Paper 90 – Full Paper

Using e-portfolios to support student work placements

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Abstract

Student placements in organisations help to develop graduates with 'employability', defined here as "A set of achievements – skills, understandings and personal attributes – that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy" (Yorke 2006 p8) Often the placement is an assessed part of the programme of study, so it is essential that tutors see documentary evidence of achievements of the student, in order to be able to adequately assess the student's performance . This paper presents findings from a trial of an electronic portfolio (e-portfolio) system for students from Salford Business School on a one year placement. Feedback from the students was mixed, some finding it a very good way to collect their evidence of achievements at work, whilst others were critical for a number of reasons. These included a lack of integration with other software and processes they used, non-assessment of their portfolio work and lack of engagement from some tutors. Overall the project was not a success and was not continued. This was not due to intrinsic features of the tool, but the experience provided important lessons for the adoption of e-portfolios, and more generally for the integration of technology into mainstream teaching. We suggest that successful adoption of e-portfolios requires their integration with information systems in daily use, clear explanation of their value, assessment of their use and active tutor engagement. Further research would be valuable concerning the integration of e-portfolios with social media widely used by students and not necessarily supported by their institution.

1. Introduction

This paper gives the findings from a trial of the use of e-portfolios by students undertaking one year 'sandwich' placements. Placements are defined as a period of time that a student spends in an organisation as part of their programme of study, working as an employee of that organisation; the word 'internship' may be more familiar to some readers. In many disciplines in higher education there is a tradition of 'sandwich' courses (Little 2004), which include a placement period nested within the programme, often between the second and final years of study. The benefits of such placements are well established (e.g. Neill and Mulholland (2003).

In 2007 e-portfolios were being investigated by the University Personal Development Planning (PDP) officer, as part of a national UK initiative. The Business School had a well established, assessed sandwich placement option for undergraduate students. Tutors involved in supervising placement students required documentary evidence of the work conducted, in order to make their assessment, and were interested in adopting new technology that might offer benefits to students and staff involved. Therefore students were selected for a pilot study over a one year period (2007-8). The aim of the research was to study the advantages and disadvantages for placement students of adopting e-portfolios.

The paper begins by briefly discussing some of the benefits of using e-portfolios. It then outlines the implementation of the e-portfolio software for use by students on their placements. This is followed by evaluation of the system used from the student and tutor perspective, considering the affordance of this type of e-portfolio system. The term affordance is used as in the work of Laurillard (2002), and later Conole & Dyke (2004), meaning the behavioural opportunities that the tool affords: for example an e-portfolio affords students the opportunity to keep an electronic collection of their work. Finally there is a discussion of success and failure factors in the adoption of e-portfolios, and guidance for adopting e-portfolios with students on placement.

2. E-portfolios for students in higher education

A portfolio, as a means of showing artifacts relating to learning or experience, is an established practice in disciplines such as the arts, architecture and teacher training. In these fields it is traditional for documentary evidence of achievements or accomplishments to be collected in a paper based portfolio, as a way to show to interested people an individual's capabilities through their past performance. Butler defines a portfolio as:

> "A *collection of evidence that is gathered together to show a person's learning journey over time and to demonstrate their abilities. Portfolios can be specific to a particular discipline or very broadly encompass a person's lifelong learning"* (Butler 2006).

Electronic portfolios provide an opportunity to extend this practice to other disciplines, because digital document exchange and storage allows for a wider range of types of artifact to be included, such as audio, video or other multimedia. An e-portfolio is not only for storing evidence, but can also be used to encourage reflective learning, assessment of learning and showcasing of work to prospective employers. According to Strivens (2007), there has been an uptake of using e-portfolios, in parallel with wider use of digital technologies for learning in higher education, in part driven by findings from the Dearing and Burgess reports. They provide additional opportunities for displaying achievements through different formats and external links, and producing customized CVs.

