Guest Editorial

An introduction to the use of eportfolios in professional practice

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Abstract

In this article the potential for use of electronic portfolios by healthcare practitioners and students is considered in the context of work currently being undertaken in the School of Health at the University of Wolverhampton. We write at a time when knowledge of, and interest in, eportfolios is expanding beyond a relatively small number of projects and into the consciousness of a wider audience of academics and institutions. In the last 2 years interest in eportfolios has grown rapidly, particularly within a Higher Education sector keen to meet the Higher Education Funding Council for England/Quality Assurance Agency progress file deadline in 2005, but also spurred by the reports of Burgess (Universities UK. Measuring and recording student achievement, 2004 [Online report] [Accessed: 01 March 2006]. Available from: http://bookshop.universitiesuk.ac.uk/downloads/measuringachievement.pdf) and of Tomlinson (DfES. Harnessing Technology: Transforming learning and children's services, 2005. [Online Report]. Published 15 March 2005 [Accessed: 01 Mar 2006]. Available from: http://www.dfes.gov.uk/publications/e-strategy/index.shtml). Examples of the use of eportfolio as a means of recording achievement and, in particular, facilitating reflective practice are discussed. The potential of an eportfolio system incorporating asynchronous communication features to resolve the tensions between academic and clinical practitioner roles is explored.

Keywords

ePortfolio; healthcare students; communities of practice

THE ePORTFOLIO CONTEXT

In this article, we discuss the current context for eportfolio development and begin to explore the potentiality of eportfolios for professional practitioners through the work of the School of Health at the University of Wolverhampton. We write at a time when knowledge of, and interest in, eportfolios is expanding beyond a relatively small number of projects and into the consciousness of a wider audience of academics and institutions. In the last 2 years interest in eportfolios has grown rapidly, particularly within a HE sector keen to meet the Higher Education Funding Council for England/Quality Assurance Agency progress file deadline in 2005, but also spurred by the reports of Burgess[1] and of Tomlinson.[2] The Tomlinson Report makes several references to the increased use of portfolios for assessment, and the Burgess report strongly reinforces the progress files initiative, explicitly recognizing the role of eportfolios in both the delivery and assessment of personal development. However, the most significant driver for eportfolio use in education came in March 2005 with the publication of the Department for Education and Science's eStrategy *Harnessing Technology* which promises to "encourage every

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institution to offer a personal online learning space to store coursework, course resources, results, and achievements . . . these facilities will become an electronic portfolio . . .".[3] So with a demand for eportfolio-type tools and processes to support involvement in, and transition from higher education,[4] and promotion of eportfolios in the educational sectors providing higher education's students, it is probably not pre-emptive to suggest that eportfolios are going to play a significant role in the HE sector in the very near future. Professional groups working within health economies are already required to develop and maintain portfolios of evidence to support their claims to competence but current paper-based portfolios are limited in many ways including their accessibility and flexibility. Some communities of learning are therefore already well-placed to form the vanguard of eportfolio use.

One question still troubling most educators is "what is an eportfolio?", but one of the difficulties in defining an eportfolio is that the word itself is applied equally to the system, the asset repository, the output and sometimes to the process itself. The language surrounding eportfolios struggles to keep up with actual developments. For instance, Love et al.[5] argue that "e-portfolios are inherently limiting". This does not reflect a true evaluation of eportfolio systems, but rather indicates their particular conception of the term, since they are describing a collection of digital artefacts "burnt" to a CD/DVD. This is a terminal process, which is of course limiting as it does not allow for collaborative engagement or ongoing development and review. Most eportfolio definitions tend towards the *output* or *product* of eportfolio processes[6] but even then the term cannot stand alone. For example, Jafari states that:

some scholars and developers of eportfolios have started to use an identifier to precede the name of their electronic portfolio, e.g., student learning portfolio, career portfolio, institutional portfolio, department portfolio, faculty portfolio, student portfolio, lifelong portfolio, or course portfolio.[7]

What is also unclear is whether, e.g., *My Career Portfolio* is the "database-driven, dynamic web site"[8] that presents a selection of the learner's attributes to a potential employer or if it is the much larger collection of evidence from which this subset has been drawn for its relevance to this audience and this purpose. At the University of Wolverhampton the term eportfolio is reserved for the system itself. It is a system which provides a range of eportfolio services, e.g., services for collecting (forms and file upload); for selecting (asset management); for reflecting (editing, reviewing and commenting); and for projecting (sharing and publishing). The tool for aggregating and projecting web-based "stories" is called the WebFolio: a web accessible collection of assets bound within a narrative framework and presented to an audience for a "particular rhetorical purpose". WebFolio describes a particular type of output not the system: a "particular type" because eportfolio systems can also allow journals, blogs, CVs and other individual assets to be shared through the web.

