From hype to Reality: e-Portfolios in Nursing

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Abstract: This paper explores two issues:

1. Problems of integrating e-portfolios into the first year of a nursing undergraduate curriculum

2. Student use and ownership of said portfolios.

E-portfolios are hailed as providing digital spaces for students to use and explore creative aspects of their own learning. Nursing is said to be both a competency based profession with set criteria and outcomes but also a reflective profession which champions individual personal development. Universities purport to develop transferable skills and foster personal development but they also have a tradition of rigorous academic standards. There are conflicts both within and between nursing and university education.

Aims: To introduce e-portfolios in the first semester of a first year undergraduate nursing programme to foster open independent lifelong learning.

Method: First year students (24) completed a learning styles questionnaire and an adapted SEUISS evaluation form to assess their level of IT skills. At the end of Semester 1, the same students completed an evaluation form and participated in group discussion, exploring the integration of taught IT skills within the curriculum and their use of the e-portfolio and WebCT.

Results: Students reported that over the semester their IT skills had improved. The majority had appreciated the importance and value of having an e-portfolio but had not identified learning objectives and failed to engage with the features available: <50% of students had used a blog or chosen to showcase their work and the maximum reported amount of time spent working on their portfolios by most of the students was 30 minutes/week.

Conclusion: By focusing on improving IT skills rather than sharing with the students the philosophy behind e-portfolios we feel we contributed to their lack of engagement. In retrospect we feel that in failing to identify and address the philosophical conflicts that exist in nursing education ourselves and in not making these explicit for the students we disadvantaged their engagement with their e-portfolios.

Keywords: Nursing, e-portfolios, WebCT, IT skills

1. Background

The long established Nursing programme at Edinburgh University is a four year honours degree programme which leads to a Bachelor of Nursing with Honours and registration as a nurse (adult branch). Reflecting the liberal basis of traditional Scottish Higher Education establishments all students must choose to study outside subjects alongside their main degree subject.

The Nursing Studies department has an annual intake of up to 35 undergraduate student nurses (current 2007/08 intake = 24). This small intake allows for close contact between staff and students, enabling us to more easily implement and evaluate new initiatives.

Edinburgh University, in response to the Dearing Report (1997), have commenced the implementation of an undergraduate e- portfolio and Personal Development Planning (PDP) across the whole of the university. However, e-portfolios are currently used only by Medicine and Veterinary Medicine who have developed their own tools as part of their vocational requirements which are competency based.

Several other departments within the College of Science and Engineering (Engineering 4 (Industrial Placement), Chemistry, Biology and Mechanical Engineering) participated in a pilot study financed through the Principal's E-learning Fund to evaluate the use of PDPs and e-portfolios. Results from this pilot are only now being disseminated (Gachago & Dishon, 2008).

Nursing Studies is located in the College of Humanities and Social Sciences and was not included in this pilot. Nursing is also viewed as a vocational course and the personal development needs of our

students may be perceived as being different. Our students must be “fit for purpose” on graduation, having demonstrated that they have achieved the competencies set out by the Nursing and Midwifery Council in order to register (NMC (2004). In addition, nursing, as a profession, has long had associations with portfolios. Qualified nurses are expected to maintain an ongoing portfolio of evidence that they are “fit for practice” (Department of Health 2001).

Despite not being part of the pilot study, we decided to introduce e-portfolios for our first year undergraduate nursing students at the start of the 2007/08 session. The department had experience of paper portfolios. The existing paper portfolio was a competency based document required at the point of entry to the Register. It contained no elements of PDP or any creative space and the students had no sense of ownership. It was inflexible and rigid and was completed by the students only because it was compulsory. It was transferred to digital format for the start of Semester 1 and extra features were incorporated into the e-portfolio.

The new elements incorporated into the e-portfolio were; a reflective diary, a curriculum vitae tool, and a showcase area.

The e-portfolio system chosen by the University was WebCT Blackboard. This integrated with the existing WebCT Virtual Learning Environments (VLE) already available for use across the University as part of the promoting accessibility initiative increasing teachabilty (Scottish Higher Education Funding Council (2005).