Abrami and Barrett (2005) suggest that e-portfolios have three objectives: process, showcase and assessment. A view supported by Harper et al (2007), who identify the objectives of e-portfolios as structural, learning and showcase. These objectives are linked, as a 'showcase' is valuable for personal reflection and demonstrating career development, but assessment or structural objectives, through collecting and evaluating e-portfolio artifacts, are integral to course structure and assessment (Biggs, 2003). The learning or process objectives reflect an e-portfolio's purpose, which is to document the student's journey. Chambers and Wickersham (2007) identify the dual objectives of assessment of learning and assessment for learning, and the role of e-portfolios in both of these. Anderson et al. (2009) emphasise the importance of producing a reflective narrative as a learning journey, with links to attached

evidence. They report on e-portfolios used with students to populate their curriculum vitae (CV), e.g. outlines of personal goals and self-assessment of completed learning activities.

Within higher education, student placements play an important role in their learning, and using e-portfolios provides opportunities to record experiences and showcase the evidence to tutors, through access over the Internet, providing an extra communication channel. Vaatstra and De Vries (2007) suggested that project or work based learning is an excellent way to develop generic and reflective competencies. By documenting day to day activities in an e-portfolio, and reflecting on actions taken and outcomes from these actions, deeper learning from experiences takes place, new learning is related to prior experiences, solving novel problems can be shown and students come to understand their own thinking and learning strategies. It is this application of e-portfolios that was the intended outcome of this study.

Herner-Patnode and Lee (2009) report on their use of a commercial e-portfolio system with student teachers on their Capstone experience. As a result of this trial the teachers felt that they had a more comprehensive record of their work, and an increased level of reflection, as the system helped the teachers to view their learning process as a whole rather than within discrete subjects. There is potential for e-portfolios as a means of charting a student's journey through work experience, by linking to evidence of achievement (Butler 2006). Here the onus is on the individual to maintain the e-portfolio for their own benefit, to demonstrate professional development.

It is one matter providing software tools to accomplish tasks, but ways in which users actually apply the tools may vary from those anticipated by designers. McGrenere and Ho (2000) defined the 'usefulness' of a system to be its planned action possibilities, and a system 'usability' to be its perceived possibilities. So there may be a difference between the way a system has been designed to be used and the way it is actually used. Although their study was with school aged children, Lakkala et al. (2005) found that affordance played a part in the different ways in which the teaching system was used by the children. McGrenere and Ho (2000) further recognised the need to not only design possibilities of affordance into a system, but also signpost these affordances to the user, to make the system useful. The 'perceived affordance' depends upon the users' experience and knowledge. John and Sutherland (2005) recognised that an actor's past experience affects the use they make of new technology. Another factor affecting adoption of software is resistance to change, on the part of the user, because habit, fear of the unknown and security are well documented reasons why individuals may resist using new technology (Robbins and Judge, 2003:410).

In the next section there is an outline of the rationale for requesting an e-portfolio from students on work placements and description of the particular tool used.

3. E-portfolios for placement students

This research was located at the University of Salford, with students from Salford Business School. An optional one year placement module is offered on all the undergraduate degree programmes. These placements were not simply providing experience of the workplace, but an integral assessed part of the programmes of study. Assessment of the placement required students to produce a personal log book, interim and final reports and to give a presentation at the university half way through the placement. A tutor from the school visits each student in their placement at least twice during the year, to ensure that the employer is providing a satisfactory learning experience and that the student is recording this experience effectively.

Students typically used word processors to record their learning log and to produce their reports, and used other tools for communication with each other, and with university and workplace staff. Using e-portfolio software presented itself as a possible means of

formalising the process of keeping electronic records of achievements during the placement year, with the objectives of:

a) enhancing communication with staff at the university and in the work place,
b) assisting with assessment of the placement,
c) allowing the student to have a persistent record that they could continually improve with a view to enhancing their future employability

Students were given autonomy over the content to include, and how they would reflect on their progress. They could permit their tutors to review their progress, could present this record of their progress to prospective employers, and were given responsibility for the content. The adoption of an e-portfolio also offered the staff involved the opportunity to be in the vanguard of the adoption of new technology in teaching & learning.

With these objectives in mind, the placement tutors sought to find an appropriate vehicle for enabling students to record their achievements. The next section describes the system chosen and how the trial was carried out.

