1 e-portfolios that had comments written on them looked as follows:

![Level 1 e-portfolios 2009-10](image.png)

Figure 1. Types of comments written by markers on the e-portfolios (on PebblePad).

As can be seen, there was considerable variability in the way the markers chose to give feedback. Of the 135 e-portfolios submitted, only 3 had both general comments and comments on the pages. About half had only comments on the pages (51.9%) and over a quarter (27.4%) had only a general comment. Although the best practice may be to write both types of feedback, it could be argued that detailed comments on the pages may be preferable to just a general comment. However, the
content of the comments was not analysed at this stage. In any case, the number of portfolios with no comments (18.5%) raises questions. It was initially assumed that in all cases a feedback grid could be returned at the start of the next academic year. However, at least two markers later admitted to not having used the grids. It was decided that grids could not be returned to some students and not others. The use of marking/feedback grids seemed to have been more consistent at levels 2 and 3, but data have not been collated.

Conclusions
The analyses of interviews carried out at the end of 2008/9 and 2009/10 suggested several important themes which seem to be inter-related (grounded theory) (see figure 2 below).

Figure 2. Main themes emerging from the interviews with students over the use of e-portfolios.

It seems that students’ attitudes to e-portfolios are strongly related to both their perception of a purpose for producing an e-portfolio as well as technical aspects. We suspect that their attitudes are also affected by the perception of guidance (as lacking, appropriate or taken-for-granted) and the degree to which their tutors support e-portfolios; however, the theme of guidance was not explored in depth in this presentation. A fourth theme was added to highlight the issue of disclosure which seems to be an important concern for some students; in this report it was mentioned in relation to purpose, but perhaps it requires further exploration in its own right.

The purpose of e-portfolios relates to a fundamental issue, the notion of reflection, which is central to PDP. Some students did mention that e-portfolios lacked clear purpose and would not be useful for their future employment. However, several types of purpose also emerged:

a) Monitor and understand one’s development (see oneself grow)
b) Demonstrate competence in IT
c) Construct memory (record experiences one can go back to)
d) Support one’s learning (identify what works and what doesn’t; explain why something does not work; re-formulate goals and strategy)
e) Integrate knowledge
f) Become a reflective practitioner (future career requirement)
g) Communicate with tutors (so they can improve their teaching practice)

Technical aspects include features of the software students consider useful, such as ubiquitous access and ease of use of the specific software (PebblePad), as well as their reaction to the aesthetic dimension (the look of the interface) and the e-portfolio as a final product. However, we need to recognise that some students may experience frustration due to faults in their machines or low broadband connections at home. Others may lack confidence working with computers in general or find following instructions difficult. Initial positive or negative experiences with the technology can have a lasting effect on attitudes.

The staff’s attitudes towards e-portfolios, reflection and PDP emerge as an important aspect to further investigate. However, it is not clear how to best collect data on this issue. An attempt was
made asking all teaching staff to write a short paragraph on the place of reflection in learning in Higher Education and another on their experience of reading and marking e-portfolios. Their responses would be sent directly to the Research Assistant and anonymised before the investigators would see them. However, of 15 members of staff, excluding the researchers, only one responded, despite two reminders. One colleague raised his concerns regarding this consultation on methodological and ethical grounds, given that the external examiners had recently expressed very positive comments at the exam board. In his view, staff would feel compelled to agree with these views.

The findings presented here are partial and may vary once all the interviews are analysed.

We recognise that the paper may contain more challenges than solutions. However, it becomes clear that while training and technical support can address some technical issues, the real driver is the clarity of purpose. This is necessarily a two-way process: if reflection and PDP become a standard component of learning subject knowledge (hence importance of the reflective microtasks) and e-portfolios are identified in the curriculum as an essential, but at the same time, highly personal representations of the student’s achievements, it is likely that more students will engage in these practices and render them meaningful in the terms described above. Perhaps, the challenges are for both staff and students just as much for the culture which often works against reflective learning.

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ASSESSMENT, ACCREDITATION & REPUTATION
Assessment Portfolios: an Integrated Model-based Approach Supporting the Needs and Scenarios Across Users

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Introduction

Electronic portfolios aim to answer various needs (Lorenzo and Ittelson, 2005). They can serve for presentation purposes when looking for a job, foster better learning or provide the required information for accreditation/certification purposes (Camarero et al., 2009). In other words, a portfolio is a way for a student or a learner to display the competencies developed to various audiences (instructor, firms, professional organization, schools and accreditation/certification bodies). It is important to stress that the construction of a portfolio is an incremental process that can change according to the level of study, the teachers’ learning goals or the requirements of the accreditation bodies (Ravet, 2007). At each step of the portfolio construction, the instructors must guide the students by providing instructions, files and all relevant information for the production of appropriate artefacts. This exercise is difficult since despite the use of a common competency framework, each instructor is involved in only a small part of this process, yet he or she is contributing to a collective endeavour that will result in the students’ final portfolios.

How to make sure that we can maintain the coherence and monitoring of this complex process while numerous actors are continuously updating their contributions? How can we coordinate this collective intelligence without having a clear indication on how the students will eventually document the development of their competencies? How can we offer the needed flexibility without increasing the complexity of the management process? Two solutions are available: i. We can impose some fixed rules or procedures that are the same for everyone; ii. We can acknowledge that the construction of a portfolio is a long process that needs guidance, that instructors approach the subject using different perspectives and that the portfolio related activities are quite diverse and need appropriate evaluation protocols. In other words, since the learning activities leading to the portfolio artefacts are quite diversified, we need a way to build a fairly efficient process to describe, store and monitor the students’ results.

In this paper, we adopt the second perspective by integrating OpenSyllabus, a scenario creation tool, to EMAEVAL, a competency management and gradebook tool. OpenSyllabus proposes a model-based approach to create simple scenarios to describe activities, actors and resources (competencies, files, evaluation rubrics, comments, etc.). EMAEVAL offers extensive functionalities to describe competencies frameworks, coordinate the actors’ tasks including those of the tutors, validate students’ competencies, produce summary reports and emit proficiency certificates according to simple or elaborate rules. This integration offers a very nice flexibility for learning scenarios yet preserving a very robust back-end to monitor students’ accomplishments. There are of course many available commercial solutions but since OpenSyllabus, EMAEVAL and their integration are open source, rely on a model-based approach with a fair amount of semantic and were coded using a Web 2.0 framework, our solution is evolutive and will facilitate the connection to future solutions and services.

The plan of the paper is the following. OpenSyllabus and EMAEVAL are first presented in the next two sections. Some possible use cases are then described. We conclude by presenting the actual state of the integration and discuss the road-map for our long term objective to provide an integrated pedagogical information system (Raynauld et al., 2010).

OpenSyllabus: a scenario editor

OpenSyllabus (Gerbé and Raynauld, 2009, Gerbé et al. 2010) is a generic abstract model use to organize in a tree-format the elements and the content of a pedagogical structure (competency framework, program, courses, portfolios, etc.). In the context of an assessment portfolio, an instructor can use OpenSyllabus to present instructions so as to guide the actors (students, tutors) and plan the sequences of their interactions in the construction of the artefacts and their evaluation. Figure 1 illustrates the structure of a simple assessment portfolio.
In this example, the designer of Module 1 has given some instructions so the students can write a text in light of the competency “Structure and organize a text”. The designer then asks the students to upload an artefact in the appropriate link and provide the appropriate evaluation form to the tutor. Finally, in this scenario, students are asked to look at their evaluation results and answer some specific questions about their performance. It is a simple but quite common scenario (Cambridge et. al., 2008) comprising different activities (reading, writing) to be completed by students or tutors (S or T in the right-hand-side column). Other scenarios are possible (more complex, activities to be ordered differently). In most cases, the OpenSyllabus abstract model should be able to represent quite closely and in a semantic fashion most of the scenarios.

The AMSRoot node is the root of the tree and represents the application model (Assessment Portfolio or Gray Square in Figure 1). An AMSStructure node is a structural element used to organize Units (AMSUnit) or other structures (in our example, Year 1 of the portfolio or White Square). An AMSUnit node is a semantic unit of the structure and by convention; each AMSUnit corresponds to a Web page (here Module 1 or Black Square). An AMSContext node stands for the context associated to the use of a particular resource in a Unit (the titles Instructions, Competencies evaluated, etc. identified by a White Circle). An AMSResource node is a leaf in the tree and represents a resource such as a text, a file or a form (black circle). It is also possible to include AMSUnitStructure nodes that serve to organize the content of a specific unit (not illustrated in our example). The AMSUnitContent node serves to regroup all the elements that have some semantic similarities for programmatic purposes. Interested readers are invited to consult Gerbé and Raynauld ePIC 2011 Proceedings.
For the portfolio type applications, we have added some metadata to the nodes of the tree to incorporate specific behavioural properties. These metadata can be used to specify the following properties: Which user can edit, delete or fill an element? Which user can see the menu associated to a node? Is the node related to the evaluation of a competency? These metadata specify the activities workflow of the users and identify the activities that will need to interact with EMAEVAL. In our example, the tutor who has to evaluate the competency “Structure and organize a text” completes the evaluation form.

The OpenSyllabus model has been coded in a rich Internet client using the Google Web Toolkit Ajax framework (Raynauld, 2009). The designer can plan various scenarios using a very flexible editor that can set the roles and the links to competency evaluation. In our current implementation, the scenario is played in the order of appearance of the activities with no conditional branching. However, the scenario editor is quite flexible and can accommodate a rich set of activities:

- The student can select the competencies to be developed in an activity.
- The student can fill some auto-evaluation forms.
- The designer can construct any evaluation form (rubrics) since no standard form is imposed. He or she can rely on simple or complex evaluation forms insofar as he can set a criteria indicating if students possess or not the competency. This flexibility comes from the use of Orbeon, an open source environment to create and manage forms according to the W3C Xform standard. By relying on Web services linking OpenSyllabus and Orbeon, we can enrich the evaluation possibilities with very little impact on the complexity of the competency management process.
- The Google Web Toolkit Ajax framework is quite flexible in the management of the interface elements by providing a large set of tools (UI components, UI event management, drag and drop, icons, graphs, etc.).
- In summary, OpenSyllabus is a very flexible environment that answers the various instructors’ needs in diverse learning activities like courses, internships or extra-curricular activities.

The evaluation of competencies is part of an institutional process related to learning outcomes qualification. The tool offers great flexibility in this endeavour and let the participants organize the necessary activities. In the following paragraphs, we borrow from Jullien et al. (2009) to present the standalone version of the tool. Afterwards, we will explain how an external application like OpenSyllabus can interact with EMAEVAL using Web services.

At the organizational level, a common training plan sets the conditions of all evaluations. It specifies the useful elements to take into consideration such as:

- Actors’ responsibilities (institutional, technical, pedagogical, etc.);
- Actual competencies framework;
- Evaluation methods to be used;
- Types of scenario to be used (evaluation, validation, certification).

The evaluation campaign federates all evaluations concerned with the common competencies framework. Specified by the pedagogical manager, it describes and contains: all local roles (applicant, assessor, tutor, etc.), the competencies to be evaluated, the table of assignments “assessors-competencies” and the evaluation scenario chosen. It also contains temporal information related to the beginning and end of the evaluation. At the end of the campaign, all
applicants have obtained some results about the competencies evaluated. The malleability of this process comes from the numerous possibilities offered: on-the-fly addition and/or deletion of participants, temporal or interpersonal exceptions, or more simply the mere fact that it is possible to choose from any given evaluation scenario.

The evaluation scenario refers to the protocol linked to an evaluation. It describes and formalizes:

- The order in which interactions between participants will take place;
- The services and contents provided;
- The kind of observations to be made;
- Assessments of work done.

Scenarios are built with the editor taking into account the users’ preferences and/or the institutional constraints as expressed in the training plan.

The training plan contains a validation scenario that formalizes the validation rules to be applied by the different actors of the process. It provides the necessary criteria for assessing results (conformity, exhaustivity, validity) and the assessment file is transmitted to the jury in charge of issuing the certification. The certification activity is itself depicted in a certification scenario.

EMAEVAL includes numerous tools to monitor the exchanges between participants, the activities completed and the results obtained. For example, an internal communication system with notification possibilities facilitates the conversation between the participants. The participants have also access to a dashboard that displays in real time their progress with respect to their group of reference.

EMAEVAL also relies on the Google Web Toolkit Ajax framework with a series of services including those provided by the open source Bonita workflow engine.

The OpenSyllabus and EMAEVAL Web services integration offers improved flexibility while preserving a rigorous process. The Web services already in place are related to establish the ToDoList of the different users, the submission of homeworks by students and the rating of those evaluations by the instructors. Technically, the Web services expose a REST API to the OpenSyllabus server components although the Web services are implemented using a SOAP WSDL format on the EMAEVAL side. A small SOAP-to-REST proxy server was set to manage the communication and API translation.

For the moment, the overall parameters related to the training plan, the campaigns and the evaluation scenarios must be set in the EMAEVAL platform even if they come from the design of a simple scenario in OpenSyllabus but they should become new Web services in a future version of our integration.

Let’s take the example of two homeworks to be submitted in two different courses in relation to two different competencies. Each instructor has the possibility to describe in his or her own way the activities, the resources and the roles of each participant leading to the evaluation of a specific competency. The two assignment submissions correspond to an EMAEVAL Work submission scenario to be used in two different evaluation campaigns part a training plan, all to be set in EMAEVAL to insure a proper synchronization with OpenSyllabus. Taking into account this synchronization, the set of Web services allows students and tutors to interact through the OpenSyllabus user-interface (submit the assignment, see the assignment, fill the evaluation form, see the evaluation results, etc.) but all the evaluation results are kept in EMAEVAL for monitoring, validation or certification purposes. In the actual implementation, the campaigns are played automatically using the existing Web services but the parameters’ synchronization (campaign ID, competency evaluated, etc., etc.) is done manually. We plan to add new Web services so instructors could create any campaign and its associated parameters directly in OpenSyllabus.

Possible use cases

The OpenSyllabus EMAEVAL integration offers a very rich, semantic and flexible environment so as to answer a large set of needs, many of them related to accreditation or qualification purposes. We give some possible examples below.

- Our proposed integration can mix easily reflexive and evaluative activities. The OpenSyllabus editor distinguishes quite clearly the activities that lead to some competencies evaluation to be saved in EMAEVAL from activities that are more reflexive in nature where the students are asked to reflect on their learning progresses. This juxtaposition is not always easy but quite possible in our framework. The final results will mix
quantitative measures for report generation but also more qualitative elements that could nuance and contextualize the results obtained.

- Our approach can integrate a large set of evaluations done in very different situations by numerous actors. For example, some evaluations can take place in the context a course led by an instructor; others will be realized in an internship setting with external participants being involved in the evaluation process; finally, some extra-curricular activities could be integrated, linked to the competency framework and evaluated by the students themselves or by some colleagues (peer evaluation).

- OpenSyllabus with an Orbeon connection gives the possibility to create a rich set of evaluation rubrics. Each instructor can design is own rubric but the EMAEVAL integration insures that any evaluation will be incorporated in the student’s competency results. This flexible approach could possibly increase the by-in by instructors that oppose standardized one size fits all approaches.

- EMAEVAL offers a set of very advanced functionalities like the evaluation of the same competency by numerous tutors with rules to manage the diversity of the evaluations to insure that the students will get a result. Do all the tutors need to give a positive evaluation for the students to get the competency? The majority of the evaluators? Etc. The same problem arises with the issuance of the certificate. Fortunately, EMAEVAL model-based approach permits to set very flexible rules in the validation and certification scenarios.

- Conclusion

In this paper, we have exposed some of the advantages of the OpenSyllabus-EMAEVAL integration. The two platforms are fully operational (course sites at HEC Montréal and C2i2e evaluation in numerous French universities). Using a number of Web services and open source API, we have realized a proof of concept that reproduces quite faithfully the scenario described in Figure 1. There is of course much more work to be done to fully automate this integration. The question of the creation of a competency framework is key to our work. The OpenSyllabus generic approach could be used to create a rich competency/skills framework that could then be synchronized by Web services with EMAEVAL. We also need to automate the synchronization of all the activities leading to a competency evaluation. Each time a course or an internship will lead to a competency evaluation, the activity created in OpenSyllabus will be automatically associated to an EMAEVAL campaign and the activity could then take placed and the results recorded. We plan to conduct several pilot projects and a fully operational version of the integration of OpenSyllabus and EMAEVAL should be available in September 2012.

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ePortfolios as a modern Self-assessment-instrument for the implementation of Lifelong-Learning in Higher Education

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Abstract
In our effort to introduce a new approach towards Lifelong Learning, we have carried out a stakeholder interviews for identifying the needs regarding a competence profiler application with soft skill integration and link to the job market. As stakeholder group for such an ePortfolio, students, career centre responsible, teachers and employers were defined. Users were asked in the interviews to express their opinion about soft skills in ePortfolios in general as well as matching with the labor market.

We wanted to proof that users don’t equate Lifelong Learning with continuing education issues, but go further and consider eInfrastructure as an important element for the realization of Lifelong Learning. The interviews showed the following: An essential part of the eInfrastructure represents an ePortfolio application which binds the student and future alumni to their original university. ePortfolios should besides formal learning outcomes also include the informal ones. Especially the impact of soft skills on personal and professional life has grown in the last decades. The idea of soft skills integration in the ePortfolios was appreciated by all stakeholder groups. Generally, students look for an attractive, user-friendly tool which allows them to display more than only their learning outcomes and link them to the job market. Link to the job market means in this case the comparison of the profile with the job market requirements. But this group as well as employers is skeptical to use a tool for matching-purposes that means for the link between job applications and the profile. For a matching, job agents and education specialists appraise the profiler idea more positive if the handling were easy and methodically reliable.

As such a solution does not yet exist at Swiss HEI landscape the project team is carrying out a feasibility study about the development of such an application.

Keywords: soft skills, job market, formal and informal learning, empirical analysis

Introduction

Initial position
We promote an integrative learning approach based on self-regulation and the support of Digital Identities through ePortfolios (in the following also called “skill profiler” or “competence application”). In order to assist such a holistic approach of Lifelong Learning by means with the process of Digital-Identity management, ePortfolios must be further developed.

Therefore, they should be part of the eInfrastructure of Higher Education Institutions (HEI’s) which supports Lifelong Learning as a component of continuing education and which should be essential for the implementation of the career-concept. On one hand, soft skills as 21st century competencies must be integrated in the instrument and on the other hand, be linked to the job market in order to generate orientation and employability.

Before developing such an innovative instrument, a team of 5 HEI spread all over Switzerland carried out a feasibility study in 2011 based on stakeholder analysis in order to identify the needs and for such a tool.

Aims
The aim of this qualitative survey was to identify the real needs for the development of an innovative competence profiler application (in the following also called “skill profiler” or “competence application”). Newly, students should establish their own qualification and competence profile and they should compare it with the requirements of the job market. Additionally, peer opinions should supplement the profile in order to make it visible if so desired.

This short paper is addressed to ePortfolio-Manager, eLearning supporter and Lifelong Learning experts. Though not a direct target group within the stakeholder analysis, Lifelong learners remain...
the central focus of findings. This short paper focuses on the stakeholder’s feedback that means on their perception of a perfect selection of a competence subset.

**Dataset and Methodology**

**Thesis**

The framework of evaluation is based on a selection of hypotheses which are formulated according the competence subset and later discussed in section 3:

1) ePortfolio must be designed during study time and must be transferred in a Career Portfolio in order to control the acquisition of knowledge and formal and informal skills over the entire lifetime (ePortfolio and Lifelong Learning)

2) **Soft skills** must be mapped into an ePortfolio in order to display formal and informal learning outcomes

3) The ePortfolio supports orientation and employability only when the data can be linked in a simple manner and be matched with the **job market**

4) The ePortfolio supports students/alumni in self-reflection processes and provides the possibility to share their ePortfolio with peers (Peer linked market)

**Sample and methodology**

For the stakeholder analysis qualitative interviews with 13 persons from the job market side such as (virtual) job centers, companies etc. were made. These data were completed by qualitative interviews with six representatives of LLL-related services of Swiss HEI and universities (career centre, continuing education, management, job market etc.). The data were upraised in the first 3 months of 2011 and the analysis was made in May / June 2011.

**Results: Stakeholder analysis**

The selection of a competence subset based on users’ need should be selected in accordance to the stakeholder’s feedback.

Lifelong Learning and ePortfolio

Lifelong Learning has become a catchphrase over the past few years on both the Swiss and the European education landscape, now that people have realized that learning must extend “from the cradle to the grave”. The concept is denoting all the learning activities that a person engages in over the course of their life in order to improve their knowledge, their qualifications and their competences. The concept has replaced the terms “continuous education” and “adult education” and goes much further than these. The break with education for students once they have completed their course is to be a thing of the past. Students remain in contact with their university and its e-Environment in future and become lifelong learners who still have access to networks, data, qualifications and tools.

This trend is stipulated in hypothesis 1: An important supportive tool is an ePortfolio which must be designed during study time and should be transferred in a Career Portfolio in order to control the acquisition of knowledge and formal and informal skills over the entire lifetime.

The results of interviews show that teacher and professors should sensibilize their students for Lifelong Learning instruments, because students are often not aware of the added-value of tools such as ePortfolios. So, the approaches for an integration of ePortfolios often fail because the users have difficulties to see a necessity in using such a tool. There is a lack concerning the pedagogical criteria that make sense and should be taken into account while building up an own ePortfolio. Therefore, trainings as motivation for the usage and cultivation of an ePortfolio should be provided.

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5 The online questionnaire consisted of 23 multiple-choice and open-ended questions (Appendix 1) which were spread in two languages (German and French).

6 The following excerpt from the EU also shows the importance of lifelong learning: “Lifelong learning has become one of the most important tasks of HEIs in recent years. At the same time, National Reports demonstrate that there are just a handful of countries where the issues of flexible learning paths and the recognition of prior learning, especially informal and non-formal learning, have become a matter of course. Issues in internal and external quality assessments could stimulate action, improve quality locally but also help exchange experiences and share good practice nationally and internationally and just help fulfil ESG guidelines for internal QA (Quality Assurance).” Source: Creativity and diversity: Challenges for quality assurance beyond 2010. EUA case studies 2010. p. 18. [http://www.eua.be/Libraries/Publications_homepage_list/Creativity_and_Diversity_Challenges_for_quality_assurance_beyond_2010.sflb.ashx](http://www.eua.be/Libraries/Publications_homepage_list/Creativity_and_Diversity_Challenges_for_quality_assurance_beyond_2010.sflb.ashx).

7 In the European Qualification Framework for Lifelong Learning (EQF-LLL), the EU subdivides the descriptors into knowledge, skills and competences. We have selected the area of competences for implementing the tool in this project.
So, ePortfolios become more and more an important part of Self-regulated Learning and Lifelong Learning itself. For promoting ePortfolios as Lifelong Learning instruments, the HEI should assure that also their alumni can use the instrument; so the Student Portfolio become a Career Portfolio.

ePortfolio with soft skill integration

In the last decade the Bologna Reform has changed the university degrees into a Europe-wide standard. The reform of the European Higher Education Area has promoted the development of interdisciplinary competences (synonymously: transferable skills) and soft skills as an important aspect for employability. This transformation of the university education was launched especially due to economic reasons, because a lot of companies and economist had been criticizing the lack of soft skills among students (Klaus 2008). Nowadays, it is undoubted that soft skills determine in addition to pure technical expertise the professional and personal success. Above all, this includes self and social skills, communication skills and methodological expertise (Amer 2008).

The increase in relevance of soft skills is linked to the adaption need to the constantly changing social, economic and technological demands of the personal and professional environment. In almost all areas of life, flexibility and permanent re-orientation is required. Linked to this issue soft skills are the basis for a constant personal development and a versatile self-concept of a person. Soft skills can enlarge the capacity of an individual based on the self-development of a person, its motivational and volitional impulses and the hidden traits, attitudes and values. Therefore it is more than the requirement to properly perform a specific action or job. Soft skills create the psychical background and repertoire to cope with further situations in different environments and to solve previously unknown problems (Volk 2010). In this sense skills are like competences defined as the basis of “the ability to perform a certain physical or mental task” (Spencer & Spencer 1993, p. 11) as well as the ability to think and act in a creative and self-directed way.

The concept of soft skills reveals itself mainly as distinct from hard skills. Hard skills are usually factual knowledge learned in apprenticeship and job-trainings, such as basic knowledge (school curriculum) and job-specific skills (vocational training), which are standardized and have to be taught in certified trainings. On the other hand, the concept of soft skills includes non-specific, barely certifiable and hardly quantifiable personality traits, talents, virtues and values. Although they are geared towards the personality they have a strong link to the needs of the labor market in the 1970s, further doubts evolved over the previous qualification standards for jobs and the content of vocational trainings. The concept of "core skills" (Mertens 1974) illustrated the need for an educational concept that integrates the acquisition of skills for different job-profiles and that is oriented to the individual requirements and to the permanently changing conditions in all industrial sectors. It thus became clear that knowledge is not sufficient anymore to demonstrate the ability to act for the professional demands, but also motivation, volition and ability are crucial prerequisites for individual activities of human beings (Berthel 2000). From this point of view the acquisition of competences to reach an expertise in a subject area always has to include soft skills as well as hard skills. Therefore the "skilled human being" (Wildman 2001) with social, communicative and intercultural skills is regarded as the target category for Lifelong Learning. In the last decades the concept of transferable competences and soft skills has become a buzzword that is often used to express the need to adapt to the constantly changing social, economic and technological requirements in everyday life and in the working world (Weinert 2001, Erpenbeck & Rosenstiel 2007, Clarke et al. 2011).

Non-specific professional skills or soft skills have a large and rapidly growing importance for the success in the labor market. The universities increasingly recognize this development, although an appreciation of soft skills to be appropriate curricular elements, however, is still limited. The integration of soft skills in higher education often relies on the efforts of the several faculties and university departments. For example the Qualification Framework for the Swiss higher education (nqf.ch-HS) describes various stages of differentiated learning outcomes that relate primarily to different taxonomic levels of cognitive learning objectives:

- Knowledge and understanding.
- Application of knowledge in practical situations.
- Ability to judge and to evaluate.
- Social and communicative skills.
- Self-learning ability.

8 In Switzerland approximately 200'000 students a year students could benefit from such a tool (approx. 17,000 students completing their studies each year).
Within each level, students have to achieve different aspects of these descriptors - and vice versa in the performance records the achievement of those learning objectives has to be proven.

Due to the increased importance of skills the diagnosis and measurement of skills became important. In the past two decades the international research has developed numerous methods and techniques for competence assessment and skill measurement. Because there is not one method that fits for every purpose, different measurement methods must be adapted to the particular target group and context.

Users were asked in stakeholder interviews for their opinion of soft skills generally, the different surveys and our idea to create a profiler. The interviewed stakeholder stated that a competence profiler should support students to reflect their soft skills and helps to structure experiences and discover potentials for development. Also job agencies have stated their interest to rely on apparent soft skills that means formal and informal learning outcomes what confirms the hypothesis **Soft skills must be mapped into an ePortfolio in order to display formal and informal learning outcomes**. Gradually, students will reflect about their learning outcomes, so that it can be considered as a self assessment tool. The integration of results from the Competency Profiler can make a personal ePortfolio purposeful and result-oriented. It will therefore be a documentation of the personal development that is targeted to specific job profiles and thus serves to career planning. This desire will probably grow within the next years. The methods which are used right now are focused on the past or on experiences and are therefore not suitable to survey the competences of graduates or students. This is why our idea of a competence profiler should be developed.

**ePortfolio with connection to job market**

From a labor market-related perspective soft skills are seen as individual capacity to act in a particular job-related context (OECD 2002). Thereby the personal acting capacity and the expectations of a professional role must match. It is thus a question of the personal skills of somebody which are needed for a successful applying to a job but also for a longer-term career (Salvisberg 2010). Employers formulate a set of requirements for a profession and their ideals for a suitable person. Vacancies include skill descriptions that refer to the professional as well as on technical skills and personality.

The job profiles and requirements in job advertisements provide the basic criteria for evaluating job applicants. In job advertisements soft skills appear as intellectual abilities and personal strengths, which have to be part of the personality of the applicant. Concerning methodological skills aspects like cognitive strength (e.g. keen perception or mental agility) or entrepreneurial skills (such as organizational skills or conceptual thinking) are often mentioned. Social skills include both adaptive characteristics (such as friendliness or cooperation skills) and expressive skills (such as communication skills or leadership skills). Finally, self-organization and reliability as well as motivation and flexibility could be part of job-profile. The significant differences in the requirements of the different job postings are an indication that the required properties are not used as undifferentiated fashion terms, but about practice-related objectives.

The comparison between personal skills and job profiles is of great importance: according to a study by the German Chambers of Industry and Commerce (DIHK), 34% of university graduates have to leave the company by the end of the trial period. 46% of the dismissals were attributed to inappropriate soft skills. The reasons for this situation may be based on the students (lack of knowledge of their own soft skills, lack of expression of the existing soft skills) as well as on the side of the employer (lack of knowledge of the soft skills needed for the task or incompetence to recognize the soft skills of the recruited person).

In order to bring both sides together and prepare students for the labor market, it is important to motivate them positively. The goal of promoting competence and skill development is to build on existing skills and to expand the individual profile gradually. Students normally possess a variety of soft skills. To assist students in identifying their soft skill profiles and to avoid misinterpretations, a solution must offer the possibility to reflect the personal skills with the requirements of the job advertisements.

Under these conditions appears to an instrument is helpful that the graduates enables the attainment of their soft skill profiles and to compare them with the demands of the job market, to recognize, in which labor market segments for they are the biggest chances of success or where a need for development is available.

In our project we rely on an existing job market monitoring at the Sociological Institute of the University of Zurich. Over several years job advertisements were analyzed in a full survey regarding
the mentioned requirements. Based on these results statements of different soft-skills requirements can be given according to different labor market segments. The Competency Profiler allows individual users to generate their soft skills profile and compare it with the requirements in the labor market. At the same time the Competency Profiler provides information for the optimization of education in this area.

Also the interviewed stakeholder groups consider the possibility to compare the own profile with special job segments is considered as valuable. The matching of the ePortfolio with the job profiles provoked skeptical reactions of students and employers. Only, when the competency profiler is widely accepted, this function might become more attractive as well. Therefore, hypothesis 3 (the ePortfolio supports orientation and employability only when the data can be linked in a simple manner and be matched with the job market) is verified partly.

**ePortfolio and Peer sharing**

Based on the individual results of the Competency Profiler a reflection of the personal soft skills and competence profile is possible and the acquisition of additional skills as part of a Lifelong Learning process can be planned. For this purpose an ePortfolio is used as a perfect tool for self-reflection and peer coaching (Stefani et al. 2007). By using the ePortfolio the data of the Skill Profiler can be visualized in an appropriate manner thus making it easier to compare and collate the personal soft skills. Therefore the ePortfolio supports orientation for students/alumni in self-reflection processes and provides the possibility to share and discuss their ePortfolio with peers or lecturers.

The intended use of ePortfolios in the context of the project implies the following goals: At the end of the academic studies each students has developed extensive collection folders, which give an impression of what interests and talents that person has. The usage of the ePortfolio establishes a connection between activities inside and outside the university and links them with the plans for a professional career. The semantic links of the study subjects and personal interests as well as experiences are visible to other people. The resulting individual profile represents more than diplomas and certificates. Thus, a real "career portfolio" arises that can act as a complement to the other application documents (Baumgartner et al. 2010). Therefore this scheme is a didactical concept for the integration of ePortfolios in higher education that is able to integrate other didactical plans.