A standardised WebCT format was introduced for all undergraduate courses within nursing at the same time in order to ensure the smooth transition of files and materials between these VLEs and to help facilitate navigation of the system by staff and students.

2. Process

Before undertaking this initiative, the following limitations were identified and acknowledged by the project team:

- the lack of a cohesive PDP policy within the College meant that we were reluctant to put time and effort into developing a comprehensive PDP of our own for fear that it would be supplanted when a decision was taken by the College as to which PDP policy they wanted to adopt. Instead we chose to develop certain elements from a PDP perspective. These included reflection, presentation and Information Technology (IT) skills which have been incorporated into our new e-portfolio.
- The known conflict between the use of portfolios for assessment and their use for personal development (Barrett and Carney 2005, McCready 2006).
- Nursing Studies is a small department with only 8 full-time and 3 part-time staff. Within this small team there is no e-learning support officer. Any e-learning initiatives are driven by staff enthusiasm and commitment and can be limited by time and existing workload pressures.
- Due to these pressures, we did not develop a new electronic version of our existing paper based competencies portfolio choosing instead to upload this existing document as it was. This meant we were then unable to link it to other parts of the new portfolio.
- The existing IT skills of our new first year undergraduates were unknown to us and therefore it was not possible to predict how much training and input would be required. This made it difficult to plan how many sessions to book in the computing labs for example.
- WebCT Blackboard was not the Project Team’s system of choice as it was regarded as cumbersome and not user friendly. The graphic displays and iconography within WebCT Blackboard was seen as being below par and compared negatively to other systems used by young people e.g. Facebook
- Intra-operability issues between university systems and the NHS due to firewalls (Jackson, 2007) means that students could find it difficult to access electronic versions of their portfolio while out on placement. This could be further compounded by limited access to computing facilities while on the ward or in the community where often there is only one terminal being shared by several members of the multi-disciplinary team.

- Academic staff concerns regarding legitimacy issues surrounding the in-putting of data to e-portfolios and the need to verify authorship.

As a result, of the last two points, the decision was taken to continue with the old paper version of the portfolio at the same time as the e-portfolio was introduced.

The evaluation of the e-portfolio confirmed our view that some of these limitations were going to be problematic and will be discussed later.

Despite the limitations identified above we decided to introduce e-portfolios because our view is that at the centre of curriculum is praxis: informed, committed action. In this approach the student's learning develops through the dynamic interaction of action and reflection. Nurses practise in an environment of constant change. The changing health needs of the population, the changing multicultural composition of society, advances in treatment and the reorganisation of the health care delivery systems are challenges that future nurses must be prepared to face. Health care and nursing practice will continue to evolve and adapt to new health care needs and new ways of delivering services. Curriculum design must reflect an ability to adapt to change whilst ensuring quality and providing a sound basis in research as the constants within a vision of nurse education and nursing practice. It is vital that nurses develop their professional knowledge and competence to cope with these demands and the complexities of modern professional practice for example The Knowledge and Skills Framework (KSF). This requires nurses to demonstrate responsibility for their own learning through the development of a portfolio of learning and practice and to be able to recognise when further and development may be required (RCN 2004).

3. Our approach

We undertook a baseline survey of students IT skills using the SEUSSIS project questionnaire (Haywood et al, 2003). In line with the findings of the report we found a general high level of IT skill. However this ranged from:

We were prepared by the school.

to

I don't like computers and don't have one.

And it was obvious to the students that there was a wide variation in skill:

There was an assumption we were all at the same level.

It is a bit tedious at times I feel I could be doing something else.

We then provided general computer lab sessions with specific emphasis given to PowerPoint and devised WebCT training. Despite the University providing an online IT skills course very few students had accessed it. Highlighting this course to students may be helpful in the future. The one area that students reported an increase in their confidence and skill level was PowerPoint presentations.

