

International Coalition into Electronic Portfolio Research Cohort IV.

University of Cumbria.

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Introduction

The University of Cumbria's (UoC) Inter/National Coalition team is based in the Centre for the Development of Learning and Teaching. Our initial research question grew out of a desire to see how academic staff used an e-portfolio for their own continuing professional development, and what strategies could be deployed to encourage staff to engage with an e-portfolio for CPD purposes.

Context of the research

The context within which the UoC Inter/National Coalition project was running was complex. The University of Cumbria is a newly formed university that was founded on three legacy institutions, St Martin's College, Cumbria Institute of the Arts and the former Cumbrian University of Central Lancashire campus at Penrith.

Our membership of Cohort IV spans the formation of the University of Cumbria in August 2007 and also coincided with an externally funded Joint Information Systems Committee (JISC) project running concurrently, called Flourish. Our research interest converged with the aims of the Flourish Project, which were to:

ease the personal administrative burden experienced by learning, teaching and research practitioners at St Martin's College, a key partner in the formation of the University of Cumbria...by providing a flexible personal learning system... [allowing] users to aggregate their records of learning and achievement into rich e-Portfolios to be used for a variety of professional purposes including career review, academic qualification, professional accreditation and personal development.

(Flourish 2009).

It is worth noting that we viewed an e-portfolio as a digital product, output or evidence of a number of processes that were completed and stored within a more complex personal learning system (PLS). It was comparatively late in the project that we found we needed to differentiate between the PLS and the e-portfolio.

Our Inter/National Coalition research question reflected our ongoing work within Flourish. **'Which work practices, if any, effectively integrate aspects of e-portfolios and what support structures underpin such integrations?'**

This research report examines common themes that have emerged from three separate dimensions of continuing professional development (CPD) within UoC:

1. Annual Staff Appraisal (or Review)

Data from users was gathered just after the e-portfolio was introduced and used for the annual staff appraisal process over a two year period.

2. Formal Accreditation

The e-portfolio was used by academic staff for formal professional accreditation on a postgraduate certificate in teaching and learning in higher education (PgCinLTHE).

3. Non-formal CPD activities

Academic staff used the blog tool in the e-portfolio system for recording and reflecting upon non-formal CPD activities such as recording research progress, or logging the allocation of work when new in post.

Although there is no tradition of recording CPD in HE academia as a condition of retaining accreditation staff working at UofC do have to participate in both formal and non-formal development activities. Formal activities include gaining accreditation from the compulsory to new staff PgCinLTHE and the annual staff appraisal process. Non-formal activities include discussions with peers and colleagues, developing a new course within a team, team teaching (Rothwell 2008 p 15-16) and attending conferences.

Prior to the introduction of an e-portfolio (in this case PebblePad) for staff CPD, there was no single, personal online storage area where staff could store evidence of their CPD. Staff had very few opportunities to share specific aspects of their development with other colleagues. In addition, all formal development opportunities such as the annual staff appraisal, peer review or studying on the PgCinLTHE were paper-based. Introducing an online personal learning system (PLS), that allowed staff to share and gain feedback on their work whilst being remote from one another seemed to be an effective way of recording and reflecting upon developmental activities.

In addition to enhancing CPD, it was anticipated that by introducing staff to this way of working with an e-portfolio, then they would be more confident when introducing an e-portfolio or PLS to their students. Recent government policies have referred to the potential value of a PLS to support lifelong learning and practices (HEFCE 2009). Moreover, individual practitioners have highlighted the need to adopt the practices we are asking our students to adopt. Reflecting on teaching practice should be an 'explicitly stated and recognised aspect of a scholarly approach to teaching' and 'the use of technology as the medium for reflective portfolios should not in fact require any justification' (Stefani 2005 p11).

Whilst research into e-portfolios is still in its infancy (Milman & Kilbane, 2005) there does seem to be a consensus in the literature that e-portfolios have

great potential to enhance the learner experience (Abrami & Barrat, 2005; Challis, 2005; Lorenzo & Ittleson 2005; JISC 2009). Findings from larger scale implementation of e-portfolios amongst a diverse range of learners have recently been published. Cambridge (2008) conducted research into the implementation of an e-portfolio made available to all residents of the State of Minnesota in the USA. The importance to the e-portfolio user, of a 'real' or 'imagined' audience impacts upon how the e-portfolio is used over time. This deeper awareness of audience seems to emerge once the user has become acquainted with the more practical details of how to use the software.

