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**Reflective e-portfolios for continuing
professional development and organisational
change**

**Jenny Bimrose & Sally-Anne Barnes, Alan Brown,
Institute for Employment Research, University of Warwick
Gareth Dent,
Director of Development, Advice Services, Ufi learndirect**



Abstract

The process of introducing a reflective e-portfolio to a UK call centre sub-contracted by a major e-learning provider to deliver telephone career guidance provides the focus for this paper. The aim of the e-portfolio was to support the continuing professional development of career coaches providing a service to a wide diversity of callers with a range of needs. The ultimate aim of the e-portfolio was, therefore, to improve services to customers. Whilst both the employing organisation and contracting organisation were initially able to provide a clear specification to inform its design, different priorities emerged from a process of consultation with a group of managers and end users over a ten month period. Characteristics of the organisational cultural of the employer had to be navigated carefully. It became apparent that this particular process of technological implementation was being mediated by different interpretations and understandings of technology and its uses. Both the technology and the resulting technological change were the outcomes of a series of complex social interactions. This paper will examine the way in which the technology was built, implemented, applied and interpreted, and how precursor technologies as well as human actors, played a central role.

Introduction

There is an increasing consumption of information communication technologies (ICTs) in the workplace, both in the public and private spheres. ICTs have become a pervasive feature of contemporary work processes, affecting every part of everyday work. Their introduction has revolutionised the workplace, enabling new and innovative ways of communicating, storing, processing, sharing and presenting information. This revolution in information management has undoubtedly prompted shifts in workplace organisation. However, whilst on the one hand, transformations in organisational cultures, structures and forms have been influenced by the implementation and application of ICTs, on the other hand, they are mediated through these organisational elements. These shifts and changes have stimulated much literature on the efficiency, innovation and applications of ICTs, but social and cultural issues have been largely neglected. This paper focuses, therefore, on the relationship between technology and culture in one private sector organisation, sub-contracted by another to deliver a telephone helpline service.

Background

The largest telephone helpline service in the world for delivering career guidance is currently known as the 'Learndirect' helpline and was launched in the UK in February, 1998 (Watts & Dent, 2002). Its genesis can be traced to the policy interest in educational guidance for adults in the early 1990s and the introduction of a guidance helpline in Scotland in 1997. A national helpline, called Learning Direct, was set up in 1998 in a single call-centre, operated by Broadcasting Support Services (BSS), based in Manchester, England. At this time, the policy intention was for the helpline to become the information and advice service for the University for Industry (Ufi), when established. Accordingly, the sub-contract held by BSS was transferred to Ufi in June, 1999. BSS is also responsible for a service to Northern Ireland, with services for Wales and Scotland managed separately.

Demand for this free service grew quickly, stimulated by the deployment of a substantial marketing budget. The initial target for calls in the first year of operation was 250,000, with plans for the rapid expansion of capacity to handle four million calls annually. To accommodate this level of expansion, the capacity of BSS was expanded with the opening of a second call centre in Leicestershire (Watts and Dent, 2002). Significant productivity gains to the operation of this call centre service have been attributed to a combination of: financial incentives built into the BSS contract; strict monitoring of staff performance; and innovative working practices (Watts & Dent, 2006). It is employees at these two call centres,

Manchester and Leicester, who were involved in the pilot of the e-portfolio development. Within the two call centres, there are three levels of staffing, each dealing with calls from customers of increasing complexity. This differentiation reflects the different levels of qualification and/or expertise of employees, as well as job function. It was the highest staffing level (that is, the lifelong learning advisers, subsequently re-named careers coaches), offering 'in-depth' career guidance to customers, who were the target for this e-portfolio development.