4. E-Portfolio software

From three e-portfolio systems evaluated, Nuventive's iWebfolio was selected for a pilot implementation project, (http://www.nuventive.com/products_iwebfolio .html). This decision was based on ease of use, speed of uploading files and the company's previous experience in implementation and training of users. Access to iWebfolio was established for 43 students who were on a one-year placement, together with their tutors. These students were taking either Information Systems or Business and Management undergraduate degree programmes.

Each student was provided with a user name to enable them to log in to their personal account. By the time of the start of the trial most of the students had already started working at their placement, so through the university's Virtual Learning Environment (VLE) the instructions and information were made available. Their placement visiting tutor was given similar instructions on using the e-portfolio system. Help was also available from a dedicated member of the student technical services team.

iWebfolio is typical of the range of e-portfolio products available, in that it consists of three main components to enable: uploading items of various formats; entering reflective statements and making presentations as printed documents or web pages. The software guides the user to upload their chosen files to an online repository, then using a template the user can organise a selection of the documents into a portfolio collection. The final portfolio collection can be customised for particular purposes, such as for viewing by the student's visiting tutor, the student's workplace supervisor, or by potential future employers. In order to guide the students, the University took the approach of providing a suggested template for students to use to present their assorted files and documents, to get them started. But once the students had become accustomed to the software, they could customise their portfolios in any way they chose.

Figure 1 shows the two versions of the template created for the students, slight variations were necessary because of the different assessment of placements for the two programmes of study.

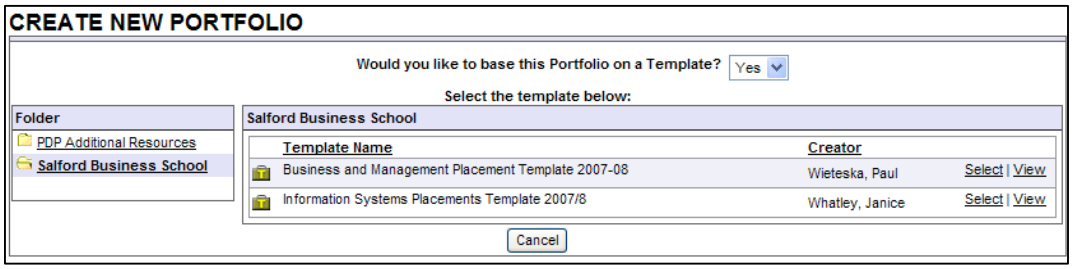

Figure 1 – Templates choice screen.

Templates were designed to guide the students to upload at least a minimum content in the e-portfolio, i.e. the Placement Logbook, interim presentation, interim and final reports. Comments or feedback from viewers of the e-portfolio (called 'assessments' in iWebfolio), including the employer and the student themselves, were encouraged (Figure 2). Students were still required to submit these in hard copy format, as previously, partly to guard against any risks involved in implementing the e-portfolio.

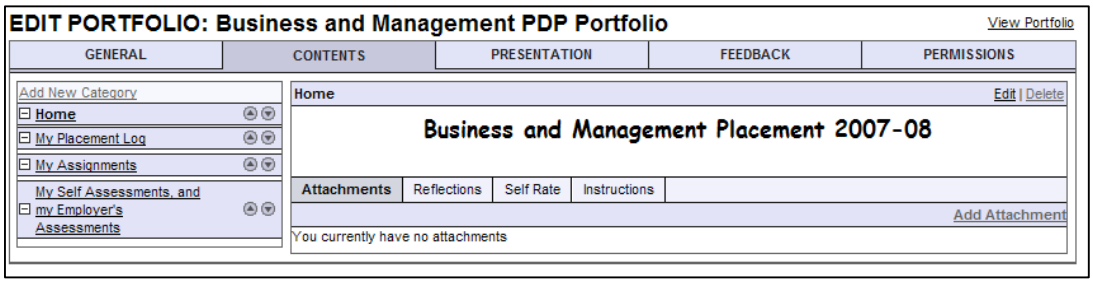

Figure 2 – Content of the template

Figure 3 shows the layout of the area provided for the students to upload their log books on a week by week basis, which could be accessed by tutors monthly.