As we were introducing a new technology with the potential to challenge more recognised ways of working, we were aware that we would initially be encouraging 'early adopters' or 'innovators' (Rogers 2003) to use the e-portfolio. Leveraging the enthusiasm and interest of this group was seen as key to successful wider scale implementation of an e-portfolio system for staff.

Methodology

Whilst our methodology has remained firmly based upon action research, we have adopted a range of methods of gathering data over the three years of the coalition. We felt that an action research approach was most appropriate because we were keen to discover how we could improve our own approaches to introducing a new technology in an educational context. Using this approach we examined our findings and with each iteration, made improvements so that we were regularly reviewing and evaluating our own practice and strategies. We repeatedly checked our progress to see if what we were doing was 'really working' (McNiff 2002). Our immersion in the project as both implementers and researchers is suited to an action research approach (Kember 2000) where we reflected upon our actions and in some cases 'in action' (Schön 1983). Because we were simultaneously evaluating our effectiveness, we found that the guide produced by Glenaffric for the JISC 'Six Steps to Effective Evaluation' was useful as a guide on how to involve users in the evaluation process.

Methods

Our methods of collecting data varied over the duration of the project. The following is a summary of how we gathered our data for each specific part of the project.

1. Appraisal

Staff who had attended an introductory face-to-face workshop were invited to a one to one interview with an independent researcher. This interview was transcribed and shared with the INCER researcher. This was repeated in the first and second year of the project.

Number of research participants who had the opportunity to use the e-portfolio for this activity:

2007 eight staff

2008 nine staff

Total seventeen staff

2. Formal Accreditation

Participants on the PgCinLTHE were invited to fill in an online anonymous questionnaire and then focus groups were arranged to address some of the key issues arising in the questionnaire. This was repeated over two cohorts of participants. This particular aspect of the project was investigated using an appreciative enquiry approach (Cooperrider and Srivastva, 1987). For more details about this research see Chesney & Marcangelo 2010).

Number of research participants who were formally assessed on the PgCinLTHE:

2008 Research Year Participant Online survey response: fourteen participants
Focus Group: nine participants

2009 Research Year Participant Online survey response: seven participants
Focus Group: thirteen participants

3. Non-Formal Use for staff development (for more details about this research see Chesney & Benson 2010 appendix 1).

Volunteers received a small amount of funding to use the e-portfolio for their CPD activity of choice and report back to the Inter/National Coalition researcher through the e-portfolio blog. They were then invited to give their feedback on the whole process in an interview. This interview was conducted in the spirit of the spirit of Holstein and Gubrium's active interview where information and knowledge was co-constructed, by both interviewer and interviewee, not merely discovered (Holstein and Gubrium 1997 p 120).

Number of research participants who were involved in this part of the research:

Nine members of staff participated in the blogging activity.
Five members of staff were interviewed.

Findings from the Formal and Non-formal projects are recorded elsewhere, but in this section I shall attempt to synthesis the common emergent findings.

The common findings can be themed under:

- a) reactions to using the e-portfolio for work practices
- b) the impact of valued peers on e-portfolio use

Reactions to using the e-portfolio for work practices

Feedback from staff gathered over the Inter/National Coalition period reveal that staff were generally positive about using an e-portfolio to support their work practices, seeing potential benefits in some cases before they had used the e-portfolio extensively over a period of time. Participants recognised the potential benefits that using an e-portfolio offered them in their context, whilst acknowledging some of the challenges. These included:

An e-portfolio is an online tool (as opposed to using a CD record accreditation which one professional body required a participant to use).

The ability to hyperlink to evidence and other relevant pieces of information. Users reported that that they liked being able to hyperlink to relevant resources, making their work more 'meaningful'. (PgCLTHE

participant). This aspect of the e-portfolio was frequently referred to as being a useful feature. Readers of the e-portfolio also liked the facility to follow the links:

where the student had used the technology to its full capacity or at least near its full capacity by hyperlinking evidence, it did just become a richer document. (PgCinLTHE Tutor)

Substantial benefits compared to using paper. There were a numerous comments about the benefits an e-portfolio offers compared to paper-based documents. A reduction in paper, the security that an e-portfolio offers because it can't be 'lost' and the ease with which work can be submitted online were all mentioned as benefits within all of the work practices.

It's secure and it will always be there, whereas a piece of paper can easily get lost, or data stored locally can easily get lost. (Appraisal user)

Time to learn the software. Many of the participants agreed that it had either taken them time to learn how to use the e-portfolio, or commented that the reason colleagues hadn't engaged was because of a lack of time to learn the software. Time to learn how the software works was seen as competing with other professional commitments. When asked what advice to future students on the PgCinLTHE would be, most answers referred to learning how to use the software:

'Give yourself time to practice', 'find out how the thing works!' (PgCinLTHE participants).