The interviews showed that Students are dealing with their soft skills in a conscious process, work on their personal profile and complete their own profile-image (self-perception) with assessments given by their peers (peer-perception) to enhance a complete more objective picture. That confirms hypothesis 4 which says that ePortfolio supports students/alumni in self-reflection processes and provides the possibility to share their ePortfolio with peers (Peer linked market).

**Conclusions**

The conclusion follows the hypothesis and its analysis in section 3.

1) **ePortfolio must be designed during study time and must be transferred in a Career Portfolio in order to control the acquisition of knowledge and formal and informal skills over the entire lifetime (ePortfolio and Lifelong Learning)**

The existing tentative of student portfolios which become career portfolios are only a beginning and doesn’t fulfill the need of the different stakeholders and are only dedicated to the students’ time and don’t answer the requirements of a Lifelong Learning system. ePortfolios should therefore become more and more an important part of Self-regulated Learning and Lifelong Learning itself.

2) **Soft skills must be mapped into an ePortfolio in order to display formal and informal learning outcomes**

A research of existing solutions showed that different methods for the survey and measurement of soft skills exist, but none of these methods have an easy access and easy handling and are scientifically reliable. The existing solution in form of XING, LinkedIn and FB don’t meet their needs, because they need an ePortfolio which can be used for formal and informal learning outcomes and soft skills.

There is a strong desire from all stakeholder groups from HEI such as students, teachers, career centers etc. to integrate soft skills in an ePortfolio. Also, the job market representatives consider this integration as a useful aspect for improving their recruitment. Beside, an integration of soft skill is inevitable if ePortfolio should become a part of Digital-Identity.
3) The ePortfolio supports orientation and employability only when the data can be linked in a simple manner and be matched with the job market

An instrument would be helpful that enables graduates to compile their soft skills profile and compare them with the job market demands, thus to recognize in which branches and segments they have the best chances to succeed and where they have to develop. For the concrete job staffing a profiler would offer a chance for graduates and companies for a first preselection of suited jobs and applications and therefore to boost the chances for success. Furthermore there is no instrument that allows a comparison or connection to generalized job market data.

Generally, students look for an attractive, user-friendly tool which allows them to display more than only their learning outcomes and link them to the job market that means for the comparison of the profile with the job market requirements. But they and employers are skeptical to use a tool for matching-purposes. For a matching, job agents and education specialists appraise the profiler idea more positive if the handling were easy and methodically reliable. The consequence for the proceeding of our project is a reduction of our profiler at this stage of our research in just creating a soft skill profiler and the tool to connect and compare it with job market requirements. Whether an extension for matching purposes is useful or not can be judged at a later stage after the phase of introduction and the resulting experiences.

4) The ePortfolio supports students/alumni in self-reflection processes and provides the possibility to share their ePortfolio with peers (Peer linked market)

The option that a Skill Profiler allows students to establish their qualification and competence profile, to supplement the profile through peer opinions, to make it visible if so desired and to compare it with the requirements of the job market has been judged very positively from the stakeholder groups. Data can be visualized in the Skill Profiler in an appropriate manner thus making it easier to compare and collate data. the only consideration was about the security issue which has to be clarified before judging the peer.

References

Let’s start at the very beginning? Using eportfolios for recording and claiming prior experiential learning

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Introduction

Eportfolios are widely used to support learners and to structure their learning within and across taught curricula. The University of Wolverhampton has used eportfolios since 2005 across its taught curricula to provide scaffolded learning opportunities to help learners to develop their reflective practice and other associated skills such as critical thinking. Research from a JISC funded project has identified key pedagogic principles for designing an eportfolio–based pedagogy for work-based learners in small to medium sized enterprises (Felce, 2010; Felce and Purnell, 2010, 2011). Other research into the potential of eportfolio to support learning for work-based learners has shown that they “can encourage the user to reflect on their own progression and support them in identifying gaps between their experience, competence and associated qualifications” (Coolin and Harley, 2010:21).

In supporting this genre of learners we need to recognise the broad range of tacit knowledge that arises from the learning that occurs in the workplace (Eraut, 2000; Evans, Kersh and Kontiainen, 2004 and Polanyi, 1958). Within higher education we recognise, and award credits for, this experiential learning through the learner presenting evidence “to show that learning has taken place” (QAA, 2004:3) and can make use of technologies such as eportfolios to support learners in transferring their tacit knowledge into accredited learning.

This paper discusses the rationale of the need for an eportfolio based tool to support learners in seeking to accredit learning achieved through their experiences and presents the findings of a project led by the University of Wolverhampton in conjunction with Pebble Learning Ltd to structure the application process for learners to apply for their learning to be accredited. Evaluations of two pilot groups of users are presented and the role of the eportfolio based tool as part of a learner journey is explained. The initial prototype was funded by the Staffordshire, Shropshire, Stoke-on-Trent, Telford and Wrekin Lifelong Learning Network (LLN).

Context

The idea behind the use of an eportfolio to support applications for the accreditation of prior learning (APL) came about as a result of an internal audit into Academic School practices around APL, the use of eportfolios within and across the University curricula and the emerging findings from the JISC-funded ePPSME project (Developing an eportfolio based pedagogy for work-based learners in SMEs, Felce, 2010; Felce and Purnell, 2010, 2011). These interlinked developments are explained here.

APL is managed within the Academic Schools at the University and the audit of practice showed minor anomalies between, and within Schools, albeit that the principles set down by the University to meet the QAA requirements (QAA, 2004) were still being met. The current processes were costly in terms of staff time: much of the dialogue and advice was on a one-to-one basis, there was high potential for inconsistent advice to be given and there were different charging mechanisms in place across, and within, the Schools.

The use of eportfolios has been embedded in learning and teaching practices at the University of Wolverhampton. As a co-developer of the world renowned PebblePad the University has been using eportfolios in its curricula since 2005. In 2008 the University published its first Blended Learning Strategy (BLS) as part of its Learning and Teaching Strategy. Within the BLS were six student entitlements that fore-front the role of technology in supporting and enhancing the student experience (UoW, 2008). Use of the University’s eportfolio, PebblePad, is key to the implementation of the strategy and the fulfilment of the student entitlements. Unlike the University’s virtual learning environment (VLE), the eportfolio is an integral part of the student’s journey through HE and beyond; it grows with the learner. Students are supported in their personal and academic development from pre-induction and through each year of study with the potential to take their eportfolio with them into their career.
The ePPSME project was using eportfolios to create a scaffolded learning space for work-based learners within which they could negotiate learning to meet their individual needs and to combine small ‘bite-sized’ learning opportunities into larger HE awards. Work on the ePPSME project centred on new learning but the research team recognised the potential of the eportfolio to support learners in bringing in their prior and concurrent formal and informal learning as part of the negotiated learning approach.

So, the University has embedded the use of eportfolios across the curricula, the eportfolio was being used to support and scaffold learning for work-based learners and it had the potential to enable learners to include reflection on learning ‘outside’ HE and the University needed to be more consistent in its approaches to APL as well as reduce the costs associated with it.

The potential benefits of moving to an on-line system, within the existing eportfolio environment were recognised as having the potential to reduce staff costs, to provide more consistent information, advice and guidance and to start to develop the applicants’ personal learning spaces within the eportfolio. A small amount of funding was provided by the LLN to test the viability of this approach. The funding was used to develop and pilot a prototype on-line APL process linked to a personal learner space within PebblePad (Felce, 2011).

The eportfolio for APL

Partnership

The tool was developed through a partnership that involved University expertise in the Accreditation of Prior Learning, in Work-based Learning and in Quality Assurance and the software house, Pebble Learning Ltd.

The University prepared the design brief based on a process chart that identified the three-stage process: initial learner enquiry, APL advisor feedback, full APL application. Working in conjunction with Pebble Learning a prototype web-based on-line application was created. The first prototype was tested by a pilot group made up of University staff. Feedback from this group was used to enhance the performance of the tool and a second prototype tested by a pilot group of work-based learners who are students in the University’s School of Health and Wellbeing.

Learners often have both experiential and certificated learning that they can offer for accreditation. Although the original plan was for an on-line tool that would support applications for accreditation of prior experiential learning (APEL) we included the opportunity for learners to record certificated learning also and thus support applications for accreditation of prior certificated learning (APCL).

An overview of the tool

The eP4APEL tool appears to the potential applicant as a web page with a range of information, advice and guidance and on-line forms to complete in support of their application. However, the tool is based within PebblePad and an applicant’s entry into the forms automatically populates their personal eportfolio account. The information on the web page tells the applicant that they are creating an account in PebblePad and that this is confidential to them, unless they choose to share it by submitting their application.

The applicant starts by creating an account (signing-up) and inputting personal details (name, address, email address, phone numbers) and brief information about their current employment, career aspirations, areas of study interest and qualifications gained. Data entered is automatically stored in the applicant’s PebblePad account so that the form can be completed in more than one visit to the website. The applicant can view their form before submitting it and make changes to it. The form can be printed and used by the applicant for other purposes e.g. personal development planning, internal appraisal. The applicant chooses when to ‘Submit’ the form to the APL advisor. Once submitted the input is locked so that the advisor can respond to a fixed set of details.

Submitted APL enquiries are posted to a PebblePad gateway (a type of on-line repository) to which only University APL advisors have access. The APL advisor will view each enquiry and provide constructive feedback to support the applicant in moving from the enquiry stage to the application stage. The applicant may, for instance, need to add additional detail and provide supporting evidence for the APL claim. Within the gateway the APL advisors can create a bank of standard comments which they can add as feedback and then personalise to each applicant before releasing the form back to the applicant. Once the feedback is released the applicant receives an email to say they can edit their application. The applicant will make any required changes or additions and
submit for further feedback, if necessary. The APL advisor will confirm to the applicant if they have a potential claim for APL and advise them to submit a claim.

An application (rather than an enquiry) is posted automatically to a separate gateway. Nominated APL advisors will recommend acceptance or request further information from the applicant. (APL claims can also be rejected at this stage but it is anticipated that this will be unlikely if the preceding stages have been completed). Fees are charged for APEL claims but not for APCL claims.

The gateway allows for all submitted claims to be approved and archived as a record of submission and of feedback given, thus meeting QA needs for record-keeping.

The data input by the applicant will, as stated earlier, be populating their individual PebblePad account. The application eportfolio becomes the student eportfolio which can then be used in their further studies. All the data input is recorded and can be reused and repurposed throughout the learner’s journey in HE.

**Evaluation**

Although the tool is still at a prototype stage feedback from the pilot groups has been positive with most seeing the wider benefits for APL applications and consistency in information, advice and guidance. Comments made by the staff and student groups include:

- The concept is excellent
- Really convenient and useful
- Nice look and feel
- Good format, accessible
- Easy to use and navigate
- Nice wizard, easy to use

Although others noted that the:

- Navigation is unwieldy

**Future plans**

The development of the prototype has proved the principle of an eportfolio based application process for APL. More work is needed on refining the information, advice and guidance and additional functionality within the tool is under consideration. One area for early development is the use of the PebblePad profiling tool to create a set of level descriptors for use by work-based learners to help them to compare the role in their organisation to equivalent HE levels of study (see SEEC, 2010). Applicants will be able to record the type of work they undertake and evidence of how it is equivalent to these descriptors.

**Conclusions**

This paper has introduced a new online tool to support potential students in their enquiries about and application for accreditation of prior learning. Learning that occurs in the workplace and the role of tacit knowledge has been identified and the potential to recognised this learning through HE accreditation explained.

The context for the identified need for the tool at the University of Wolverhampton has been explained: the need for a consistent and cost-effective approach, the role of eportfolios in the curricula and the emerging findings from the ePPSME project were all key criteria.

The scaffolded online interface provides an easy to use, accessible and convenient tool which has the potential to be developed further to offer more structured support to applicants.

The iterative design and development process, with input and feedback from key stakeholder groups, has resulted in an eportfolio for APL tool that can be used to support applicants, provide consistency and enhance quality.

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Format Assessment Stimulates Creativity - In an Informal Way

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In a design education assessing students’ work of arts is often at the core of the education. This is often done based on teacher’s intuition, experience or sheer authority. At Lillebælt Academy of Higher Professional Education in Odense, Denmark, in the Multimedia department we have for the last year been very explicit about the criteria on which we appraise students portfolio work. This is a new step since we have for a number of years assessed the students’ portfolios solely on their “proof” of learning experience.

How does this affect the way students see themselves – as creative? How does it affect the way they look at themselves as learners? These issues are addressed in this presentation through the results from a number of interviews with students – both Danish and International.

At the same time it affects the way the teachers assess. What does it mean to have to be explicit about the ways you assess creative work? What does it take to have a common opinion shared between teachers. Is there a danger that this will mean a trivialization of the work the students do? Is it possible to create a visual assessment tool? These issues are addresses in this presentation through showing the results from interviews with a number of teachers within the design department.

Lastly we have to ask, what does this mean for the management level? Is the ability to be explicit and distinct in assessment criteria and practice a competence looked for when hiring teachers? Does this mean that new teachers should be innovative not only in teaching methods but also in assessment practices? This issue will be addressed by showing results from interviews on a managerial level.
This paper describes the Clemson ePortfolio Program initiated in 2006, where all undergraduate students are required to create an ePortfolio as evidence of academic and experiential mastery of our general education competencies. The rationale behind it is to build a mechanism through which core competencies (Written and Oral Communication; Critical Thinking; Mathematical Literacy; Scientific Literacy; Science and Technology and Society; Social Science; Cross-Cultural Awareness; Arts and Humanities; and Ethical Judgment) can be both demonstrated and evaluated. The purpose of this paper is to examine the ePortfolio Program as implemented at our University as a multi-purpose environment, one in which students learn about themselves as learners through self-assessment and peer feedback and the other in which our University learns about the effectiveness of our instruction of these core competencies and our student's ability to demonstrate them. In this paper we examine changes in the quality of students' ePortfolio artifacts as they relate to the competencies as well as their written reflections on these relationships.

It is through the development of their ePortfolios that students begin the process of self-reflection as they select appropriate work, and analyze these selections engaging in connection making and synthesis as they bring their evidence together to tell their academic story. These activities require students to engage in critical reflection of learning. This self-assessment or examination of learning is powerful and contributes to the habits of mind that we wish to embed in our students.

Our program has several benefits to its stakeholders:

- Encouraging students to reflect on their learning.
- Helping students to see how their course work relates to real world practice.
- Helping students to see the inter-connectedness of general education and upper-level courses.
- Helping students recognize how their college experiences connect to their professional goals.
- Providing a flexible yet robust assessment system that provides a way to aggregate and disaggregate data for university, college and departmental use.
- Offering a student-centered way to measure learning outcomes while encouraging deep learning and student engagement.
- Allowing both faculty and students to evaluate student growth; making learning visible to both students and faculty.
- Providing a mechanism through which students can showcase their knowledge and skills that can be used for internships, employment or graduate school.
- ePortfolio Assessment

There are multiple forms of assessment that take place in the ePortfolio environment: self-assessment, peer feedback (formative assessment), and faculty assessment (summative assessment). As students add artifacts to their ePortfolios, they are reviewed and scored by trained peer reviewers using a faculty-developed rubric. Each artifact is scored on a Likert- scale of 1 to 4, with one indicating that the artifact did not meet the competency and 4 indicating it surpassed expectations. As long as students work on their ePortfolios they can expect to see this peer generated, formative feedback.

Peer reviewers are recruited based on a number of factors: GPA, their own ePortfolios, and their major. Inter-rater reliability among students is achieved through extensive training on the scoring and feedback of practice artifacts. We have found that the peer review system contributes to increased student ownership of the ePortfolio Program.

Each summer 22 professors participate in the summative assessment of students' ePortfolios. These professors, from various disciplines across campus, spend one week each summer evaluating student artifacts for the cognitive abilities present pertaining to conducting an experiment, reporting on and evaluating a text, analyzing art and humanities, and reflecting on cultural experiences.
Similarly to the way that peer scorers are trained, inter-rater reliability is achieved by having participants work together to score a common set of artifacts. Once reliability across all raters is achieved the groups are adjourned to smaller groups where the same format is used to achieve reliability among the competency group. Each summer a random sample of student artifacts are evaluated and the findings are reported to each college, administration and the University Office of Assessment. The opportunity that faculty have to “read” students’ ePortfolios enables them to gain a better understanding about student learning throughout the undergraduate curriculum.

Using the ePortfolio as a catalyst for dialogue contributes to new ideas, new learning and broader thinking. In the 21st century courses and grades are simply not enough! The ePortfolio is the foundation of a rich learning environment where the learner controls his or her ePortfolio deciding how to best represent his or her learning.
Analysis, Assessment and Distribution Method in Social Learning

Satoshi Yamawaki¹, Taro Matsumura¹, Masataka Koga²

¹Castalia Co., Ltd., Japan; ²Nikkei BP Consulting, Inc. Japan

Creating an ePortfolio from informal learning and distributing them to educational institutions and corporations will enable personnel assessment, recruitment matching, and assessment of educational institutions. Learning opportunities are rapidly expanding as digital media widespread. Autonomic learning by way of utilizing corporate on-the-job training programs, web services, and social media are called "informal learning", and have become popular alongside learning at officially authorized educational institutions and certification examinations.

However, the studying and its results of informal learning have not been utilized as indicators for formal learning, job searching and career transferring activities, as well as personnel evaluation. In light of the above, “Schooly”, a social learning platform developed by Castalia Co., Ltd, can be of help. The platform accumulates detailed information of the user's learning history, such as the learner's academic interests, content consumption, and communication with other learners. Our partner Nikkei BP Consulting will develop an assessment method based on that information. The method will enable us to create an ePortfolio of an autonomic learner from his or her informal learning information, and eventually, help construct a system that would be available for the learner himself or herself, educational institutions, and corporations.

Creating a common assessment standard on informal learning that could be shared between educational institutions and corporations would allow the distribution of a user's learning history. It would also enable the assessment of the learner from multifaceted standpoints, which would make a smooth job matching possible. In addition, a learner’s ePortfolio would enable the analysis and the assessment of educational institutions, learning contents, and corporations.

About Schooly

Based on iUniv (ah-yoo-nuh-v http://www.iuniv.tv/), a social learning service/platform, Schooly is specially reformed for intra-use within educational institutions and corporates. Carrying iUniv functions to access visual and auditory contents, Schooly is a web application loaded with additional features useful for organization in learning and management of its history, such as the Fusen™ (patented) for the tutor and the learner. To add, it is constructed in HTML5 + Javascript to operate on the iPad, the tablet most likely to be adopted in the educational arena. The tutor can monitor learners' learning history and their evaluations, collectively under the instructor section. Additionally, new and existing visual and auditory content may be uploaded on the media server freely, to be integrated as part of the course. In a sense, digital teaching material may be remixed into education.

Utilizing iPad's qualities as a visual learning tool, learners can cherish social learning, share information in any location they desire, all of which are benefits of the iUniv. They may also refer to lessons and personal progress, compiled under the history managing function. Lectures may be recorded and released internally for students (faculty, classes and such segmentation) which can be referred to as a supplementary in the case of universities. Corporates can implement schooly as an intelligence tool in sharing of information. Precisely, to train distant employees, as a learning tool for MR of medical fields, insurance sales record presentation, role-playing sessions in service industries and the like.

About Castalia Co. Ltd. (Tokyo, Japan)

Founded by Representative Director, Satoshi Yamawaki. Based on "Mobile & Social," Castalia produces educational digital content solutions, and Media management for learning. Interposing digital content distributor and end user, Castalia's initiates "learning social." Castalia also manages Appetizer Japan (http://www.appetizer.jp), Japan's alpha smartphone website and think tank that embraces "media activism." URL: http:// www.castalia.co.jp/ [About Nikkei BP Consulting (Tokyo, Japan)] Nikkei BP Consulting offers a spectrum of services to improve clients' competitiveness. Among its key researches are after-sale service surveys and customer satisfaction surveys, conducted in collaboration with Nikkei Business, Nikkei Computer, and other Nikkei BP magazines. The brand consulting business includes publication of survey reports, such as its flagship "Brand
Japan", and services to help clients set up their strategies and frameworks for branding. It also offers technical solutions to improve the clients' web marketing strategies based on detailed analysis of the target viewers’ behaviors. http://consult.nikkeibp.co.jp/consult/ (in Japanese)
“The Whole is Greater than the Sum of its Parts”: a JISC-funded Project to Evaluate Digitally-enhanced Patchwork Text Assessment in a Range of Subject Disciplines

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This paper will introduce the Patchwork Text Assessment (PTA) format in a digital environment, and present the findings of a one year JISC-funded project that will complete in June 2011.

The essence of a patchwork text is that it consists of a variety of small sections, each of which is complete in itself, and that the overall unity of these component sections, although planned in advance is finalized retrospectively, when they are ‘stitched together’...Each of the short pieces of writing is shared within a small group of learners as part of the teaching-learning process. At the end of the course learners add a reflexive commentary to the short pieces they have already written, which they may also, if they wish, revise and edit. (Winter, 2003:112)

The digital medium, and in particular ePortfolio software, has the potential to enhance a patchwork text, making it easier to share draft patches between peers, and integrate multimedia files as evidence. (Chesney and Marcangelo 2009).

This project involves 5 different subject disciplines using this method of assessment with final year undergraduate students, employing a variety of digital technologies, including ePortfolio software, to enable presentation of their work and the utilisation of formative feedback by peers. Evaluation data is presented in case study format, with a focus on the practicability of the assessment method (both in terms of staff workload and institutional technological resources), and its capacity to enhance and evidence student learning in high stakes assessment. The subject disciplines involved in the current project include psychology, law, archaeology, physics, and photography, and additionally utilise earlier evidence from professionally-related disciplines including teaching and nursing.

The aim of the paper is to share emerging evidence on:

- The relevance and utility of the PTA approach within a range of institutions and subject disciplines, using different learning technologies;
- The threshold functionality required in the digital environment to maximise the benefits of such an approach for staff and students

How this assessment method may enable students to demonstrate subject benchmarks and graduate skills, in particular difficult-to-demonstrate attributes where evidence needs to be captured from learning processes as well as products and outputs.

Any tensions between subject discipline cultures and the reflective approach that this type of assessment encourages.

Chesney, Sarah and Marcangelo, Caroline (2010) ‘There was a lot of learning going on’ Using a digital medium to support learning in a professional course for new HE lecturers. Computers & Education, 54 (3). p. 701

Let’s Start at the Very Beginning? Using ePortfolios for Recording and Claiming Prior Experiential Learning

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I got my degree at the University of Life is a statement I have often heard used by people in work who did not study in further or higher education but it is a recognition of the fact that there is a significant amount of learning that happens outside a formal setting. Much of this learning is tacit knowledge (Erut, 2000; Evans, Kersh and Kontiainen, 2004; Polanyi, 1958) and we need to find a way of supporting students, and potential students, to capture that learning so that it can be recognised within an academic framework. Can an eportfolio do this?

Portfolios and, more recently, eportfolios are widely used for supporting and recording students’ personal development planning and within continuing professional development settings. ePortfolios are also used at our institution in a wide range of applications for learning, teaching and in the support of learning. We have a statement in our University’s Blended Learning Strategy, within the Learning and Teaching Strategy, that all students at our university “are entitled to participate in ePDP” and a target that by 2011 all students will have “undertaken ePDP to evidence their learning experience in HE” (Ref withheld for anonymity, will be provided if abstract accepted). This entitlement, and its associated target is a minimum expectation, in the majority of courses student involvement in, and engagement with, the eportfolio software is much wider and more embedded within their studies. If an eportfolio is a central thread within our courses can it be used to facilitate access into and through them for students with experiential learning?

Recognition of prior experiential learning is commonly achieved through a process of accreditation of prior learning (QAA, 2004) where “evidence must be presented to show that learning has taken place” (QAA, 2004:3) but how do we support the learner in translating their experiences and often tacit knowledge into an academically recognised format to meet this requirement?

The accreditation of prior learning (APL) is currently managed within Schools at the University and a recent audit of practice showed minor anomalies between, and within Schools, albeit that the principles set down by the University to meet the QAA requirements were still being met. The current processes are also costly in terms of staff time: much of the dialogue and advice is on a one-to-one basis, there is high potential for inconsistent advice to be given and there are different charging mechanisms in place across, and within, the Schools. The potential benefits of moving to an on-line system, within the existing eportfolio environment were recognised as having the potential to reduce staff costs, to provide more consistent information, advice and guidance and to start to develop the applicants’ personal learning spaces within the eportfolio. A small amount of funding was provided by the local Lifelong Learning Network for a short project to test the viability of this approach.

A prototype was developed by the software company based on information provided by University specialists in eportfolio applications, APL and quality assurance. The prototype was tested by two pilot groups, firstly academic and support services staff and secondly, following minor revisions, by students who had recently started a work-based learning course. Through a web-based interface the applicant creates an account within the eportfolio system, although this is hidden from view. Any evidence they add to the application, during the three stage application process, is saved within their eportfolio account. The completed APL claim is submitted as an eportfolio to a secure repository with which the APL tutors are familiar. The application eportfolio will become the student’s eportfolio. Despite the tool still being at a prototype stage feedback from the pilot groups has been positive with most seeing the wider benefits for APL applications and consistency in information, advice and guidance.

This short paper will discuss the rationale of the need for accreditation of prior experiential learning, the potential of an eportfolio to enable this process, the tool that we developed and review the learner evaluation of the tool and the APL process. It will consider how starting at the beginning with an eportfolio to support APL is likely to have a positive impact on a student’s learning experience.

References


Developing social media and e-reputation skills

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1 Conservatoire National des Arts et Métiers, CNAM Paris, 2 Agence Universitaire de la Francophonie, AUF Paris

1. Subject of the presentation: What is it about?
Certification of an internet user’s skills based on traces they leave on the web, their use of social media, their digital identity and e-reputation as perceived by others.

Managing an e-identity and online presence, creating and sharing content with remote users, communicating, taking part in virtual communities, developing a social network, conducting a media watch, publishing on the web: all these activities require skills that are not innate, that have to be learned by making use of social media.

An e-reputation, something that is all too often neglected, can actually be significantly enhanced by means of innovative, credible, legitimate systems undergirded by a high-quality approach.

We are going to present two systems for developing these skills. Both are based on the same skills base. Both involve compatible certification by institutions and/or peers: the ICT passport (Agence Universitaire de la Francophonie – AUF, a global network of French-speaking universities) and the e-reputation certificate (AUF-VUMS-CNAM consortium).

2. AUF-certified ICT passport
This is an initiative of the AUF Innovation Department. It has been operational for eight years now. The skills covered currently include the ability to: use the internet, administer a server, plan a network, and make use of educational technologies and social media.

It works on the principle of an ePortfolio as a means of skills certification by partner AUF member institutions, but it is independent of any specific diploma or occupation.

These skills can be acquired through a course of training, in which case it is the organization providing the training that aims for the certificate together with the system guarantor AUF, or as certification of experience.

The idea is that everyone constructs his own passport according to his experiences, with international academic certification. The ICT passport is a database that takes the form of a passport-like booklet usable in every AUF member institution, even though it does not attest to the holder's having achieved any specific level of achievement.

3. e-reputation certificate (®INPI)
This trademark (skills base & terms of certification) was jointly registered at the INPI (French Industrial Property Institute) by the VUMS association, the AUF and CNAM in early 2011.

It is a certification system developed according to the principles of certification engineering. It is based on an interdisciplinary skills base that is not specifically tied to any profession or educational level. So e-reputation certification is a general qualification that is not associated with any particular occupational sector.

However, a person’s e-reputation certainly does have an impact on his or her company’s reputation.

This certification is of interest to a wide range of users: those self-employed, managerial staff (in communication, marketing, innovation, information systems), policymakers, associations, and students interested in optimizing their employability – as well as anyone else interested in using participatory internet (web 2.0, social networks).

The e-reputation certificate (®INPI) is innovative in terms of the certification procedure itself: the candidate has to prove his skills in practice: i.e. in a project aimed at improving his e-reputation. His web activity will demonstrate the whole gamut of possibilities in terms of creating, improving, managing and protecting digital identity, and how other users feel about him.

The skills are validated by the traces he has left on the internet and by the relations he has successively created in explaining and analyzing his approach to the project: through action, in other words, and ongoing explication – and not on the basis of a final statement.
To sum up, this certificate attests to the candidate’s ability to create, protect and manage his digital identity on the Internet and to promote his own e-reputation – skills that are recognized by highly reputed institutions.

It is identifiable on a managed database that can be consulted internationally.
POLICIES & IMPLEMENTATIONS
Introduction

In the Netherlands ePortfolio adoption has been fostered by a growing focus on competence based education and self-regulated learning (Aalderink & Veugelers, 2006; Rubens, 2007). In recent years, nationwide adoption of ePortfolios as an instrument to assess and stimulate personal professional development, has gained considerable attention in the Netherlands, because it is expected to enhance labour market participation and mobility. The year 2008 in particular stands out as a year of significant boosts for nation wide adoption of ePortfolios. In that year two important government advisory committees on employment and the labour market recommended nationwide adoption of ePortfolios as an instrument to assess and stimulate personal professional development and to increase mobility (Commissie_Arbeidsparticipatie, 2008; Commissie_De_Vries, 2008). In that same year the Netherlands Institute for Normalisation (NEN, 2009) published the first version of a National Technical Agreement (NTA 2035) for the exchange of ePortfolios, henceforth called Eportfolio NL or national standard.

Despite the fact that several providers of ePortfolio software have come to support the NTA, i.e. enable imports and exports based on this exchange format, actual deployment of the specification appears to be limited. While portfolios are widely used in Dutch higher education, especially in the universities of Applied Sciences, this is supported by a variety of systems (Rubens, 2007), none of which fully supports Eportfolio NL.

Using INTEGRATE, a generic instrument developed to assess strategies for the adoption of standards, an analysis was made to identify appropriate strategies for the adoption of Eportfolio NL (Lankhorst & Krukkert, 2010). This analysis resulted in the conclusion that the ePortfolio standard requires a strategy that starts with large companies and public employment agencies. Though one of the advisory committees mentioned above was instigated by the Algemene Bond Uitzendorganisaties (General Union of Temporary Employment Agencies), large scale adoption has not been realised yet.

Meanwhile however, a sense of urgency at the governmental level, most notably regional governmental level, has inspired several projects which acknowledge and seek to draw on the benefits of the NTA 2035. One of these projects is the Service Centre Lifelong Learning Limburg (SC4L, 2011) which brings together a number of stakeholders in the region: employers (from small enterprises to large companies), employment agencies, and educational providers ranging from Vocational Education and Training to University level, with the aim to develop a Service Centre that facilitates assessment of prior learning and provision of blended lifelong learning in relation to regional labour market needs and developments. In the cooperation between the various stakeholders the exchange of ePortfolio information is an important issue that can be addressed using the national standard. Related work in the US and UK focussing on a nation- or state-wide portfolio, was either not based on a standard, e.g. the eFolio Minnesota and Careers Wales projects (Cambridge, 2008, 2010; Careers_Wales_Association, 2011), or limited to the exchange of ePortfolio information between educational providers, e.g. the EPICS and RIPPLL projects (A.P. Horner, 2009; A. P. Horner et al., 2006; Kingston & Smallwood, 2007).

This paper briefly outlines the Eportfolio NL specification (section 2) before taking a closer look at the INTEGRATE study and the current state of affairs (section 3). Given the current state, section 4 outlines the approach adopted in the SC4L project.