We undertook a Learning Styles questionnaire on all the students and encouraged them to refer to and use this information throughout the year. The small minority of students who did this were students who had identified specific learning needs:

Am a poor visual learning and this was helpful for me.

However the majority had not utilised this information:

I already know how I learn and can't change. I am stuck in my ways.

We also created linked assessments within the first year undergraduate programme in the form of a scenario presentation. We allowed students license to design their own e-portfolios which included a blog (for reflection), CV, Showcase, Mind Genius and links to educational sites. We provided anonymous feedback forms on WebCT.

4. Results

We undertook a three pronged evaluation strategy: individual questionnaire, anonymous on- line comments and a facilitated group discussion.

19/24 questionnaires were completed and returned. These were anonymous. The questionnaires covered four major areas; the VLE of WebCT, the e-portfolio, IT and the integration of all three within the nursing course. We have amalgamated the results.

4.1.1 The Virtual Learning Environment, WebCT

The areas that we evaluated were their general use of WebCT and in particular the discussion group and feedback forums.

We were interested in how often and why the students accessed WebCT. We asked:
How often did you access WebCT/week?

Table 1: How often did you access WebCT/week?

Time	Number of students
</= 30minutes	1
One hour	7
Two hours	2
Four hours	2
Seven hours	3
Eight hours	1
Ten hours	1
Over 20 hours	1
Thirty hours	1

Web CT was accessed on a daily basis by the majority of students and was positively evaluated in the following areas within nursing studies: information sharing, organisation of course materials and posting of announcements. However students remarked on the wide variation of use of WebCT within their outside subjects. There were difficulties in accessing files and system problems which affected reliability. The most common reason for accessing WebCT was to get *lecture notes* and *class announcements*.

VLEs can be viewed as virtual communities providing opportunities for students to interact. The majority of students already used Facebook and MSN messenger and were, within these environments, used to communicating online. However, the degree to which they interacted within the virtual academic environment was variable.

The setting up of the Anonymous postings was to give them the opportunity to comment freely and as one student reported;

> *It helps you express your opinion without worrying about your identity.*

However, more than half of the class had not even accessed the feedback forum whilst a third had read but not commented.

> *I read it and any questions that I have read have been answered so I didn't feel the need to post yet.*

Some had not accessed because they were unsure how to use the feedback or didn't find it helpful:

> *I am not sure how to use it but that is probably me.*

> *It is not very helpful.*

Leaving a small minority to conclude:

> *I have used it but nobody really responds.*

The on-line Discussion Groups were slightly more successful:

> *I found the online chat useful in the sense that I gained insight into other people's ideas.*

Seven students had participated and three had read but not contributed. Seven students had not engaged with the discussion group and some cited technical difficulties as the reason

The majority of the negative feedback on discussion groups was about technical issues and lack of clear instructions:

I couldn't access the chat room because it wouldn't load onto the computer. It is sometimes frustrating when relying on the internet for resources when you can't access it for periods of time.

Another opinion that was expressed raises issues regarding students' time management abilities and the perceived value regarding what information to attend to.

No I don't participate because most of my time is taken up digesting the information we are being taught and from what we are supposed to be reading in the supportive literature.

Overall this limited discussion on WebCT raised more questions than answers and underlined the necessity for further evaluation and the inclusion of staff within the evaluation process.

4.1.2 The e-portfolio

All students had extensive introduction to the mechanics of using the e-portfolio system. We were interested in their use of the e-portfolio and it became apparent that there was a disparity between their use of the VLE WebCT and the e-portfolio despite the two systems being compatible. When students accessed WebCT there was an option to save material to their e-portfolio.

Table 2: How much time do you spend on your e-portfolio/week?

Time spent	Student numbers
Never accessed	4
Less than thirty minutes a week	6
One hour a week	3
Three hours a week	1
No response	5

The reasons for not accessing the e-portfolio were varied and were not all about technological difficulties or interface and reflected more general concerns.

However, students were not too impressed with the reliability and interface of the system.