Being able to share thoughts, news and summaries of work with peers and colleagues easily. This was seen as a key benefit from the earlier part of the project consistently through to the latter part. There is evidence that for some users, they remained engaged with the e-portfolio *because* of the ability to share their work and gain feedback. This is discussed in more detail in the second theme below.

An e-portfolio as an aid to reflecting on development.

Some participants who used the e-portfolio for the PgCinLTHE and for the non-formal part of this research did say that using it enhanced their ability to reflect. This was due to prompts in the software and the ability to easily review their records of learning.

Valued Peers

A second theme emerges from the data: the impact a valued peer has on e-portfolio use. This impact can be either positive or negative.

A valued peer for the purposes of this research can be a tutor or fellow participant on the PgCinLTHE, a line manager or a colleague. How the valued peer views the e-portfolio can be instrumental in whether the e-portfolio is adopted for the work practices described.

The attitude a line manager had towards using the e-portfolio for appraisal had a significant impact upon whether the e-portfolio was used for this purpose or not. Participants were reluctant to use the e-portfolio for appraisal if their line

manager was equivocal about its use. Because of this hesitancy, the project asked Human Resources department and one of the UoC faculties to confirm with all line managers that staff could use the e-portfolio if they wished to complete their appraisal. This had a very positive impact upon use and we received enthusiastic responses:

Firstly, the good news: we can use PebblePad™ for the appraisal process! This means that the value of this project has increased massively.

(Non-formal participant).

With regard to the PgCinLTHE, the attitudes of tutors and fellow students effected how users viewed the use of the e-portfolio. Confidence in using the software grew when all tutors on the team used the e-portfolio to give formative and summative feedback and when all the processes, such as peer observation of teaching, within the course were centred upon recording and reflecting within the e-portfolio.

The value of support from peers was also a key theme that emerged within the data when analysing the Formal and the Non-formal data. Participants liked, and in fact sometimes seemed to need, receiving feedback on their work or writing. PgCinLTHE participants valued the facility to share and read one another's drafts, but were not confident in giving detailed feedback. However, in the Non –formal part of this project, the value of feedback was a prominent feature in the data. Participants in this part of the project welcomed feedback on their blog postings, as one participant put it :

I hope there will be some feedback. Perhaps a pointer towards technical assistance, brickbats or bouquets, anything other than silence!

(Non-formal participant).

This Non-formal group of users differed from the other groups of participants in that they saw great potential in the range of tools available in the PLS to support their work practices and had developed a greater degree of sophistication when describing the benefits a PLS brought. One participant described the PLS as a 'boundary object' that would enable cross fertilisation between communities of practice. Boundary Objects help a community

to understand what is common and what is distinct about another community, its practices, and its world view. Boundary objects not only help to clarify the attitudes of other communities, they can also make a community's own presuppositions apparent to itself, encouraging reflection and "second-loop" learning." (Argyris and Schon, 1978)

(Seely Brown and Duguid, 1998 p 104)

Another participant described his e-portfolio as a 'living document'. The consistent support and feedback that this group received from the Inter/National Coalition researcher may have contributed to these perceptions.

Implications for practice and future research

Our research question was

'Which work practices, if any, effectively integrate aspects of e-portfolios and what support structures underpin such integrations?'

Our findings suggest that e-portfolio use for staff development is highly dependent on the direction and support of other stakeholders within an institution. Participants could see the practical benefits an e-portfolio offered such as a reduction in paper, but in addition to this they needed some indication of 'approval' from a selected audience if they were to be motivated to using the e-portfolio. This audience could be a line manager, a peer or a tutor. Whoever this valued peer was, however, it would seem that this person is not part of an 'imagined' audience (Cambridge 2008) but a very real audience who need to make their presence known. This is an important finding for implementing a PLS on a wide scale for recording and reflecting upon staff development. If an institution is planning to purchase a PLS for their staff, then part of the implementation process has to factor in the role of the audience, either through a mentoring system, or by recommending that a 'valued peer' responds to any aspect of a PLS shared with them. The potential benefits that an e-portfolio facility within the PLS offers transcend those offered by a system that merely records development, because it allows users to select their audience and develop networks of peers who, by reading and responding to the e-portfolio, add value to it. There is more research needed into the use of the PLS as a 'boundary object' and the extent to which this facilitates communication between communities. This mature description of the PLS only emerged after repeated use over a period of weeks, suggesting that understanding the extent to which a PLS can enhance learning may take time and regular use.