Eportfolio NL

Eportfolio NL defines ePortfolio as “a set of purposefully assembled digital artefacts describing a person’s efforts, development and achievements in learning and/or work.” (NEN, 2009, p. 6, translated). In fact the agreement constitutes an application profile of (among others) the IMS ePortfolio specification and distinguishes between on the one hand Personal Information, e.g.
Identification, Goals, Competences, and on the other hand Results, e.g. Activities, Products, Evaluations, and Reflections (Fig. 1).

The Dutch organisation Kennisnet (Knowledge-net) took the lead in developing and testing the application profile, which gained the formal status of national technical agreement when it was published by the NEN Learning Technology Standards Committee, and is now about to gain the status of “Norm” (Berg & Thuss, 2011), meaning that it is going to be a de jure standard (Hodgins et al., 2003). Alongside work on the technical agreement, Kennisnet published ten principles to enhance interoperability and the adoption of the ePortfolio standard (Van der Zalm, 2007), including “Ownership of the ePortfolio lies with the individual” (cf. Heinrich, 2008), “An ePortfolio must support usage across domains”, “Taking the perspective of lifelong learning, organisations that work with ePortfolios are chain-partners both towards the individual and towards one another”, and “A chain-partner must store all information provided by the individual and keep it readily available for further transport or sharing as indicated by the individual” (p. 8-9). More recently, parties involved in the development of the standard have engaged in a workshop to identify barriers and means to further stimulate adoption of the standard, using the adoption-instrument INTEGRATE, a generic tool which supports stakeholders to choose from a number of ways to influence adoption of an interoperability standard in a network of relevant parties (Lankhorst, Oude Luttighuis, Krukkert, Verhoosel, & Lammers, 2010). Though the workshop also helped identify some shortcomings of the instrument, the report offers insights in the variety of stakeholders involved and the ways they may influence adoption.

Adoption acceleration

The INTEGRATE instrument uses a number of parameters to establish a general measure of the effort it will require to accomplish adoption of an interoperability solution. These parameters are: the number of stakeholders (in this case: large), the heterogeneity of the stakeholders (great), the type/complexity of interactions (average), openness (complete), usability (average), simplicity (average), and generalness (great) of the solution. Combining and contrasting these values a general “Fitness for adoption” measure is calculated which in the case of Eportfolio NL is “Good” (Lankhorst & Krukkert, 2010).

Moreover, a subsequent stakeholder analysis makes it clear that for many stakeholders a positive business case is presumed and that two types of stakeholders have both a positive business case and first mover advantage: employment agencies (both public and private) and software developers aiming at ePortfolio storage. However, stakeholder groups are not equal in size and the stakes of various groups vary in weight. The group of individual ePortfolio users and SMEs for instance, are large in number and carrying strong weights, but for them the business case is neutral. This leads the workshop to conclude that the network at large does not represent a strong force in favour of adoption of the standard.
Further analysis of business case dependencies lead to the identification of two main parties which strongly influence many parties involved, i.e. large companies and employment agencies (most notably public employment agencies). Considering means to stimulate adoption in relation to stakeholders’ chances of adoption, the report identifies means in the realm of communication (engage, influence), finance (fund, unburden), and legislation (entrust, require). Taking all the previous parameters into account the report concludes that in the case of Eportfolio NL the adoption strategy should start with large companies and public employment agencies, as they have the biggest influence, and that clearly there is a role to play for the government for instance by stimulating large companies through financial incentives and/or requiring public employment agencies to adopt the standard, through legislation if necessary.

However, as things stand, public employment agencies already take an active interest in a number of initiatives that aim to enhance adoption of Eportfolio NL, such as the Service Centre for Lifelong Learning project. This seems in line with the INTEGRATE analysis identifying employment agencies as one of two stakeholder groups with both a positive business case and a first mover advantage. As to the second group, software developers focussing on ePortfolio storage, a plugfest was organised in collaboration with the NEN on April 19th 2001, in order to establish developments within this group. The plugfest brought together seven providers (out of an estimated total of twenty ePortfolio software providers operating on the Dutch market) which have developed or are developing ePortfolio software in alignment with Eportfolio NL. Despite the fact that both coverage of the specification and the quality of imports and exports generally have improved following an earlier plugfest, none of the software supported the Eportfolio NL specification to the full extent (i.e. categories A to L of Figure 1). Interestingly, the plugfest appears to have prompted some international players with a prominent presence in the Dutch market, who were not present at the plugfest, to take up the dialogue with their user-groups on Eportfolio NL. Though this holds some promise for the future, at present the best strategy for users of these ePortfolios is to structure them in such a way that any export of the ePortfolio optimally aligns with the national standard. Within the Service Centre for Lifelong Learning Limburg project, this approach was further investigated in relation to the Blackboard ePortfolio.

Service Centre Lifelong Learning Limburg (SC4L)

The most southern province of the Netherlands, called Limburg, is faced with relatively high unemployment figures, combined with an increasingly aging population and a threat of shortages in health care personnel. In an attempt to address this complex of factors, the province of Limburg has made substantial investments in a number of projects to enhance mobility through lifelong learning and accreditation of prior learning, e.g. the Service Centre for Lifelong Learning Limburg project (SC4L), Zorgacademie Parkstad, Let’s Connect etc. The Service Centre Lifelong Learning Limburg (SC4L) project investigates current ePortfolio practices in the partner institutions with the aim to establish what it would require to bring these practices in line with the national standard, so that learners can carry their ePortfolios with them when they go from one institution to another. All educational providers, except the Open Universiteit, have a more or less centralised ePortfolio approach, meaning that they have developed ePortfolios as integral parts of the Learning Management System (LMS), though actual deployment varies across subject domains. A number of regional small to large enterprises and non-profit organisations are engaged in project pilots: Beatrixhaven, Nedcar, Central Bureau of Statistics, Youth unemployment, LICOM, License to Operate. Generally speaking the companies and organisations involved in these pilots have little to no experience with ePortfolios.

The Learning Management Systems used by the educational providers are Fronter, N@tschool and Blackboard. Although the contents of these ePortfolios can be fairly straightforwardly mapped on the Eportfolio NL standard, two important issues emerge. First, the apparent freedom and variety in structuring ePortfolios within these systems offer reason for concern regarding the quality of the export-results and the ease with which they can be mapped on Eportfolio NL. Second, some friction arises from the fact that ownership of the ePortfolio lies principally with the learner, whereas certain information e.g. ‘Accessibility/Special requirements’ is likely to be not only needed but also provided by the institution rather than the learner.

The SC4L work package on ePortfolio addressed these issues in a new ePortfolio to be implemented in the context of a part-time HE competence based distance learning programme in Law, delivered through the Blackboard 9.1 (SP4) Learning Management System. Blackboard makes a distinction between a basic and a personal portfolio. Both the personal portfolio and the basic portfolio allow users to refer to items stored elsewhere either directly in a text field or by allowing access to files stored in Blackboard’s Content Collection. In the case of the personal portfolio it is
also possible to upload files stored locally. Closer examination reveals that these various options lead to considerable differences regarding the resulting exports, most importantly regarding the extent to which the export reflects the original ePortfolio structure. Referring to a file in a text field in a personal portfolio, for instance, results in an export containing the file with a different name and without a clear connection to its original location in the ePortfolio. Referring to an item stored locally outside the text field improves the resulting export in that it holds the original name, but it appears still disconnected from its original location, thus obscuring the original structure. If the export of a Blackboard portfolio is to reflect the original structure of the portfolio, this can be achieved through three options only: a. using the basic portfolio and referring to items in Content Collection in the text field; b. using the basic portfolio and including a view on Content Collection items; c. using the personal portfolio and referring to items in Content Collection below the text field.

Regarding the second issue mentioned above concerning the friction between individual ownership and institutional use and/or provision of data, we think that especially concerning a category such as access it is inevitable that the portfolio owner's views may diverge from a ‘formal’ institutional view/assessment. To the extent that the owner wishes to include institutional views he or she is of course free to do so. However this cannot be required. If the ownership principle is to be adhered to, ‘double book keeping’ is to some extent inevitable.

**Conclusion and discussion**

Four years after its official launch as a National Technical Agreement, Eportfolio NL is developing into both a de facto standard and a de jure standard. However the daily reality for many portfolio users is one of portfolios that are at best portable in the sense of being exportable, but not in the sense of being interoperable (i.e. enabling near effortless transitions from one system to another), simply because current ePortfolio use is to a considerable extent supported by providers who have not (yet) adopted the Eportfolio standard. In this respect Joyes, Gray, & Hartnell-Young (2010) refer to the need of “a mature institutional approach where the role of ownership and the disruptive nature of ePortfolio implementation are fully considered by a wide range of stakeholders” (p. 25). In the SC4L project we have explored ways to minimize disruption by designing an ePortfolio within a LMS in a way that facilitates mapping of the ePortfolio export to the national standard.

Although the lack of ePortfolio interoperability is considered an argument against the feasibility and/or desirability of a lifelong ePortfolio (Clark, 2011), in our view it is an inevitable aspect of standardisation processes and the level of patience they require (Janssen, 2010). We agree with the INTEGRATE workshop that large companies and employment agencies are highly influential in the process of adoption of the standard. However, we believe financial investments will not suffice to solve the current lack of integration of ePortfolios in human resource management policies and practice, as experiences in the SC4L pilots indicate that no strong practice has developed as yet concerning career development and personal development planning.

**References**


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Background
Discendum Oy is a Finnish company developing and offering eLearning solutions to Finnish educational institutions and corporations. Our main product is the Optima eLearning environment which is used by thousands of Finnish educators and students. We develop our Optima eLearning environment with our customers and a couple of years ago in an Optima development workshop a strong need for an ePortfolio service rose to the surface.

At first we considered the possibility of developing the ePortfolio service as an application in Optima but after a careful consideration we decided to start developing our ePortfolio solution as an independent venture. This is how the Kyvyt.fi service was born. The Kyvyt.fi (skills.fi) service is maintained by our company and it’s aimed at Finnish high schools, vocational and higher education institutions. We launched Kyvyt.fi in August of 2010 and at the beginning of June 2011, it hosts over fifty (50) educational institutions and five thousand (5000) users.

How Kyvyt.fi was born
The main idea of the Kyvyt-fi service concept is that a student preserves her ePortfolio in Kyvyt.fi after graduation as well and is thus able to make use of it during a lifetime of learning. Another fundamental starting-point is that all the educational institutions using Kyvyt.fi operate in the same service. This enables wide co-operation and networking between teachers and students in different institutions. The goal is to grow Kyvyt.fi into a large network which brings added value to individual users and attracts potential users from educational institutions as well as from working life.

We found several commercial and open source solutions on the market. We decided against commercial services because we wanted to retain the option to develop and modify our ePortfolio service according to our customers' needs. As a software company, we did have the option of developing a platform of our own but we decided to build Kyvyt.fi on the Mahara ePortfolio software. We made this decision based on the following reasons:

- Being an open source solution, Mahara enables us to carry out product development based on the customers’ needs
- The Mahara developer community is very active and the software is both in a stable state and widely used. Thus using Mahara as our engine enabled us to build our Kyvyt.fi service quickly
- The possibility to integrate Mahara to Moodle and other learning management systems is important
- There’s a possibility to export content from the portfolios to Leap2A and html formats
- According to an independent audit, the security level of Mahara is good
- The most important criteria for choosing Mahara was a pedagogic one. We saw the concept of combining a personal learning environment with the social web aspect as a brilliant one. Also, a service called Myportfolio (http://myportfolio.school.nz) servicing schools in New Zealand was an interesting model when developing Kyvyt.fi.

From Mahara to Kyvyt.fi
In the autumn of 2009 we chose Mahara as our platform and started planning our service concept. We joined the Mahara developer community, acquired the Mahara partner privileges and started localization of the software into Finnish and Swedish. In April of 2010 we presented our Kyvyt.fi service concept at the ITK conference which is one of the most notable yearly eLearning related events in Finland. Our target groups were high schools, vocational and higher education institutions.

Pilot phase experiences
We started trainings in August of 2010 and by February of 2011 we had given training to 20 educational institutions. From a technical point of view, the implementation of Mahara has proven to be quite easy. Creating views in the Kyvyt.fi service requires some learning but the user interface is logical throughout the different functions. According to teachers, students like the Facebook-like
look and feel of the interface and instructions weren’t necessary in that respect. Teachers faced more challenges than the students but after a little experience in using the tool, those challenges were overcome as well.

The biggest challenges have to do with the different ways of using Kyvyt.fi. Many teachers are aware of the possibilities of an ePortfolio and some teachers have used different social web applications in teaching and the concept of a personal learning environment is familiar to many. Several teachers were inspired by the service during training but the user statistics of Kyvyt.fi showed that taking the service into use happened on a slower pace than expected. While reflecting on the past ten months we can say that all and all the implementation of Kyvyt.fi has been successful but initial challenges and partial slowness can be credited to the following reasons:

- Many educational institutions decided to take part in the Kyvyt.fi pilot phase through an interested group of teachers but the group wasn’t backed up by their own organization. Lack of time has usually been the main cause for delays in implementation.
- Some of the teachers have wanted to safely test the possibilities of Kyvyt.fi in smaller groups first so that they can develop efficient ways of working to be used more widely
- Several teachers have understood the possibilities in working with an ePortfolio but they are used to learning management systems which emphasize the teacher’s role and the importance of controlling and monitoring the learning process. The portfolio culture is challenging to teachers because a portfolio is a personal learning environment which is owned by the student, not by the teacher or the school. In addition, being a social media application, Mahara doesn’t offer the traditional tools of learning. Thus teachers are forced to develop new ways of working with students: ways which are based on trust and taking responsibility. The cultural change is not only challenging for teachers but also for students who are used to being monitored.
- The challenges are partly results of our training methods. We have introduced Mahara as an ePortfolio service, as a personal learning environment and as a social media application. For some teachers this is too much to handle in a short period of time. In institutions where there’s a clear vision about the role of Kyvyt.fi (as, for example, a portfolio of a student looking for work) the implementation phase has gone quite smoothly.

Kyvyt.fi has been in use for less than a year and we are not yet fully aware of all the ways in which it’s being used or what is being planned in different institutions. We have, however, a few examples on how the service is currently being utilized:

- a portfolio for graduating nurses (Turku University of Applied Sciences)
- further training of foreign teachers (the Teacher training school of Turku)
- utilizing the teacher's and the students’ ePortfolios in high school music education (The music high school of Kaustinen)
- guidance of practical training (several vocational schools)
- developing collective learning materials between different institutions (Turku Adult Education Centre and Lapland Vocational College)

At this stage, there has been relatively little co-operation between educational institutions in the Kyvyt.fi network but Finnish institutions are strongly tied to different networks and many co-operational project based on Kyvyt.fi are forming as we speak.

After the pilot phase
Establishing Kyvyt.fi on the market requires not only good ways working and experiences but also a strong earnings logic. We aim to build our business on the following elements:

- An individual user doesn’t pay for using the service
- The basic usage is free of charge for secondary schools and liberal adult education organizations. Basic usage contains the Mahara features.
- Other educational institutions, corporations and other organizations pay for the basic features according to the size of the organization.
- All organizations pay for any additional features developed by Discendum and for support services
- You pay for advertising your business or activity in the Kyvyt.fi service

Looking at these elements it was clear that our aim is to finance the Kyvyt.fi service mainly with advertising revenues and partly with the usage fees of large educational institutions. This model
requires a high volume of users which we are trying to achieve by offering the service free of charge to upper secondary schools and liberal adult education organizations. In addition, the public API (application programming interface) of Mahara enables us to offer our customers plugins developed by our partners. Thus, we aim to develop Kyvyt.fi into an ecosystem which is the base for our earnings logic.

Finnish authorities such as the Ministry of Education and Culture and the Ministry of Employment and the Economy have a positive attitude towards our Kyvyt.fi venture but currently they do not support us financially. The development of Kyvyt.fi can, however, be partly supported by public authorities through different projects.

Developing Mahara for Kyvyt.fi

Developing the Kyvyt.fi service has required a lot of development work in Mahara also. In our Kyvyt.fi development we emphasize features that support activities carried out in large networks. The main development targets are related to the structures of the Mahara institutions and search functions. One of our aims is to clarify the usage of Mahara. For example, the user is able to restrict a search to her own institution or institutions and thus search for things related to herself or to her own school. Also, the institution specific home page which we have developed enables a clearer Mahara interface because the home page can be used to support the users in a specific organization. On the institution level we can define the access rights to additional services. In addition to developing the institution features, we have built new group features, such as chat and wiki applications. We have also developed a public site called the Gallery where users of Kyvyt.fi can publish their views when, for example, looking for work. The Gallery is a meeting place for Kyvyt.fi users and the representatives of working life.

In the near future we will be focusing on features that support networking, group features and tools for controlling the visibility of partners.

Even though we’ve made changes and created new features for Kyvyt.fi, we aim to preserve the compatibility with Mahara and we’ll continue to contribute to the development work of it as an official Mahara partner.

Conclusion

Establishing and developing a national ePortfolio service such as Kyvyt.fi has been a challenging task. For us, the main challenge has not been finding a suitable ePortfolio platform but getting different educational institutions to join the service. I think we’ve managed to gather a critical user base (which is about five thousand users) which enables the growth of Kyvyt.fi in the future. The promising start of Kyvyt.fi is due to the following facts:

- Discendum is a trusted eLearning service provider, who has a large customer base in the education sector
- In the European context, Finnish educational institutions are small and very network-oriented
- The people in charge of developing education in Finnish institutions are very interested in social web applications and personal learning environments
- Finnish authorities support innovative ventures such as Kyvyt.fi financially through different projects

We will continue to develop Kyvyt.fi with confidence. From now on the biggest challenges lie in developing pedagogic models, establishing the ePortfolio as an every-day feature of educational activities and developing the Kyvyt.fi service. From Discendum’s point of view, the biggest challenge is to come up with a profitable business model for an ecosystem service.

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Developing a national ePortfolio community of practice to foster emerging ePortfolio practice

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Abstract

Eportfolios are becoming increasingly popular in the Australian vocational education and training (VET) sector, with pockets of practice occurring across the country. In order to foster this growing interest and encourage the uptake of ePortfolios as a teaching, learning and recognition tool - community developed activities, resources and support are required. The VET EPortfolios Community of Practice (EpCop) was identified as a means of facilitating these activities, as well as capturing current and future ePortfolio practices while enabling educators to learn from one another to build upon these experiences to develop examples of best practice.

During 2008-10, a number of activities, contributing towards a community of practice (CoP), were being managed by the Australian Flexible Learning Framework’s (Framework) EPortfolios business activity. These included facilitating: national conferences; an email list and blog; an online resource bank; together with a series of presentations, workshops, consultancies plus linkages with other ePortfolio CoPs and focus groups. However, it was identified that this approach was very much a ‘push model’ where people passively received information generated by a centralised organisation and people were not actively engaging in collaborative ePortfolio activities. It was considered important, therefore, to bring together experienced ePortfolio educators with those interested in getting started to foster this practice.

Hallam et al (2009, pg 2) through the Australian ePortfolio Project – Stage 2 (AeP2) indentified that “there is strong support for a CoP to support ePortfolio practice”, in particular, “the concept of a hybrid forum that blends the benefits of an online community with opportunities for face-to-face meetings”. Hallam et all (2009, pg 2) found that an ePortfolio CoP “was seen to be an important initiative that would help consolidate current levels of interest and foster and strengthen the networking and relationships that are already emerging amongst those involved in ePortfolio learning”.

Hallam et al (2009, pg 55) also found that “there is clear consensus that, at least in the early days, an ePortfolio CoP would benefit from the guidance and facilitation of a funded community manager, rather than being a purely organic entity.” Although the AeP Report is focussed on the Australian higher education sector, the research is relevant to the VET sector, including the range of interest areas for the CoP around pedagogy, technology and software tools, and policy.

In light of this, the Framework engaged a facilitator in 2010 to investigate and implement activities that would bring together experienced and new ePortfolio users to share common and best ePortfolio practices. In collaboration with the EPortfolios Business Manager, the EpCoP facilitator was charged with managing a range of activities that complement the existing CoP activities being facilitated by the Framework to foster a community of sharing and collaboration in the use of ePortfolio practice.

To date, the function of the EpCoP has been to: help people find and access ePortfolio information and expertise; develop and disseminate case studies and use cases of ePortfolio practice; showcase examples of learners’ ePortfolio work; collaboratively develop and disseminate resources and examples of ePortfolio practice and implementations; as well as influence teaching and learning practices that foster lifelong learning.

These activities have resulted in an active community website for sharing, collaborating and developing ePortfolio practice together with a collection of ePortfolio resources which demonstrate effective pedagogy, technical/software support/solutions and ePortfolio implementation. The EpCoP community website is accompanied by an active discussion forum attracting ePortfolio practitioners from around the world into the conversations on a regular basis.

Where possible, this work has been based on best and emerging practice and includes cases studies to illustrate common issues and scenarios. These outputs have been developed with the consensus of the EpCop community through the active online discussion group; as well as through desktop research; consultations of ePortfolio leaders, implementers and developers of ePortfolio systems; and technical experts. Collaborative activities and dissemination of information has also been enabled through partnerships with CoPs in North America and Europe.
This paper will detail the background and development of the EpCop as well as the plans for the collaborative development of future resources and professional learning experiences which will support the on-going use and uptake of ePortfolios within the Australian VET sector.

Keywords: ePortfolios, community of practice, collaboration, best practice, emerging practice, vocational education and training, EpCop, CoP

Introduction

The use of ePortfolios to support workplace learning and assessment practices and improve communication between those involved (e.g., employers, teachers/trainer and learners) is occurring in isolated pockets within the Australian vocational education and training (VET) sector. To widen the adoption of ePortfolios through the sharing of experience and expertise of ePortfolio practice have been supported by the Australian Flexible Learning Framework (Framework) since 2008, including an annual national conference, an email list, the EPortfolios blog and an online resource bank as well as presentations, workshops and consultancies about ePortfolio practice. However, this work has been very much a ‘push’ model, were information was distributed, with little or no engagement from the wider ePortfolio community.

To improve this practice, a facilitator was engaged by the Framework in 2010 to establish the VET ePortfolios Community of Practice (EpCop). In collaboration with the Framework’s EPortfolios business manager, the EpCoP facilitator was charged with managing a range of activities that would bring together experienced and new ePortfolio users to share common and best ePortfolio practices, while complementing the existing community of practices activities being facilitated by the Framework mentioned above.

This paper details the background and development of the EpCop as well as the plans for the collaborative development of future resources and professional learning experiences which will support the on-going use and uptake of ePortfolios within the Australian VET sector.

Background research and related literature

Developing communities of practice

Hallam, Harper, Hauville, Creagh & McAllister (2009, pg 2) through the Australian ePortfolio Project – Stage 2 (AeP2) found that an ePortfolio CoP “was seen to be an important initiative that would help consolidate current levels of interest and foster and strengthen the networking and relationships that are already emerging amongst those involved in ePortfolio learning”.

Hallam et al (2009, pg 2) also indentified that “there is strong support for a CoP to support ePortfolio practice”, in particular, “the concept of a hybrid forum that blends the benefits of an online community with opportunities for face-to-face meetings”, and that (Hallam et al, 2009, pg 55) “there is clear consensus that, at least in the early days, an ePortfolio CoP would benefit from the guidance and facilitation of a funded community manager, rather than being a purely organic entity.”

Supporting teacher/trainers’ professional development needs

During 2009-10, the Framework (2010) provided seed funding to a number of VET training organisations as part of the EPortfolios Implementation Trials to investigate the use of ePortfolios with their learners. These trials examined the way ePortfolios can support learners to successfully gain a qualification through: recognition of prior learning (RPL); fast tracking apprenticeships/traineeships; and/or help learners transition into further education and training or employment. Evidence gathered through these trials has provided information about the way teachers/trainers, workplace supervisors/management and VET training organisations can better support learners to: manage their own learning; demonstrate their existing skills and knowledge; and/or achieve their personal, career or educational goals through the successful implementation of an ePortfolio system.

Based on these trials, Miller & O’Neill (2011) found that in order for teachers/trainers to use ePortfolios as part of their training and assessment they needed structured and ‘just in time’ professional development to understand how best to support learners present and manage their information within an ePortfolio environment. Hence, developing teacher/trainers’ digital literacy skills as part of the implementation process was very important. Support to help teachers/trainers develop this understanding included providing training/information about: privacy, ownership and security issues associated with ePortfolios; how to integrate learner-centred pedagogical approaches into their training and assessment and/or incorporating self-assessment (or reflective)
activities as part of their learners’ ePortfolio experience (Troupiotis, 2010). Teachers/trainers also needed help in developing their understanding of how best to use an ePortfolio for e-assessment as well as developing their professional judgement around validating and verifying digital evidence in an ePortfolio environment, eg determining the types of digital evidence (eg photos, video, audio) which are suitable for collection by learners into their ePortfolios.

Miller & O’Neill (2011) found that helping teachers/trainers connect with other educators experienced in the use of ePortfolios through local and more widely dispersed communities of practice could help support some of the teachers/trainers’ professional development needs. They also found that this could support their new and continuing ePortfolio learning and development through professional conversations and/or accessing or developing collaborative support resources.

National support for embedding ePortfolios

To assist in the development of a national standards-based framework to support interoperable ePortfolio systems in the VET sector, the Framework (2009) produced a national strategic document called the VET EPortfolio Roadmap (Roadmap). The Roadmap contains nine goals, which when achieved will result in national guidelines for VET managers; functional specifications for ePortfolio system implementers and developers; and provide strategies for teachers/trainers to embed ePortfolios into their training, as outlined in figure 1 below:

Figure 1: The VET Eportfolio Roadmap – nine national goals and three key outputs

In recognition that “the uptake of ePortfolios as a teaching, learning and recognition tools needs to be accompanied through professional development, adequate business structures and support”, the Roadmap’s ‘Embedding’ goal aims to “establish a strategic approach to developing effective ePortfolio practice” (Framework, 2009, pg 7). To support this goal, the Framework’s Eportfolios business activity has played “a central role in supporting the establishment and facilitation of communities of practice to provide assistance and dissemination of information and a mentoring role for new users” (Framework, 2009, pg 13).

As part of this work, the Framework engaged an EpCop facilitator in 2010 to investigate and implement activities that would bring together experienced and new ePortfolio users to share common and best practices. The function of EpCop has been to:

- Help people find and access ePortfolio information and expertise
- Develop and disseminate case studies and use cases of ePortfolio practice, and showcase learner ePortfolios
- Develop and disseminate resources and examples for ePortfolio practice and implementation
- Influence teaching and learning to foster lifelong learning
- Research method

The EpCop facilitator and the Eportfolios business manager have worked collaboratively to develop the EpCop based on their own community of practice experience as contributors and facilitators.
This involved regular meetings to discuss and compare ideas and the development of the EpCop. Background research and participation in other blended communities of practice was undertaken by both the facilitator and the business manager. Consultations with other experienced community of practice facilitators and ePortfolio practitioners were undertaken, including the members of the Eportfolios Reference Group (ERG, 2011), the frontline stakeholder group providing advice and support to the ePortfolios business manager.

Where possible, this work has been based on best and emerging practice and has included actual cases studies to illustrate common issues and scenarios. The EpCop Conversations discussion forum has been used to gather information and generate ideas for EpCop activities. Connections and partnerships with other Australian, New Zealand, North American and European ePortfolio communities of practice have been developed to cross pollinate ideas and facilitate activities.

Findings and discussion

The development of a central EpCop website (http://epcop.net.au) has enabled the sharing of ePortfolio case studies, interviews and resources, as well as information about the monthly events and activities of the community of practice. One such supporting resource includes the development of a ‘Powerful Portfolio Practices’ voice thread http://voicethread.com/?#u660455.b1410942.i7474867 where community members contributed their views about: choosing an ePortfolio container; validating learning; reflective practice; scaffolding ePortfolios; and implementing and embedding ePortfolios. This website aims to be the ‘one-stop shop’ or portal for accessing information about EpCop. Media communications (media releases, tweets, Facebook page updates) about the group are directed to this page for further information.

An active “Eportfolio conversations” online discussion group (http://conversations.epcop.net.au) has enabled people to ask questions and find information about ePortfolio experience from the wider EpCop community. At the time of writing this paper (June, 2011), the group had attracted 140+ ePortfolio practitioners and providers from around the world who have been engaged in nearly 100 conversations around topics such as: reasons why people need an ePortfolio; critiquing ePortfolios; selecting and implementing ePortfolios; and engaging learners through ePortfolios. The EpCop Facebook page (http://www.facebook.com/home.php?sk=group_145961032117370) with its 28 members has provided another way for communicating the group’s activity, with participation occurring through indications of people’s ability to attend events, member comments and ‘Like’ confirmations on postings.

Monthly webinars have helped to showcase and disseminate case studies of ePortfolio practice and share examples of learners’ ePortfolio work. These regular online events has made use of the Australia Series Learn Central online meeting space (http://www.learncentral.org/group/45972/australia-series) and has brought together experienced ePortfolio practitioners and providers to interactively share their experiences. Topics have included: PD for ePortfolios; collaborative strategies for effective learner outcomes using ePortfolios; strategies for creating/maintaining local ePortfolio communities of practice; ePortfolios for the professions and the trades; and strategies for implementing ePortfolios into organisations.

Collaboration with the USA's Electronic Portfolio Action and Communication Community of Practice (EPAC) facilitator (http://epac.pbworks.com/) has resulted in two ‘combined’ online events covering the topics of EPortfolios for the Professions and EPortfolios for the Trades, with presenters from Australia, New Zealand, the UK and the USA. All of these sessions were recorded and viewable as archived case studies for people to access from the EpCop website. The webinars have also provided a venue for leaders of the Eportfolios Implementation Trials to showcase their achievements and outcomes and to provide advice to other practitioners in overcoming barriers to the uptake of ePortfolios.

The concept of supporting local EpCops within regions and individual organisations has been touted by the EpCop facilitator and EPortfolios business manager, but current activity within the group has not allowed further exploration of this idea. Further work within EpCop may be required to tease out the essential conditions for local EpCops and encouraging more input from EpCop members. Some local EPortfolio Communities of Practice do exist in those organisations where the ePortfolio approach has reached more mature levels. The first of the May webinars highlighted some of those and showcased some international models to follow.

These activities have highlighted that there is a strong need to bring people together to share and develop information about using ePortfolios as an effective learning and assessment tools which supports lifelong learning. The monthly live online sessions and the discussion group have attracted an international and cross sectoral audience, demonstrating that there is a further need to support
an ePortfolio community of practice beyond that of just the Australian VET sector. It is also now evident that that ideas, resources and practice used in different industries, regions and educational settings can be contextualised for any given situations through the cross fertilisation of ideas which a community of practice like EpCop has allowed.

Conclusions
EpCop has provided a platform for engaging ePortfolio practitioners to share and develop their ePortfolio knowledge and experience, however, these activities have been mainly been enabled through the active contribution and drive of the EpCop facilitator, with limited additional leadership or collaboration into the development and dissemination of resources and examples of ePortfolio practice and implementations occurring from the wider EpCop membership.

It has also been hard to measure whether EpCop has been effective in influencing VET teaching and learning practices that foster lifelong learning simply through EpCop activities. This highlights a need for a more ‘reflective practice’ approach on the EpCoP itself to enable the capturing of feedback from its members.

