From Learning Portfolios to Research Communities:


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ABSTRACT

As Wenger (1998) postulates, communities develop around things that matter to people. But how do we know what matters to those who may be outside our immediate circle? Who should we be talking to and who should be talking to us?

This paper documents the evolution of an on-line learning portfolio and collaboration system for designers. Openfolio is a web-based tool for reflective design practice and portfolio development with over 3000 members representing 140 design businesses and institutions in 26 countries. The system encourages designers to reflect on their motivation, capabilities and experience by documenting portfolio evidence. It provides a searchable skills exchange forum to support the formation of communities of practice.

Through this open portfolio system each learner presents a rich collection of attributes and expertise that represents their learning journey and through which they can align and engage with others. This has been supported by recent system additions that have enabled the growth of focussed research community groups. Each group provides a topic ‘hub’ for cross-organisational virtual collaboration whilst also disseminating the work of the group via Internet search engines with a view to attracting other expert collaborators.

The paper concludes by summarising how the development of e-learning portfolios can contribute to and support the informal evolution of research communities.

INTRODUCTION

In addressing the community needs of a design school using e-learning Steane (2007) states that ‘a successful solution must present a collaborative framework that retains social constructivist principles (of studio culture) whilst engaging learners with an enhanced e-learning experience that promotes critical thought by translating the tacit into the explicit, to create a shared knowledge for all.’ Steane concludes his paper by recognizing the importance of a motivated and engaged audience (Craig et al 2000) suggesting that any new pedagogy should value student discourse over student coursework since this lies at the core of any successful community (Percy 2004).

I. LEARNING PORTFOLIOS

Portfolios have traditionally been used by the art and design community as a kind of professional accreditation that establishes the credibility and quality of approach of the artist or designer. Whilst being an effective means for creative people to demonstrate their abilities, portfolios can also operate as a reflective tool, helping ‘students to know the extent and the limits of what they know’ through ‘synopsis’, ‘reflection’ and ‘study of progression’. (Baume 2001). As John Zubizarreta states in his book The Learning Portfolio - Reflective Practice for Improving Student Learning (2004) ‘The learning portfolio is a rich, convincing, and adaptable method of recording intellectual growth and involving students in a critically reflective, collaborative process that augments learning as a community endeavor and refines their educational experience.’

As well as such qualitative benefits for the learner, portfolios are used in the wider academic community to assess learning outcomes; this is explored by Irons (2002) who presents the following rationale for the use of learning portfolios with particular emphasis on computing:

- Provides evidence of student achievement;
- allows for student creativity;
- allows for accreditation of prior learning, and where appropriate work based learning;
- provides a unique individual assessment method, helping to counter collusion and plagiarism;
- allows for the development of material from outside module of study, giving coherence to whole programme of study;
- provides a forum for student reflection on their learning;
- motivates students.

The Joint Information Systems Committee (JISC), provides leadership in the innovative use of information and communications technology to support education and research. JISC defines a learning portfolio as ‘A collection of documents and other objects that can be shown as evidence to support claims a person makes about what they know, what they have achieved, and what they can do.’ However the wider benefits are described by Morgan citing Mitchell (1994) who states that ‘Evidence suggests that the use of portfolios encourages students to work cooperatively, to question and evaluate their own and others’ work, and to
develop their judgemental skills. Motivation becomes more intrinsic and less extrinsic.’

II. DESIGNING ORGANISATIONS

Early research (English 1994, 1996) explored the design of organisations as complex systems and ultimately described the concept of ‘Rules of Engagement’ as an organising principle providing scope for an object oriented approach to organisational design. The fundamental element of such an organisation might be best described as the individual. Rules of engagement articulate the discipline through which individuals interact and the communities of practice they generate can hence be seen as self-organising systems.

In its inception and subsequent development Openfolio takes an object-oriented approach to organisational design, where the key object is a representation of the richness of capability of the individual. Thus Openfolio is an e-portfolio system that aims to:

- Provide evidence of the student’s learning claims.
- Encourage students to reflect on their process and capabilities.
- Develop student’s intrinsic motivation.
- Encourage cross-organisational collaboration and review.
- Provide a support framework to nurture communities of practice.

In his book ‘The Age of Unreason’ (1989) Charles Handy considers the changing nature of organizations and our developing approach to learning in the world of work. He coins the term ‘Portfolio worker’ to describe someone who brings their particular capabilities to different organizational situations and holds their career together by something he calls Elastic Networking’. In this way learning portfolios might be considered as building blocks for flexible organizations founded on communities of practice.