In answer to our question, many work practices, including annual staff appraisal, professional accreditation, and academic research, have the potential to integrate aspects of an e-portfolio, provided that the support structures allow for sharing, dialogue and approval with a selected audience.

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Appendix One

'Anything other than silence': using a Personal Learning System for staff Continuing Professional Development. S.Chesney and J.Benson

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Abstract This paper investigates the use of a personal learning system (PLS) for continuing professional development (CPD) of academic staff. It examines which, if any, activities, habits or strategies triggered the use of the PLS when there was no immediate or external pressure to engage. It also investigates whether participants felt that using the PLS contributed to their CPD. The case studies in the project were undertaken within an action research approach. Data was gathered by participants posting regularly to the blog tool within the PLS over a period of eight weeks and then individual interviews were conducted. Participants reported that receiving feedback from the project manager on their postings and the prompts within the software to reflect were some of the main triggers for encouraging them to record their CPD. Analysis of the data revealed the distinction between how useful the PLS was during the project compared to its potential future usefulness. On a day-to-day level, several participants stated how the PLS helped them reflect on their work, recording it for processes such as appraisal, working and researching with colleagues and demonstrating fitness to practice in their profession. Some participants found that although the PLS was useful for individual activities, there was greater potential to enhance working practices if other colleagues became actively engaged. The potential of a PLS to support 21st century learning organisations is one of the project's emergent areas of interest, which, in our opinion, merits further investigation. **Keywords:** personal learning system; continuing professional development.

Introduction

This paper gives an account of a small-scale continuing professional development (CPD) project run as part of a wider Joint Information Systems Committee funded project, Flourish, at the University of Cumbria in the UK. This project examined the extent to which a personal learning system (PLS) enhances academics' working practices and eases their administrative burden. Every member of staff at the University was provided with access to their own PLS (PebblePad™) for the duration of Flourish, giving staff an opportunity to record and reflect on their development in a personal, password-protected on-line environment. A PLS allows users to plan, reflect on and selectively share experiences and achievements. Tools for communication and collaboration such as a blog (an online, sharable journal), and presentation, such as an e-portfolio, are central elements of a PLS.

As part of Flourish, staff were encouraged to use the PLS for specific

purposes, including recording their development for use in appraisal, formal learning on accredited courses and examining whether the software was effective in supporting cross team communication and collaboration. As well as encouraging use of the PLS for formal activities, Flourish aimed to discover which, if any, activities, habits or strategies triggered the use of the PLS when there was no immediate or external pressure to engage with the environment (non-formal activities). A subsidiary aim was to investigate whether participants felt that regularly using the PLS had contributed to their CPD. It is these two aims that this paper now explores.

Using a PLS for CPD

Flourish knowingly introduced staff to a tool that, in all likelihood, their students will be required to use in the future to support personal development planning or as evidence of learning. According to the Higher Education Funding Council for England, personal learning spaces have the potential to support lifelong learning processes and practices (HEFCE 2009). In addition, there is a growing body of evidence that a PLS or e-portfolio can enhance key learning activities such as personal development planning and enhance authentic assessment practices (JISC 2009). Flourish was designed on the assumption that the benefits associated with e-portfolios and student learning had the potential to be replicated when used by academics as part of their CPD. Moreover, if students are required to use an e-portfolio at points in their learning journey, there is value in tutors mirroring the learner experience through their own engagement (Joyes et al 2009).

Reflecting on teaching practice should be an ‘explicitly stated and recognised aspect of a scholarly approach to teaching’ and ‘the use of technology as the medium for reflective portfolios should not in fact require any justification’ (Stefani 2005 p11). Research into the effectiveness of an e-portfolio for enhancing student

learning is in its infancy (Milman & Kilbane 2005). Most research to date, has concentrated on the use of an e-portfolio for accredited programmes or for formal awards. An exception to this is eFolio Minnesota (Cambridge 2008) where e-portfolio use supported lifelong and lifewide learning, albeit that the e-portfolio was introduced to the users in a formal setting. Cambridge's study found that over time, e-portfolio authors used the eFolio to share their ideas and these opportunities for dialogue were key to the successful use of the software for lifelong learning.