It has been recognised by the EpCop facilitator and the Eportfolios business manager that the isolated activities of EpCop does require further scaffolding of teachers/trainers wanting to get started in using ePortfolios as part of their teaching and learning practice, if more wider adoption of ePortfolios is to occur in the VET sector. This has highlighted the need for the design and development of a course for ePortfolio practitioners and support teachers. Miller & O'Neill, (2010) identified the need to foster VET practitioners’ ability to develop their own ePortfolio to support their own continuing professional development (CPD) as a key consideration when implementing ePortfolio systems in VET.

As a consequence of these findings, further work is being funded by the Framework to create an Eportfolio Massive Open Online Course (EpCop MOOC) (https://sites.google.com/site/eportfoliocommunity/epcop-mooc). The EpCop MOOC aims to help VET practitioners develop their ePortfolio knowledge and skills through the creation of their own professional ePortfolio which will enable them to demonstrate their industry and professional VET currency requirements (AQTF, 2010, Standard 1.4), while helping them establish a professional ePortfolio network. The EpCop facilitator, together with a core group of EpCop members, is currently planning and creating activities and resources ready for EpCop MOOC which is due to start in August 2011. The content and resources of the EpCop MOOC will be freely available for people to access at any time and for Teaching and Learning Managers to contextualise for the professional development of their staff. Ongoing progress is available at the EpCoP blog: http://moocepcop.edublogs.org/ Challenges, achievements and outcomes of the MOOC project will feature as a Case Study presentation at the ePortfolios Australia Conference in Perth in October 2011.

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The authors would like to acknowledge those who have contributed to EpCop through the Conversations discussion forum and the Epcop Facebook page. Special thanks are also given to the numerous presenters for the EpCop monthly online events for enabling the sharing of their ePortfolio practice to be captured for future reference. Members of the Eportfolios Reference Group have contributed their support and direct input into the activities of the EpCoP in its first year and have also nominated their specific expertise to support and shape the MOOC.

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Towards an Innovative Strategy for the Deployment of a Regional ePortfolio

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The aim of this paper is to present an innovative approach to study, to analyze and to support the uses of the regional Council of Lorraine ePortfolio called LorFolio. Our approach is based on a partnership including two laboratories one dedicated to Computer sciences (LORIA) and one dedicated to Educational sciences (LISEC), the pedagogical engineering department of the University of Lorraine (NUTICE), the department for student employability of the University of Lorraine and the Regional Council of Lorraine.

Our approach is based on a two complementary axis. Based on previous works which have shown the need to study the real uses of all the target users (students, professionals, integration agencies, …), the first axis is devoted to the pedagogical aspects and it will focus on :

- the analysis of the learning process of the students (formal, informal and non formal learning, social activities, …),
- the description of the products i.e. how do students exploit the ePortfolio in their professional insertion strategy
- the link with the strategy of the Regional Council of Lorraine.

The second axis is devoted to the computer sciences approach which will provide a detailed analysis of the students uses to be able to elaborate a model of the uses. This model gives the possibility to adapt the functionalities and to elaborate strategies for the recommendation of the appropriate pedagogical resources or services to the students. These systems can also be viewed as information retrieval (IR) systems as they search and suggest the adequate resources in the whole set of resources.

In a first step, we determine the available data. Then, in the second step, we exploit these data :

- to model the user’s behaviors
- to recommend the appropriate resources
- to perform services personalization.

To perform our study, we assume that the formalization of the formal and informal learning by the students can facilitate their process of professional development. Furthermore, the availability of the web-service (ePortfolio) is an important way to enhance their visibility at a regional level.

The experiment is lead on two sets of students (about 100 students) chosen from the four universities in Lorraine :

- one set containing students from higher education (Bachelor and Master degrees)
- one set containing students from the continuing education institution.

The strength of our work is based on a multidisciplinary approach including two main axis :

- Educational sciences which provide the analysis of the formalization of the competencies ;
- Computer sciences which bring the necessary theoretical backgrounds for uses modeling and the recommending strategy.

Our organization gives us the possibility to cover all the landscape of the uses to have outcomes which will have significant impacts on the modernization of the services for the professional insertion of the students.

We will present our organization and we will detail our methodology and the chosen approaches to achieve the wide deployment (in the higher education institutions and the continuing education institutions) at a regional level of this ePortfolio.
How Can We Make Large-scale ePortfolio Implementations Work?

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This workshop is for those interested in learning from the experiences of the ePI study that has explored large-scale ePortfolio implementations. Ideally participants should be involved in implementation themselves and/or supporting others with this.

Although there are various instances of large-scale implementations of ePortfolios by Further and Higher Education institutions and professional organisations, knowledge of the specifics of their implementation journeys remains relatively unshared and unanalysed. To capture the lessons learnt the Joint Information Systems Committee (JISC) funded the ePortfolio Implementations (ePI) study from August 2010 to May 2011.

The study sought to:

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

The twenty institutions from the UK, New Zealand and Australia within the ePI study have collaborated within a wiki to develop implementation case studies. These have identified institutional drivers, strategies and implementation processes.

Participants will be provided with an opportunity to:

- Understand the ePI study context in relation to the wider range of JISC funded projects;
- Engage with the outcomes of the study, in particular the lessons learnt about large scale implementations;
- Explore the latest outputs from the study designed to support ePortfolio implementation;
- Engage in a dialogue with people with shared interests in and diverse experiences of ePortfolio implementation.

The approach used will be a mixture of presentation, small group activities and whole group discussion. Participants will not only have the opportunity to be some of the first to engage with the outputs from this study but will contribute to an understanding of how these can best be used to support institutions in their own implementation journeys.
Campus Wide, Self-funded, ePortfolio Implementations with WordPress & Buddy Press

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Many post-secondary institutions are moving from pilot ePortfolio programs to full scale, campus-wide implementations. With this comes added complexity and potentially added cost that may be beyond traditional grant funding for smaller initiatives. This presentation will share the experiences of Capilano University, located in North Vancouver, British Columbia, Canada of how they implemented a WordPress-based campus wide ePortfolio program and the plan to turn it into a self-funding program via an ongoing partnership with local industry.

Issues that will be discussed include how the open source WordPress platform can be used for high quality, low cost, campus-wide ePortfolio implementations; how faculty and student support models can be scaled up for larger ePortfolio programs using online support forums and social networks; strategies for getting students and faculty on board with your school’s ePortfolio program; how ePortfolio programs can be set up so that students want to continue to use their ePortfolio after they graduate; and how creative industry partnerships can turn ePortfolio programs from being cost centres to be self-supporting or even revenue generators for schools.

The presentation will also discuss how ePortfolios can be a core tool in an integrated, lifelong, open learning system that bridges traditional "learning silos" as an alternative to the traditional learning management approach.

Finally, this presentation will show how a campus-wide ePortfolio program can be one of the most effective pedagogy improvements that a school can embrace.

Specific Outcomes

Attendees will gain an understanding of:

1. How WordPress can be used for campus-wide ePortfolio implementations
2. How faculty and student support models can be scaled up for larger ePortfolio programs using online support forums and social networks.
3. How creative industry partnerships can turn ePortfolio programs from being cost centres to be self-supporting or even revenue generators for schools
4. Strategies for getting students and faculty on board with your school’s ePortfolio program
5. How a customized faculty ePortfolio can be used in addition to or as an alternative to a traditional learning management system
6. How to develop an ePortfolio program so that students continue to use their ePortfolio after they graduate (i.e. for lifelong learning).
7. How a campus-wide ePortfolio program can dramatically improve a school’s overall pedagogy.

This presentation will be of special interest to ePortfolio “champions”, i.e. those that have launched ePortfolio pilot programs and now wish to scale up their programs across their institutions. It will also be of interest to senior administrators, academic technologists that are involved with funding or supporting ePortfolio programs. Finally, it will be of interest to faculty members that want a more integrated approach to ePortfolios so that ePortfolios are part of the overall learning approach and not seen as a separate tool.
Money Makes The World Go Round? Evaluating the Return on Investment of ePortfolio

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Background
In the current economic climate many senior managers will be asking key questions about ePortfolios such as what is the return on investment from ePortfolios and why should I invest in an ePortfolio system for my department?

Calculating the return on investment (ROI) on any learning product is however problematic. A cost benefit analysis will provide managers with an indication of the cost of the product, it’s licensing fees and any support cost against savings made in other areas such as reductions in paper, staff time and administration costs. However these savings fail to take into account other benefits which are more difficult to attach a monetary value to: For example in the case of ePortfolios benefits could include, facilitation of reflective learning, preparation for employment, quicker provision of feedback and increases in student achievement.

It is clear that there needs to be an integrated method of calculating the ROI of ePortfolio products which incorporates both tangible and intangible outcomes and considers the value of value from the point of view of all key stakeholders e.g. students, tutors, employers, senior managers.

Objectives
This research paper will aim to present the findings from a small scale qualitative study, based on interviews with senior managers in higher education with budgetary responsibility for ePortfolios, asking the question, which factors would you look for on a return on investment report into ePortfolio usage in your institution?

The findings of the investigation will be used to understand the priorities of senior managers when making decisions centred on the funding of ePortfolio products and will also inform the development of a ROI toolkit. It is hoped this toolkit can be developed further and used across the sector to enable targeted evaluation of ePortfolio usage.

It is the aim of the researchers to present generalisable findings which can be applied across all subject areas and institutions.

Methodology
The research will take place during April and will utilise contacts from the existing Assessment and Learning in Practice Settings (ALPS) partnership who were provided with an ePortfolio to facilitate student learning on health and social care courses. The research will gather managers’ thoughts both on this ePortfolio and their own institutional tool, if one exists.

Structured interviews will take place with key decision makers across the five institutions of the partnership and will be analysed using grounded methods to develop an understanding of the factors which influence the decision making process of ePortfolio procurement or continued use.

We will draw on existing ROI methodologies, such as the ROI academy’s Performance Pound Model, and consider the advantages and limitations of these models when used in relation to ePortfolios.

Recommendations
The development of the ROI ePortfolio toolkit will enable educators to:
Understand the perceptions of ePortfolio usage from a management viewpoint
Target their evaluation of ePortfolio usage to match the requirements of the wider funding landscape
Formulate research questions based on the criteria of funding mechanisms
Provide a shareable mechanism for calculating the ROI of ePortfolio products and implementation
Large Scale ePortfolio Implementations – Introducing the ePI Research Study

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Although there are various instances of large-scale implementations of ePortfolios by Further and Higher Education institutions and professional organisations, knowledge of the specifics of their implementation journeys remains relatively unshared and unanalysed. To capture the lessons learnt and to inform future implementations at institutional level in FE and HE in the UK, the Joint Information Systems Committee (JISC) funded the ePortfolio Implementations (ePI) study from August 2010 to May 2011. The twenty institutions from the UK, New Zealand and Australia within the ePI study have collaborated within a wiki to develop implementation case studies. These have identified institutional drivers, strategies and implementation processes. Five threshold concepts associated with ePortfolio implementation have been identified by Joyes, Gray and Hartnell-Young (2010). These are outlined below together with some associated key implementation issues as seen from a practitioner and institutional perspective that arise from the study.

**Threshold concept: Purpose needs to be aligned to context to maximise benefits.**

Practitioner implementation issue: Purposes seem almost endless and so choosing where in the learning process and when to implement an ePortfolio can seem confusing.

Institutional implementation issue: There can seem a tension surrounding the purposes associated with use within an institution, i.e., ePortfolios that map and evidence competence, ones that have a personal development planning function, ones that are CV orientated. How can these all be effectively supported? Which stakeholders are/need to be involved? Which technologies need to be made available? Is there, or should there be, an institutional purpose?

**Threshold concept: Learning activity needs to be designed to suit the purpose.**

Practitioner implementation issue: Familiarity with the ePortfolio tool is required in order to understand how this can support the learning activity.

Institutional implementation issues: Professional development opportunities are needed for staff in relation to the learning activities that can be supported by ePortfolio tools.

**Threshold concept: Processes need to be supported technologically and pedagogically.**

Practitioner implementation issue: What is required for processes such as reflection and presentation vary across courses and so there is a need for course specific support. An ePortfolio tool or central support is unlikely to offer all of this.

Institutional implementation issue: There are efficiency and enhancement gains to be had from sharing practice on supporting processes within schools. Efficiency gains can be made by offering some central support for ePortfolios. How are these best achieved?

**Threshold concept: Ownership needs to be student centred.**

Practitioner implementation issue: There is a need for the learner to access information to support the learning activity and understand the expected learning outcomes, but the ePortfolio in process needs to be private to the individual learner. How can the learner understand the value of the learner centred part of this process until they have experience of it?

Institutional implementation issue: ePortfolio use by individuals and who they choose to share this with ‘cannot’ be monitored except for when they choose to share with staff.

**Threshold concept: Transformation (disruption) needs to be planned for.**

Practitioner implementation issue: The implications of use of the ePortfolio in this context and its benefits are unlikely to be fully understood by others outside of this context.

Institutional implementation issue: Individuals involved in using/supporting ePortfolios across a range of purposes are in a unique position to support implementation, i.e., support and guide a range of staff including senior managers who are unlikely to have experience of ePortfolios themselves. How can an institution make best use of this expertise?
As implementation is contextually and temporally bound the ePI study necessarily found a number of different journeys to developing effective practice. However there are similarities across the different journeys that relate to the ways the threshold concepts have been addressed that indicate the process is a middle through one with a central unit and person/s championing use. This involves the use of pilots supported by internal and very often external funding to develop and share expertise with examples of student ePortfolios and their ‘voices’ promoting wider use. The process has tended not to involve formal evaluation and so evidence of tangible benefits, for example in relation to retention and progression has not been carried out. Issues arise in relation to the need for full stakeholder engagement, engagement with senior managers and a holistic view of the student experience into, through and out of the institution. The paper will present the ePI study outcomes that will inform the outputs being designed to support those engaged in large-scale implementations.
IDENTITIES
Graduate Student Identity in Engineering and Education: The creation of an identity construct

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Abstract
Engineering and education faculty must balance multiple roles in their profession, including roles as teachers, researchers, and lifelong learners. However, it is unclear how graduate students perceive and prepare for those roles. In order to better understand graduate students’ views of their current and potential future roles, we created a survey to measure student identities in engineering and education graduate programs. This paper describes the framework of role identity theory and the methods used to create a reliable and valid survey instrument. Results indicate that the current teaching experiences of engineering and education graduate students weakly align with their perceived future roles as teachers, both in terms of roles they desire and roles they think will be expected of them. Combined with electronic portfolio implementations, this instrument will be a useful tool for assessing impacts of reflective portfolio practices on professional development and identity.

Background
Like many graduate students and early career faculty, engineering graduate students are faced with the challenge of balancing their roles as researchers, teachers, and students. Although professional development in teaching and learning is critical in academia, the typical approach to engineering education, for example, is still based on personal experience with little or no reference to research on learning. Thus, the future professoriate often struggle to balance roles. A large-scale project has been initiated to use electronic portfolios to help engineering doctoral students achieve the interdisciplinary goal of developing balanced professional engineering identities as teachers, researchers, and lifelong learners.

This paper describes the development of the overarching construct used in a survey to measure students’ identities in engineering and education, specifically looking at the roles of teacher, researcher, and lifelong learner. Engineering students were chosen for the study because they are often seen as researchers and because they are the target population for the larger study that will employ reflection practices during electronic portfolio development. Education graduate students were chosen because they are often seen as teachers and provide a differing perspective compared to engineering graduate students. Following this phase of the large-scale project, the survey will be revised and incorporated as a yearly benchmark measurement with interviews and evidence such as classroom assignments, writing samples, and other materials from graduate student teaching electronic portfolios.

Objective
The professional identity construct in this survey is intended to map the identity of graduate students in terms of their actual roles today, their desired roles today, and what they perceive is expected of them today. It also aims to capture student perceptions of their future roles with regard to what they want to be doing and what they believe will be expected of them in their profession. For the today and future settings, the roles of teacher, researcher, and lifelong learner were the focus. The survey was initially developed to obtain data to answer the following research question: How do graduate students weight role identities, including those of a researcher, teacher and life-long learner, in terms of their current and future actual roles, expected roles, and desired roles? This paper specifically looks at the relationships between the different roles to understand how the survey was measuring differences between current and future roles and the differences between engineering and education graduate students in terms of their role alignment. Results of interest within the two disciplines were also explored to better understand the nuances of the graduate students’ views in the two fields.

Literature Review
Current research in engineering education often examines identity qualitatively, focusing on identity development at the undergraduate level, especially during the freshman year [e.g., 1, 2]. Many
articles related to identity development in engineering explore topics such as recruitment and retention [e.g., 3] and motivation [e.g., 4]. Examining literature beyond engineering education, some research on professional development in terms of identity can be found [e.g., 5], but little to no work on the professional identity development of engineering graduate students has been completed, especially when considering the role of a teacher.

For the survey, we were interested in three roles: researcher, teacher, and lifelong learner. Outside of engineering, various researchers have studied these roles separately. For the researcher component, Harrison [6] examined graduate students' identity development in counseling, where he studied his own personal development from a student to a researcher. Blair and Monske [7] used electronic portfolios to research the professional identity development of English students. They found that electronic portfolios assist students in developing a reflective view of themselves as professionals. For the teacher component, researchers such as Olsen [8] have examined the transition to becoming a teacher with English students while Jarvis-Selinger, Pratt, and Collins [5] examined the transition from student to teacher focusing on commitment to teaching. Other researchers have used the notion of possible-selves to examine the transition from student to teacher [9]. In terms of the lifelong learning and identity research, the research to date spans a wide range, from lifelong learning pedagogies in K-12 education to adult learners and learning in the workplace to graduate student education [e.g., 10, 11]. All of these past works help to better understand the various roles of interest in this study, but more work is still needed to understand the role of graduate students in engineering specifically with regard to their views on being teachers.

In the literature, a gap still exists relating to how engineering graduate students, or students in technical fields, view the ways in which various roles make up their professional identity. In the large-scale research project involving electronic portfolios and reflective practice, this survey will fill a gap in the literature by taking a mixed methods approach to understanding the identity development of graduate students in engineering. This specific paper will report on evaluating the survey tool's ability to measure the construct of professional identity as defined in this paper, and it will also add to the literature on the professional development of engineering and education students by examining the relationship between how students see their current and future roles.

**Theoretical Framework**

Many studies in engineering education have used Gee's [12] identity model, which proposes that identity can be viewed through a number of lenses: natural (a state), institutional (a position), discourse (an individual trait), and affinity (experiences) [e.g., 13, 14]. For this work, we are concerned with the various role dimensions of an individual's professional identity, so Ashforth's [15] model is more applicable. This theory suggests that at any one moment a person holds a certain identity that is composed of multiple roles and that there are often transitions between roles that can be challenging to individuals. According to Ashforth [15], "a role is defined simply as a position in a social structure" (p. 4), but this position is complex and encompasses the "goals, values, beliefs, norms, interaction styles, and time horizons that are typically associated with a role" (p. 6). Most of Ashforth's work is based in industry, and it has been used as a framework for studies related to business and business students [16-18], but given the organizational structure of academia, it is still applicable and appropriate for our work.

Ultimately in this study, we will examine role identities with the examination of the electronic portfolios. The larger-scale project will specifically look at both the macro role transitions in which students prepare to move from students to professionals and the micro role transitions in which students position themselves in various roles day-to-day [15]. Students will use electronic portfolios to publicly showcase their work, and researchers will observe their identity development as it occurs during this process through the review of multiple portfolio artifacts. The survey developed for this research measures the balance between the roles so that the transitions and shifts between roles can be better understood and, in a triangulated design method, linked to the impact of portfolio use on professional identity construction.

**Methods**

The construct of the survey was developed through a systematic and iterative refinement process. The steps involved choosing an appropriate theoretical framework, defining the construct, reviewing survey items with experts, selecting an appropriate population to validate the tool, and analyzing the results through a confirmatory factor analysis followed by an analysis of the results using simple correlations.
Role identity theory guided this work, with the survey measuring the multiple roles of graduate students in engineering and education fields as teachers, researchers, and lifelong learners. Students and faculty hold multiple roles during their academic careers, with varying degrees of priority. In the traditional sense, faculty members are required to teach, research, and provide service. Likewise, graduate students are often required to teach and conduct research, but they are also students; thus, we adopted lifelong learner as a role that encompasses roles as students and beyond. The service component to being a faculty member was omitted from the survey because we wanted the participants to focus on certain roles, not all the roles they hold. We did include an open-ended question in our survey that allowed participants to comment on other roles they have and feel are important to their identity. These results may be incorporated into future work, but it should be noted that most students felt the survey covered their major everyday roles in academia today and future professions. In order to learn more about the relationships between graduate and professional experiences, we created questions that asked students to reflect on roles they currently hold, roles they desire to hold, and roles that they think they are expected to fill.

The overall identity construct was composed of 15 dimensions. Table 1 summarizes the 15 dimensions that were studied. These dimensions were chosen to measure each role and to also see the alignment between what students are currently doing and what they believe they will be doing in their future professions. A set of questions was asked in the survey to address each of the dimensions separately. The alignment concerns of roles over time can be seen by the three roles that appear consistently in every category.

Table 1: Dimensions of the Identity Construct

<table>
<thead>
<tr>
<th>Actual Role</th>
<th>Current</th>
<th>Desired Role</th>
<th>Expected Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>Teacher</td>
<td>Teacher</td>
<td>Teacher</td>
</tr>
<tr>
<td>Researcher</td>
<td>Researcher</td>
<td>Researcher</td>
<td>Researcher</td>
</tr>
<tr>
<td>Lifelong Learner</td>
<td>Lifelong Learner</td>
<td>Lifelong Learner</td>
<td>Lifelong Learner</td>
</tr>
</tbody>
</table>

Three experts were chosen to review the survey items. The first was an expert in survey development and construction. The second was an expert in identity research. Finally, the third expert specialized in overall research evaluation. These individuals help to ensure construct validity with the survey by evaluating the items for word choice and consistency.

The survey was then distributed to five individuals, graduate students or recent graduates of graduate programs outside of the pilot population, who understood the roles of graduate students in either technical or education related fields. These individuals also helped to ensure construct validity and consistency. They also reviewed the survey for timing concerns.

Finally, the survey was distributed to a pilot population of approximately 2225 that consisted of graduate students both in engineering (1775 students) and education (450 students). Once the survey was distributed to the target population and the results were collected, a confirmatory factor analysis was performed on the 15 dimensions of the construct to understand how the various dimensions interact. However, the confirmatory factor analysis produced non-conclusive results when the analysis was run on multiple scenarios, so the various dimensions were compared using simple correlations to better understand the differences between current and future roles and the differences between engineering and education students. Ultimately, the results of the study and the analysis presented in this paper will be used to revise the survey so it can be paired with the electronic portfolio data to triangulate findings about graduate student identity development.

Results

The final version of the survey used in this study was based on the recommendations of the experts and test group. It consisted of 15 dimensions shown in Table 1 and included 60 items (four for each dimension) related to the dimensions along with demographic questions. Sample questions that were used in the survey can be found in the Appendix. Each identity dimension question was measured on a Likert-type scale with seven choices (1-strongly disagree, 2-disagree, 3-somewhat disagree, 4-neutral, 5-somewhat agree, 6-agree, 7-strongly agree). The survey was administered to approximately 2225 students and 357 usable surveys were received which results in a return rate of approximately 16%. The only data cleaning that was done addressed missing cases and removed surveys that were not finished. The next step in the analysis process involved running a reliability analysis of the four questions per dimension. Table 2 shows the Cronbach’s alpha levels for the 15
dimensions as determined by SPSS. The levels ranged from 0.63 to 0.96 indicating that all of the
dimensions are measuring within an acceptable range or better [19]. After the reliability analysis, the
items were averaged to generate a general item per dimension per discipline which is shown in
Table 3.

Table 2: Cronbach’s Alpha Levels

<table>
<thead>
<tr>
<th>Identity</th>
<th>Current Actual</th>
<th>Future Desired</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T</td>
<td>R</td>
</tr>
<tr>
<td>Teacher</td>
<td>Mean</td>
<td>5.63</td>
</tr>
<tr>
<td>Researcher</td>
<td>T</td>
<td>4.76</td>
</tr>
<tr>
<td>Lifelong Learner</td>
<td>T</td>
<td>4.24</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>6.00</td>
</tr>
</tbody>
</table>

Once the general dimensions were created, a simple Pearson’s correlation was taken using SPSS
between the current actual role dimension and all of the other dimensions to discover if there were
any relationships between the various identity components. This was done for both engineering and
education students separately so that trends within and between disciplines could be observed.
Table 3 is the correlation matrix that was developed for education and engineering students. All of
the highlighted correlations in the table are significant. The correlations of current actual lifelong
learner with future desired lifelong learner and with future expected lifelong learner for both
education and engineering students are the only correlations between similar roles (e.g., teacher vs.
teacher) that were not significant.

Table 3: Correlation Matrix for Education and Engineering Students

<table>
<thead>
<tr>
<th>Education</th>
<th>Current Actual</th>
<th>Engineering</th>
<th>Current Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T</td>
<td>R</td>
<td>LL</td>
</tr>
<tr>
<td>Teacher</td>
<td>Mean</td>
<td>5.63</td>
<td>4.70</td>
</tr>
<tr>
<td>Researcher</td>
<td>T</td>
<td>4.76</td>
<td>-0.07</td>
</tr>
<tr>
<td>Lifelong Learner</td>
<td>T</td>
<td>4.24</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>T</td>
<td>6.00</td>
<td>0.45</td>
</tr>
</tbody>
</table>

The results of this study will serve as a starting point for revisions to the survey before it is sent out to a
larger sample of graduate students and prior to it being paired with interview and portfolio data for the
large-scale study.

Discussion

The results of this study show that there is indeed a weak alignment between the current actual role of
students and what they perceive they will be doing in their future profession. For education
students the weakest alignment is between the current actual role and the future desired role as a
teacher ($r = 0.41$). For engineering students, the weakest alignment is also between the current
actual role and the future desired role as a teacher ($r = 0.31$). These results support the notion that
programmatic reform of graduate education is needed to increase alignment between current and
future roles, especially with regard to the role of being a teacher so that a better balance between the
roles can be obtained.

Table 3 shows information regarding the average scores for each of the identity dimensions along
with the correlations between the current actual role and the other identity dimensions. The
statistically significant correlations of concern are highlighted. The other correlations also provide
interesting results, but are across the roles of teacher, research, and lifelong learner which require
unique interpretations. As mentioned previously, each question was measured on a Likert-type scale
with seven choices (1-strongly disagree, 2-disagree, 3-somewhat disagree, 4-neutral, 5-somewhat agree, 6-agree, 7-strongly agree).

When reviewing Table 3, information related to the average scores per discipline can be found along with relationships between current and future roles and across fields. For example, the average response for engineering students in terms of their current role as a researcher was 5.66 which means they "somewhat agree" to "agree" that being a researcher is part of their current role. When looking at the correlations, there is a correlation of 0.80 between their current actual role as a teacher and their current expected role as a teacher. Considering the means, engineering students scored their current actual role as a teacher as 2.81 (disagree to somewhat disagree) and their current expected role as a teacher as 3.01 (somewhat disagree). This can be interpreted to mean that their current role aligns well with what they believe is expected of them today. Looking at the correlation for current actual role as a teacher and future desired role as a teacher, the correlation is much weaker ($r = 0.31$). The mean for current actual teacher is 2.81 (disagree to somewhat disagree) while the mean for future desired teacher is 4.58 (neutral to somewhat agree). This is an area for concern. There is currently a mismatch in alignment between what students are currently doing and what they want to be doing in the future. Similar trends can be found for engineering students in terms of their future expected role as a teacher, and future roles as researchers. Education students show similar trends for these roles as well.

Interesting results can also be seen when engineering students are compared to education students. For example, when exploring the relationship between the current actual role and the current desired role for lifelong learner, we see that education students show a higher correlation ($r = 0.70$) compared to engineering students ($r = 0.39$). This demonstrates that engineering students have a weaker alignment between what they are doing today as a student and the learning they will be doing in the future compared to education students. In terms of the lifelong learner items, it should also be noted that both of the future roles for engineering and education students produced non-significant results when correlated with their current actual roles as lifelong learners. Upon reflection of the data, this could be due to the survey instrument itself. When discussing the role of students as lifelong learner today, the term "student" was used. When discussing lifelong learner in the future, the term "lifelong learner" was used. When the survey was developed, we hoped these roles would be parallel and viewed in similar ways, but based on the results there could be distinct differences between the definitions of these terms for the students in the study. This is one possible reason for the non-significant correlations. Further work on the lifelong learner items is needed to truly understand students’ perspectives on these roles.

These initial results indicate that both education and engineering students may benefit from enhanced experiences in teaching and/or programmatic support of teaching roles and activities. Also efforts to achieve better alignment in general are needed. For our purposes, portfolio projects in which students present artifacts such as teaching statements, course development, assessment work, and teaching evaluations may hold promise in helping students build and embrace roles as teachers today and in their future careers.

Limitations and Future Work

This work was conducted with a population of students from one research-focused university in the southeastern United States so the results cannot be expanded much beyond that population or similar populations. Also the intent of this survey is for it to be paired with portfolio artifacts to better understand identity development and construction so while the tool may be used for other intentions, further validation and reliability analyses will be needed in different settings. Once these results are paired with electronic portfolio artifacts a better picture of students’ identities and identity development will be obtained.

Future work for this study could take many forms including expanding the sample population, including other majors, and testing the survey at other universities. For the purposes of this study, the survey will be paired with electronic portfolio artifacts to strengthen claims about identity development in engineering students. Also future work will include an in depth investigation of the lifelong learner role which will result in modifications to the survey so that it can serve as a measurement tool in the large-scale study.

Conclusions

All graduate students are faced with balancing their roles as researchers, teachers, and students, and this phase of professional development is a precursor to their identities as collegiate faculty. The emphasis placed on certain roles changes over time, and actual, expected, and desired roles
are often at odds. Our future work seeks to help students construct robust professional identities through electronic portfolio use, and the survey instrument discussed here will provide a quantitative data point for each year of the longitudinal study. This project ensures that the quantitative tool developed to measure the construct of professional identity is valid and reliable and will provide dependable benchmarks throughout the study. The results gathered from this yearly benchmark survey will be paired with qualitative data from teaching portfolios and interviews to provide useful triangulated results. The findings of the large-scale study will ultimately afford better understanding of how portfolios can be used to help students reflectively construct professional identities by providing details about how students view their identities in graduate school and how those identities change as they move closer towards graduation and becoming active members of their professional communities.

References


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Appendix

Individual Roles Sample Questions

Students were asked similar questions to the ones presented below for each dimension, for each role. Presented below is one set of questions for one role which is meant to serve as a sample. Similar questions to the ones presented were asked for each role in the corresponding dimension in the actual survey.

To what extent do you agree or disagree with the following statements?

Current Actual Role
Teacher
I am currently a teacher
I spend most of my academic time teaching
My peers see me as a teacher
My main responsibility this semester is to teach

Current Desired Role
Researcher
I am passionate about research
If possible, I would like to spend more of my academic time researching
I am happy with the amount of responsibility I have researching

If I were to describe myself with one of the following words, teacher, researcher or student, I would prefer researcher

Current Expected Role
Lifelong Learner
Part of my yearly evaluation includes reporting my academic activities such as grades, courses completed, etc.
Others (faculty advisor, department, etc.) believe my current responsibility is to learn
Currently, I am funded to be a student
It is expected that I spend most of my time on coursework

Future Desired Role
Teacher
In the future, I hope to spend most of my time teaching
When looking for a job, I will seek a position that prioritizes teaching
An important component of my future job will be teaching. In the future, I want to be like faculty that spend a lot of time on teaching.