III. COMMUNITIES OF PRACTICE

‘Members of a community are informally bound by what they do together—from engaging in lunchtime discussions to solving difficult problems—and by what they have learned through their mutual engagement in these activities’ (Wenger 1998). Lave and Wenger (1991) describe a ‘situated learning’ theory that is driven primarily by active involvement in ‘communities of practice’. They explain that we are all engaged in a variety of different communities, sometimes as key members, sometimes on the periphery, they ask the question ‘what kind of social engagements provide the proper context for learning to take place?’ As Wenger (1999) writes, participation in communities of practice ‘refers not just to local events of engagement in certain activities with certain people, but to a more encompassing process of being active participants in the practices of social communities and constructing identities in relation to these communities’ Essentially, communities of practice come about through, and depend on the motivations of practitioners. It is here that the usefulness of a learning portfolio can be seen as a tool through which a practitioner can reflect on and communicate their areas of interest and motivation. In the kind of studio culture referred to by Steane (2007) individuals get a sense of joint enterprise and identity from the communities in which they are engaged. The art and design tradition that focuses on learning through doing relies on project work to generate this rich discourse.

Smith (2003) concludes that ‘Educators work so that people can become participants in communities of practice’ We might therefore ask how we can best support our students in generating and being active participants in communities of practice?

IV. HISTORY OF OPENFOLIO

The concept of Openfolio was first implemented in 1994 and was used by around 70 second, third and fourth year students studying on the BA (Hons) Design for Industry course at Northumbria University. Many of these students had experienced 12-24 week placements with specialist companies and had hence become relative experts in particular fields of practice for example street furniture or yacht design. Each student was asked to create an A5 summary of their skills, interests and placement experience and these first Openfolios were used to populate a large notice board (Fig 1).

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The notice board provided a skills exchange forum enabling students to identify and communicate with colleagues as and when particular skill sets became most relevant to their current work. If a project required knowledge of the process of rotational moulding, the student could find that knowledge amongst the student cohort by searching the board. They would simply stick a post-it note on the relevant persons Openfolio to communicate.

Development on the Web

Initial development of Openfolio on the Internet started in 1996 with about 100 students completing simple templates within a directory based structure (English 1996, 1999). Post-it notes were replaced by e-mail contacts. The system continued to develop on this foundation until in 2001 a database structure was introduced providing a scaleable architecture making the then 800 on-line Openfolios fully searchable. This structural change also provided greater scope for functional development and in September 2001 Openfolio won the UCISA web award for student participation.
The process of editing and updating has been made as simple as possible so as well as the standard display mode all Openfolio pages can be viewed in edit mode. This provides a straightforward interface for members to update their pages by using the function buttons as shown in Fig 4.

Fig 4: Openfolio edit mode showing update buttons

Members of Openfolio are asked to consider their learning journey:

- To explore their past learning in the form of their experience.
- To describe their current position by identifying their skills, expertise and capabilities.
- And to consider the direction of their journey by describing their interests and motivation.

Each learner describes a rich collection of attributes and expertise through which they can engage with other learners as represented by Coopers model (Fig 5).

Fig 5: This model represents the individual learner at the centre and the different aspects and amplitude of their learning along each spike. (Cooper 1996)

This has the added benefit that if we interrogate the database by attributes or interests, groupings appear automatically and these can be used to suggest topics for communities of practice.

Openfolio is now used both as a curriculum support tool and as a design community resource with around a third of members drawn from the wider design community. For example:

- Natalia Tsvetkova, a textile design specialist at St. Petersburg State Academy of Art and Design Russia. http://www.openfolio.com/users/natalijatsvetkova
- Mark Nelson, Professor in the Environment, Textiles and Design department at the University of Wisconsin, USA http://www.openfolio.com/users/matthewposter
- Ceca Georgieva, Professor at the Bulgarian Academy of Fine Arts. http://www.openfolio.com/users/ceccageorgieva

V. OPENFOLIO IN THE CURRICULUM

The application of Openfolio in the curriculum depends on the level of study and the structure of the programme. At Northumbria Openfolio is used in both undergraduate and postgraduate courses and to support particular research projects. A wide range of disciplines are represented.
including Graphic Design, Industrial Design, Transportation Design, Multimedia Design, Fashion Marketing, Interior Design, Architecture, Fashion and 3D Design. Within these undergraduate disciplines the system is used to:

- Build a portfolio to apply for work placements
- Develop reflective abilities
- Promote and record community engagement
- Develop analytical capabilities through the integrated commenting and rating system
- Support collaborative projects
- Share skills, knowledge and experience

Learning Plan

At Postgraduate level Openfolio provides an important reflective tool that helps students to focus their own motivation by nurturing a lattice of expertise that recognises key value in their professional and working context. This is of particular importance to distance and work-based learners who never meet face to face and therefore need to develop an internet persona that represents the richness of their abilities, experience and motivation. At masters level this informs the students learning contract or learning plan as represented in fig 6, which shows the structure of a particular masters module (DE0871). The learning contract or learning plan is a key feature of the postgraduate framework at Northumbria. Whilst it remains flexible it formulates and guides the direction of the students study with the aim of aligning motivation and endeavour.