Personalised Learning Environments in the workplace

Socio-cultural theories of knowledge acquisition stress the meaning of collaborative learning and 'learning communities' (Hung, 2002), while the 'Zone of Proximal Development' emphasizes the importance of collaboration with advanced learners and experts to enhance individual knowledge and skills (Vygotsky, 1978). Agostini *et al.* (2003) complain about the lack of support offered by many virtual learning environments (VLEs) for emerging communities of interest and the need to link them together with the official organizational structure within individuals are working. Ideally VLEs should link together knowledge assets with people, communities and informal knowledge (Agostini *et al.*, 2003) and support the development of social networks for learning (Fischer and Sugimoto, 2006). The idea of a personal learning space is taken further by Razavi and Iverson (2006) who want to integrate weblogs, e-Portfolios, and social networking functionality in this environment for enhanced e-learning and knowledge management in order to develop communities of practice.

Based on these ideas of collaborative learning and social networks within communities of practice the notion of PLEs in the workplace has been put forward as a new approach to the development of e-learning tools (Attwell, 2007; Wilson 2006) that are no longer focused on integrated learning platforms such as VLEs. In contrast, PLEs are made up of a collection of loosely coupled tools, including Web 2.0 technologies, used for working, learning, reflection and collaboration with others. A PLE should use social software in the workplace for informal learning which is learner driven, problem-based and motivated by interest and considers learning not as a process triggered by a single learning provider but as a continuing activity. Another development route is constituted by embedded or work-integrated learning support based on the pioneering ideas in the Learning in Process project (Schmidt, 2005) and the APOSDLE project (Lindstaedt & Mayer, 2006) where learning opportunities (learning objects, documents, checklists, but also colleagues) are recommended based on a virtual understanding of the learner's context. While these development activities acknowledge the importance of collaboration and community engagement and of embedding learning into working processes, they have not so far addressed the linkage of individual learning processes and the further development of both individual and collective understanding as knowledge and learning processes mature. In order to achieve that transition (to what we term a 'community of innovation') then processes of reflection and formative assessment have a critical role to play.

Traditional conceptions of human resource development (as well as organisational development and innovation management) are supposed to support continuing professional development. Problems associated with training away from the workplace and the challenge of transfer of learning between contexts has led to the development of a number of approaches to the development of e-learning, e-assessment and knowledge management that offer solutions for specific learning needs that can be accessed independent of time and place, including if necessary just-in-time direct from the workplace. However, these approaches have often created a fragmented learning landscape that could either be mainly driven by a technological and/or organisational perspective on the one hand, or else a largely individualist learner-oriented perspective on the other that does not necessarily link to what is happening in the workplace or the learning of others. The idea that individual, collective and

organisational development processes could be linked is therefore attractive: the difficulty, however, is finding contexts where actors at all these levels are motivated to engage in such developments. The key requirement is perhaps that the learning activities of practitioners must be conceived (and technically supported) as embedded into, interwoven with, everyday work processes (Schmidt, 2006), which are themselves about the creation, transformation, and communication of knowledge about improving practice. Individual learning activities are not isolated, but rather have to be seen as interlinked. The development of new forms of reliable knowledge and practice with impact (e.g., in the form of widespread use as new or improved services or processes) is not constructed by a single practitioner, but rather evolves in collaboration with other members of a community. One method of embedding all of these processes, which sits within the workplace PLE is an e-portfolio.

E-portfolios

Portfolios have been a feature of vocational and professional programmes for a number of years, and have accumulated a range of meanings (Ward & Richardson, 2005). Their use has ranged from simply providing a record of progress; collating evidence for assessment of outcomes; and encouraging reflection on the process of learning and development to more complex tasks (Beetham, 2005). Typically, they have been used within the context of particular learning programmes for the collation and assessment of evidence. Increasingly, however, they are being used to collate evidence from across different learning programmes to provide an overview of learners' progression and achievements to date, together with opportunities for reflection and personal development planning. In the UK, examples of such schemes include DfES Progress Files (14-19), Records of Achievement (HE) and Individual Learning Plans (FE and Adult/Lifelong Learning) (Beetham, 2005). Professional bodies and large employers are also beginning to encourage the use of portfolios (e.g. the NHS, the Teacher Training Agency, the Armed Forces, the Royal Institute of British Architects).