There is no tradition in UK academia of recording CPD as a condition of retaining professional accreditation unlike other professions such as nursing or law. This presented an additional challenge, as we were asking academics to develop a habit of recording non-formal CPD when they may not have been previously doing so, whilst mastering a new technology. Whilst there is no requirement to record CPD, recording and reflecting on non-formal activities is a recognised way of developing within the sector. Non-formal activities include discussions with peers, networking opportunities, working in a team, team teaching (Rothwell 2008 p 15-16), attending conferences and taking on new responsibilities. Capturing these non-formal activities and reflecting upon them in a manner that enhances practice is not always easy, yet the value of non-formal CPD is recognised by practitioners themselves (King 2004 in Rothwell 2008 p13). It was anticipated that using the PLS to record and reflect upon these activities would go some way to solving these challenges.

What academics seem to want is recognition for the huge diversity of CPD they do undertake (individually) whether informal or formal, for this to be linked to career development, and (organisationally) for development review processes to be meaningful and integrated so that a link is forged between individual and organisational development. (Rothwell 2008 p 17).

Flourish recognised that it was working with a self-identified group of 'innovators' and 'early adopters' and the diffusion of an innovation (Rogers 2003) across an institution. Long term, the introduction and embedding of an e-learning

innovation like a PLS is a significant challenge for any institution. Moore (1998) argued that there is a chasm between the early adopters (or ‘visionaries’) and the early majority (or ‘pragmatists’). Crossing or bridging the chasm needs momentum created by the ‘early adopters’ acting crucially as opinion leaders. Rogers identifies five stages in the diffusion process:

- (1) Knowledge
- (2) Persuasion
- (3) Decision
- (4) Implementation
- (5) Confirmation

(Rogers 2003 p169)

During Flourish we saw the opinions of enthusiastic staff in the second stage (Persuasion) as vital to the broader success of an enterprise-wide innovation like a PLS, where a primary challenge is overcoming inertia. Strategically, we are simultaneously attempting to introduce innovative ways of working while deconstructing old processes (Moore 2004).

Embedding a PLS links to the technology acceptance and technology adoption model, where key criteria are perceived usefulness and perceived ease-of-use (Davis 1989). ‘Perceived Usefulness’ in this context is the extent to which the PLS could enhance the user’s job performance and ease the administrative burden facing them when recording their CPD, and ‘perceived ease-of-use’ is ‘the degree to which a person believes using a system would be free from effort’ (Davis 1989 p 320).

Traditionally, within H.E., new technological systems are introduced to lecturers through workshops and short courses. The effectiveness of this approach has been questioned and alternative methods offered by Collis and Moonen (2001) who recommend a ‘just in time approach for staff engagement’ with new technologies, where support can be given to lecturers and where they can ‘practise with the technology no more and no less than what they will need for their own teaching...’ (p63). If mastering a technology adds immediate value to a lecturer’s teaching, then

he is likely to be convinced of the effectiveness of that technology (step two: Persuasion in Rogers' five stage model) and appropriate it.

In conclusion, whilst there are strong policy drivers for using a PLS and evidence of its value for reflection in student learning, there is limited existing research on use in an academic environment and potential difficulties in moving from a few enthusiastic individuals to widespread adoption.

Using the PLS in Flourish

For the duration of Flourish (two years) staff had access to their own PLS account, with some staff using it to formally record evidence of their learning whilst studying for an accredited post graduate certificate in teaching and learning in HE.

Elsewhere, other formal CPD activities can be recorded in the PLS and used as evidence when applying to meet the university's professional standards (accredited by the Higher Education Academy).

As part of Flourish, a call went out inviting staff applications for funding to investigate the use of the PLS for recording and reflecting upon non-formal CPD activities. It is this aspect of Flourish we report on in this article. Successful applicants comprised of two teams (of three and two), and four individual staff. All participants were lecturers at the University, except one, who was a practising health professional contributing to some teaching and research. These 'case studies' were wide ranging in focus and included using the PLS to conduct collaborative research; recording activities as part of a new role within a faculty; using the PLS to reflect on encouraging colleagues to use new technologies; gathering evidence for annual appraisal; documenting progress on using the PLS with students; using the PLS as an alternative to more familiar methods of reflecting; and gathering evidence for professional registration.

For a period of eight weeks, selected academics were required to use the

PLS for non-formal CPD and provide weekly progress reports through the blog tool in the PLS. This requirement was designed to encourage regular, purposive use of the PLS. Five participants were already familiar with the PLS, four were new to using it. All participants received on-line support via the blog and tip-sheets. These case studies were administered by the educational development centre at the university and fit Kember's description of a quality enhancement initiative (Kember 2000). This was an action research project, concerned with social practice, aimed at improving staff's own development through their direction and reflection.