Future Expected Role

Researcher

In the future, others will expect that I spend most of my time researching. In my future field, most people will work as researchers. Most of the positions that will be available to me are for researchers. Criteria for promotion and tenure in my field will require research.
Safe enough to dare: developing student and tutor digital identities through engagement with ePortfolios

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Abstract
This paper seeks to outline how two tutors, one on an undergraduate Therapeutic Arts course (Tutor A) and the other on a postgraduate Leadership Coaching course (Tutor B), worked collaboratively with a learning technologist to embed ePortfolios into the curricular structures of their respective programmes at the University of Derby (UoD). This was done in order to provide learners with a safe space in which to keep a record of achievements, track personal progress and reflect upon their development as learners (Phillips, 2005). The authors will illustrate how ePortfolios were employed to encourage learners to view their learning as an ongoing process existing beyond the boundaries of the classroom. They will also highlight how collectively they created a safe and supportive learning ecology (Cobb et al, 2003) within which to explore the full potential of their chosen ePortfolio before making it available to their learners.

Collaborative activities which grew out of this project allowed everyone involved to explore further how ePortfolios can be used to support a myriad of learning activities. Creating such a space has been invaluable in helping to provide the tutors with a secure and familiar environment within which to develop the requisite digital skills needed to support their learners. It has afforded the tutors with opportunities to create their own digital identities in tandem with their learners. Most importantly, however, it has provided them with a supportive environment in which they felt safe enough to take risks. As a result of working on this project, they are now embracing the potential that other technologies might provide them in order to support their teaching. While both tutors started this project with divergent needs, they soon discovered that they had a lot in common, particularly with regards to their perceived notions of themselves as technology users and what they wanted out of the experience.

Background
The authors chose to use ePortfolios for their ability to capture the processes and products of learning for reflective and evaluative purposes (Hartnell-Young et al 2007, Lorenzo and Ittleson 2005, JISC 2009 and JISC 2010). They also felt that they provided users with access to an online space in which to take a more active and personalised role in how, when and where they learn. As a multimedia platform, it was felt that they could support a range of learner-generated content which reflect the increasingly multimodal and multiliterate nature of modern communication (NLG 1996, Kress 2004, Williamson 2005 & Jewitt 2008).

As a learning platform, ePortfolios can offer much more than a storage space for evidence of skills, knowledge and achievements. Their effective use has the potential to contribute considerably to the quality of learning, personal development and experience. As users come to make their values, attributes, competence and strengths more explicit, they help to facilitate a reflective transformational journey. The authors seek to illustrate how this was realised at course level in their respective teaching contexts.

While the authors discuss the learner feeling safe enough to access their learning power, for the academic the speed of change and adaptability required for implementation of Technology Enhanced Learning (TEL) can be a similar daunting journey too. To ensure success there is a need to remain curious, develop critical curiosity, make meaning and have a strategic awareness (UoB, 2011). For both academics and learners to embrace the challenges new technologies can often pose, adequate and appropriate support structures need to be in place. Without them, there is a risk that those asked to engage with platforms such as ePortfolios may not reach out and grow.

Part of the tutors’ own orientation focused on creating collaborative spaces in which they could share experiences and insights into localised implementation of ePortfolio practice. Bringing the practitioners together in this way, helped to diminish the rigid inter-departmental boundaries that are known to create silos within HEIs (Nelson, 2005). Their collective experience acknowledges claims by Moshe Barak (2006) that for anything of significance to happen institutionally, tutors need to be closely involved in how technologies are used to shape curricular activities. It is important to
emphasise that both tutors and learners must feel supported and “safe enough to dare” (Maslow, 1972; cited in Knowles 2005, p49).

For the learner, orientation to and evaluation of practice can be a key to meeting and demonstrating professional and ethical standards and other quality benchmarks. At academic programme level it seems for some there is a challenge with ePortfolios of overcoming held beliefs which position their thinking towards a ‘done to’ rather than ‘done for’ mentality. Many learners bring with them varying degrees of curiosity when exploring what ePortfolios offer, embracing opportunities to challenge their own values, beliefs and assumptions. However, some may feel more comfortable in subject specific learning and if moved beyond their comfort zone, may regress (Boud et al, 1985) and the “structure and organisation of self may appear to become more rigid under threat” (Rogers cited in Knowles 2005, p47).

By adopting a more andragogical model of education, the authors enabled learners to “discover for themselves the gaps between where they are now and where they want to be” (Knowles 2005, p65). This was particularly important when considering themes such as employability and encouraging learners to proactively position themselves in readiness for future opportunities (Senge 1990 cited in Smith, 2001)

The authors demonstrate how they created a collaborative working environment in which to explore their creative, academic and technological identities. They illustrate how having access to such a space helped them to construct scaffolding with which to support students as they embarked on similar journeys of discovery.

Rationalising the integration of ePortfolios
When considering how technology might support the activities of their learners, both tutors wanted an application which enabled learners to reflect deeply at every stage of their learning, contemplating the importance of both affective as well as cognitive factors. There was a real desire to provide learners with a safe space in which to explore different identities; question assumptions about previously held beliefs and reflect on their learning experiences. It was believed that ePortfolios provided them with a secure environment in which to take ownership of the above processes so as to create a sense of their own learning narrative and identity. This approach to learning acknowledges the importance of key considerations for the creation of personalised learning spaces outlined in the DfES (2005) report, ‘Learning Platforms: Secondary.’ The report stresses the importance of providing learners with opportunities to move beyond traditional learning environments in order to draw on a multitude of skills. Enabling learners to seek out opportunities to learn across settings, instils within them a sense of autonomy and responsibility for their own learning (Walsh, 2007).

Tutor A’s motivation for using ePortfolios
Tutor A at the time of implementing this project was programme leader for the BA (Hons) Creative Expressive Therapies degree. Prior to her engagement with PebblePad she had had little experience of using technology as such a central part of her teaching. After using a paper-based portfolio on a second year Personal Development Planning (PDP) module, a decision was made to explore the potential ePortfolios might provide in a range of areas. The module, developed in conjunction with the Career Development Centre at the UoD, had been in existence for 10 years. The module was established in the light of the observation that students did not recognise their many skills or that they were the very skills employers were looking for. The module aimed to enable learners to acknowledge their skills and help them realise their full potential not only in terms of employment, but as lifelong and reflective learners.

Her motivation to adopt an ePortfolio model of assessment was precipitated by the need to move beyond the paper-based portfolio. She acknowledges that this has presented her and her students with many challenges, but has been a worthwhile venture. Tutor A recognises that having a collaborative learning environment in which to develop the skills needed to assist her learners has been invaluable. She sees having a supportive learning technology team such as the one at the UoD as a pre-requisite for any tutor wishing to introduce ePortfolios at module and/or programme level. For her, it has helped her develop the skills and knowledge necessary to encourage her learners to feel safe enough to take risks using technologies. While the module already encouraged students to enter a ‘liminal’ space where the learner may ‘oscillate between old and emergent understanding’ (Cousins 2006), the use of ePortfolios has extended the possibilities in this area even further. Learners have been provided with an institutionally-mediated personal learning space in which to explore the creation of and establish an e-Presence. Tutor A feels it is vitally important for
Higher Education Institutions (HEIs) to make such opportunities available to learners given that the world of employment and recruitment is becoming increasingly digitalised.

**Tutor B's motivation for using ePortfolios**

As programme leader on the MA Leadership Coaching programme, Tutor B sought an e-Solution which provided learners with opportunities to align their achievements and outputs with business coaching related industry developments. She also felt it necessary to make available a platform which enabled learners to meet higher education quality benchmarks and standards as well as programme aims and learning outcomes. Ultimately, however, she wanted to implement a technology which supported and encouraged learners to take more ownership of their learning activities, rather than waiting for things to be done for them. Through a series of meetings with a learning technologist in the Centre for Learning and Teaching (CeLT) as well as hearing learner testimonies, she decided to go down the ePortfolio route.

For Tutor B, the academic experience of engaging with ePortfolios was has been a journey of personal development and enlightenment. With the support of a Learning Technologist, she has found the courage to explore unknown territories and look for new opportunities with which to enable her to overcome self-limiting beliefs. Working collaboratively within the learning community has enabled her to share practice, ideas, and solve problems. It also provide a space in which encouraged collective and individual creative activities in order to develop new practices. Tutor B feels this has been invaluable in providing a space to build the foundations of a learning environment with the ePortfolio-based learning activities at the very heart of it.

**Creating and exploring digital identities**

Siemens (2004) and Owen et al (2006) argue that as the nature of learning changes more and more we are preparing learners for life in a digital knowledge society. Therefore, HEIs need to provide them with opportunities to develop the digital skills necessary to function as designers, producers and consumers of meaning in a wide range of settings. At a curricular level, this requires creating scaffolded learning environments that support a range of different abilities and perceptions learners have of themselves as technology users. It was felt by the authors that ePortfolios provided learners with the tools necessary to meet these needs and more.

Although the programmes referred to in this paper are achieving different outcomes, integrating the ePortfolio for each has afforded the respective learners opportunities to explore a range of multimodal meaning making activities. In doing this the authors, acknowledged the increasingly multimodal and multi-literate nature of modern communication (NLG 1996, Kress 2005, Williamson 2005 & Jewitt 2008). Providing their learners with opportunities to engage in such activities, has increased the scope they have to explore different identities. Taking this approach has offered opportunities to represent learning using a range of different modalities. In both instances, learners created image-based representations as well as audio-based ones. Both at a conceptual level and in terms of technological features, using an ePortfolio has made these explorative activities possible at a practical level.

**Enhancing employability**

The authors of this paper acknowledge that ePortfolios can facilitate learning activities which allow learners to explore a range of meaning making approaches in a variety of settings. They believe that this increases the potential for the development of multiple skills, literacies and knowledge bases, which in an age of increasing uncertainty with regards to employment enhances learner employability. This is particularly important when encouraging learners to recognise the ‘blurring boundaries of real and virtual, public and private, work and leisure’ (Beetham et al 2009, p3) worlds.

Helping learners develop the skills and agility to navigate their way through the hazy uncertainties of the world of employment is as important as helping them attain the qualifications they came to university to acquire in the first place. If learners are to be encouraged to see learning as a lifelong endeavour, which extends beyond the formal classroom, they should be provided with the tools to support their activities. Conceptually, ePortfolios provide learners with a portable solution which makes identifying the links between key transitional stages in their learning journeys easier. It encourages them to acknowledge that college or university is only a starting point and as members of an increasingly digital global knowledge economy, they will continually have to up-skill in a variety of roles (Beetham et al, 2009).
Challenging perceptions of self as a learner

When adopting an ePortfolio-based approach to supporting learner activities on their respective modules, the tutors hoped that it would engender within their learners a notion of learning as being something that was done by them rather than for them. Both academics felt that this was vitally important in order to encourage their learners to reflect, challenge and question their perceptions of themselves as learners. However, they understood that such changes in how learners perceived themselves could have been unsettling. Consequently, they made sure channels of communication were left open at every stage to ease any worries the learners may have had to 'hold their students though liminal states' (Cousins 2006 p 5).

Such an approach, acknowledges that how we perceive ourselves as learners will have much to do with the cultural norms and values of the sponsoring cultures which shape the formal educational settings in which we learn (Bruner, 1996). Therefore, any changes which are introduced challenging such notions need to be rationalised so as to make transparent to learners their perceived benefits. The tutors recognised that our beliefs and attitudes as learners are shaped by the everyday rituals and activities we encounter in the classroom. For many, the teacher/tutor is still seen to be the omniscient transmitter of knowledge (Bruner, 1996), even when more socio-cultural approaches to learning are adopted to encourage more learner-centred approaches to learning.

The role of technology in challenging learners’ perceptions

Due to the virtual nature of ePortfolios, learners need not share the same location as other knowledge-creators in order to profit from their activities. Learners are capable of creating and sharing content across vast spaces with relative ease. Such developments have led to the emergence of the ‘prosumer’, an individual that both produces content and consumes it (Anderson, 2006 & Lee & McLoughlin, 2007). Individuals no longer need to inhabit the same spaces in order to share knowledge. This can be achieved through engagement with learner-generated content (LGC) containing the residual voice of its creator (Daniels, 2007).

Both Tutor A and Tutor B, while being keen to promote the flexibility that working in an online environment provided their learners with, were also mindful of how potentially disorientating such concepts could be for some learners. In order to make the changes as comfortable as possible, face-to-face contact was maintained to balance online learning. Emphasis was placed on the ability of technology to extend the dimensions of the learning environment beyond the physical boundaries of the classroom. The tutors encouraged learners to flit between informal and formal spaces without over emphasising informal learning spaces at the expense of formal ones, which is a challenge institutions face when engaging with technologies, particularly those that are web-based (Selwyn et al, 2008).

Future developments

Both tutors are keen to continue using ePortfolios on their modules and programmes. By speaking to some of their learners, they have identified new ways in which they might be applied. They are particularly keen to explore how ePortfolios might be used to foster more self-sustaining learning environments underpinned by more collaborative approaches. This recognises claims by Facer and Williamson (2002) and Walsh (2007), who state that providing learners with a collaborative environment within which to create meaning helps foster creative processes leading to shared experiences which help them develop constantly as learners.

Conclusion

The authors of this paper acknowledge that when providing learners with the above collaborative opportunities, learners need to regard ePortfolios as legitimate platforms on which to make, negotiate and share meaning. At a higher level, this means institutional and industry endorsement, while on the ground in means buy-in from tutors and support staff. A central theme of this paper has been the need to create learning environments in which both tutors and learners can develop skills and knowledge in tandem. In order to achieve this, however, the requisite support structures need to be in place in order to make the learning journey a productive and enlightening one.

The authors of this paper argue that for tutors to feel comfortable supporting learners, institutions need to be more pro-active in bridging silos so that good practice can be shared among departments. Learners also need to be included in these dialogues in order to identify how best to support them. Such steps would go some way to moving beyond notions of learning spaces existing only at a modular levels, to ones which position them as part of a wider learning landscape.
Creating a collective space of this nature would allow for the sharing of good practice, experiences and feedback and offers the opportunity for both staff and students to explore and reflect on emerging identities.

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Introduction

Now that information and communication technologies such as the Internet, personal computers, and mobile phones are widely used in daily life, our activities in the real world are reflected and becoming more observable through activities in the digital world. For example, social media in the digital world, such as Facebook and Twitter, enable us to document a large portion of our daily lives in the form of text, images, and video in the digital world.

However, the one-way flow of information from the real world to the digital world has introduced a serious identity crisis due to the uncontrollable distribution of information about each of us in the digital world. If we could create a virtual identity to reflect our real identity in a continuously interactive way, we would be able to maintain both identities in the real and digital worlds more consistently and meaningfully. In fact, by becoming more conscious of the digital version of ourselves left behind after our death, we may be motivated to develop a better self in the real world. By continuously seeking our true values to form a virtual identity in the digital world, we can accomplish the personal development required to empower and enrich our quality of life in the real world.

In this paper, we introduce the notion of “Digital Myself” and the development of a virtual identity through the use of Information and Communication Technologies (ICT) to parallel and reflect the self living in the real world. We begin by describing a mirror image model of identity between the digital and real worlds and the realization of that model through extensive observation of an individual’s daily life. Our intent is to create a process of exporting information in an authentic way from the Analog Myself, representing the self in the real world, into the Digital Myself, and vice versa. To offer an example of our initial project plan for creating a Digital Myself out of the complexities of an Analog Myself, we introduce a specific mirror image model based on Japanese learners experiencing aspects of the self through the lenses of English as a second language (ESL) and North America as a second culture.

As we investigate ways to enable large numbers of people to form an enduring Digital Myself providing evidence of their lives in this world, our project will also formalize and address the challenges involved in a process we call Computer Supported Personal Development (CSPD), which is designed to encourage both internal and external authenticity and the development of personal skills that enhance the quality of human life.

Mirror Image Modeling between Digital Myself and Analog Myself

Mirror image modeling seeks to create a nearly identical copy of a specific entity within the context of a different environment. The challenge in realizing such authenticity is to recreate the mirror image entity to be as faithful as possible to the original regardless of the constraints of the new environment. We introduce mirror image modeling as a framework for capturing the essence of the self living in the real world in order to clarify the challenges in creating Digital Myself. The framework depicted in Figure 1 assumes the following four steps in a single circular process: (1) The internal representation that determines the self within a real world context is transformed into an external representation of the self by human output devices (e.g., mouth and hands) based on the internal commands of brain, (2) The external representation of the context-dependent self is recognized through the input devices of Digital Myself (e.g., microphone, keyboard, and camera) directly and/or indirectly (from scattered digital information of the person available in the digital world) to form a mirrored representation of the self, (3) The mirrored representation is exported by output devices (e.g., speaker, screen display, and touch display) in a humanly recognizable way, and (4) The mirrored representation is reconstructed from recognized information using human input devices (e.g., ears and eyes).
Our framework acknowledges that the internal representation of identity is difficult to capture, but the external representation of identity through human output devices is observable. We intend to introduce the statistical processing of a large amount of observable personal data in order to construct a mirrored representation of identity in Digital Myself. In doing so, our most basic and important research questions are as follows: (i) By what criteria does Digital Myself choose external representations of the self from captured internal representations in order to produce digitally observable and storable mirrored representations? (ii) How can we maintain internal, external, and mirrored representations more consistently in order to recreate a mirror image entity that is as faithful as possible to the original regardless of the constraints of the digital environment? and (iii) How do we restrict the context in order to make complex human identity easier to capture so that we can address questions (i) and (ii)?

Social Context of Digital Myself

In this paper, we refer to the process of maintaining internal, external, and mirrored representations of the self as authenticity. Internal authenticity can be defined as the interaction between Analog Myself and Digital Myself and the extent to which the internal representations of Analog Myself match the mirrored representations of Digital Myself. External authenticity refers to how others see us in the real and digital worlds and can be defined as the interactions of Analog Myself and Digital Myself. We are considered to be authentic when others accept us as who we represent ourselves to be. Our external representation is a medium for others to observe aspects of our internal representation.

In order to incorporate the principles of internal and external authenticity into the process of creating Digital Myself, we also need to consider (iv) How can we reflect the authentic self to others in the
real and digital worlds, as shown in Figure 2? When we focus on internal authenticity alone, it can lead to self-absorption, narcissism, and misrepresentation of the self. This very real danger can be mitigated through Computer Supported Personal Development, which will encourage internal authenticity in constructing a Digital Myself and a corresponding Analog Myself through increased consciousness of how we represent ourselves in the real and digital world. At the same time, we hope that by painting an authentic picture of both the real and digital selves, individuals will be motivated to learn to communicate more effectively and live their lives more meaningfully in the real world.

Figure 3: Applying Digital Myself to ESL vocabulary building

Applying Digital Myself to ESL Vocabulary Building in a Second Culture

To address the four challenges (i-iv) described in the previous section, we will explore identity in a second language and culture for Japanese learners in the context of North American culture. Speaking a second language and participating in another culture, even from afar, can provide a dynamic way to experience virtual identity in relation to the real world. This restricted context enables us to use an ESL vocabulary building portfolio as a source of digitally observable internal, external, and mirrored representations in context. Furthermore, in the process of portfolio building, the principles of folio thinking can assist with the transfer of analog information from the real life of an individual into a digital environment.

The term “folio thinking” was coined to describe the effective use of portfolios in specific teaching and learning contexts. Folio thinking asks individuals to uncover the processes of reflection, integration, and social interaction that have transformed them into the people they have come to be. Individual development takes place via a cycle of reflection and action through which we transform the information we receive into knowledge we own. Learning deepens when we organize, integrate, and apply it across contexts. Social interaction with mentors and peers further forms our identities as we participate in and learn to become members of multiple communities of practice.

Our road map for developing the first iteration of Digital Myself employs the following components in response to the four challenges identified above: (a) External and mirrored representations will be explored using a portfolio to support the acquisition of U.S. English vocabulary, (b) The internal authenticity process will be explored using principles of folio thinking, (c) The importance of context will be explored by observing Japanese ESL learners engaging with North American culture, and (d) The external authenticity process will be explored by observing the interaction of learners with ESL tutors and peers in the real and digital worlds.

Implementation Issues

We will apply Digital Myself to ESL vocabulary building using a context-aware eLearning platform (as shown in Figures 3 and 4) based on the Sakai Collaboration and Learning Environment, which has been used at Nagoya University and other educational institutions throughout the world. We will use Sakai to offer a personal learning record exploring the uses of English language vocabulary in North American culture.
American culture. Japanese learners living in Japan often have difficulty putting themselves and their use of a second language into a second culture. The vocabulary building portfolio will be used to entice them to experiment with their identities and second language communication skills in the unfamiliar content of North American culture. Learners will be presented with ESL vocabulary coupled with multimedia files providing information on pronunciation, definitions, and usage. Learners will then be invited to construct one version of their Digital Myself by documenting their oral and written practice of the words in a North American context via text, graphics, images, audio, and video, along with reflections about their learning and communications with teachers and fellow students about their practice.

In addition, the implementation of a superordinate Cloud Infrastructure powered by Apache Virtual Computing Laboratory (VCL) will enable us to implement and experiment with the initial Digital Myself in a scalable way. Currently, we have 35 IBM BladeCenters (16GB memory and quad-core Intel CPU for each blade) virtualized by VMWare ESXi and Sun Open Storage (20TB) and are confident that these specifications will be sufficient for an initial pilot of Digital Myself.

The Social Underpinnings of Digital Myself

In order to use ICT to realize Digital Myself as a mirror image of Analog Myself in the real world, the consolidation of digitized information for each individual and the maintenance of the authenticity of that information will be required. Surprisingly, the functionality to realize these requirements has already begun to emerge.

In the area of Identity Management, personalized Web services like eLearning and eCommerce have resulted in the scattering of credentials used for authentication, such as user IDs and passwords, given that each service is required to register such personal information. To address this problem, single-sign-on schemas have been widely implemented. Some examples are CAS (Central Authentication Service) and Shibboleth in higher education and OAuth and OpenID in Internet applications. These technologies enable authorized institutions and service providers to consolidate scattered authentication information.

In the area of Healthcare, the implementation of Personal Health Records (PHRs) in Western countries enables individuals to consolidate and manage their personal medical and health information beyond the purview of medical institutions. The Japanese government is also discussing the realization of a Japanese version of a PHR.

In the area of Higher Education, ePortfolio systems have been gaining popularity over the past ten years, enabling faculty and students to consolidate, manage and re-use learning outcomes. The IMS Global Learning Consortium has been trying to standardize the format and data of portfolios to assist in the portability of portfolio data across institutions and contexts. Furthermore, the importance of authenticity in both personal ePortfolios and assessment ePortfolios has often been recognized.
These trends in authentication and application services for medicine and education point to future success in the consolidation of personal information that has been digitized and scattered through the use of ICT. We can imagine that the increased use of sensor networks and surveillance cameras will introduce further scattered personal information in the digital world and make the identity crisis of the individual more serious and complex. In addition, a recent New York Times article estimates that the number of Facebook users in the U.S. who die each year is approximately 375,000, demonstrating the challenge of consolidating and maintaining personal information after death. Therefore, we posit that the framework and information services envisioned by the Digital Myself Project could be instrumental in tackling the challenges to be faced by individuals in developing and maintaining their analog and digital selves in authentic ways.

**Conclusion**

In this paper, we introduced Digital Myself and its authentic development process beginning with the simplified context of ESL vocabulary building for Japanese learners. We plan a pilot implementation for tens of students, the evaluation of which will focus on the success of this early version of Digital Myself in exploring our concepts of internal and external authenticity.

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Reflecting the past, exploring the future – ePortfolios & digital literacy for history students

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Facing an on-going transformation of classical research strategies and current occupational profiles due to an increasing amount of digital sources students need to be taught media-oriented and must develop subject related digital literacy in order to be set for a successful path in the future. The blended learning project “Great Depression Online” demonstrates the usage of ePortfolio which characteristics reflect major learning objectives of teaching history.

Teaching history in the 21st century

History is often considered a traditional subject with conservative attitudes towards teaching. Therefore it seems that teaching history students with online tools is undervalued as a rigorous academic teaching expertise. But the evaluation results of the EU project eHLEE (eHistory Learning Environment and Evaluation)9 emphasize that there is a need to create new online learning opportunities for history classes. From 2004-2006 the project collected information on activities concerning e-learning history practices in European universities, evaluated best practices and gave recommendations on how to enhance the use of e-learning instruments within the field of history. The research results prove that historians are forced to adopt new methods in doing research, in distributing their findings and in teaching history. But even in 2011 blended learning seems for most history lectures a very limited range of assessments e.g. standardized multiple-choice tests, an informal presentation of unfiltered information and misleading focus on technology10.

Teaching history means to fulfill various learning objectives11:

✓ Contextual knowledge
✓ Interpretations competencies (regarding importance, profundity, durability, relevance now and then)
✓ Identifying relevance when selecting from a large amount of historical information
✓ Sorting and categorizing information into a coherent structure
✓ Understanding the difference in status between generalization and supporting particular examples
✓ Empathy to perceive and understand the interests, beliefs and viewpoints of others (multiperspectivity)
✓ Ability to construct multi-causal explanations or the ability to explain the connection between causes and effects
✓ Most common is the built-in or embedded approach where learning study skills and research methods is developed through the subject teaching. The challenge is to find a balance between teaching subject/ content and skills without overburdening the students12.
✓ Digital literacy is a new learning objective in history teaching. In German-speaking countries has Jan Hodel shaped the term “historical online competence”13. Digital literacy in terms of

history teaching means that students need to develop new research strategies considering online archives and learn how to evaluate digital sources. Even the competence “writing” changed as today’s students need to know how they can present their research online by using a blog or a wiki.

**ePortfolio as an assessment and application instrument**

A forward-looking perspective so far is to enhance traditional teaching by the usage of e-Learning tools. Eportfolio seems to be an instrument which can not only be used to support students’ self-regulated learning but their transition from higher education system to labor market.

An ePortfolio is a collection of electronic artifacts such as inputted text, electronic files, blog entries and multimedia (e.g. videos). Besides of using an ePortfolio to document, reflect and assess learning experiences it is an unconventional, complex way of self-presentation, especially for vocational related competencies e.g. creativity, digital literacy or project management skills. An ePortfolio can make these competencies visible even if they were acquired outside formal education institutions for example by including work references. Especially as ePortfolio usage seems to be a serious alternative not only as assessment tool for educational institutions but for potential employers as they commonly use social networks to verify job applicants.

Since 2007 the Netherlands, United Kingdom and Austria remain at the forefront of ePortfolio research in Europe despite of the worldwide dominating role of Anglo-American exploration. In Germany so far the most impressive wide-scale ePortfolio project was implemented by The University of Arts in Berlin is developing a special ePortfolio for their career support center. The objective is to support their student in creating an application ePortfolio for prospective employers.

**Great Depression Online – ePortfolios for history students**

The usage of ePortfolio can be easily transferred to history teaching as the characteristics of an ePortfolio reflect major learning objectives (e.g. the collection and selection of information):

“A portfolio is a purposeful collection of student work, that exhibits the student’s efforts, progress, and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit, and evidence of student self-reflection."

The creative and on-going process of creating an ePortfolio supports the student to take confidently new approaches to their topic by choosing diverse online sources and rearranging the artifacts in individual contexts.

Not having an ePortfolio implementation strategy at the Heinrich Heine University Dusseldorf the teaching project “Great Depression Online” is a single attempt to prove the reasonable and forward-looking usage of an ePortfolio as an assessment method.

**Aims and objectives**

The relation between past and present plays an important role for researching and teaching historical topics. Not only as the current economic crisis forces new interest in the “Great Depression” (economic crisis during the 1920s) had the teaching project “Great Depression Online” gained a funding as innovative teaching project by the Teaching and Learning Enhancement Fund (HHU). While almost all relevant primary and secondary sources are available in digital format (e.g.

14 Well-known examples of ePortfolio research from Europe:
1. The completed ePortfolio Implementations Study (ePI) by Associate Professor Joyes Gordon, School of Education, University of Nottingham UK
Library of Congress, National Archives or the Franklin and Eleanor Roosevelt Institute) the aim of the project was to focus on the usage of ePortfolio to underline the new meaning of digital literacy for history students.

By introducing the usage of an ePortfolio within this embedded course the students were given an outlook on how an ePortfolio can demonstrate their achievements. As complex learning objectives of history studies are difficult to assess by standardized tests to use ePortfolios is a serious alternative to present work samples and document skills and informal learning experiences.

**Learning objectives of the teaching project “Great Depression Online”**

![Diagram of Learning Objectives]

**Target group**
The teaching project “Great Depression Online” attracted non-history as well as history undergraduate students. This diversity poses usually a challenge as the course was obligatory part of the module “methods and imparting knowledge” for history students and an optional course for non-history students. But making their “historical thinking” visible by creating individual ePortfolios helped the students to experience the creation of ePortfolios less serious as other assignments.

**Course Concept & methodology**
Using the open-source software “Mahara” the students composed an ePortfolio including pieces that provided evidence of their ability to research and to evaluate online sources. Due to the fact that a majority of written, oral and visual documents about the Great Depression are available online the students needed to develop their own research strategies to help them decide whether sources were relevant for their ePortfolio. The reflective action of creating an ePortfolio was documented on a project blog and included the questions “Why is history relevant for me?” and “Why did I choose to study history?”. It encouraged the non-history and history students to compare and contrast their learning experiences and their research strategies. The students developed their own feedback criteria for a peer-review process in the ePortfolio building assignment. Before each student or each team hold a short oral presentation about their work, the students prepared a review in small groups. The following discussion encouraged the students either to revise or defend their work.

Another important aspect of this teaching project was to understand that the selection and interpretation of historical documents is from a specific national and cultural point of view. While focusing on American sources concerning the economic crisis during the 1920s the students were introduced to the virtual classroom iLinc by the German company Netucate, a video conferencing tool. Video conferencing enabled the students to discuss the Great Depression and the on-going
economic crisis with the American economist Robert Murphy. He gave his view on the Great Depression and also explained how this historical event is taught at American schools. It was an interesting example on how a historical event can be interpreted and reconstructed depending on cultural or national context. In addition there was a virtual classroom session with Jan Hodel who discussed his concept of historical online competence with the students.

Usage of ePortfolio from a student's point of view

The blended learning project “Great Depression Online” was an ambitious teaching project as students were confronted not only with an unknown subject and unfamiliar e-Learning tool, but also with new learning objectives.

In general the benefits of using ePortfolio are more valued by students attending the embedded, subject related course “Great Depression Online” course in comparison to students of the extra-curricular course “Digital Literacy for History Studies”. For students of the “Great Depression Online” course it was easier to imagine that they could use the ePortfolio system Mahara to present themselves to a future employer. As their main focus lies on knowledge about historical subjects only to document and present non subject related skills seemed to be less useful. But they questioned the perception and acceptance of ePortfolio as an application tool especially in often more conservative considered vocational fields which are relevant for history students. Most of the students of “Great Depression Online” dealt with online primary sources for the first time and were keen on creating an individual and almost artistic ePortfolio. Additionally they appreciated the opportunity to meet foreign experts at the virtual classroom as it showed even more the cultural and national influence on interpreting and reconstructing historical phenomena.

This translated quote of a student gives a final impression why e-Learning is even relevant for more traditional subjects of the arts:

“In the eleventh year of the twenty-first century fee-paying students should be allowed to require more of these courses [like “Great Depression Online”]. The arts & humanities must change massively so that future students will be able to catch up with the real vocational world.”