So, whilst it remains somewhat abstract, our conception of en eportfolio is of a system that belongs to the learner, not the institution; populated by the learner not their examiner; primarily concerned with supporting learning not assessment; for life-long and life-wide learning not a single episode or a single course; that allows learners to present multiple stories of learning rather than just a simple aggregation of competencies; and, importantly, where access to them is controlled by the learner who is able to invite feedback to support personal growth and understanding.

SITUATED LEARNING AND ePORTFOLIO

Various aspects of the use of eportfolio support the notion of situated learning. This perspective on learning suggests that in practice-based professions, expertise is not derived from the application of higher-order knowledge to practice but rather as a result of complex situational understanding.[9,10] Many practice educators are familiar with Schon's[9] arguments that much of practice-based problem-solving involves wading through "swampy lowlands" where problems present as messy and confusing, and problems are not easily resolved by the technical rational knowledge that tends to form the basis of academic education. Practitioners are sympathetic to a model of situated learning in which learning, rather than being seen as

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something that individuals do as a result of being taught, involves engagement in a "community of practice": hence learning is situated in the context of the practice.[10,11] All healthcare professions strive for pre-service educational programmes that prepare students for the challenges of working in highly complex and challenging environments whilst ensuring that skills acquisition is underpinned by a well-defined and evidenced theory base. The mechanisms by which this is best achieved are not well-understood.

The perceived theory-practice gap has long been recognized as a source of tension by both students engaging in practice and staff working in academic settings. The gap is perpetuated by the tension between university-based theoretical delivery and the "swampy lowland" of the practice placement. The teacher's role in developing practitioners is strained by the perceived ideal of being both educator and practitioner. The reality is that most university lecturers on healthcare programmes have limited time allocated to maintain direct clinical practice workloads. Maintaining clinical credibility and clinical contact whilst carrying a large university-based workload can lead to a sense of dissatisfaction with both aspects of the role. In addition, the geographical location of some universities in relation to placements makes travel problematic. This is sometimes compounded by intersite travel difficulties exacerbated by green transport initiatives, which impact on both lecturers undertaking link visits and clinical staff visiting the University. Therefore, whilst it is desirable to be part of the clinical community of practice, traditional university ecologies militate against the ready attainment of this ideal.

Equally, entering the practice arena is problematic for the new learner. The effective cognitive mentorship model described by Brown et al.,[11] whereby learners are coached by clinical mentors using a "scaffolding" technique of incremental support and modelling of good practice has become increasingly difficult to achieve as a result of qualified staff shortages in many healthcare professions. Hay[12] recognized that learners are not automatically incorporated into communities of practice and may experience isolation when rejection occurs. The pressures on placements of increasing number of students in attempts to prevent

future shortfalls in practitioners combined with declining populations of practitioners as a result of financial constraints currently experienced by many acute NHS Trusts is creating difficulties for supervisory staff. Heavy or complex workloads are known factors which undermine the effective mentorship and supervision of learners in healthcare professions.[13,14] Some of these concerns stimulated the School of Health's interest in using the electronic portfolio system, particularly its tools for reflective asynchronous communication to support a group of learners undertaking an alternative, "family-friendly" route through an undergraduate nursing programme.

The School of Health operates a personal teacher system for undergraduate nursing students. The student is allocated a personal teacher during the 3-week induction period and thereafter is provided with pastoral support. The personal teacher also monitors performance and attendance throughout the programme and assists with the development of an accredited portfolio of evidence. Academic support of clinical practice is achieved through a link teacher system to which academic staff are allocated largely based on their most substantive clinical experience. Although this system works well in providing sustained support to the student throughout the programme of education, and provides a contact person for clinical practice who has insight into the practice area, there are limitations to these roles in that the personal teacher is unlikely to be the link teacher for their students; rarely seeing the student in clinical practice. When this does happen, there is a greater sense of satisfaction and completeness for both student and personal teacher. At the end of term, review of progress the personal teacher will collate evidence of the student's experiences ensuring that assignment targets have been met and that clinical practice outcomes have been achieved. Post-hoc articulation of issues of concern to students is problematic since it is difficult to examine the causes. The student's recall of a situation may be at variance with that of the mentor. In instances, where critical incidents are brought to the attention of the personal teacher and which require action and/or referral to clinical practice colleagues, it becomes difficult to track back over the complexity of the situation. Although reporting of critical incidents at the time is encouraged,

junior students often feel nervous about this and may wait until returning to the university; some weeks after the event. The family-friendly route students work fewer hours in practice and it was anticipated that these students may therefore feel even more peripheral to the work of the practice area than traditional students, particularly in their first placements. It was felt to be important to develop a strong learning community prior to those first placements and to provide an alternative support mechanism, which would enable better anticipation of difficulties arising from the novelty of the alternative access programme.