![Fig 6: Structure map of an MA module (DE0871)](image)

Reflective Practice

At all levels students are encouraged to reflect on their own processes and capabilities but the nature of this reflection varies according to level. This is represented by English and Young’s model (2000) (Fig 7)

In this model undergraduate process is characterised by hindsight reflection. This reflection on practice happens after the event, usually after the design project is complete, and thus the insights gained through one project can be applied to deal with the next project more effectively. Masters students demonstrate simultaneous reflection or reflective practice, this occurs within the process of designing and hence any insights have a more direct influence on the students’ immediate actions. Action research students reflect on reflective practice, they are concerned with drawing new knowledge from hindsight review of reflective practice in a number of case studies.

![Fig 7: English & Young (2000) Levels of reflection](image)

Encouraging Collaboration

Openfolio has recently been developed to support active collaboration and now includes peer review and discussion facilities as well as group and resource management tools. This has led to the development of on-line topic groups to support research communities. Fig 8 encapsulates the construction of a typical topic group with collaborator’s learning portfolios around the outside and group topic in the centre.

![Fig 8: Integrated Organic Network (English1994)](image)

The outer spheres represent the richness of individuals expertise that contribute to the central project or topic.

The function of each group is to provide a topic ‘hub’ for cross-organisational virtual collaboration that also promotes the subject of the group through the Internet.

The following group investigating the design of movement in products (Young et al 2006) involves staff and students at Northumbria University, Newcastle, UK as well as staff at Philips in Eindhoven, Holland. The topic group has been used to share working drawings and maps and to discuss the direction and focus of the project and can be best appreciated by visiting the following link: [http://www.openfolio.com/groups/Design%20of%20Movement%20in%20Products/](http://www.openfolio.com/groups/Design%20of%20Movement%20in%20Products/)

Topic groups are constructed to optimise visibility of their subject matter through search engines. Thus creating the potential to attract other expert collaborators via their own Internet searches.

In a ‘Google’ search for ‘Design of Movement in Products’ [http://www.google.co.uk/search?hl=en&ie=UTF8&q=design+of+movement+in+products&btnG=Google+Search](http://www.google.co.uk/search?hl=en&ie=UTF8&q=design+of+movement+in+products&btnG=Google+Search)
VI. CONCLUSION

‘A person’s intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a socio-cultural practice. This social process includes, indeed it subsumes, the learning of knowableable skills’ (Lave and Wenger 1991) Learning portfolios help students to understand and feel good about their abilities, they are a great motivator (Irons 2002) and as such can support communities of practice by aligning learners abilities experience and interests with an engaging and focused collaborative practice.

This Paper documents the evolution of Openfolio from its inception to the present and involves two distinct areas of investigation. Firstly Northumbria’s 12 year long experience of using e-learning portfolios in art and design education and secondly the way that portfolios can be integrated with collaborative technologies to support action research communities. Openfolio aims to provide a framework for learners to:

- Evidence
- Reflect
- Peer Review
- Collaborate and
- Disseminate

Not only so that ‘the lecturer sees a coherent and reflective picture of the student’s work and development.’ Baume (2001) but also that students ‘understand the satisfaction of taking ownership of their own learning. And they lay a foundation for their futures as lifelong learners.’ (Zubizarreta 2004) seeing their work in the context of the work of others. As Lave and Wenger (1991) point out ‘learning as increasing participation in communities of practice concerns to whole person acting in the world’.

E-portfolios can help to align students in relevant communities and help motivate discourse by making shared interests clear and accessible. Openfolio sets up community objects that are representative of the qualities of individuals. Through the management of organizational rules of engagement these objects can be used as the basis for self-generating and self-adapting learning groups and research communities.

From a different but very practical point of view of student employability, a Northumbria University news article (2004) reports on a student who secured a placement with Philips in Hong Kong through his Openfolio site, he states ‘I would have been stuck if I didn’t have access to my portfolio online.’

To conclude, learning portfolios and research communities can be seen as having a symbiotic relationship where portfolios help to align learners in passionate communities and communities help learners to learn through fascinating discourse.

END NOTE

Openfolio is available to individual artists and designers as a free service and we are always pleased to welcome new members.

http://www.openfolio.com/join.shtml

REFERENCES


English, S (1994) Exploiting the strengths of organisation (unpublished)


Bjoerykke, V. (1999) Northumbria University, Newcastle
Edmonds. G (2001) Northumbria University, Newcastle
Georgieva, C. (accessed 2007) Bulgarian Academy of Fine Arts
Hewitt, I. (1996) Northumbria University, Newcastle