The teaching project “Great Depression Online” proved that ePortfolio is a blended learning tool which reflects the learning objectives of history teaching. The following general recommendations can motivate lectures to successfully enhance their history teaching:

Do not over-emphasize the technical side of ePortfolio, the main focus should lie on the subject.

- Mention the benefits of using an ePortfolio not only as teaching and assessment method, but as application tool.
- Explain the learning objectives and how they are connected with the new teaching and assessment method.
- Making new ePortfolio assessment criteria transparent by discussing it with the students
- Be aware of the increasing effort a new teaching and assessment method the students will be confronted with.


What we know and where we’re going: In medias res on self-representation and identity in university use of ePortfolios

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Introduction
ePortfolios are slowly gaining credibility in Canadian universities as useful vehicles for a number of learning activities. In both graduate and undergraduate programs, ePortfolios are used to house and share the repertoire of students’ work. Sometimes, such portfolios are a necessary part of completing a program, or may replace other types of assessment, such as comprehensive exams. ePortfolios are also used for assignments in individual courses, both as a topic of study and as a presentation tool. In recognition and assessment of prior learning practices (RPL, APL, APEL), ePortfolios serve as the 21st century platform within which students bring forth or demonstrate, for assessment, their prior learning.

To date, at Athabasca University, ePortfolio use has followed on the heels of older, paper-based portfolio models, providing university students with a more flexible means of demonstrating their learning, as well as contributing to their sense of self and the creation of self-identity. This paper examines ePortfolio use with three questions in mind: 1) What lessons, relative to ePortfolio use and self-representation and identity, have already been learned at one progressive ODL Canadian university? 2) What research directions and initiatives arise from our experience so far? and, 3) What continuity with or relationship to the more established use of portfolios can practitioners and researchers draw upon for the same purposes?

Situating the study: Athabasca University
Athabasca University (AU) is Canada’s foremost open and distance university. AU uses ePortfolios in a number of ways: as formative and summative assessment mechanisms within masters programs in nursing and distance education; as the assessment vehicle for learners engaged in recognized prior learning (RPL) practice; by students in professional programs in the areas of communication studies and heritage resource management who use ePortfolios in the compilation of their work for display and assessment; and by partnering professional development associations for the on-going certification needs of their members. Each of these users has transitioned, or is transitioning, to ePortfolio use from more traditional, paper-based strategies. A description of each context follows:

Portfolios and ePortfolios for RPL
AU’s Centre for Learning Accreditation (CLA) is a centralized unit that is responsible for managing recognizing prior learning, by portfolio assessment, across all university programs; dismantling barriers to learning is central to AU’s mandate. CLA has been working with paper portfolios since 1997 and has developed a structured, templated format that guides learners through a rigorous cognitive process of surfacing their tacit knowledge (Polanyi, 1967) and presenting it for assessment by a team of content experts. The final product is typically a thick binder of materials comprised of many parts: “front-end,” including comprehensive table of contents, resume, narrative autobiography, statement of educational goals; the middle part, the critical demonstration of learning using either directed learning statements or competency worksheets; and documentation that consists of either primary source or secondary sources “proof” of the learners’ claims of prior knowledge.

CLA has been investigating ePortfolio platforms for several years. During this time, learners have been encouraged to use whatever form of digital media suits them for portfolio preparation. As a result, some learners have submitted portfolios on CDs, on sticks, and as Word documents with live links. The majority of portfolios, however, are still submitted as paper products.

ePortfolios in the undergraduate post-diploma Communication Studies (CS) program
Students in the Communication Studies program tend to work in journalism and public relations, or in various aspects of new media. Increasingly, these students have their own websites as well as multi-media demonstrations of their knowledge and expertise. The use of ePortfolios will serve as
both a bridge to and from professional and academic life and as an electronic means for overcoming any sense of isolation once engaged in asynchronous learning.

In the next three to five years, CS students will engage in a pilot study to determine how their ePortfolio RPL experience resonates with the introduction of ePortfolios to the CS curriculum itself. For the past two years, ePortfolios have been used in a unique practicum for journalism students who want to become war correspondents. Students role-playing as journalists in a conflict zone shoot and produce nightly television newscasts as well as daily broadsheets. Their work is collected and represented in an ePortfolio which they can then use after graduation.

In the summer of 2011, five undergraduate CS courses will include alternate ePortfolio assignments, both formative and summative. These materials are intended to support some 150 students in exploring new ways to engage in self-reflection, as well as to demonstrate critical and analytical thinking. This cross-the-curriculum experiment will foreshadow a capstone course for the degree’s reliance on ePortfolios.

ePortfolios in Athabasca University’s e-lab
The ePortfolio function at the University is housed in the new e-lab which will open officially in November of 2011. Historically, graduate programs have been offered as paced and online, which has meant that much of the learning takes place in a synchronous environment. The undergraduate programs, on the other hand, were largely asynchronous and only nominally online. As a resource that is available to both undergraduate and graduate programs, ePortfolios will assist in bridging what has been a significant pedagogical and technological divide. At present the e-lab has about 250 ePortfolio users from across the university in a pilot project. Most of AU’s first adopters of ePortfolios are involved in professional programs. Any programming that is required to adapt Mahara to our needs are conducted in the e-lab, which has a coordinating function for all uses at the University.

ePortfolios in the Master of Distance Education Program (MDE)
Since 2009, ePortfolios have been used as the capstone project for students in the course-based route of the MDE Program. Initially offered as an optional alternative to comprehensive examinations, ePortfolios have proven so successful that beginning in 2012, they will provide the sole means by which non-thesis students will complete the program. To date, ePortfolios have been used primarily in a retrospective fashion, i.e., students nearing graduation review the entirety of their course work over the duration of the program (an average of four years), present a selection of artifacts that demonstrate their attainment of program competencies, and develop reflections that analyze the learning and transformational processes as well as the personal and professional applications associated with the artefacts. As such, students create a combination showcase and process ePortfolios that reflects their unique learning journey, including how they have integrated their new skills and knowledge into their personal and professional lives.

Starting next year, ePortfolios will be used as an integral learning tool throughout the MDE program. Students will be introduced to ePortfolio development and the importance of reflective and applied learning at the outset of the program, and will build their ePortfolios as they progress through the various courses. In the final capstone course, students will complete the ePortfolio development and refinement process, and make a final presentation to a group of peers and faculty members. This program change acknowledges the value of ePortfolios for promoting meaningful learning and application to practice. As students progress through the MDE program, their ePortfolios will capture the evolution of their scholarly and professional growth. Upon completion of the program, they can look back upon the totality of their learning journey and see how far they have come and where they have travelled.

Where have we been? What have we learned?
Data gathered from the university sectors described above indicate a wide range of reflections, by learners, on their relationship to ePortfolios. Overwhelmingly, learners’ responses to questions regarding their use and choice of ePortfolios display thoughtful and balanced investigations into issues of pedagogy, self-knowledge, and pragmatism. Of most interest to this paper are learners’ revelations of the self-knowledge that guided their choices.

In the masters’ program described above, learners had a choice of comprehensive examination, thesis, or ePortfolio preparation as culminating learning routes. Of those learners polled, 44% (n=52) indicated that preparing an ePortfolio was their first choice. Table 1, below, indicates the reasons given for their choice:
Table 1. Specific Reasons for doing an ePortfolio

<table>
<thead>
<tr>
<th>Reason</th>
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<tbody>
<tr>
<td>To broaden and consolidate my conceptual knowledge</td>
<td>16</td>
</tr>
<tr>
<td>To reflect on what I've learned and apply it in my work</td>
<td>20</td>
</tr>
<tr>
<td>To record my learning journey</td>
<td>19</td>
</tr>
<tr>
<td>To develop new skills</td>
<td>10</td>
</tr>
<tr>
<td>A convenient way of storing my assignments</td>
<td>7</td>
</tr>
<tr>
<td>To help me seek future employment</td>
<td>13</td>
</tr>
<tr>
<td>Other reasons</td>
<td>6</td>
</tr>
</tbody>
</table>

Taken together, learners’ stated desires to “reflect on what [they’ve] learned and apply it” to their work and to “record [their] learning journey[s]” speak strongly (75%) to demonstrations of self-knowledge and concerns with their identity as learners.

Learners expressed their individual nuggets of self-knowledge in various ways. One wrote, “[The ePortfolio] helps push me to try new learning and sharing opportunities when they arrive as in the back of my mind I would think of my culminating ePortfolio.” And a second commented that it was the least intimidating choice, stating that, “I like that I can reflect on my learning experiences without the pressure of an exam or oral defense!”

The thoughtful reflections of learners on the nature of their own learning are indicative of levels of maturity and emotional intelligence. Wlodkowski, referencing Goleman’s seminal research on emotional intelligence, suggests that “intellectual capacity during adulthood is a combination of genetic expression, experience, and knowledge that displays continued growth and highest potential in culturally relevant, real-life situations” (p. 41). MDE learners contemplating the role of ePortfolio development in their own learning are representative of other adult learners who have demonstrated the coalescence of maturity-related factors while they constructed academic success amidst real-life situations that had the potential to affect their studies (Conrad, 2009).

Pragmatic realizations also served as decision-making factors for learners deciding how to best represent themselves. Naturally, technology was a major factor for many learners. In deciding whether to prepare paper-based or electronic portfolios for prior learning assessment, however, as many learners decided on the basis of familiarity (ie, a paper-based route) as they did on the basis of the opportunity to learn new skills and new techniques. These findings affirm research that determined that learning style is an important factor in learners’ choices (Conrad, 2009).

RPL learners who chose to develop ePortfolios indicated that they felt they were adhering to personal values while at the same time finding the most expeditious, practical route through the process. “Saving the environment,” through reduced paper usage, was a key factor in several learners’ choices.

For one learner, the use of an electronic medium fit perfectly with the way he/she purported to think. This learner’s representation of him/herself was effortless, flowing along structures that were already established and comfortable. In the case of this digital native, having to manipulate paper would have been the challenge! Several learners who also chose the electronic medium echoed this sentiment, citing the quality of their final products: “better to read, clearer visuals, compactness, content more easily managed, and links for easier navigation by assessors.”

Another learner who opted for the electronic portfolio acknowledged that it was far more work to prepare than a paper-based portfolio would have been. The learner recognized, however, that the type of level of self-representation was enhanced and felt that the medium offered more opportunity to and flexibility in demonstrating learned skills and knowledge. This learner also celebrated the necessary learning of new skills during the portfolio preparation process and anticipated being able to apply the new skill set elsewhere in his/her university and work-life learning.

Interestingly, many of the students who commented on their process indicated that they expected tolerance from the assessors if there were problems with their use of ePortfolio technologies! Several cited their innovation and “bravery” in using what is, in the RPL situation, at least, a fairly new approach. Motivation and meta-cognition drawn upon here, therefore, has become a part of their university learning process, admirable and desirable qualities which learners are aware of and wish to be recognized for.

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19 This table reports only on the responses of students choosing to do an ePortfolio.
Similarly, pedagogical uses in the professional programs range from approaches that emphasize process to those that focus on product, whether in self-reflective exercises that assess personal intellectual growth, or in formative and summative assignments. Additionally, academic staff members not working in professional programs are beginning to use ePortfolios as a means of organizing materials intended for course writing and revision, which may have a logical follow-on – that increasing numbers of staff will re-think the pedagogies of those courses as well.

**Looking to the future**

We recognize that the introduction of ePortfolios represents a cultural as well as a pedagogical shift, one that is mirrored across all areas of university study as the university moves its technological focus from print to digital. There are lessons to be learned – some learned already – that encompass both the university’s learners and its staff.

Many of AU’s instructional staff work only part-time for the university, while working full-time at other traditional universities or in the private sector. In order to facilitate their engagement with ePortfolios, we have informed them from the outset about our intended use of ePortfolios and have taken them through an orientation session and invited their participation in research.

In AU’s RPL ePortfolio usage, our association with faculty assessors has already been identified as an area requiring thoughtful transition. Several assessors have indicated their reluctance to work with electronic medium, one going so far as to refuse to receive electronic portfolios. We realize, through conversation with assessors that, although the traditional paper-based products are awkward, clumsy, and need handling through the mail system, assessors are often more comfortable with being able to sit the portfolio on their lap as they drink tea or watch television in the evening. The attachment to the paper page – our comfort level as digital non-natives – includes faculty as well as students!

In the Communications program, students have been informed about the pilot and will be asked, beginning this summer, to participate as subjects. CS’s interests are both pedagogical and pragmatic. We want to elicit student response to the assignments, the Mahara software and its integration with Moodle. We are just as interested in their own assessment of learning that results through use of ePortfolio as opposed to traditional vehicles such as journals, essays, or critical reviews. Quantitatively, we will measure whether there seems to be transfer from one ePortfolio assignment to the next in such skills as digital literacy, critical and analytical thinking, presentation, etc.

Another area of interest is in students’ self-assessment of their participation in and development of self and community within the university context. Creating strong attachments to an online asynchronous educational community has implications for students’ happiness and well-being. Any tool or approach that helps students to feel productive and fulfilled at an online university deserves our attention. One of the quantitative measures we can employ in this regard is to measure whether retention rates increase significantly amongst those students who choose the ePortfolio assignments and whether or not those students receive better grades overall in courses where ePortfolios are offered.

In order to accommodate partnering organizations and to provide a service to our alumni, ePortfolios will be made available to anyone who has or has had a university connection. Philosophically, this decision is based on our commitment as an open university to removing barriers to education. Pragmatically, it recognizes that life-long learning requires the development of transferable skills, as learners negotiate their way in and out of the workplace and the school. ePortfolios can serve as a robust resource for enabling that important and affirming movement.

**Concluding thoughts**

Developing and using paper-based strategies over many years at AU has yielded extensive experience as well as the insight and accompanying wisdom to create “new ways” of practice. The shorter history of ePortfolio use has added to this body of knowledge. Although the uses of ePortfolios at AU vary, each targets precise outcomes and holds at its core the importance of learners’ self-representation and identity. As AU adopts a comprehensive approach to the use of ePortfolios, learners will now encounter a university that can both “read” who they are technologically and allow them to continue their formal education and personal development in a relatively seamless technological context.

Learners’ responses to the opportunity provided to use ePortfolio vary as does, for the RPL process, assessors’ responses to the introduction of technology. In the RPL process, undergraduate learners...
were primarily driven by their comfort level with technology. Graduate students in the MDE program appeared to be more attuned to the potential of self-representation offered by the new medium. Further research may determine that learner confidence, or experience within the post secondary system, contributes to the comfort level that accompanies the transition to a new process.

In the Communication Studies program, the ePortfolio is a very recent addition to the curriculum. In this program, we have the anomaly on the one hand of students who work professionally in new media and who have been asking for tools such as ePortfolio as a natural component of their learning process; on the other hand, several of our instructors, especially those who have an academic, or non-professional background, are skeptical, or at least mildly perplexed by the ePortfolio. Consequently, we have enlisted student volunteers as testers, and teaching staff as co-researchers in a pilot. One of our instructors has developed and tested a tutorial in collaboration with other instructors; and they have all attended an orientation prior to the ePortfolio assignments being introduced to the students in Moodle. This selected group of eight instructors is comparing retention and overall course success rates amongst those students who choose ePortfolio assignments. They will also conduct interviews with students after course completion. In addition, as a means of testing existing research that suggests technological adoption rates amongst teachers increase partly in relation to social networks (DeLima 2008; Roxå and Mårtensson 2009), we are studying attitude change amongst our group of eight instructors, whose approach to technological innovation ranges from innovator to laggard. One of the most interesting aspects of this research is the opportunity to document any changes in how instructors self-identify and self-represent as a consequence of participation in the ePortfolio trials. The extent to which ePortfolio use has and continues to spread across the institution will allow us to broaden significantly the scope of both these studies.

Results of current explorations will yield insights that will not only continue to guide the university’s transition to further ePortfolio use across a wider span of uses and applications but will also contribute to future research that examines the practical, skills-based benefits of ePortfolio use for learners as well as the nature of changes or evolution in their sense of identity and ability as they self-reflect and self-represent while engaged in ePortfolio-related processes.

References
You Are Not Yourself - Exploring Identity in Art and Design ePortfolios

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Abstract
This paper discusses the theme of identity in art and design education, and the relationship to e-Portfolios. The links between identity, ownership and control in the use of e-Portfolios are explored, along with the influence of the online context. A dramaturgical perspective on the 'performance' of identity is developed, drawing on theories of a socially produced sense of self. As a consequence, the specific context of the e-portfolio resource and its deployment is judged to be the determining factor in the way the student uses it and derives learning and personal development benefits. The paper draws on research conducted into e-Portfolio Systems for learning and teaching in art and design, as part of the implementation of an e-Portfolio System at the University of the Arts London (UAL). The evaluation of a pilot e-portfolio scheme at UAL is ongoing, and this paper discusses issues raised by the research and evaluation processes, rather than offering final conclusions.

Identity in art and design, and the relationship to e-Portfolios

One of the historical roles of the artist has been as an interpreter of human experience – someone who gives a fresh or challenging perspective on things, or revivifies neglected truths. The idea of the unique, creative author expressing special insights or distinctive experiences through the piece of work is a common one (and in the case of some conceptual or abstract fine art, is indispensable to a reading of the artefact as an art object).

With such an emphasis on the uncommon and the individual, there is a particular expectation for art students to reflect on what makes them distinctive, and to express aspects of their identities through their practice. For Adams(2007, p. 267), the emphasis on individualism is normalised in art and design education through assessment practices and the way the work is exhibited. Logan states that art and design students 'need an effective means of demonstrating a “creative” personality in their work,' because of their personalisation of knowledge (2008, p. 5). From a constructivist perspective, the personalisation of knowledge is fundamental to learning, and is by no means unique to art and design. Where this subject area differs, it is argued, is in the impulse to express personalisation through the work, and assert authorial distinctiveness and character. Such characteristics are conveyed through innovative modes of presentation as well as through the themes of the work and the combined impact of the curated material. The requirement to convey such characteristics extends to the e-portfolio format. Dillon and Brown formulate this in terms of a 'theatrical' aspect to e-portfolio development, where:

the user directs scenarios within the folio by manipulating the materials at hand to convey or realize a narrative or find meaning, and they act according to the opportunities afforded to them by the portfolio features. (2006, p. 428)

The expressivity of the performance of the work is contingent on the adaptability of the e-portfolio system to support distinctiveness. As an apparent corollary, it has been observed that:

uniformity of appearance and medium appeared to be the key disincentives to the use of commercial e-portfolio softwares for students in art, design and media (Logan, 2008, p. 10)

and that for those students, satisfaction with technologies ‘appeared to be linked to the degree of user ownership and autonomy that they enjoyed” (ibid). We can infer that a requirement for an e-portfolio system which aspires to accommodate the display of art and design work is scope for the customisable layout of content, allied with an appropriate level of freedom on the part of the student to control the nature of that content.

The Social Self
I propose to extend Dillon and Brown's idea of a performative e-portfolio to suggest an understanding of how self-identity is expressed in the e-portfolio. In doing so I draw upon theories which interpret ideas of self and identity as socially determined.
In G.H. Mead’s account of the ‘I’ and the ‘me’, ‘the “me” is the organized set of attitudes of others which one himself [sic.] assumes’ (Woodward, 2003, p.8). The ‘I’ is one’s self-conscious response to this construction:

‘I’ understand myself through imagining how I am understood by others – as ‘me’.

[…] ‘I’ only exists in relation to the ‘me’ upon whom I reflect. (Woodward 2003, p.9.)

The self is therefore ‘created in the context of different social circumstances which require different responses’ (ibid)\(^\text{20}\). This presents us with a picture of the self which is made up of multiple identities (or aspects of identity), each coming to the fore (or into existence) in different social contexts. Goffman, extending Mead’s work, interpreted this process of negotiating identity through social interactions in terms of a dramaturgical perspective, a focus which I pick up on here. In fields of art and design where the final work is exhibited or put on show, or actually consists of a performance, the artist can be seen as an actor, consciously and selectively putting on a display. In such cases there may be a playfulness to the embodiment of identity – there may be a gap between the identities of ‘artist’ and ‘person’. This is licensed, or even demanded, by the requirement for uncommonality.\(^\text{21}\) I would argue, however, that the \textit{performative} aspect of identity which is conspicuous here is played out equally, if less obviously, in other educational contexts, where social factors strongly shape the way the work is presented and the kinds of competencies the student aspires to depict through its presentation. The academic e-portfolio is one social context which requires a particular response, and a particular formulation of identity. The performance may be one of scholarliness, or of professionalism, or of detached criticality - this depends on the function and purpose of the e-portfolio resource, explicit or otherwise. By analogy we might consider the writing of a C.V. - its content is largely determined by its purpose, so that one person may have two significantly different C.V.s for two different prospective jobs. Both depict an identity, but in each case the identity is tailored to the expectations of the context.

So while there is a particular requirement in art and design e-portfolios to allow students space to experiment with the performance of identity, this is still in line with the institutionalised function of the resource, where this experimentation is licensed: the performance is driven by the academic nature of the social context.

**Engagement, ownership and control in e-Portfolio use**

In interviews, UAL students called for an e-portfolio system which gave them a ‘blank canvas’ for their work. An overly fussy e-portfolio system interface was seen as a threat to the integrity of the presented work, just as paisley-patterned wallpaper might be seen as inappropriate in an art gallery. A ‘busy’ interface can also be interpreted as a threat to the performance of the artist’s identity position: a soliloquy becomes a dialogue of voices competing for authority.

In my dramaturgical reading of art and design e-portfolios, students have control of the theatre stage, the props, and the direction of the performance. They do not, however own the theatre, or even necessarily write the script. The context of the e-portfolio primarily determines the performance of identity within it. That context is invariably one where the resource is provided by the institution, and certain expectations around its provision, explicit or otherwise, influence its acceptable uses.

In order to better understand context, we must look at how the e-portfolio is put to use.

In an attempt to make some sense of the wide-ranging claims for e-portfolios, and the different ends that they are intended to serve, I developed a matrix for the interpretation of e-portfolio use:

![Figure 1. Matrix of e-portfolio applications](image-url)

\(^{20}\) Crotty (1998) notes that the school of Symbolic Interactionism, associated with Mead’s work, ‘explores the understandings abroad in culture as the meaningful matrix that guides our lives’ (p.71) but tends not to take a critical approach to that culture. In my own perspective on the ‘social self’ it is important to maintain criticality, and this need not be precluded by using an approach such as Mead’s.

\(^{21}\) A criticality towards expected norms may also be expressed, as Adams expects. In other cases those norms may be reinforced. It is fascinating to see in UAL blogs, for example, Fashion Styling students using photography assignments to work through issues of how to relate to culturally determined notions such as beauty, glamour, sophistication and ‘cool’ in their work. Even in ‘conventional’ fashion, a strong link can be identified between distinctive authorship and marketing ‘brands’.

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<tr>
<th>Autonomous e-portfolio</th>
<th>Mandated e-portfolio</th>
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In categorising e-portfolios via this matrix there may be room for ambiguity: but the process has the virtue of forcing a consideration of the values the user wishes to uphold in deploying the resource. Claims for a constructivist model of learning and increased engagement are commonly associated with the types of e-portfolio which I have categorised as ‘process-oriented portfolios’. A focus on reflective learning and the enabling of the personalisation of knowledge are seen as a positive influence on, or incentives for, better learning and engagement. It is claimed that this kind of e-portfolio can promote meta-cognitive awareness of learning and self-development by encouraging reflection and the mapping of learning achievements – this is Yancey’s ‘best learner’ (Yancey 2001b, p.83).

Where students are expected to use their e-portfolios to demonstrate competencies against externally defined measures, the e-portfolio takes on the characteristics of the ‘product-oriented portfolio’. The use of externally defined criteria means that there is not the same implication of learner autonomy as with the process-oriented portfolio. In this case the portfolio is primarily a vehicle to communicate achievements and abilities to others – the ‘products’ of learning – rather than a tool to support the development of those abilities.

There is scope for ambiguity around the separation of autonomous and mandated activities. Can a learning process can be truly autonomous and self-directed if the underlying motivation for undertaking it is to prove a competency mandated by an external agent? Such a process is arguably not student-centred, but qualification-centred, and makes the likelihood of unselfconscious reflection and engagement in the learning process less probable. The student is less likely to reflect directly on the learning experience, and more likely to tailor the contents of the e-portfolio to the assessment requirements. Kimball forcefully makes the point that an e-portfolio should not be an academic record, claiming that:

> the standardization of portfolios excludes the “messy data” of individuality that portfolio pedagogy depends upon for encouraging students’ engagement in their own learning (Yancey & Weiser, 1997, p. 13). By this view, standardization tends against the individual expression of learning. (2005, p. 438)

This is to draw a clear line between the function of creating engaged learning and the function of creating a formal record of academic achievement: the process and product orientations in my model. There is no reason that a process-focused e-portfolio should not be suited as a medium for tutor support and guidance. But if control is to be delegated to the student, and the useful ‘messy data’ is to be accommodated, I would argue with Kimball that the use of the resource should not be driven by a strictly pre-defined assessable outcome22 as in the case of the mandated, product-oriented e-portfolio in my matrix. However, the virtues usually claimed for process-oriented e-portfolios can also flourish in a product-oriented assessment use where considerable autonomy is granted to the student. The UAL e-portfolio system was used very effectively for summative assessment in one case, where a cohort was required to produce graphic design work based on a series of loosely defined themes, along with information about context. Noticeably, layout immediately became a significant issue for the assessing tutors, who needed to be able to browse through large amounts of work conveniently, and this requirement limited some of the design options23. Nevertheless, the students still had a high degree of freedom in curating and presenting their work on a ‘blank canvas’, and were highly engaged by the process.

Stefani claims that while “all of the current evidence points to the need for students to feel that their e-Portfolio belongs to them”, current practice in e-Portfolio Systems “pays lip-service to student ownership, but remains largely teacher and institution led” (Stefani et al, 2007, p. 8). I believe that the concept of student ownership of e-portfolios is a flawed one, even in the case of autonomous, process-oriented uses. From my interviews with students, and the experience of piloting an e-portfolio system, I concluded that for many, if not most students, the owned and the personal is defined partly in opposition to their academic activities and obligations. When the resource is provided by the university, the narratives of identity produced in the e-portfolio are likely to be those

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22 I do not follow Kimball, however, in making a deterministic link between e-portfolio systems which use database technology, and a certain pedagogical model. This is to confuse technology with the uses to which it is put.

23 Tutors were mainly concerned about having to scroll through pages with too much content laid out vertically. Therefore, navigable collections of grouped pages, with little or no scrolling required, were preferred, along with slideshows of images.
sanctioned by the academy, such as professionalism and scholarliness. Control is important for engagement and the personalisation of knowledge, and I have argued, essential for the flexibility required for the exploration of, and expression of, artistic identity, which is a central feature of the art and design work process. However, in practice, while UAL students sought control over their e-portfolios, they required a clearly defined framework to be defined for its use before they would engage with it. Where there was insufficient guidance in use, students latched onto the Facebook-type functionality in the e-portfolio system to create profile pages and make friend networks, but not in a fully engaged way – presumably because they already had access to more fully-formed social networks on the web. Students are generally highly socially literate and web-literate, and make clear distinctions between different web sites and the behaviour or content appropriate to them, just as they do with real-life social contexts. Most waited for guidance on the appropriate behaviour for the university-provided resource before engaging with it – they did not ‘take ownership’ of it. This should not be surprising given my repeated emphasis on the importance of context.

For Barrett:

As learners create their own electronic portfolios, their unique “voice” should be evident from navigating the portfolios and reading the reflections on the screen. (2005, p. 10)

Barrett’s idea of an ‘authentic voice’ suggest a single, true voice. My research suggests instead that an art and design e-portfolio is best understood as performative, with the kind of performance dependent on the portfolio’s context and purpose. It does not represent a single authentic voice – rather we can see how its use is likely to foster a particular aspect of the student’s identity, as a consequence of its role in performing the ‘work’ of the institution, namely, to produce a qualified student, together with all the assumptions that are inherent in the construction of academic virtue. (Thoms and Thelwall observe a similar phenomenon in relation to academic homepages, claiming that they ‘seem to be a tool for governing the identity construction of universities’ academics’ (2005)). In the research, there was a markedly different attitude to the use of resources created by students themselves, for example, a student-created wiki, or the focus group interviewees' personal websites. The freedoms afforded there were clearly valued. However, this did not mean that a university-provided e-portfolio was seen as limited by comparison. Rather it was generally seen to fulfil different functions – both an academic function and a marketing function, based on institutional reputation, were imputed. There was also no less enthusiasm for the customisability of the university resource as a result of this perception. I conclude from this that the desire to be able to customise the layout of the work is more representative of the need for the performance of creative individuality and uncommonality than of an impulse to assert ownership. It seems more appropriate to extol the virtues of control rather than of ownership when discussing a student-centred university-provided resource. The link between ownership and engagement should be reformulated as a link between capacity for expression of creative individuality, and engagement.

The online context and its relationship to identity

In the online arena, the idea of body is less fixed than in ‘real life’, and again the embodiment of identity can be more playful. There is even more scope to adopt different personas for different contexts, and where there is anonymity, a wide range of behaviours which would not normally be considered are made possible. The artist’s identity can be understood as allowing performativity; the online artist’s even more so.

Emerging e-portfolio systems such as Mahara incorporate a social aspect, following the model of popular software services online such as Facebook, where the trend has been away from the homepages of old and towards having a page (or pages) in an online community. In these social networks, the emphasis is changed from the formal presentation of content about oneself or one’s

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24 The exception to this came when the students interviewed in the research were focussed on the potential of e-portfolios as tools for marketing themselves and their work. In these cases, the resource was understood as an alternative to a personal web site.

25 Profile pages, creation of 'friend' networks, a 'wall' for status updates and messages on the profile page, and personal messaging were all possible within the system used. (The system was Mahara)

26 As before, those few who formed the exception to this rule identified a marketing function for their work. The main institutional drivers for setting the system up, however, were to support personal development and reflective learning, rather than showcasing best work.

27 Chelsea Wiki: http://www.chelseawiki.org

28 Mahara: http://mahara.org/
interests (though this is still possible), to participation in ongoing informal conversations about
selves and interests. This lowers the entry to participation, as these conversations can be conducted
at any level; and the systematic emphasis on making social connections and sharing content with a
group of contacts removes some of the potential for anxiety in producing content which might not
be seen or reacted to.

The emphasis on ongoing discussions that we see in social networks is also characteristic of the
blog. Here is one blog author’s articulation of what his microblog29 (called a ‘Soup’ after the hosting
service which provides it) says about him:

On good days, my Soup is (or rather: my Soups are) a much better representation of myself
than, say, a Facebook or Xing profile can ever be. It’s not a collection of facts about me or a
showing-off of social contacts, it’s a fairly accurate account of what I spend time on, the
topics that fascinate me, what I’m reading and thinking – or at least the subset of that I am
willing and motivated to share. On Soup, my public identity is defined not by which
education I received or who I know, but by something that appears more meaningful to me,
while still requiring a lot less effort than keeping a journal: A low-friction stream of
multimedia content, mixing things I created myself with things I found elsewhere and
appreciated. (Clay, 2007)

The ‘low-friction stream of multimedia content’ found in blogs and Facebook-type sites is the
manifestation of an ongoing process of remaking the self in terms of the bricolage of interests and
experiences and lifestyle choices. The process, with its selective approach, is analogous to the
making of a ‘social’ e-portfolio, in which content can be shared selectively in a community, the
sharing of conversational information is facilitated, and the research process, for the art and design
student developing ideas, often consists of the collecting of inspirational digital media from a variety
of sources30. The project of the representation of self depicted here differs from that of the traditional
homepage in that it is a project in which the conclusion is continually deferred. The web medium, in
the opportunities it presents for making sense of self, through its connectedness, and its facilitation
of the lossless appropriation of digital content, increasingly reveals its users to be curators of an
idea of self. Again, this idea may vary or show different faces according to context.