I couldn't work out how to use it and it keeps crashing.

The reasons they did not engage with the e-portfolio were generally*:* time, purpose, and confusion over the point of it.

Think the e-portfolio is too time consuming when I have other work to do.

A lot of time has been spent on this and I feel the time would have been better spent doing nursing lectures.

I think we need better instruction on what it is for and be told what is expected.

Despite these comments several of the e-portfolio features were used:

Blogging -Ten students actively used the blog (and two students are handwriting a blog in a diary and three students are using Microsoft Word) with the intention of then uploading to the blog.

Showing their e-portfolio to other people/sharing it was something that half of the students engaged with.

Table 3: Sharing their e-portfolios

Who did you share with?	Number of students
No one	9
Clinical/ academic staff	4
Friends/family	5

Seven of the students had created showcases to show their work to others.

The art of blogging and sharing the e-portfolio were the most widely used features. No one had used the Personal Objectives planning or the CV part of the e-portfolio. The general discussion with the group on e-portfolios highlighted amongst other issues the confusion between the paper portfolio and the e-portfolio.

4.1.3 IT skills

We were interested in assessing how the initial training sessions and expectations of IT skills had progressed.

We asked “Was the level of ICT skills required of you what you were expecting?” None of the students considered the level to be less than expected and eight students considered that the level of skill required was higher than they had expected. Only seven students reported that the level of skill was as they had expected.

We then asked “Did you feel that anything else suffered as a result of spending time on IT?” Only two students felt they already had the necessary skills whilst sixteen students rated the input they received in a positive light.

Eleven students felt that their level of skill was now sufficient and that they required no more input. This however left eight students who felt deficient in a variety of skills including internet searches, data sets and PowerPoint.

Students were then asked about ways in which they would like to see IT further integrated into the course. Twelve students did not see the need for further integration whilst the remainder suggested*, more integration in other courses and more interactivity.*

Three people within the group expressed consistent reluctance to engage with the digital medium. Their complaints were different in quality than the other students and were about their preference for pen and paper and problems with learning or reading digital formats.

I prefer pen and paper.

This has implications for staff as well as students as all work within the university is now expected to be produced in digital format and many resources are only available in digital format.

5. Discussion

The discussion will address the three areas; VLEs (WebCT), e-portfolios and IT skills with emphasis on e-portfolios.

The introduction of WebCT is viewed as enhancing the student learning experience by promoting accessibility. Whether this is the reality of the student experience is debatable. The students in this study viewed WebCT as a repository from which they could access and collect information rather than an interactive space. This may be as a result of how staff are using the medium. There was some indication from students that more interactivity would be desirable in the form of self assessment quizzes but their main wish was for more uniformity in the presentation of materials. The different usage of WebCT throughout the university by the subject areas presented the students with difficulties and frustrations and led to disillusionment with the medium.

The overheads don’t make sense.

As we did not interview staff it would be prudent to include this in our next evaluation and unwise to speculate on the staffs’ perceptions of WebCT. It does nevertheless raise issues of quality control of learning materials within this virtual space and a re-examination of the use of WebCT within the institution. This reiterates the concerns of Britain and Liber (2004) that the ‘one size fits all’ approach by institutions to e-learning is hindering pedagogical innovation.

The comments and discussion on interactive discussion groups within this cohort suggests that assumptions about the students’ ability to transfer their social interaction in virtual spaces to an academic forum require re-evaluation. It appears that students’ reticence is similar to that found in face to face tutorials and may be even more acute as one’s words are recorded for public scrutiny. Acknowledgement is required that an academic form of discourse is different from the social texting which involves numerous abbreviations and symbols. The academic pressure of correct punctuation and spelling may lead students to initially view the forums as akin to mini essays. This leads us to conclude that first year students require preparation and guidelines to engage in on-line discussions that are beyond simple IT skills.