The term 'e-portfolio' (that is, electronic portfolio) simply indicates that some (or all) of the evidence is collected in digital form (Beetham, 2005; Lorenzo & Ittelson, 2005). The various definitions of 'e-portfolio' tend to relate to a collection of digital resources that: provide evidence of an individual's progress and achievements; are drawn from both formal and informal learning activities; are personally managed and owned by the learner; can be used for review, reflection and personal development planning; and can be selectively accessed by other interested parties (e.g. peers, assessors, awarding bodies, prospective employers). They can also be used for different purposes. So for example, e-portfolios can be used to support: individuals in taking responsibility for their own personal and professional development; summative assessment; formative assessment; learning and learning to learn; presentation of best or most relevant achievements; and personal and professional development planning. Because e-portfolios commonly need to support transition between different learning providers, and between learning and work, information needs to be presented according to common standards and terminology.

E-portfolios for learndirect Advice (IdA) and Broadcasting Support Services (BSS)

E-portfolios represented a potentially powerful tool for developing reflective practice amongst IdA/BSS practitioners, thereby improving their job performance. It has been estimated that people are now averaging fifteen hours a week on informal learning activities, yet very little of this informal learning is supported by e-learning (Roberts *et al.*, 2005). So in this particular organisational context, e-portfolios also offered a method of recording both formal and informal workplace learning, as part of a broader personalised learning environment. Additionally, they offered a potential framework for gaining formal accreditation of workplace learning. At the level of the individual user, minimum requirements can be identified for e-portfolio systems. These include the ability to upload

files; enter reflective statements; and display materials (Roberts *et al.*, 2005). Ideally, these systems should offer users flexibility to input materials; the facilities for on-going editing, updating and review; and the ability to organise and retrieve objects/artefacts. There are, however, more complex requirements if the e-portfolio system is to inter-operate with other systems (such as learner records, virtual learning environments or assessment systems) and if it is to allow learner data to be shared with other organisations (e.g. for accreditation).

In considering the development and implementation of an e-portfolio system in any organisation, there are a number of important considerations. Those particularly pertinent to IdA/BSS included: general issues of data ownership and confidentiality; maintenance; relationship with management structures; regulatory and policy issues; and support for individuals engaged in portfolio development in terms of training, dedicated time and recognition/accreditation of informal learning. One low cost option for IdA/BSS to consider was to introduce a standard product. However, the process of examining the organisation's needs and designing a bespoke e-portfolio had the potential to add considerable value to its implementation, since the emphasis would be on the *process* of ensuring that the e-portfolio accommodated the particular needs of the organisation and its employees, rather than the needs of the organisation having to be fitted into an existing e-portfolio *product*. The process of working with the organisations (IdA/BSS) therefore included a number of stages, as follows:

Research phase:

This involved a study of possible options in the context of IdA requirements.

Awareness-raising phase:

Involving four separate presentations to possible target groups and stakeholders, to outline the possible benefits of portfolios and introducing the concept of reflective learning. This was an essential stage of the process to secure 'buy in' and ownership of the e-portfolio by potential users. Since the benefits of reflections lay at the centre of e-portfolios, it was crucial to allow time for the potential audience/users to reflect on what was being offered and become familiar with the concept of 'reflective practice'.

Consultation phase:

Although the development team had a vivid sense of what an e-portfolio system might comprise for IdA/BSS and how to design and implement it, experience suggested that it is best to involve the users early and intimately, finding out what features they really wanted. Consequently, the team proceeded in frequent small steps, co-designing closely with the user community, delivering real functionality at each step, constantly testing 'real-world' situations and rapidly adapting to the problems and opportunities identified by users.

Design phase:

An appropriate technical framework for the construction of an e-portfolio involved one which gave the user a strong sense of ownership of their skills; of the process of planning and development; a sense of connection with peers; and a sense of being valued by the institution. Four core functionalities were identified: a reflective diary space; a personal 'dashboard' (for organising and presenting user input); features for user-to-user community building; and spaces for collecting, organising and sharing resources. Three overarching functionalities, weaving throughout the above, would be: 1) very strong discussion features for ad-hoc and more goal-directed discussions; 2) the ability to load documents containing specialist information; and 3) close integration with the day-to-day working practices of the users and with institutional credit-acknowledgement.