Methodology

We adopted an action research approach in order to enhance our own work in supporting staff to use an emergent technology. We viewed our involvement as participatory, with lessons learnt informing our own future development, allowing us to 'check constantly' that what we are doing 'really is working' (McNiff 2002). Case studies 'investigate and report the complex dynamic and unfolding interactions of events, human relationships and other factors in a unique instance.' (Cohen et al 2000 p181). Characteristics of a case study include focusing on individuals and understanding their perceptions of the events and the close proximity of the researcher to the case (Hitchcock and Hughes 1989 in Cohen et al). This approach is complemented by the participatory action research process where the researcher is a central component of the research, acknowledging the importance of reflection in improving one's own practice (Kember 2000). The lead researcher in this case study was also involved in the selection of participants, a recipient of the blogs and an interviewer, and is referred to as the project manager in this paper.

Method

Staff were invited to apply for this project, so were self selected. Successful applicants undertook to use the PLS and focus on aspects of their CPD.

Participants agreed in advance of starting to post that the blog postings could be used as data for research purposes. A second source of data was gathered at the end of the blogging period: five participants were individually interviewed face-to-face by the project manager with the purpose of sharing and summing up their complete experience of the project and reflecting on the process. Interviews were conducted in the spirit of Holstein and Gubrium's active interview where information and knowledge was co-constructed, not merely discovered (Holstein and Gubrium 1997 p 120). The project manager was immersed in all activities, viewing the interviews as an opportunity to converse with the participants 'in such a way that alternate considerations' were 'brought into play' and different interpretations invited (Holstein and Gubrium 1997 p 123). Participants were given the interview questions in advance and invited to contribute discussion topics. During interviews the project manager offered opinions when appropriate, actively encouraging participants in the co-construction of meaning and sought agreement on milestones, definitions and next steps. The project manager deliberately acknowledged both her own expertise in the use of a PLS and the participants' expertise in teaching and learning.

The blogs and the videos of the interviews were analysed separately by the project manager and a second researcher and recurrent general themes identified and agreed upon, with singular events or thoughts noted to enrich the data.

The approach taken to collecting the data presented some challenges. The participants and the project manager were known to one another beforehand, and the combination of receiving funding plus the desire to please the project manager may have had an impact. However, in the interviews the open questions were designed to encourage an impartial view of using the PLS.

Results

The style of writing within the blogs was varied and often very personal. Although asked to blog once a week, not every participant did. The reasons for this are given in the section on motivations for use. During analysis of the data the following themes emerged: motivation to use the PLS; confidence in using the PLS; emergent use during and beyond the project.

Motivation to use the PLS

Funding aside, a number of motivating factors to use the PLS emerged, including the importance of feedback to the blog postings; a range of self-imposed strategies for logging-on; and specific facilities within the PLS.

Importance of feedback to the blog postings

Initially, the project manager had not envisaged a dialogue with, or giving feedback to the participants through the blog. The blog was originally viewed as a reporting tool to monitor participants' progress. Although the project manager had reservations about replying to blog postings, it became clear, through questions posed in the early postings, that participants expected and wanted feedback on their postings. 'I hope there will be some feedback. Perhaps a pointer towards technical assistance, brickbats or bouquets, anything other than silence!' (William). One participant saw the blog as a tool for two-way communication, writing: 'more voices may help offer ideas along the way.' This desire for feedback developed into curiosity to see what others in the project were doing and read their blogs.

I feel that I have developed a routine of using my PP (PebblePad™) which seems to suit what I want to do. However, it would be useful to read other project participant's blogs to see their comments about how they are using PP. (John)

In response to this wish for feedback, and in an attempt to manage workload, the project manager started her own blog, which she shared with the participants. In this blog she replied to general questions that arose in the individual project blogs, immersing herself deeper than originally intended. Some participants replied to this blog as well, developing multiple layers of discussion.

Self-imposed strategies for logging-on

Participants were conscious of commitments that could, and in some cases did, prevent them from logging-on. Some postings suggest that using the PLS was in direct competition with other responsibilities; one participant described themselves as being ‘overwhelmed’ with work. Time to log-on and post was clearly not available for some staff. Several postings expressed guilt about not having blogged as regularly as requested. Participants did identify strategies for overcoming this, for example making the PLS their browser home page and putting up post-it notes around their workstation. One participant expressed a desire to make logging-on part of his routine, so that there was no ‘conscious’ effort to log-on in the future. This participant also aimed for logging-on to become a habit, not an ‘addiction’ recognising the value of regularly updating files, whilst cautious about the dangers of becoming over-reliant on the software. He recorded work activities so that he could explain to himself and his manager how he spent his time whilst new in post.