In order to address some of these issues a pilot was set up to trial use of the reflective tools within the eportfolio system. The principal intention was that contact between students and their tutors would be maintained during clinical practice placements through the creation, sharing and commenting upon *thought* assets − thought assets being reflective, critical incident-type journal records.

Another intention was for the personal tutor to guide each student's early professional socialization, recognizing that this was an important part of mentorship. It was hoped that being able to share in their student's reflections would facilitate earlier insight into the student's experience in the early weeks of their placement. The original intention was to create a tripartite relationship between student, personal teacher and clinical practice assessor. However, unforeseen difficulties prior to the launch of the first clinical placement meant that the practice assessors could not be prepared for this new mode of support. Instead students shared their reflections with academic staff only. Students were instructed to use the *thought* record. This record type allows the student to choose from a simple unstructured journal entry or a more structured reflective record, which invites the learner to break their experience down into experience, reflection, conclusion and planning stages. Students were encouraged to then post these to a weblog or to use them in conjunction with other practice related artefacts to create a webfolio − a *story* of their practice. Most of the students chose the webfolio as a means of collating work they had created towards the achievement of their professional competencies to which

they added their reflective thoughts. Some students created weblogs as well as webfolios.

The effectiveness of the use of the tool to specifically address theory-practice issues was seen in one of the very first reflections shared by these students. Some students, working in the same placement area, individually provided rich descriptions of a distressing situation, in which a patient's condition had rapidly deteriorated before the patient died. The students articulated some real concerns about areas of care touching on themes including: their role as junior student; the appropriateness of decisions taken by medical staff and the meaning of their observations of symptoms displayed by the patient immediately preceding death. Their description was rich in detail and provided an excellent starting point for the lecturer to invite the students to analyse their experiences of this critical incident by stimulating recall of some theoretical concepts studied in the classroom.

The students had a taught session not long before embarking on their first placement, which examined the physiological processes at or near to death and some theories of grief and loss. In the case described, the students had not been able to apply this theory to practice. The signs and symptoms displayed by the patient could be explained as those found in patients whose central nervous system was failing. The apparent refusal of the doctor to resuscitate was in fact a planned response to a "do not attempt resuscitation" order.

From the teacher's perspective the critical incidents exemplified the concept of situated learning as opposed to the technical-rational model of learning and allowing the teacher to become part of that learning experience. Using the asynchronous comment facility on the shared reflections the personal teacher was able to construct an alternative explanation for the students' observations within a time frame that would not normally be possible − in this case less than 12 h.

By relating theory to practice and using empathic responses it was possible to create both a learning opportunity and a private supportive place for the students. Clearly this could have been achieved by those supervising the students but the

absence of staff with the appropriate supervisory skills to debrief the students at that time, coupled with the lack of a trusting relationship so early in the placement period meant that this could not happen. The students had developed a very trusting and valuing relationship with the academic staff who were thus well-placed to provide support by "virtual mentorship".

The potential to bring the clinically-based supervisor into the relationship is one that we intend to pursue for the next placement period. This will be possible as the eportfolio system permits portfolio assets to be shared via an email link. This means that the practitioner need only have access to email to take part in this virtual community. Unlike systems which depend on secure virtual environments with intranet access, the recipient does not have to have their own eportfolio account to view shared artefacts.

Each member of this tripartite support team can comment on the student's journal entries and the system allows for private comments directed to the student or to each of the correspondents. For example, the link teacher or personal teacher might provide feedback to a mentor who is relatively inexperienced in order to improve the quality of feedback to the student. The personal teacher may identify to both student and practice assessor where theoretical concepts introduced in a recent class could be incorporated in the students reflection thus increasing the use of evidence-based reflection on their practice. The use of the shared reflective journal entry does not preclude the need for face-to-face contact between the student, link teacher and mentor but does allow for the personal teacher (as validator of the student's learning) to have a window on the process.