The Extended Self

For Giddens, modern social life is characterised in part by ‘the expansion of disembedding
mechanisms – mechanisms which prise social relations free from the hold of specific locales.’ (1991,
p. 2). Those mechanisms are described as ‘symbolic tokens’ (such as money) and ‘expert systems’,
and they become ‘centrally involved not only in the institutional order of modernity but also in the
formation and continuity of the self’, a part of the ‘reflexive project’ of the self:

Self identity is not a distinctive trait, or even a collection of traits, possessed by the
individual. It is the self as reflexively understood by the person in terms of her or his
biography. Identity here still presumes continuity across time and space: but self-identity is
such continuity as interpreted reflexively by the agent. (1991, p. 53)

The self is constantly remade in relation to its perception of itself. Giddens discusses how sociology,
psychology, counselling and therapy are closely ‘bound up in a direct way with the reflexivity of the
self’ (1991, p. 33). We can usefully extend his model to encompass the movement of social relations
into the online context, a move which abstracts them yet further from specific locales. As Clay’s
blog post indicates, in the world of the web, the self can be a mutable channel of influences,
reflexively reinvented in reaction to transient interests. In a world of advanced technology and
ingrained, pervasive networking – the world that comes after Giddens’ modernity – there is a path to
be followed from the reflexive project of the self in ‘real life’ to what can be differentiated as ‘online'
subjectivity. I use this term to encompass the constitution of identity in a hyper-networked society.
While not limited to the experience of the internet, it is epitomised there. The web’s tendency to
foster multiple elective, transient memberships, its concealment of the signs of social difference, and
the disembodied nature of participation, have the potential to confer a kind of weightlessness on the

29 Microblogs, or ‘tumblelogs’ are described by Kottke as:
a quick and dirty stream of consciousness, a bit like a remained links style linklog, but with more than just links.
[...] minimal commentary, little cross-blog chatter, the barest whiff of a finished published work, almost pure editing...
really just a way to quickly publish the “stuff” that you run across every day on the web (Kottke, 2005).

30 As described by Logan (2008, p. 11).
user. This kind of subjectivity is characterised by an ‘always-connectedness’, in which the individual becomes a constituent part of a greater entity, a node, as much as or more than a private independent being. In postmodernism, the sense of weightlessness I have described is identified as the loss of an essential self. Lyotard’s work questions what he calls the ‘meta-narratives’ of reason and human progress (1984), which are underpinned by faith in the logic of human critical enquiry. The positivism of the enlightenment is replaced in postmodernism by scepticism towards the possibility of objective truths; and the idea of the self at the centre of the production of meaning is displaced by a protean, multiphrenic, decentralised self, which is just ‘one term among others for representing experience’ (Gubrium & Holstein, 1994, p. 685). We are reminded of Clay’s conclusion that the narratives his blog produces need not just be about a ‘collection of facts about him’ in order to say something about him and his experience. From this perspective, the continuity of identity referred to by Giddens is an illusory phenomenon, conjured only through linguistic or other discursive means.

This is a seductive vision in some respects, particularly in its resonance with the apparent emptying of identity which paradoxically accompanies its own online contemplation. It might also be tempting to see it as a natural progression from Mead’s socially produced self, in a world where social experiences become increasingly ‘disembedded’. But for Hayles (1999), the postmodern vision is built upon a fundamental misconception. Hayles expresses incredulity at the ‘postmodern orthodoxy that the body is primarily, if not entirely a linguistic and discursive construction’ (1999, p. 192) and makes a strong case for the reinstatement of embodiment into subjectivity. In her work we find a direct challenge to the idea of the diminishing centrality of the subject in the information age. Her version of posthumanism, grounded as it is, ‘in embodied actuality rather than disembodied information’, offers ‘resources for rethinking the articulation of humans with intelligent machines’ (1999, p. 287), making possible an account where:

- emergence replaces teleology; reflexive epistemology replaces objectivism; distributed cognition replaces autonomous will; embodiment replaces a body seen as a support system for the mind; and a dynamic partnership between humans and intelligent machines replaces the liberal humanist subject’s manifest destiny to dominate and control nature.

(1999, p. 288)

In her model the body is not left behind, or reduced to weightlessness, but extended through its relationship with machines. Hayles’s model fits perfectly with my description of a node-like, always-connected ‘online’ subjectivity, and makes sense of the perceived dualism between ‘real-life’ and ‘online’. As our relationship to technology changes, our subjectivity becomes reoriented. The emergence of multiple possible points of orientation for the online self might be taken in posthumanism as a sign of the self’s fragmentation and loss in a sea of equivalence. In posthumanism it is taken as an indication of reorientation and extension of self in a system of distributed cognition. The deferral of a final conceptualisation of identity is taken as an opportunity, rather than the representation of threat and loss.

Returning to the more prosaic reality of institutional e-portfolios, in the majority of cases the e-portfolio user is far from being just a disembodied internet presence: they also attend a bricks and mortar institution, and their online portrayal of identity must be read against that background, and the limits of context it imposes. But a socially connected e-portfolio system such as Mahara, which offers means to create a personal profile with information ‘About Me’, presents opportunities to share an online persona through direct personal information, and through social exchanges, as well as through the collection, organisation and presentation of work and associated reflections. This kind of functionality extends the potential social reach of the system beyond the one-to-one relationship between student and tutor, and can extend the limits of the curation of the ‘idea of self’, through its ‘disembedding’ processes. In Hayles’s vision, it is joined to a larger network of knowledge and opportunities, and this is seen as a positive influence (not least in the possibility of overcoming negative traditional cultural dichotomies) rather than a disaggregating one, or what some sceptics might regard as a social distraction.

However, as I have noted, the existence of functionality is no guarantee of its use. A social network cannot materialize without a clear context which differentiates it from its alternatives. The logical context to establish in a University-owned resource is one where reflections on work and process can be conducted in an appropriate academic discourse, and inspiration can be derived from other students’ work and practice. There is great potential for this in art and design in particular, where the work itself, as well as the reflections upon it, can be browsed through in a highly accessible and engaging way, given an appropriate interface.
Conclusions / Proposals

This has been a somewhat rapid journey through some diverse ideas, some of which I have developed at greater length elsewhere. To suggest practical implications, and to invite discussion, I try here to follow those ideas to their logical conclusions; though as the evaluation of the UAL e-portfolio pilot is ongoing, these should be interpreted more as proposals to be tested.

• Students are unlikely to feel a true sense of ownership of an institutional e-portfolio. They are sophisticated in distinguishing the behavioural codes appropriate for different social situations, including web-based resources. They will not use an institutionally provided e-portfolio to find or articulate a single 'authentic voice' – particularly in the case where it is clearly a vehicle for assessment. Ideally they will use it to develop the appropriate behaviours for scholarly, artistic, or professional practice. They are likely to need clear guidance in this respect.

• Nevertheless, students should still be given control over their e-portfolios. This might be expressed through autonomous or semi-autonomous use, together with control over content layout, aspects of the interface and the organisation of the repository of media. This will promote engagement, motivation, self-aware learning, and is a prerequisite in art and design where space is required to allow the student to experiment with performance of identity. While a performative aspect may be particularly conspicuous in the art and design context, it is likely to be common to e-portfolio use in other educational sectors.

• The online context of e-portfolios means that they can exploit new connectivities – across courses and subjects, as well as across cultures and geographical boundaries - which can extend the sense of self and traditional boundaries of identity. In an academic e-portfolio this can be best facilitated by the establishment of an online community with an appropriate academic discourse. Connections can be made selectively to this community from other, perhaps more familiar online communities, with their own codes; but simply providing an 'online' resource or one with 'Web 2.0' characteristics is not enough in itself to engender engagement or a certain type of social behaviour among users.

In practical terms, distinguishing between ownership and control means that students need clear guidance on what to do with their e-portfolios, and are unlikely to strike out on their own paths with the resource. There is an expectation - and acceptance - from most that they must play within the limits described by the institution. Woodward emphasizes context and purpose when she states that the question of identity is 'moving away from traditional questions about who I am, to transform into questions of when, where and how I am' (2003, p. 46). The challenge therefore is to build an engaging, inspiring, supportive academic community, with good examples of appropriate content and behaviour for the relevant 'when', 'where' and 'how'. An e-portfolio system can be more than a window into such a community: it has the potential to be an important part of the foundations upon which it is built.

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31 Some of the material in this paper is taken from my dissertation 'A Portrait of the Artist – e-Portfolios in Higher Education Art and Design', available at http://ualresearchonline.arts.ac.uk/ or by request.
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Designing eLearning Environments Conducive to ePortfolio Identity Skill Development

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Abstract
eLearning environments, when appropriately configured, provide excellent conditions for acquiring
digital literacy and critical skill-building essential to developing an effective eportfolio identity. Current elearning environments in educational settings may provide valuable essential training when the elearning coursework is deliberately structured to exercise efolio abilities and values. Designing elearning environments around engaging strategic assignments offers students practical experience and proficiency in effectively selecting, reflecting, connecting, articulating and documenting their ongoing learning. In the following review of an award-winning undergraduate psychology course, this paper will identify several examples of elearning applications, techniques and philosophies consistent with and relevant to ePortfolio development. Pertinent elearning assignment domains include: Identity Development, Independent Mastery, Metacognitions, Transfer of Skills, Social Feedback and Assessment. When course designs clearly provide the underlying pedagogic rationales, incorporate appropriate etool applications and implement creative elearning assignments, instruction essentially facilitates and provides opportunities for acquiring the required competencies instrumental in crafting a meaningful ePortfolio identity. Educational settings that neglect to strategically incorporate the relevant prerequisite mental and behavioral skill sets may find that their students’ eportfolios lack the potential quality and value for which they were originally designed to achieve.

Keywords: eLearning, ePortfolio Identity, Self-Efficacy Skills, Stress Management, Transfer of Skills, Feedback and Assessment

Introduction
ePortfolio identity development consists of an active creative process that selects, organizes or otherwise processes content and then assesses the evidence (products) of one’s professional and personal life-long learning through feedback and assessments. Given the nature of this desirable endeavor, where might one acquire and develop the necessary cognitive expertise and competencies required of this creative process apart from exposure or opportunity to refine these rather specific demands? B.F. Skinner in his 1968 book The Technology of Teaching states, “Only by defining the behavior we wish to teach can we begin to search for the conditions of which it is a function and design effective instruction”[1]. eLearning environments, when appropriately designed, may provide an excellent foundation for acquiring the digital literacy and critical cognitive skills essential for developing an effective eportfolio identity. Usually, the specific content of an Academic ePortfolio consists of a central dynamic between two equally important “faces” or goals [2]. The artifact collection reflecting one’s learning journey represents a desired balance between the specific content required by educational rubric demands and the production of sufficient relevant samples of personal evidence showcasing achievement and learning. Current elearning environments in educational settings within their respective learning management systems can provide necessary and valuable training if the elearning course requirements are deliberately structured to exercise efolio thinking and processing [3]. By intentionally arranging elearning environments around engaging efolio-driven assignments, educators offer students the practical experience and proficiency in effectively reflecting, connecting and documenting their learning. As is the case with most educational and training goals, eportfolio development and content quality is enhanced if there is a clear articulated purpose, sufficient opportunities to develop appropriate self-efficacy skills [4] and multiple avenues for feedback. These desirable tasks, when encouraged and developed within elearning environments, are then easily transferable to establishing and maintaining eportfolio identities. These unique tasks promote the acquisition of critical personal habits based on training and further refine the skills through successfully-reinforced experiences. This paper identifies several elearning applications, techniques and skills consistent with and relevant to eportfolio development. Pertinent elearning assignments and eportfolio attributes domains include: Identity Development, Independent Mastery, Metacognitions, Transfer of Skills, Social Feedback and Assessment. Using a popular university Psychology of Stress Management course as an example, each of these domains will be presented and the descriptions of the current assignment goals will assist in identifying the
relevant training attributes common to eportfolio development. The following will identify pedagogic rationales, specific etool selections and creative elearning activities instrumental in crafting a meaningful eportfolio identity by facilitating the required competencies.

Identity Development & Independent Mastery

The core constructivist teaching philosophy underlying the rationale for several of the selected elearning assignments and eportfolio identities are basic to Plato's and Socrates' maxim, "Know Thyself." There is no doubt that 21st century digital skill literacy and demonstrated proficiencies have become the required prerequisites in this age of rapidly innovative Internet technologies. However and foremost, requisite eportfolio thinking and skill development will more likely emerge when courses are intentionally designed to be "Learner-Centered" and which encourage students to "Own their Learning." Several assignments in this award-winning stress management course are purposely structured, evaluated and updated to achieve this goal. Asynchronous participation, self-selected grade contracts, self-assessment inventories, choice of semester stress reduction project based on personal self-assessment, self-selected book reports relevant to one's chosen project, and self-ratings of weekly relaxation exercises are but a few examples of the academic applications that encourage a demonstration of self-development and which showcase evidence of greater self-reliance in learning [5]. The emphasis on identification of current strengths and weaknesses encourages personal discovery, responsibility and commitment to the implementation of personally-relevant stress reduction methods. Moreover, in a previous paper [6] this author outlined numerous examples of how each of these course activities identified above, in turn, formulates a "Community of Inquiry" and contributes to the desirable social presence, cognitive presence, and teaching presence necessary and critical to achieving effective online instruction [7]. Student engagement in coursework, as well as eportfolio development, is central to scholastic identity formation, independent mastery and social presence. [8] Although learning environment curriculums and eportfolios that allow for and encourage personal freedom of expression is certainly a valuable endeavor, let us hope that these activities require more than opportunities for self-expression, self-absorption and or perhaps self-aggrandizement. eLearning coursework and eportfolios must also include the demonstrated evolution of critical thinking, analysis, synthesis and cognitive skills that exercise evidence of scholarly thought and growth.

Metacognitions

Cognitive and educational psychologists have studied and generated an abundance of specialized research on metacognitons for many years and certainly appreciate several of its finer nuances. While the concept of metacognitions has many meanings and uses, it is commonly recognized to include "knowing about one's knowing," "thinking about ones thinking," or in educational circles "reflective practice." This processing includes aspects of self-awareness, self-monitoring, and self-regulation. Even clinical psychologists use this strategy in Stress Inoculation Therapy or (SIT) for the cognitive behavioral application and treatment of phobias and anxieties, [9] In SIT, patients are taught to examine, recognize, rehearse and replace irrational thoughts before, during and after a potentially anxiety-provoking episode. However specific but no less unique, it is the systematic process of self-reflecting, thinking and planning that is at the heart of learning. In eportfolio terms, "self-reflection" is seen as the "heart and soul" of the central activity fundamental to successful eportfolios [2]. Most students have not been specifically trained or taught to reflect and connect previous learning from other courses. For this reason, curriculum must regularly provide practice at this skill.[10] To provide practice at establishing and processing one's learning, the assignments in this Stress Management course were specifically constructed to afford students frequent opportunity for self-reflections. This is implemented through the use of weekly progress diaries, written assignments requiring personal contributions via blogs, diaries, and discussion boards called “Make it Real” and “Teach Us.” By selecting, collecting, reflecting and connecting both positive and negative personal health habits, students obtain the self-awareness, personal commitment, desirable personalized ownership, as well as the inherent motivation and responsibility vital to one's success. Specific rubrics and instructions provided for each assignment outline the expectations of each of the assigned tasks. Students write a “Semester Growth Paper /Reflection” which details how each of the elearning assignments and the Semester Stress Project contributed to his/her personal stress-reduction activities. Students' respective stress reduction project must provide evidence through dairies, charts and graphs illustrating the history of their behavioral change. Finally, students are required to complete an internal course analysis survey which asks them to rate their perceived value of the materials, content, assignments and in particular the quality of their respective demonstration projects. Below are three examples of the assignment criteria that exercise the essential metacognitions common to the processing and self-reflections found throughout the
course. As you can readily see, these elearning exercises model the specific task demands common to most eportfolios.

**Example 1: Key Concept – Weekly Discussion Board**
Choose a topic presented in the current Learning Unit to discuss with the class. Cite your sources to receive credit for the work you have done. Remember that the work you do is a “reflection” of who you are. Posts should be accurate, considerate and grammatically correct. Full credit responses will include all of the following:

1. **Select** and clearly define a Key Concept from the eTextbook, eLecture, or eWorkbook. This MUST be referenced. (1pt).

2. **Collect** a professional example from a journal article, book, movie or a known professional Internet site like APA.org or a university.edu. Showcase how the key concept you selected relates to or is used in a professional field. This MUST be referenced. (1pt).

3. **Reflect** on how this key concept relates to your personal experiences. Provide a personal example of your life experience or understanding of this key concept. (1pt).

4. **Connect** the key concept to another academic setting. How can you make a connection between your understanding of the key concept and information you already know from another course or learning environment? Provide the example of the connection you made and describe how it relates to the key concept. (1pt).

5. **Cite Sources** – You will have at least two references and will cite any sources mentioned. Citations must be done in APA format. Please refer to citation guidelines if you are in doubt of plagiarism. (1pt).

6. **Peer Feedback** – Reply with a comment on another student’s post. Be insightful and considerate when responding to your peers work. Credit will not be given to rude or inconsiderate responses. Responses must be a minimum of 2-3 sentences that convey insight beyond “I agree” or “Good Job”. Also, no credit will be awarded without a prior original post. (1pt). Credit will not be given for Peer Feedback without a submitted key concept post.

**Example 2: Reflection Paper Questions & Expectations**
Please follow the subsequent steps to complete the Reflection Paper:

1. Please reexamine all your Key Concept Discussions you submitted throughout the course.
2. Reexamine all your responses to other students.
3. Reexamine your All-About-Me profile you created at the beginning of the semester.
4. During reexamination ponder on the following questions found below.
5. Then answer in 300-500 words on the progression you have made academically, intellectually, and maybe even personally, from the beginning to the end of this course. As well as, according to the performance and quality of work you generated within the course. It may surprise you all you have learned!
   - Why did you take this course originally?
   - Do you feel like you know more about the psychology of stress than before taking this course?
   - What is your current impression of stress management as a field of study and science now that you have taken a course on it?
   - Did this course change any of your stereotypes or perceptions of stress, if so, how?
   - How was the course similar or dissimilar to what you expected originally when you first began this course?
   - What parts of the course were the most intriguing to you?
   - Why do you think communication through students is important?
   - How can other students play an interactive role in giving feedback for teaching and learning?
   - Did you notice any subject themes or consistent feedback in your Key Concept posts?
   - How did you take the feedback you received and incorporate it into your project?
   - Have you noticed other ways you learn best as a result of this online course, if so, what are these other ways?
   - Has the course strengthened your learning style and if so in what ways?
   - How has your contribution to class discussion and responsiveness to other students promoted learning and interaction?
• How do you think this knowledge and stress skills may be able to benefit you as an individual in society, not only personally, but also professionally?
• Does the field of stress management apply in any way to your future career or goals and how so?
• Did this course impact the way you normally think, feel, or behave? If so, what will you do differently as a result?

Example 3: Semester Growth Paper

These questions have been converted into an evaluative online Course Analysis Survey

- **Class eLectures**: Were the class lectures helpful? How?
- **eTextbook**: What aspects of the eTextbook were most useful?
- **eWorkbook (on flash drive)**: In what way was the eWorkbook helpful?
- **Videos**: What did you learn from the online streaming videos? Did they help to illustrate certain points?
- **Exams**: Were the major exams and quizzes helpful in determining what you learned?
- **Book Reviews**: How useful were the books you chose to review in creating your semester project?
- **Internet Sites**: Did the Internet sites you researched have useful or accurate information?
- **Relaxation Exercises**: Did the relaxation exercises help you to manage stress? Which ones did you like best/least and why?
- **Discussion Boards and Blog Entries**: Did they help you to interact with other students? Did writing and responding to discussion boards and blog entries help you to better understand the course material?
- **Project Presentations**: Was putting together a presentation helpful to you? Did you learn anything from other student presentations?
- **Semester Project**: What is your overall opinion of your semester project? Do you think it helped to manage your stress? Will you continue with your project after the class has ended?
- **Course Design**: Could you navigate the class website without difficulty? Was the information on the website accurate and useful?
- **Extra Credit**: How useful was the extra credit assignment?
- **IT Staff**: Did you receive assistance from IT? Was the IT staff helpful?
- **Teaching Assistant**: How helpful was the teaching assistant?

Transfer of Skills

Each pedagogic goal, elearning activity and the subsequent eportfolio activity listed below allows students to acquire personally relevant and useful stress management “skills before pills” beyond the academic environment. Permitting students to personally choose and research their own stress reduction interventions allows for relevancy, efficacy and fit. Likewise, these processes, when purposively structured, teach students to commit, select, reflect, record and demonstrate evidence of their successful achievement. The deliberate efolio organizational structure and elearning environment in this stress management class promotes independent mastery, self-generated goal-setting, reflective critical thinking skills, self-directed motivation, personal commitment, peer support, review of health habits, identifiable progress, and creative problem solving solutions.

The personal and public integration of several of these health-related elearning activities influences a significant relevant social issue “stress without distress” while simultaneously providing essential eportfolio values and skills. By carefully examining the extent to which each elearning assignment meets one’s pedagogic goals, we may also, in turn, evaluate the desirable evidence of the process/product produced relevant to the inherent aspects of eportfolio identity development. Please see sample next page.
Social Feedback and Assessment

Students support one another through weekly progress blogs, as well as present their final semester stress reduction projects by posting their completed project via PowerPoints for other students’ review and comment. They also post their reflection paper with the requirement that they provide feedback to others. This sharing and networking inherently affords students greater opportunities to observe and discover creative solutions from their class cohorts. This deliberately-structured peer engagement also provides a venue to directly exercise and implement relevant peer feedback methods to their own personal stress reduction project. Instructor feedback and assessment is provided directly through grading of quizzes, exams, book reports, web site reviews, presentations, progress blogs, key concept postings, reflection papers and semester projects. Self-selected learning/grade contracts promote necessary ownership and personal accountability. Required public discussion promotes peer support, encouragement and guidance. Weekly supportive peer evaluations and peer feedback on class subject contributions helps to shape observable learning outcomes. Students are rewarded by the support, insight and social reinforcement of genuine praise and celebration of their incremental successes. Students feel a part of something greater than themselves and are encouraged to take risks regarding their views, their failures, and the small but steady changes in their behaviors. Many students express that the skills learned in this class go beyond the course, and that they leave with a new set of competencies that not only contribute to significant changes in their health behaviors, but have set them upon a path toward life-long learning and self-efficacy.

Summary

The major premise of this paper is about the necessity and desirability of designing elearning course environments that maximize opportunities for eportfolio identity development while simultaneously meeting academic and scholarly expectations. Students are required to meet course material standards and then ultimately demonstrate the practical application of their learning. Several experts have suggested that students should be educated for this challenge by adopting efolio thinking in their respective courses and by providing the scaffolding [11]. This approach is seen as essential to fostering and training habits that promote quality and valuable eportfolio skills. This paper has demonstrated by several examples how one might structure elearning assignments and coursework activities that deliberately nurtures these types of values, skills and training. While Internet and innovative technologies (eporfolios, for example) have certainly allowed greater freedom of expression, communication and identity development, they have also required greater responsibility for understanding, teaching and directing this powerful means of self-expression. Perhaps, due to the ever-evolving and rising cost of technology and the need for accountability, academic environments (particularly elearning environments and eportfolios) are under pressure to demonstrate the “learning” and substantiate cost and methods via measurable expected outcomes. ePortfolio identity development is substantially improved when students are taught to incorporate the specific efolio values and skills throughout their academic coursework.
“Just as people don’t judge their self-efficacy in driving by whether they can find their ignition and negotiate entering the roadway, students do not judge their future academic performance (and thus, scholastic self-efficacy) by whether they can repeat what they have learned verbatim. The world is much more complex than that.”

Albert Bandura

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Developing Civic Identity and Assessing Civic-mindedness Using ePortfolios

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Background

According to the Lumina Degree Qualifications Profile, civic learning is important on every type of college campus. However, what are we doing to assess civic learning? As an AAC&U LEAP campus and in alignment with the campus mission, service-learning courses, service-based scholarships, and community-based research have been emphasized as high-impact activities to achieve essential learning outcomes of civic knowledge and engagement. According to Kuh (2008), high impact educational practices "can be life changing...bring one's values and beliefs into awareness...and help students develop the ability to take the measure of events and actions and put them into perspective" (p. 17). A central focus of the IUPUI Center for Service and Learning (CSL) is to facilitate a learning process in which students are able to articulate and demonstrate civic growth as a result of their participation in teaching, research, and service activities in the community.

Objectives

Does your campus mission include civic engagement? If so, how are you documenting and intentionally integrating civic learning outcomes into the student’s experience(s)? How are you assessing civic learning? The challenge with a student's development of a civic purpose is that it can grow from both curricular and co-curricular experiences and both can benefit from intentionally structured critical reflection. These reflection products can provide evidence that is captured in ePortfolios. This workshop will allow participants to work with a set of assessment tools to assess civic-mindedness and consider how ePortfolios can make civic learning more visible and provide a basis for assessing civic learning outcomes using one of several rubrics that will be presented.

Purpose

The purpose of this workshop is to help participants develop a clearer understanding of various terms related to civic engagement including civic identity. From there we will present how one campus initiative has led to the development of intentionally designed tools to assess civic-mindedness and uses ePortfolios to facilitate growth, document evidence, and assess student civic development.

Participants will interact with the presenters in three different ways. First, they will be engaged in a discussion around what civic engagement means on their campus and how this might be translated into civic learning. As facilitators, we will provide various definitions from AAC&U, Lumina Foundation, and leading researchers in the field in order to create a clearer understanding of what it means to be civic-minded as both a student on the path to graduate (CMG) and as a professional (CMP) after graduation.

Then, session participants will be asked to take a short survey used to assess civic-minded professionals (CMP) (Hatcher, 2008). The purpose of this exercise is to illustrate the concept of civic-mindedness in a personal way, which helps to develop a more critical understanding of a minded graduate (CMG); think about how institutions might approach civic development in students; and serve as a bridge into the final activity, which is to actually assess a student’s piece of work using the CMG rubric.

Lastly, to illustrate our use of ePortfolios, session participants will see how evaluation tools and reports within our ePortfolio site facilitate our work (assuming we have internet access) and how Epsilen, and open source ePortfolio platform readily available to students and college campuses, can be used. Then, we will report our findings from the project piloted on our campus in the 2011-2012 academic year. Lastly, we will discuss future implications and directions of our ePortfolio initiative, which has the intended purpose of furthering student civic growth and development.

What participants will gain

Through the course of our work, CMGs have been assessed using multiple methods (survey, written narratives scored with a rubric, interviews) that can provide information for participants in service-
based scholarship programs, service learning courses, and for institutional-level assessment of outcomes across all degree programs, including graduate and professional programs. Evidence on the validity of these measures of CMG includes convergence across methods, higher scores for students with more community service involvement, correlations with a measure of integrity (Bringle, Hatcher, & MacIntosh, 2006), and non-significant correlations with a measure of social desirability (Steinberg, Hatcher, & Bringle, in press).
Electronic European language portfolios and identity

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Introduction

Electronic European Language Portfolios (or eELPs) have been around for as long as their paper-based version. The European Language Portfolio, looking at the website of the Council of Europe dedicated to it, has clearly branched into paper versions and electronic ones, with a specific accreditation form for each. To date, there are four accredited, or validated, eELPs, not including those whose validation was obtained at the latest meeting of the validation committee in November 2010, which was also its last meeting.

However, there seems to be a research gap regarding eELPs. To our knowledge, eELP-based research has never been published in scientific journals, maybe due to the limited availability to the public of eELPs. As a concept, the eELP has received virtually no scholarly attention. To date, the only eELPs accessible to a wide public are the ALTE/EAQUALS version (validated by the Council of Europe) and the unaccredited ProfELP. The Lolipop eELP and the eelp were developed with European Union co-financing, but have not been accredited and their access is submitted to a request made to teachers of those universities which are members of the project. Other accredited eELPs restrict access to the sole members of their institutions. This is also the case for the validated Dutch eELP. This paper focuses on accredited eELPs, unless indicated otherwise and although there are many more ELP-based ePortfolios which have not received Council of Europe validation, either because their developers simply never asked for it or because they failed the procedure. More specifically, the present study deals with eELPs in a university context. Actually, EELPs aim at motivating learners to learn languages and promoting their multilingualism, their mobility, and hence, their employability. Increasing motivation is actually the first objective of eELPs as presented by the Council of Europe, while the second, the documenting function, is implied by Council of Europe and European Union recommendations to encourage the use the Europass Language Passport to make language competence and achievements transparent so as to increase the mobility of European citizens. At the same time, there are very strict privacy features for eELPs to be accredited, described in the validation form. Owners must be able to destroy their eELPs, change them and restrict access to their material. However, in such conditions, how can higher education institutions embed eELPs in their teaching while leaving students free to restrict access to the content of their eELPs? How can eELPs both guarantee owner privacy while fostering motivation and promoting employability? How far are these aims compatible? How can institutions square the circle? How can learners express their identity through their eELP? Actually, eELPs simultaneously aim at three levels of users: owners, teachers and visitors.

Our research questions are fourfold. What contribution do eELPs make to supranational identity? What makes an eELP, compared with other ePortfolios? How do eELPs shape the identity of institutions committed to their development and use? And what is the effect of eELP ownership at individual user level?

This paper is based on the experience of a development team of a Council of Europe validated eELP and was sponsored by the LILAMA network of language policy, a Leonardo da Vinci - Grundtvig project (143523-LLP-1-2008-1-ES-KA2-KA2NW) which aims at observing best practices of language policy which increase employability among the citizens of Europe. LILAMA is due to make language policy recommendations at the local level by the end of 2011.

Method

The theoretical grounding of this study can be found in Spolsky’s language management theory (2009). Individuals’ language choices depend on their understanding of what is appropriate in the community at large. The community, in return, is defined rather extensively, all members being language management actors in one way or another: the family, religion, businesses, public space, the educational system, legal and health institutions, the army, various levels of government, NGOs, supranational organisations and such language managing bodies as agencies and academies. Watts (2007: 489, quoted in Spolsky 2009:2) considers that interactions between language management actors can be analysed by studying individuals, institutions and organisations separately and as a
network. However, such a sociolinguistic model allows to explain rather than predict, the overall system being very much chaotic.

Supranational organisations are a relatively recent level of authority, dating back to the mid-twentieth century. They tend to exert this authority on their members, influencing national policy-making. Regarding the European context, Spolsky devotes a whole section to European Union language policy, but a mere paragraph to the Council of Europe. Both organisations share a common aim, which is acting on language teaching to overcome communication issues between member nations, which is “a classic case of organized language management” (2009:213). The Council of Europe provides the theoretical grounding allowing for free trade and movement to develop within the member states, introducing such notions as plurilingual proficiency, encouraging language learning from an early age, arguing for two languages to be taught in addition to the mother tongue and working towards standardising language teaching and assessment. Overall, however, Spolsky considers that “various international organisations are very weak participants in [the world’s] language management” (2009:224) and that the power of international organisations is limited in practice.