Piloting and refinement phase:

Although the entire development of the e-portfolio was in close co-operation with users, piloting the emergent e-portfolio system with a small user group was an important part of its overall development.

Implementation phase:

Details of the implementation phase were negotiated with IdA/BSS and involved: discussion with personnel responsible for staff training to establish what was feasible and possible; preparation and briefing of user group(s); and user support (e.g. on-line support for users, at a distance).

Discussion

This iterative process of development and implementation highlighted the extent to which the technologies utilised to construct an e-portfolio ‘fit for purpose’ were mediated by different interpretations and understandings of technology and its uses. For example, early on in the developmental process, both employers and employees agreed about the desirability of a facility to enable employees to record ‘case studies’ of interesting and/or difficult customers with whom they were dealing, so that these could be discussed and shared selectively with colleagues. However, once the technology was developed to specifications which met all requirements for recording the required information, employers were confronted with various issues related to client confidentiality that needed to be addressed before the technology was fully implemented. A second example of how different interpretations and understandings of technology mediated use relates to levels of access afforded to various parts of the e-portfolios. Again, in early discussions with mixed groups of practitioners and their managers, consensus emerged regarding the need for practitioners to have some degree of control regarding who would have access to ‘their’ material. However, employers developed firm views during the process of technological development about the areas and materials to which they needed access. This appeared to be non-negotiable. A final example related to the practitioners’ use of images in their e-portfolios. It has been argued that digital technologies are enabling many to become more visually literate and because of this there is case for broadening existing definitions of literacy (Davies, 2006). Visual images can help individuals to learn from one another and, in collaboration, create new meanings. Despite initial agreement that e-portfolios could be developed into a personalised learning space, when the technology interpreted this as meaning that users could, for example, load a photograph of themselves, the employers identified a major problem. Company policy prevented the uploading of any files, including images to their system. As a work-around, employees were permitted to load photographs of themselves from their home computers, as the e-portfolio was on-line. Nevertheless, the two key concepts of ‘personalisation’ and ‘control’ were challenged in a fundamental way by existing company policy.

The extent to which the company chooses to harness the technology to encourage change in the future is currently unknown. It is likely that the introduction of the e-portfolios will alter and, in some way, interrupt the flow of information and communication through and within the organisation. An organisational culture may become ‘technologised’, whereby cultural elements are mediated by the integration of the e-portfolio in work processes. The organisational culture was, indeed, characterised by two different ethoses that represent both positive and negative (or sceptical) attitudes towards technologies within the organisation. Symon (2000) argues that the implementation and application of information and communication technologies goes through a filtering process of social norms, attitudes and values. Cultural elements influence the implementation of technology, but do not necessarily create a network-structured organisation. However, the organisational culture will incorporate individuals who hold positive and/or sceptical assumptions about ICTs, but which may hinder the effective application of technology in the workplace (Barnes, 2003). These positive and sceptical ideas and attitudes towards ICTs are embedded in the

organisational cultures and are likely to have significant effects for training, communication and information flows and work productivity.

Another important issue is how the implementation, integration and application of ICTs do not have uniform consequences or outcomes. Creating a cohesive setting is dependent on the context in which the technology is implemented and used. As this case study shows, individuals from different occupational groupings and various hierarchical levels do not have the same reactions to technology implementation and application, even in similar contexts. Overall, a more negative response to technology may be found in a training setting compared to the work setting, even though the two settings are part of the same organisation (Barnes, 2003)

Conclusions

The implementation of technology operates not only as a catalyst for change but may also be used to encourage change. It is too early to assess the extent, or the manner in which the introduction of an e-portfolio into the call centre has affected employees at different levels of the organisation, or to discuss their influences on the organisational culture, organisational structures and social relations. Certainly, the introduction of e-portfolios has the potential to impact on all of these variables. One other issue currently being worked through are the patterns and forms of access to, and participation in, the new e-portfolio technology. Additionally, the benefits and problems arising from the introduction of this technology into the work setting for training purposes are not yet apparent. It is unlikely that technology will prove to be an independent force in organisational transformations, but is likely to play a significant role in any changes that occur.

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