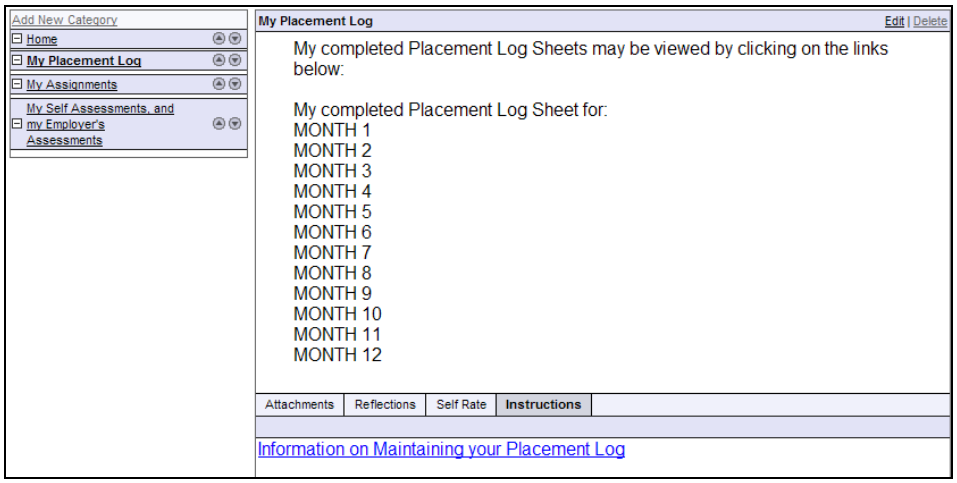

Figure 3 – Screen for access to monthly log book entries

5. Research method

Since the numbers involved (i.e. 43) were relatively small, and we were interested in the feelings of the students towards using an e-portfolio system, an interpretive approach to data collection was taken in this study.

Feedback was elicited from students through two focus groups and face to face interviews. Twenty two students volunteered to take part in the focus groups, where they fed back some of the strengths and weakness of using iWebfolio from their experience. Face to face interviews were also held with six students, in which specific examples were explored. This

data from students who were able to provide feedback was recorded and is summarised in the following section.

6. Findings from the trial

In all, 41 of the 43 students on placement used the system. The other two were encouraged to use the e-portfolio on more than one occasion but did not do so. Some simply used the suggested template, uploaded some of their weekly logbooks, but did not continue to use it beyond the first few weeks. Others took great pride in customising the display, and were imaginative in presenting examples of their work to viewers of the e-portfolio.

6.1. Student feedback

The following student quotes represent aspects of their experience raised by more than one student in the focus groups and interviews:

A number commented on ease of use and accessibility – for example:

> *"The software is easy to use"*
>
> *"The instructions sent by the University in the post were very good"*

Others were not convinced about the ease of use or relative advantages of electronic portfolios as against hard copy:

> *"Keeping logs is essential, but is iWebfolio needed or is it just as easy to keep it as personal folders?"* and (similarly raised in the same focus group) *"I would rather just use a folder"*
>
> *"I think hard copies are easier to read"*
>
> *"I find it bulky to use"* and *"It seems a bit over complicated"* and *"The navigation is a bit time consuming"*

Interestingly, one student commented that the e-portfolio allowed the tutor to see unfinished work, which he was unhappy about, preferring the tutor to only see finished reports. (The student could in fact have controlled access to specific files but was not aware that the software afforded this facility).

Students commented on intrinsic advantages of an e-portfolio (as against a written log):

> *"It's good because you can keep all your work in one place"* and
>
> *"It is handy to have all your stuff in one place"*
>
> *"It's handy because it can be accessed online"*
>
> *"Compared to a hard copy logbook it saves paper and so is eco friendly"*
>
> *"It can look very good with links to work I've created"*

One student described how they gave their employer access to their weekly log on the e-portfolio, which was then used for their internal review as well as for the purposes of the University assessment.

Many students questioned the participation of their tutors in the project:

> *"The idea is good but it needs more support from tutors – what's the point of using it if it isn't being looked at?"*
>
> *"You can see if someone has actually bothered to read it"*
>
> *"Is anyone looking at the work I put on iWebfolio?"*

Some couldn't see the point of using the e-portfolio, or had no motivation to use it, possibly because it was not assessed:

> *"We still had to hand in a hard copy so what's the point?"*

Another student in an interview added that uploading documents to the e-portfolio was just another 'chore' in the week, and that she could more easily have emailed her electronic log to her tutor.