This is in line with the recent move of language management theory towards acknowledging the importance of micropolitical issues. These involve organisations, with their agendas, as well as individuals, who in turn have their own agendas which lead them to adapt or resist change. Alderson (1999, 2009) points out that language management must take into account agency at various levels, among which classroom teachers, policymakers and politicians. The role of individuals and institutions seems to have been overlooked. Language policy decisions are often made by key players within and outside organisations; there is also a trend towards managing languages on a project basis (which Alderson describes as “the projectisation of English language education” (2009:4)). At the same time, Alderson argues that there is a need for research into political behaviour, why individuals act the way they do, and for a research methodology allowing to report such behaviour, which has been more studied in the theory of management than in the context of language education. Studying group decision-making helps understand how organisations operate. Individuals in corporate environments and in collective language education ventures may share similar characteristics, like the figure of the entrepreneur, the way change is managed or conflict-handling.

Research in language policy and planning has recently explored in more detail the relationship between individuals and institutions. Baldauf (2006) suggests that micro language planning in relation with agency and language ecology has been an relatively underestimated field of research. Neustupný & Nekvapil (2003) make a distinction between simple and organised language management, simple language management dealing with individual issues, while organised management takes place between several participants, with possibly conflicting ideologies. In language ecology, both simple and organised language management often work simultaneously. Canagarajah (2005) considers that in English language education, bottom-up issues take increasing importance. He notices a move away from target language to the notion of “language repertoires”, focused on the acquisition of plural systems of language use and not just on those of native users.

EPortfolio research has also been more user-centred as of recently. The interest of ePortfolios for documenting students’ achievements was noted by Godwin-Jones (2008). Imhof & Picard (2006), investigating on ePortfolio acceptance in teacher education, have found that supervision and mentoring in eELP use and good communication between instructors and learners was a necessary condition for learners to perceive the usefulness of the ePortfolio approach. Lopez-Fernandez & Rodriguez-Illera (2009) found that if ePortfolio impact on learners was not significant, students nevertheless thought it valuable. Studying distance education learners, Shepherd & Bolliger (2011) noticed that ePortfolio use little reduced students’ cognitive load.

The analysed corpus is based on discourse analysis of Council of Europe correspondence exchanged in the framework of the accreditation process of an EELP, project managers’ correspondence and ELP-related Council of Europe and EU websites.

Results

The eELP and supranational identity

The Council of Europe

EELPs are grounded in the philosophy of the Council of Europe to promote democratic citizenship. The Council of Europe was established following the end of the second world war as a way of
promoting human rights, democracy and social cohesion. The objectives of the Council of Europe include “to promote awareness and encourage the development of Europe’s cultural identity and diversity; to find common solutions to the challenges facing European society” (Council of Europe, 2011a). This is achieved through a series of studies, recommendations and tools aiming at developing plurilingualism and linguistic diversity, which will benefit mutual understanding, democratic citizenship and social cohesion across the continent. The Council of Europe actually sees its language policy-making field of activity as a way of solving communication issues, in line with Spolsky (2009). The Council of Europe has financed ELP projects through the ECML, particularly IMPEL, ELP-TT, ELP-TT2 and ELP-TT3, to support the implementation of ELPs.

**The European Union**

As a policy, the eELP has been endorsed by the European Union which considers that the European Language Portfolio « (…) can help people to value, and make the most of, all their language skills, howsoever acquired, and to carry on learning languages by themselves » (Commission of the European Communities 2003:7). EELPs help learners bridge formal and informal training and promote autonomous learning. In addition to co-funded several eELP projects, the Union has, through its agency in charge of the development of vocational training, Cedefop, developed its own electronic version of the Language Passport, which is one of the three canonical parts of the European Language Portfolio, and of which it holds joint copyright with the Council of Europe. The Passport is considered prone to foster workforce mobility.

Actually, the eELP is in line with both Council of Europe and European Union language policy recommendations and is promoted by both supranational organisations as capable of solving the issues faced by the European continent by reinforcing social cohesion and social inclusion.

**The identity of eELPs: what makes an eELP?**

Validated EELPs share characteristics which are described across Council of Europe literature.

**Compliance with a number of principles**

EELP contain three parts whose terminology is always identical (Language Passport, Language Biography, Dossier) across validated ELPs in the same language and coherent within a same model. One of the three parts is the Language Passport, which records language levels, expressing them along those of the Common European Reference Framework of Languages (Council of Europe, 2000), and language achievements. The Biography records the most successful language learning experiences, invites to reflect on how to build on them to learn new languages or reuse the same methods to reach higher levels, and develops a multilingual awareness. The Dossier can be filled by any evidence of linguistic competence which would support statements made in the Passport. The Annexes or Checklists describe in detail competencies for all levels, with space for learners to add their own capabilities. The wording of each part depends on target users. Learners are expected to fill in their Language Passport, indicating their competencies and levels, document their level by placing materials in their Dossier, reflect on their successful language learning experience, check their levels in detail through the Annexes, set themselves new, progressive, accessible learning targets, work towards meeting them using the successful methods recorded in the Biography and applying these methods across competencies, levels and languages, documenting their achievements in the Dossier, updating their Passport, then set themselves new objectives, etc. in a virtuous circle of learning. Through the three-parts-plus-one structure, eELPs are supposed to make learners “learn”, “reflect”, “read”, “use the media” (Council of Europe, 2002), travel, act more, increasing their motivation to learn and giving meaning to their learning.

The translation of the levels grid has to be the official translation or has to be approved by the national ELP committee. Visually, eELPs bear a Council of Europe logo on the homepage and, on each of the first pages of each part, a standard text presenting the Council of Europe. The home page has to reflect the European character of the eELP, through means which are left to the initiative of eELP developers.

**Compliance with intellectual property laws**

Accreditation gives eELPs the right to bear the name of “European Language Portfolio” and the Council of Europe logo. However, as the name eELP does not appear to have been registered, some ePortfolios bear the name of eELPs without being accredited, which the Council of Europe disapproves. Similarly, there is no obligation for eELPs to bear the name of European Language Portfolio. The necessity to respect intellectual property laws is reminded in the letter informing of accreditation, but the Council of Europe is not specific and does not say what they are; eELP developers are left with the responsibility of finding them by themselves. Once institutions have
identified these rules, performed auditing of their eELP against them, modified it accordingly and informed the Language Policy Division, compliance with these rules will result in the Council of Europe publicising “any website [developers] may have created for [their] ELP”, which is the eELP itself and websites dedicated to project dissemination. Actually, respecting intellectual property rules is not a prerequisite for accreditation. The Council of Europe itself does not perform in-depth intellectual property auditing inspecting the source code. It grants validation then makes institutions responsible for respect of intellectual property laws if they are to disseminate their eELPs through the Council of Europe.

However, due to the very nature of ePortfolios, these rules may be extremely complex. The liability of each type of user has to be examined so that disclaimers can be drawn taking into account users’ jurisdictions. Users can be eELP owners, but also teachers and programme administrators and visitors from private companies interested in the language profiles of those students who have authorised browsing into their ePortfolios. Companies and programme administrators may have subsidiaries or correspondents abroad. Dossier content may include written, audio, scanned, video or mixed medium materials or materials mediated by the eELP owner but authored by a third party such as scripts of song lyrics, or scripts of speeches or of videos. Due to the very nature of language, evidence of the capacity to mediate linguistic utterances from one language to another, or from one genre to another may infringe on intellectual property rights. Dossier content pose a particular problem to eELP developers wishing to offer eELP owners the possibility of making the content of their Dossier public. This aspect of eELP development is crucial to dissemination. Yet, it is not mentioned in the accreditation file. These questions are most likely to arise after accreditation and may hamper dissemination. Restricting access to eELPs solves the issue, although the mobility-enabling potential of eELPs is not fulfilled. The intricate nature of intellectual property rules when it comes to eELP content may go towards explaining why the only publicised eELP on the website of the Council of Europe is the downloadable ALTE/EAQUALS eELP, and not websites of web-based eELP models. Besides, universities’ economic model seldom allows them to commit themselves to eELPs’ maintenance beyond the duration of a user’s studies.

Respect of sovereignty

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eELP models. Besides, universities’ economic model seldom allows them to commit themselves to eELPs’ maintenance beyond the duration of a user’s studies. 

**Compliance with Council of Europe recommendations to use the eELP**

Accreditation creates a moral obligation for institutions to use the eELP, as project coordinators are expected to send the Council of Europe a report on the implementation and use of their eELP model within three years after validation. Distribution channels as well, the cost for users and users’ choice to resort to another eELP model have to be cleared prior to obtaining accreditation. Conversely, students’ choice not to make their eELP accessible to teachers and, in effect, not to use their eELPs, has to be acknowledged too, as the embedding of the eELP within assessment goes against the philosophy of the Council of Europe. Higher education institutions have a difficult place to find to eELP use between compulsory and optional.

**The eELP and institutional identity**

The form taken by the accreditation process aims at helping developing institutions, in this context universities, understand the conceptions of the Council of Europe regarding user identity. These ideas are expressed in the questionnaire, of the Q&A type, which is aimed at making institutions reflect on their understanding of the philosophy of the Council of Europe. The national contact person is also in charge of mediating it. Following submission of an eELP model, the validation committee may also make further recommendations and postpone its final decision as to whether or not to grant accreditation. The committee thus may make remarks before, during and after accreditation. It is in the letter granting accreditation that the committee requests a report on eELP implementation within three years.

The accreditation procedure is very much of an initiatory journey into the Council of Europe’s philosophy, aiming at making institutions understand it. In order to be validated, the eELP has to be complete, include certain elements unchanged, interpret certain concepts and create the subsequent pages or questions prone to raise multicultural awareness.

**The eELP and owner identity**

The eELP is very much protective towards users’ individual freedoms, as reflected in the accreditation form. Learners may restrict access to their eELPs at all times. De facto, this makes eELPs optional in classroom use and assignments as students cannot be imposed make their eELPs accessible. As they are the sole owners of their eELPs, they should not be forced by the institution to give access to their eELPs as part of the evaluation and assessment process.

However, there is no obstacle for eELPs to feed databases which could be accessed by states. The Council of Europe is very much aware of this risk, as “The possible “interlinking” of state information reservoirs with those of non-governmental agencies such as banks, insurance companies and airlines is another challenge. The growing transfer of information across borders via the internet has also raised questions about the rise of ‘profiling’ (…) and the emergence of a “surveillance society”” (Council of Europe, 2011b). A member state which is a member of the Council of Europe and which would want a university to surrender the information stored in the eELP database could obtain it and the Council of Europe would probably not be aware of it and withdraw accreditation of the eELP. Security features of the eELP and technical measures for privacy protection are not part of the auditing procedures for eELPs to be accredited. It is quite surprising, then, that the Council of Europe does not make recommendations as to how not to use eELPs or to keep the data independent from other sets of data. Would it approve of the close monitoring of learners’ practices and competencies? The Council of Europe has made available case studies on ELP use and guides for teachers and trainers, but not as to whether or not to research into eELP use and users on an anonymous basis.

In-class use of eELPs is limited by university computer classroom availability, a reality in the French system in which Bachelor’s degree language learners may have no exposition whatsoever to language learning in multimedia classrooms throughout their three years at university and with an average of fifteen hours’ language learning a semester. EELP actual use at home as envisaged by the Council of Europe then very much depends on whether or not learners accept the transfer of responsibility for their learning from the institution to themselves which the eELP aims at fostering.

**Discussion**

Looking at the policy diachronically, one notices that eELPs have not replaced paper-based ELPs, although they were aimed at making language identity management simpler and less costly. EELPs can be provided to an unlimited number of users at no extra cost. Compared with their paper
counterparts, some eELPs allow teachers to guide students through their learning and can be used as subject-specific Learning Management Systems, with a guidance element provided in the form of the Biography. The Biography itself is a feature that other LMSs do not have. One can imagine that eELPs could be used not just by higher education institutions, but also by companies, for instance to manage employees’ language competencies in training and to find the in-house competencies required for export. This would probably provide large companies, or companies operating on many sites, with a cost-effective way of solving their cultural and linguistic challenges. So why have eELPs not replaced paper-based versions? The difficulty of simultaneously managing all these different identities, the European, the institutional and the personal, may be a possible answer. Can an ePortfolio be used both for personal development and identity-through-language management, however respectful of the owner’s identity? Is Bibeau’s (2005) “mixed model” of ePortfolio, bearing features of the “Big Brother kludge” and of the “just for myself” ePortfolios, actually sustainable?

Conclusion
The eELP aims at developing a European plurilingual identity. It is based on principles whose application was, until recently, checked by a procedure, a committee, a national correspondent and was sustained by a website. However, as a policy, it seems no longer to be a priority of the Council of Europe. The accreditation process has come to an end with the end of the term of office of the validation committee on December 31st 2010. The promotion of multilingualism and plurilingualism seems to have become much less of a priority for both the Council of Europe and the European Union. On the website of the Council of Europe, languages are now mentioned in relation with minorities; it is the protection of minorities through that of their languages which is at stake. Multilingualism was a separate portfolio in the European Union until 2010 and had its own high commissioner, but it is no longer the case now. The current foci of Council of Europe and European Union policy are now respectively social cohesion and social inclusion. However, the eELP is no longer promoted as a policy enabling to foster plurilingualism and hence better communication among European citizens and the prosperity of its promoters and holders.

Launched by the Council of Europe and supported by the European Union, the eELP then lied for ten years at the heart of the two European supranational organisations’ language management initiatives. Ten years after the ELP was launched, the eELP has survived but not replaced paper-based ELPs. However, identity requirements, among which intellectual property issues, make the policy costly and difficult to develop and to transfer.

We can hope that an eELP delivered free of charge to universities as part of a university project, with technical support taken care of beyond initial development, will prolong the identity management policy of the Council of Europe and of the European Union. We hope it benefits users who accept the overall liberal philosophy of the ELP, which rests on learners’ acceptance of being made responsible for their learning process.

The eELP then truly lies at the cornerstone of supranational, national, institutional and personal identities. Can so many identities be managed through a single system? Can identity be managed in the first place? Is it even to be wished for? The question remains very much open.

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Portuguese Secondary Schools and the eEuropean Language Portfolio as an EFL Tool

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A Portfolio is a tool that, no matter your area of interest or research, has proved to be extremely relevant. Undoubtedly that is the case of teaching and learning. This paper focuses on the significance and impact that ePortfolios have been having (and should have) in Portuguese Secondary Schools when teaching English as a Foreign Language (EFL), more specifically the electronic European Language Portfolio (eELP).

It attempts to prove how both learner and teacher training are essential if one wants to use the ePortfolio successively and how this can be an ingenious task when schools and teachers are not ready for it. As Scrivener states “many teachers operate their lessons as if the class were a machine into which raw materials can be fed and which, when used with certain techniques, will produce predictable outputs” (2005:74). Tools such as this can make the difference in a classroom environment where students need to be recognized by their particularities and their personal interests. The electronic European Language Portfolio, as stated by EAQUALS-ALTE, has been created “to act as a tool to help you develop your capacity to reflect on objectives, ways of learning and success in language learning, as well as plan and assume more responsibility for your own learning”.

This paper also reflects on the impact the usage of the eELP has on teaching and how piloting has become essential as to know what the students’ problems when using it are. It gives an insight on Portuguese reality and teachers’ concerns when using it as well as valuable feedback on their main difficulties when trying to implement it in their classes. It also suggests some activities that could be undertaken as to get students and teachers more involved in the process of using the eELP.

It is fair to say that over the past few years there has been some effort to apply some of the ideas proclaimed by the CEF and the ELP. However, as Willis (2007) says “the CEF is far from perfect: it is often very difficult to interpret; and we take issue with it on some basic questions, and find it over-elaborate in a number of ways. It does, however, provide a useful starting point to illustrate the principles of syllabus specification.”(p.181) The same happens with the eELP because even though the promotion of autonomy is something that should be seen as an advantage, it is still faced by many as a threat.

Such a tool with a twofold function, product-oriented and process-oriented, fosters autonomy, reflective learning, goal-setting and self assessment. The question is, are we making the most out of it?
Creating a Competency Standard for Learners

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Abstract
Tools that allow learners to understand and interact with competency data tend to be complex, sector specific and often held separate from learning data. The Interoperability project has created a standard to express competency that can sit and work alongside existing learner data and tools. The standard has been developed by the ePortfolio community for integration within user focused learning applications. The standard is simple and where possible incorporates existing standardisation from standards such as Dublin Core and SKOS.

Introduction
Lifelong learning in recent years has shifted from a focus of contained Virtual Learning Environments to Personal Learning Environments (PLE) that are distributed by nature and span various sources of learning data [1]. A challenge facing the PLE community is how distributed sources of data can be presented in coherent and targeted ways in applications such as ePortfolio. Central to this task is the creation of standards to express in common ways PLE data when it is exported from, imported to or aggregated within systems. The Interoperability project has been focused on the development of such a standard for competencies.

Background
To date various attempts have been made to standardise how we can express and manage competencies. This standardisation has developed out of often government led initiatives to manage skills and learning in specific communities. For example throughout the European Union multiple competencies exist related to obtaining a driving license and these are often expressed in specific national standards. On top of national standards international effort has been made at mechanisms by which competencies can be expressed, but often these are sector specific [2].

The result of this effort is that despite the creation of numerous standardisation creation and integration efforts made by organisations such as IEEE and HR-XML at international level, QCDA (UK), Kenteq (NL), RNCP (FR) at national level and numerous European projects, very little progress has been achieved to make it possible to seamlessly share competency definitions across people, organisations, languages, services and applications [3].

Approach
In an environment of multi sectors of learning and cross border transferral of data as represented in the realm of ePortfolio the current standards for competency are of little use. In fact to use existing standards often extra effort has been made to manage and transform them, an area that has developed its own tools and standards. The Interoperability project has been funded by JISC and led by the UK ePortfolio community to create a cross domain and lightweight standard for the expression of competency.
Data Stores and Insecurity

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Legislators have the protection of personal data privacy in their sights. Service providers plough ahead with millions of users and application-specific privacy standards. Some think now is the right time for an alternative approach to personal data management, based on rules defined by users. In particular the developers of Personal Data Stores (PDS) seem to think so, and are in the process of designing applications to ‘claim data back’ from service providers. But can the PDS concept offer a practical solution to address personal data insecurity on the web, and do users care?
The Space in the Middle: Neither VLE or PLE

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Seemingly the VLE is dead (Stiles, 2007), though its role in the ‘amplification of the dissemination of content’ (Johnson et al, 2006) appears unabated. Never-the-less, the intrinsic shortcomings of institutionally controlled learning technologies and the rise of Web2.0 and its social learning foot soldiers suggest that the transition to PLEs is simply a matter of time.

Drawing upon extensive action-research and case studies from over 20 institutions a picture emerges of a technology sharing some characteristics with the VLE and others with the PLE – represented as a Venn diagram this technology is the space in the middle: and the space discussed in this presentation.

Typically ‘learning’ technology in the form of the VLE or LMS is provided by the institution; content within it is both created and controlled by agents of the institution. Further, the institution controls who has access to the system and the content within it. The PLE is an idiosyncratic collection of tools (Attwell, 2007; Downes, 2007) and services notionally owned by the learner, as is the content which is broadly under the learner’s control.

The technology in the middle, referred to here as a Personal Learning Space, is provided by the institution to serve certain purposes for which both the VLE and the PLE are unsuitable. Typically these purposes include processes which might be considered ‘high stakes’ such as assessment, validation, verification and auditing. Equally, the PLS allows tutors to support large numbers of learners engaged in activities which have some temporal element and in which ongoing dialogue, feedback or support is essential to their success.

Unlike the VLE the institution has only limited control over who can access the system, but not to the content on the system which is owned and controlled by the learner. Other than by force of law the content cannot be viewed without the learner’s permission, and this permission applies to the smallest granules of content which can be shared with anybody, within or beyond the institution.

The research suggests that the PLS works in sympathy with the VLE and the PLE; indeed most definitions would suggest that the PLS is a part of the PLE – though the extent of agency or choice varies according to context. Importantly, some claims for the PLE cannot be resolved without the existence or inclusion of the PLS; and neither can many of the strategic responses institutions are making to the current economic upheaval. This presentation then will conclude with a review of how institutions are drawing upon the PLS to service processes such as APEL, distance provision, placement learning, responsive curricula, employer engagement and cost reduction!
As implementers of ePortfolio we are yet to achieve a happy relationship with our community of ePortfolio thinkers and learners. Developers tend to focus on ways of presenting methods to support learning through technology. However as ePortfolio designers we take this approach at the risk of excluding the rich tapestry of life associated with the learners journey. Non learner focused technology often can fill in the gaps around learning and life is often better represented in social networking rather than ePortfolio platforms, as a result some believe greater learning can be done in the social domain through tools not as bulky as the ePortfolio. This begs the question, is the absorption of learning processes by existing social media is seen as the final nail in the coffin of ePortfolio?
ANNEX: WORKSHOPS, KEYNOTES ETC.
“Oh Lord Make Me Radical…. But Only if it’s Safe”. Stories of Hope from Further Education in the UK

Geoff Rebbeck
Thanet College, United Kingdom

In a sector that appears to be benignly hostile to reflective thinking and recording, Geoff Rebbeck who has taught in Further Education for the last 17 years gives some stories of hope on how the possibilities offered by personal learning space is flickering into life. Many of these occurring beneath the college cultural radar. Some did not survive and others have flourished. Some spluttered with promise, some refuse to be extinguished. Geoff’s presentation covers the grand tour of trial and fortitude with staff, and student use of different portfolio types, capturing different learning experiences, reflecting the stories and experiences of many and tracking a journey others will follow in trying to get colleges to see blended learning beyond the VLE.

Geoff Rebbeck is a qualified FE teacher. He is a Fellow of the Institute of Learning. Two years ago he won the FE National STAR award in the Innovation category for his work in e-learning along with a BECTA Future Learning Award. Prior to this he was the first to graduate with an education degree that specialised in e-learning from the University of Greenwich where his interest in portfolios arose. A tutor in health and social care, he has managed the e-learning brief at Thanet College and it is from his work with colleagues and students in Thanet and his work with the IfL that he draws his experiences.
“ePorfolios” – a Tool for Oppression, Beyond Our Abilities, or Just an Expensive Waste of Time?

Mark Stiles
Staffordshire University, United Kingdom

Despite the numerous initiatives, government “steers”, and endless work on metadata schemas and interoperability, the uptake of ePortfolios – except in a few “mandating” areas – has seen little increase in uptake beyond the use of systems as ornate tools to aid assessment…

Why is this? Are ePortfolios even relevant in the emerging “new age” of Higher and Further Education?

Mark will examine the “landscapes” confronting the “ePortfolio enthusiast”… Firstly, the “national” landscape, where the political climate and the rapidly changing funding model have the potential to transform F&HE into a truly commodity-driven market where even the customer is a commodity. Secondly, the “organizational” landscape where universities struggle to innovate and respond to change, laden as they are with policy, governance and organizational cultures, which are solution rather than problem focused, and customer centric in name only. Thirdly, the “individual” landscape, where a new generation of customers, including work-based learners, will have very different requirements, expectations and personal constraints. And lastly, the “educational” landscape, which can no longer be concerned solely with enhancement but must “deliver to budget” - and to the expectations of those inhabiting the other three landscapes. As well as surveying these landscapes, Mark will hope to suggest some approaches which may enable practitioners, and institutions in particular, to shed some light to help them find their way.
ePortfolios – 7 Reasons Why I Don’t Want My Life in a Shoebox

Donald Clark

In his keynote address Donald will come back to the debate started with a blog post where he challenged some of the ePortfolio beliefs: http://donaldclarkplanb.blogspot.com/
Building Your ePortfolio: Adding "Voice" to ePortfolios

Helen Barrett
Consultant, United States of America
digital narrative and storytelling
Designing Inspiring and Engaging Activities for Learners

Shane Sutherland  
Pebble Learning, United Kingdom

This workshop will follow the tried and tested format used by the facilitators when generating learning designs for the book Pebblegogy. The principles are taken directly from the Pebblegogy chapter Planning Purposeful Activities.

Participants in this workshop will be guided through a series of activities which will develop an understanding of learning design. They will relate these principles to developing successful activities for learners in spaces like PebblePad. Users of other systems are welcome to attend though they are cautioned that many examples and references will relate specifically to PebblePad.

Key learning design elements will be explored along with the concept of curriculum alignment. Assessment, as a significant driver of ‘eportfolio’ use, and a core element of design, is discussed – specifically its appropriateness in the context of ‘personal learning’.

The latter part of the workshop allows small groups of participants to work together to design an activity which can be used with their learners.

This workshop will avoid the use of computers as much as possible, focussing instead on active discussion, participation and promoting the importance of good learning design in the successful implementation of eportfolio systems.
On Gazelles, Unicorns and Llamas

Shane Sutherland
Pebble Learning, United Kingdom

Drawing on analogy of Dr Doolittle’s Pushmi Pullyu to refer to push and pull services but also as a
image to represent looking backwards at where we’ve come from and looking forward to where
we’re heading.

The keynote will take stock of eportfolios as they have developed to date and will characterise a
series of changes – principally related to the broader learning ecology. The whole is explained
through a representative use-case (and will not overtly refer to PebblePad)!

Unfinished table of changes, past and present:

• What’s Coming / What’s Changed
• One person, one system / SAAS
• One system, one store / One system, multiple UIs
• Distributed content / Improved data reuse
• Crowd-sourcing, social learning, preparedness to share / Application, accreditation and
  assessment services
• Learner control / Knowledge management
• Hegemony of the VLE / Demise of the VLE
• Outcome based CPD / A worldwide learning community
• Serving institutional needs whilst protecting the individual
• More to come, more to consider and more to refine....

There will be a rebuttal of claims that eportfolios somehow lead to better learning outcomes and an
argument for reconceptualising eP’s and relating them to other tools.

(Generic) tools, functions and services that are necessary to make ‘ePs’ relevant for the future are
discussed along with concrete examples from practice.

The PLS is discussed and placed in context with social learning tools and institutional tools. The
relationships between them, and relative merits of each are argued.

The principle of user control is strongly advanced with a representation of the various push and pull
services that enable the PLS to service learners’ more sophisticated and demanding needs.

Drawing heavily on the IoS manifesto (agreeing with parts and challenging other elements) the
distribution and control of data is explored.

The whole will build into a multi-level concept map of tools, services and relationships.
Using WordPress and BuddyPress for Your School's ePortfolio Program

Cyri Jones¹,²,³

¹Zen Portfolio Networks Inc.; ²British Columbia Institute of Technology; ³Capilano University

The open-source WordPress has emerged as a leading blogging tool and content management system. A number of schools have found that it can also be a powerful platform for ePortfolios. Students enjoy using the tool and many actually continue to use their ePortfolio after they graduate. Many students even leverage their WordPress skills learned in their ePortfolio program to other areas of their personal and professional lives (e.g. building websites for companies, their own businesses or volunteer organizations).

This hands-on workshop will provide participants with a thorough overview of WordPress and BuddyPress, and how they can be used for ePortfolios and next generation, social learning networks. As part of the workshop, participants will build their own WordPress-based ePortfolio and will try out a BuddyPress-enabled learning community.

Topics covered will include:

- Setting up a WordPress site
- Privacy protection
- Creating posts and pages
- Personalizing your ePortfolio
- Improving search engine optimization
- Integration with social media (e.g. Twitter, Facebook, LinkedIn)
- WordPress ePortfolio related plugins
- WordPress ePortfolio friendly themes
- WordPress’ importing and exporting tools for true portability
- Security and your WordPress-based ePortfolio program
- Using BuddyPress for ePortfolio support communities and to build a social learning network
- The experience of Capilano University and the British Columbia Institute of Technology using WordPress-based ePortfolios

This workshop will be of use to academic technologists, faculty members, administrators... anyone interested in trying a creative, effective and low cost approach to ePortfolios that students will love and use after they graduate. For maximum benefit, participants should bring a laptop or other digital device (iPad, smart phone, etc.), a file or two with samples of work you have done and a picture of yourself.
As described in the background information attached here, this workshop will focus on using the visual online resource PPD Coach to explore the relationship between identity and learning.

An interactive and discursive approach will be adopted throughout, to explain how PPD Coach is presently used and explore how and where participants might find it relevant to their own needs.

Participants will first be taken on a tour of PPD Coach to understand its ethos and purpose, to develop a sense of the scope of the resource and its layers of activity.

Next, participants will engage in a range of activities available through PPD Coach which have been used by staff and students as part of both the main subject curriculum, personal development planning, staff development and teacher training. All activities relate directly to the ethos of an eportfolio as a place for reviewing and gathering evidence of own learning.

The choice of activities on the day will be influenced by time and, where possible, participant preference and is likely to be drawn from the following:

- asking key questions, like “Are you a frog or a bat?” and “What’s on your t shirt?"
- working with the Wheel of Life, Change Curve and Whitmore’s GROW model in times of planning, self evaluation and transition
- using the Emotional Pathfinder to reveal specific aspects of emotional impact in an experience, their cause, effect and consequence
- extending reflective practice: using learning grids (for past experiences) and laddering as a means of uncovering deeper values at work in seemingly everyday situations
- challenging assumptions about ‘givens’ - using Personal Construct Theory to find out what is real? true? normal?

If time permits (and participants are flagging) I will break up activities with short visual and written student stories, relating to identity and self construction as a key part of their learning journey.

I will conclude by using Brookfield's CIQ as a means of summarising and evaluating experiences of the workshop.
Hands-on Mahara ePortfolio

Don Presant¹, Derrin Kent²

¹Learning Agents, Canada; ²The Development Manager, UK

Mahara (mahara.org) is an exciting open source ePortfolio, invented in 2006 in New Zealand, now growing fast in a variety of sectors around the world. It works well with Moodle or on its own, as both a portfolio “for” and “of” learning.

In this action-oriented workshop you will build the start of your own multimedia ePortfolio, and learn from the inside how Mahara can interoperate with Moodle and with Web 2.0 applications such as YouTube, Slideshare and Screenr. You will also learn how to export your ePortfolio to other systems, making it a true lifelong learning tool.

To get the most out of this workshop, you should bring a laptop and:

- a short professional introduction of yourself in the first person
- a current résumé
- a picture of yourself
- any digital evidence you may already have (images, links to YouTube videos, etc.)

For the purposes of this workshop, you will become a member of Career Portfolio Manitoba for a limited time. You will be able to start this process and have an early look around before the workshop by registering online at careerportfolio.mb.ca prior to the workshop.

Please direct any questions to Don by email: don[at]learningagents.ca
On Practice of Lifelong Learning about ICT Literacy to Use the Virtual Pilgrimage System, “Ubiquitous Sugoroku Henro”, for Promoting a Daily Walk for Health in the Context of Community Traditional Culture.

Atsuya Yoshida
The University of Tokushima, Japan

The “Ubiquitous Sugoroku Henro” is a Game-like “Virtual pilgrimage” system. It displays how much distance the users have walked in the map of “Shikoku Henro”. The distances are automatically calculated from the data recorded in the personal blog. “Shikoku Henro” is a very traditional culture in Shikoku. To complete a whole course, they have to walk approximately 1,117 km. The system has developed to support (1) the elderly peoples to keep daily walk, (2) learning the usage of ubiquitous system/service, and (3) forming the human network in the community. Ubiquitous Sugoroku Henro system was began to use in the life long learning program for the elderly people at the University of Tokushima in 2005. Participants, whose average age were 65-year-old, have joined for 7 years. During the time it was observed that they kept walking every day and making communication each other through the system. As well as participants, local friends and family members who live in distant were also observed to join and share the information. It effectively works to keep walking, enhance ICT literacy and forming network activating community identity.