The two teams who participated encouraged one another in postings to contribute to the blog. One team reported on their individual progress with their project, the other team didn’t get beyond posting about how to organise themselves. One of the teams felt that the PLS had the potential to increase communication across distances, particularly when opportunities for meeting face-to-face were rare.

Specific facilities within the PLS software

Two participants liked the prompts in the PLS to reflect upon previously recorded work, feeling that it stimulated deeper and longer-term reflection:

I have been finding the ‘reflection’ spaces particularly useful as they prompt me to consider my development in relation to work that I have done. Without these it would feel rather like a glorified diary. (John)

Receiving feedback through the blog, reminders to log-on and specific prompts to reflect all combined to motivate participants to use the PLS regularly.

Although funding acted as an initial catalyst to log-on and post, participants were keen to enter into the spirit of the experiment (see below) and gain an oversight into what motivates use of a new technology. Contacted eight months after the end of the funded period regarding continued use of the PLS, the responses were encouraging. Seven participants replied, and all but one was continuing to use the PLS to support their own CPD. Three participants were using the PLS with students and one was planning to do so in the near future. Further investigation into use and long-term impact is now planned.

Confidence in using the PLS

A majority of the participants found the software easy to use once they had learnt how to post to their blog and share this with the project manager. Most participants had initial 'how-to' queries about the software and 'nagging doubts' about inadvertently sharing work, but this type of question and anxiety receded quickly for all but one of the participants, with many displaying levels of comfort within the environment rapidly (within two weeks). One participant, who seemed comfortable, remarked about using technology in general: 'It can be unpleasant, and frustrating, but when it goes well it is tremendously exciting.' (William)

Others appreciated the opportunity to 'play' with the software, which is in contrast to the comments about lack of time to engage from some of the other participants.

The participant who did not feel comfortable with the software was logging-on from multiple remote locations and expressed reservations about how engaging the software was. This participant did not have any prior experience of using the software nor did he receive any face-to-face support on how to use the PLS. This participant had already established habits of recording non-formal CPD through a variety of Web 2.0 applications and disliked what he saw as a restrictive piece of

software. Whilst he was the only one who expressed dislike of the PLS software, his lack of engagement mirrors what other participants recounted about their colleagues' reactions to the PLS (see below).

During the project participants used the PLS to engage in a range of activities including reviewing, recording, reflecting, and reporting upon work to the project manager and to their line-manager. One participant described his PLS as a 'living document'.

For three individual participants, using the PLS increased their IT confidence. Although not a requirement for funding, they incorporated other technologies into their PLS, including video, hyper-linking to YouTube, and giving audio feedback to students. The project manager was asked through the blog to provide advice on how to do these activities, thus extending the remit of the project and increasing the opportunities for non-formal development. A wide range of emotions were expressed when attempting to integrate other technologies – exhilaration when successful, or exasperation when things didn't go as well as planned: 'The Vlogs have been postedas weblinks. I'll report in more detail over the weekend as my blood pressure decreases!' (David)

Despite some frustrations and initial set backs, most participants persevered until they became acquainted with the software. Without the project manager to answer queries, it is difficult to say whether the participants would have continued to use the PLS unaided. Increased confidence in using the PLS led to a willingness to experiment (with support), and also encouraged some participants to try new ways of communicating with peers and students.

Emergent use during and beyond the project

If the funding requirements were one motivator, what motivations would there be for ongoing use? Participants identified areas within their blogs for future use, and a

positive response from two occurred when their faculty announced the PLS could be used to support annual staff appraisals: 'Firstly, the good news: we can use PebblePad™ for the appraisal process! This means that the value of this project has increased massively.' (John). Another participant highlighted the usefulness of the PLS for ongoing research which could also be evidenced in appraisal. Participants anticipated using the PLS for communication with groups of professionals including other lecturers, researchers, PhD supervisors and line managers, acknowledging that that blog discussions with the project manager had inspired them to consider this.

Ahead of the interviews, one participant requested a discussion around the reactions of colleagues to the PLS and sharing aspects of work with staff external to this project. This was then discussed with all interviewees. Two participants noted the need to convince others of the usefulness of the software if it was to be of collective value in the future, saying they had struggled to engage colleagues in conversations about the PLS. Whilst acknowledging and being sympathetic to the barriers, such as lack of time and the need to learn the software, these two participants were keen to discuss the implications of using the PLS to communicate with colleagues. One interviewee described the PLS as a 'boundary object', a tool to communicate across academic 'communities', where in the past, language has been a 'stumbling block'. This individual described the process of blogging as a 'powerful externaliser of tacit knowledge' (David).