Reflection does not come naturally to all learners and the quality of reflection is variable. Before using the eportfolio in clinical practice settings it is advisable to enable the students to appreciate the value of an *eCommunity of Practice* as a student group. Our group of 16 pre-registration, first-year nursing students were given training in the use of the eportfolio system from day one of their induction programme. Within 1 week all had participated in thought sharing about their aspirations and definitions of what becoming a nurse meant

to them at that point. ePortfolio training was integrated into the 4 weeks induction period and the students then used eportfolio asset sharing to evidence learning which took place in their self-managed study time. It was at this point that the value of the eportfolio for supporting practice became apparent. A theory session, where concepts of safer moving and handling of patients were introduced had also addressed explicitly the theory-practice gap that we knew the students would encounter and this elicited an interesting response in the eportfolio space. Students used a shared reflection of one of the students who had previous experience as a healthcare assistant (HCA) to articulate feelings of uncertainty about how to handle deviance from good practice in clinical settings. The HCA student had helpfully shared her experiences of back pain as a result of poor manual handling practice with the other students, as well as her insights on her previous experience as a result of the theory sessions. The other students then added their concerns showing that they were already aware of the potential for there to be social pressure to be non-compliant with good practice in the *real world* of the placement areas. This feedback came literally overnight as the students reflected on the session and so in the skills-lab sessions the trainers made time to introduce some scenarios where the students were put under pressure to cut corners. They were then taught how to use assertive language and non-verbal communication to deal with a situation where a colleague in practice was either using outlawed practice or where the student was uncertain about the practice being used. From a teacher's perspective early use of the eportfolio to build a community of practice underlined the need for a close integration of theory and practice skills.

So far the discussion has focused on the relationship between teachers, mentors/assessors and the student but one of the most powerful uses of the tool has been in the development of the students' own community of practice. Within a short time this group of students have developed a close relationship within the group and with the teaching staff. This is of particular note as the students are together for only short periods in the face-to-face setting as they are all parents and the theoretical sessions are delivered between 10 am and 2 pm to facilitate the school run.

In the early weeks of the programme, the students and teachers got to know each other through reciprocal thought sharing. At the point at which the learners were just about to go into their first placement they were sharing reflective thoughts with each other independent of the formative learning tasks set by academic staff. Two examples showed the benefit of the community of practice approach to learning. In each situation the student shared a critical incident that was of significance to their development as practitioners. These situations required the exercise of judgment and assessment of risk: one witnessed an accident and another, the collapse of a member of the public. In both cases, through the collective analysis of the situation, themes emerged which evidenced the students' integration of concepts learned in the classroom such as professional and personal accountability and responsibility, risk assessment and advocacy. Sharing with the teachers enabled us to relate the students' conceptualization of problems to theoretical constructs.

The collective learning community that developed was so powerful that it was necessary to rethink the plan for the students to share their reflections with only their practice assessor and personal teacher during placement given that the students were clearly valuing the collective learning experience and wanted to stay in touch with their own "community of practice". We used the thought sharing tool to explore the possibility of keeping the learners within this community whilst recognizing that there were issues of confidentiality and trust that need to be explored. The learners' solution was to share first with the teachers and take their advice about sharing further with the group as appropriate, which seems on the face of it to fall back on the teacher-as-expert but in fact was a conclusion reached by a group that were confident of themselves as trustworthy and mature but also in need of professional guidance.

Any of these discussions, it could be argued, could take place face-to-face, although some reports suggest that non-face-to-face communications using asynchronous tools can stimulate more complex levels of thinking that are more reflective.[15] The added value of doing this within the personal eportfolio space is that the student can synthesize from the contributions of self, the community of peers, mentors and teachers a new perspective on a problem and revisit it some time later for review without concerns that this will be controlled by a moderator as may be the case in more open Virtual Learning Environments (e.g., Blackboard, WebCT). The record of the problem can be shared again with a different community; it can be edited to remove some of the formative comments of others and used to provide evidence of development of critical praxis. Our students are recognizing this and set up initial thoughts about their practice placement stating that they intend to revisit these thoughts at the next placement and so on. This is valuable evidence of development that would usually be lost as the student passes on to the next placement and forgets their previous experiences. Instead it can be presented as part of an electronic folio of evidence of progression and problem-solving, critical thinking skills; essential prerequisites of effective healthcare professionals.

This article presents a glimpse of work that began less than 6 months ago but even at this early stage of the pilot it is absolutely clear that the eportfolio, and the learning process that it supports, have been instrumental in developing a more confident and reflexive group of students than would normally be seen at this stage in their education. In particular, students are convinced of the value of the system and need no encouragement in creating and sharing rich stories of their experiences. Indeed two students, who came to the programme without any significant skills in self-presentation, have already presented their work to an audience of academics from across the United Kingdom and are planning to write for publication. At a recent seminar colleagues commented on how assessment and competency driven curricula had contributed to the loss of the "joy of learning". This is certainly not the experience of *this* group of learners and their teachers. It is strongly believed that this is the result of using an eportfolio system that belongs to the learner not the institution; that is populated by the learner not their examiner; that is primarily concerned with supporting learning not assessment; that allows learners to present multiple stories of learning rather than just a simple aggregation of competencies; and where access to their stories and reflections is controlled by the learner who is able to invite feedback from *their* community

of practice to support personal growth and under-standing.

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