> *"I don't like tracking my own progress"*
>
> *"I'm not motivated to use it after sitting in front of a PC all day"*

This led some to question the point of adopting the e-portfolio at all:

> *"I think the money may be better spent elsewhere"* and (similarly raised in the same focus group)
>
> *"Perhaps improving lecture materials would be a more beneficial use of the time and money"*

For many students the use of the e-portfolio was an unnecessary chore, particularly when they did not know if anyone was actually reading the work. Work posted on the e-portfolio was not itself assessed and the commitment of students to personal development and formative assessment was variable. The affordance of the e-portfolio system was not signposted to the students, and there may have been an element of resistance to change, given the additional stress of being in a working environment.

The focus group and interview findings represent a widespread range of positive and negative comments towards the trial. Particularly important to the students was not the issue of whether or not the software was helpful, but feedback from tutors and marks were allocated. In many cases it was clear that tutors had not engaged with their students through the e-portfolio.

6.2. Staff feedback

The tutors responsible for organising the placements gave their feedback on the e-portfolio trial in a focus group. One of the tutors made the following observations:

> *"The experience was rather mixed. Some have used it well and some hardly at all. Part of the issue is the extent to which we set expectations – and the extent to which placement tutors follow up in terms of interacting/providing feedback via students' iWebfolios. This itself depends on the extent to which placement tutors 'buy' into the idea themselves. I think this has been patchy at best"*.

This tutor identified the key issue as being motivation to use the e-portfolio system, both the students and their tutors. Even though all of the placement students were made aware of the e-portfolio system, as they began their placement year, not all of them chose to look at the system or use it to create an e-portfolio of their work experience.

Another tutor raised the issue of student and staff familiarity with the tool used: iWebfolio did involve accessing and getting used to new software. For tutors, their participation with the student's e-portfolio involved additional work compared to their previous experience of supervising placement students.

Tutors also questioned how the use of the e-portfolio fitted with the broader use of PDP in the University, and assessing learning outcomes of the placement module:

"It should be a requirement that students use the e-portfolio system, and that it should form a part of the assessment of the placement."

This of course replicated comments also made by students concerning assessment.

7. Discussion & suggestions for future use

28 of the 43 students involved in the research took part in focus groups and interviews and we regard the data presented as representative of the whole group. Probably in hindsight this data could have been strengthened by a questionnaire issued to the entire group.

Those observing this trial of an e-portfolio saw sufficient evidence of facilities for learning not possible through more traditional methods of documentation. Opportunities for graphically demonstrating and sharing work are far greater than in a conventional logbook or report. However, there was a lack of alignment of objectives, expectations, implementation and software used. These inter-related issues are discussed in more depth below, in turn leading to suggestions for future use.

7.1. Lack of alignment of the objectives of the e-portfolio project and their implementation

Although the objectives of introducing the e-portfolio were explained to the students (as outlined in Section 3), in many cases the use of the e-portfolio was seen as a 'chore' and did not enhance communication as envisaged. In part this was due to a lack of motivation on the part of the key stakeholders – the students and their tutors. The importance of the relationship between e-portfolios and assessment is recognised in the literature (Strivens et al., 2009), but was not built into this study. There was concern at the outset that there were risks to the students and tutors involved, in being obliged to use unfamiliar software for assessment purposes. In practice these risks were magnified once it was established that work within the e-portfolio was formative only. Where the placement period forms a part of the formal assessment, it is advisable to stipulate that the e-portfolio should be used in the assessment, and tutors should be expected to assess their students' work online. This is unlikely to be effective where the students are required to simultaneously submit work in hard copy.

7.2. Problems with the expectations, perceived benefits and commitment of the stakeholders

The students were free to choose whether to use the e-portfolio system or not. The affordance of any system depends not only upon it being available, but also whether the system is perceived as being useful or providing benefit to the user (Conole and Dyke 2004). Some students clearly saw the e-portfolio as extra work that they were not required to undertake, did not form part of the module assessment, and thus provided little personal benefit. Thus expectations of tutors need to be conveyed to the student users, and continually reinforced.