All but one of the interviewees expressed excitement about potential benefits the PLS offered and intended to use the PLS to support their development beyond the funded period, despite a perceived lack of understanding amongst some colleagues.

Discussion

As stated in the introduction, the purpose of this research was to discover which, if

any, activities, habits or strategies triggered the use of the PLS when there was no immediate or external pressure to engage with the environment. There was a financial incentive; however the funding allowed participants to determine the depth and extent of use and engagement. A subsidiary aim was to investigate whether participants felt that using the PLS had contributed to their CPD. We now refer back to Davis' Technology Acceptance Model to frame the discussion and our conclusions.

Perceived Usefulness

Analysis of the data reveals the distinction between how useful the PLS was during the project compared to potential future usefulness. On a day-to-day level, all but one of the participants agreed that the PLS prompted reflection on their work, whilst recording it for processes such as appraisal, working and researching with colleagues, and demonstrating their fitness to practice in their profession. The processes modeled in the project (and the habits developed) were primarily about making time to review action planning and completion, and build in reflection. This process was then seen as helping log workload which in turn gave value to the work and led to 'confidence in performance' (John).

Two individual participants felt that whilst they had grasped the usefulness of the PLS for day-to-day activities, there was greater potential to enhance working practices if other colleagues actively engaged. Regular feedback from an audience was clearly important to how comfortable most of the participants felt using the PLS. Additionally, the wish to view other participants' usage of the PLS and share experiences became part of how participants viewed their use of the system, and how participants valued other users within the community. The active interview method for co-constructing knowledge proved valuable when agreeing meanings and definitions. The participant who referred to the PLS as a 'Boundary Object'

(Seely Brown and Duguid, 1998) with the potential to allow staff to share good practice across the University was not merely reporting his experience, but also shaping future usage. Boundary Objects help a community

to understand what is common and what is distinct about another community, its practices, and its world view. Boundary objects not only help to clarify the attitudes of other communities, they can also make a community's own presuppositions apparent to itself, encouraging reflection and "second-loop" learning." (Argyris and Schon, 1978)

(Seely Brown and Duguid, 1998 p 104)

A 'boundary object' has the potential to support a 21st century 'learning organisation' (Senge 1992) and this deserves further investigation. Our data only hints at this potential, nevertheless, as PLS's become increasingly central and more accepted in mainstream education, further research may confirm these initial findings.

Perceived ease of use

Although most of the participants found the PLS easy to use, they needed support from the project manager to persevere. If e-portfolios or a PLS become familiar tools within the educational landscape, a majority of users need to feel comfortable with the system, so we cannot afford to ignore the single participant who did not like using the PLS and had other preferred ways of recording his CPD. A pragmatic approach with a long-term view of 'perceived usefulness' acknowledges that although the PLS has the potential to support learning organisations and communities of practice, this will only be accomplished when a majority of users use the software for shared communication. This raises the crucial and interconnected issues of choice and interoperability of multiple PLS's. An institution would be unwise to take a hegemonic approach to its choice of PLS. There must be an easy interface between any PLS and other tools and software. If Web 2.0 has taught us anything it is that prescriptive proprietary solutions cannot be the sole or exclusive option offered.

Conclusions

In an era where various types of CPD are recognized as valuable, this research aimed to discover how effective a PLS was in capturing these activities and factors motivating academics to use a PLS to record these activities. The small group of staff who volunteered to be part of this research were keen to be actively involved in the co-construction of meanings and definitions. No single activity motivated staff to use the PLS, but the range of strategies included receiving feedback, prompts within the software itself, and a degree of self-discipline and personal reminders to log-on. Barriers to logging-on were generally external pressures such as lack of time and work commitments, however one participant did not like using the software and this was a strong de-motivator for using the PLS chosen for this project.

Analysis of the data indicates that although there is value in using a PLS to record and reflect on every day activities, it also offers great deal potential future worth. A longitudinal study is planned, returning to the participants in this research, and will investigate how their experiences influenced use of the PLS with their students. Although a majority of the participants found the PLS easy to use and felt that regular use supported their CPD, we have to be cautious when making definitive statements about the value of the software. A PLS is, by definition, personal so strategies to embed the software have to consider ease-of-use, user-friendliness, and feelings of comfort if a majority of users are going to engage in a way that enhances their CPD and allows them to develop a dialogue with significant peers.

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