Part of the failure of this trial can be attributed to some tutors providing minimal support and encouragement to their students, as ongoing feedback. Time pressure and the necessity to learn a new system were cited as reasons preventing tutors from fully 'buying into' the pilot. Furthermore assessed work was also available in hard copy. For an e-portfolio to work in this context it is essential for placement tutors to interact with their placement students by providing feedback on their submissions on a regular basis, including assessment of their students' work online.

7.3. Lack of alignment between the method of implementation of the e-portfolio and the delivery of the module

When the e-portfolio software trial was started, students were given very detailed instructions on using the system, but very little advice on what sort of content to upload, the level of detail to be included and how the content could be incorporated into an e-portfolio. The tutors involved in the trial were also learning the e-portfolio system, so there was a lack of clarity about the content expected from the students, and whether the sort of e-portfolio the system produced would be suitable as the required work for assessment purposes.

7.4. Lack of integration of the software and processes experienced by the student at University compared to on placement

Using e-portfolios with placement students should be viewed within the wider context of personal development planning (PDP) through their whole university career and beyond. Students had no prior experience of the e-portfolio system adopted for this trial, and in general had no interest in using it subsequently. The e-portfolio did not fit with the tools and processes used in any of the students' workplaces, for example staff appraisal. In general, therefore, the benefits of adopting the e-portfolio system did not outweigh the personal cost for the stakeholders. The e-portfolio software should have been introduced prior to the commencement of the placement, with the full involvement of their tutors, who could then have offered relevant guidance on the content uploaded.

Not only should students ideally be familiar with the system prior to their placement experience, but they should see lasting value from its use. PDP is promoted throughout the years of undergraduate study, so the best chance of success for PDP and e-portfolios is if tutors guide and assess students in developing this online presence, throughout the years of their undergraduate degree programs. Thus, for example, when applying for a placement, students could use an e-portfolio to showcase their achievements built up over their first years of undergraduate study. The wealth of experiences students engage in during their placement could be used to provide valuable evidence for subsequent employment. Students at most Universities are familiar with VLEs, some of which also provide e-portfolio facilities. This familiarity offers advantages compared to a bespoke e-portfolio system. Artifacts in a VLE however are not typically accessible to external parties such as employers, and may be of limited value to the student in the long term in terms of providing a persistent record.

This is related to a much bigger debate about whether universities should provide students with software tools/ Managed Learning Environments, or integrate with those already in common use (e.g. see Sclater, 2008). The majority of today's students and employers are frequent users of social media, and it is questionable as to whether higher education should seek to integrate PDP with this experience, rather than cultivate alternatives. It may be the case that widely used social media may be more appropriate for the development of e-portfolios.

8. Conclusions

Using portfolios within the teaching curriculum is well established, and this paper has considered the specific use of e-portfolios for students, who are away from the university on a placement. It is accepted that developing employability skills, is valuable, and recording achievements electronically offers many advantages.

This trial identified a number of problems, which have provided pointers to ways in which e-portfolio systems should be adopted, if they are to be successful. Some of the students in this study did use the e-portfolio system as it was designed to be used, finding it to be valuable.

However, the majority did not use it effectively for a combination of reasons, including lack of motivation or incentive, lack of tutor engagement and difficulties in using the e-portfolio. The findings from the trial suggest that implementing an e-portfolio for placement students could enhance the experience, if the system chosen is:

a) Integrated into information systems in daily use by the student at university, with which the students and tutors are already familiar. In the placement situation it would ideally be capable of integration with any system used in the workplace;
b) Implemented so that the intended affordance of the system is clearly signposted to the users;
c) Made a formal part of the assessment of their work placement;
d) Used to monitor and guide the students as an essential part of the tutor role rather than an optional extra.

It has been suggested that the integration of the e-portfolio with social media widely used by the students in their everyday lives would greatly enhance the objectives of the project. This has not been explored in this paper, but is an area for subsequent research. The findings of this study could have been enhanced by the use of a questionnaire, to give stronger data on perceptions of all of the students in this trial.

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