The IT evaluation of the students is an area which we will continue to use with all our students. The wide variation of skill level suggests that students should be grouped according to ability in order to maintain interest and encouragement. The skills assessment also identified the lack of critical inquiry skills that students possess in using web resources and a desire for students to learn these skills. It is usual within academic institutions to teach critical reading and research skills for traditional forms of knowledge such as books and journals. It may now be necessary to expand these skills to web information. In view of this we have incorporated an IT curriculum development plan to improve the skills throughout the programme. The SEUSSIS project (Haywood et al, 2003) found that academics generally did not consider that the teaching of IT skills was part of their job remit. Nevertheless as IT skills become more important within nursing it may become a necessary addition, at least within this department. This raises questions regarding staff training and expertise.

The main focus of our evaluation was on the use of the e-portfolio system by the students and was motivated by our desire to enhance the student learning experience. However we had failed in two respects: “What was the purpose of the e-portfolio?” and “What did we mean when we used the term?” were two questions we did not fully discuss with the students or staff. In many respects we were seduced by the technology. In the words of Postman (1990):

> *” a new technology is never simply an addition to culture. It always presents us with a Faustian bargain—a potential deal with the devil. Technology giveth and technology taketh away....A new technology sometimes creates more than it destroys. Sometimes, it destroys more than it creates. But it is never one-sided."*

All forms of technological communication have therefore the capacity to change social interaction and this can create new hegemonies and power structures. Before charging headlong into embracing the new forms serious attention should be given to the educational and social effects. We had forgotten McLuhan’s (1964) salutary words. He writes;

> *In a culture like ours, long accustomed to splitting and dividing all things as means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message. (p1)*

We had introduced technological change and had failed to transmit the changes in pedagogy. The demands on the students arose from different pedagogical perspectives; on the one hand we were encouraging blogging and non assessed work whilst still demanding they used the traditional competency based portfolio. It was not surprising that several students expressed confusion as to what was required;

> *I think things should be more exam based.*
>
> *We should be told what is expected I was quite confused.*

The e-portfolio, although constrained by the institutional and subject demands, had been approached from the wrong direction. Perhaps we should have taken note:

> *There is not one generic e-portfolio approach but multiple approaches based on different pedagogic understandings of the purposes and processes of using e-portfolios for teaching and learning. To clarify the debate it is necessary to start not from a description of technological functionality but to first understand the pedagogic approaches involved and then to consider how technologies can be shaped to support pedagogy. (Atwell 2005a)*

By exploring what pedagogies we wished to enhance and then trying to adapt the technology we may have had more success. It is telling that the areas we promoted of blogging and reflective practice were successful as they are reinforced within the curriculum, whilst the setting out of student learning objectives and personal plans were not used by the students and largely do not feature within the first year curriculum as explicit tasks. This is despite the student-led learning scenarios and presentations. It may be that the pedagogical value has not been emphasised to the students in the same way that reflective practice has.

More problematically the range of achievement and learning reflected in the portfolio is constrained by curricula and course objectives. However if the only valid portfolio entries are those that support the attainment of externally imposed objectives, the e-portfolio is therefore not pedagogically neutral, neither do learners own their learning. It leads students to concentrate only on aspects that they see a having an externally validated value. This is borne out by the use of the e-portfolio for the presentation

which was assessed and was one of the main areas used by the students. Nevertheless the social value of sharing and showing one's work to outsiders is evident amongst this cohort.

E-portfolios can be an important tool for recognising, recording and validating non formal learning especially if the portfolio application provides means for peer group interaction, exchange and sharing. This however presupposes that students are ready to and can see the value in engaging with their peers and this may be debatable. The decision to spend time on informal personal learning pursuits and engage with one's peers is not clear cut. In an academic assessment driven institution it may be viewed as prudent to concentrate on formal lecture led material, a view expressed by the students. However, the recognition of non formal learning requires moving beyond formal learning objectives and incorporating them within the curriculum. Many existing portfolio applications place considerable restraints on what is seen as valid learning (Atwell 2005b).

> *When portfolios are used for accountability purposes, to document pre-service teachers' achievement of standards-based competencies, teacher candidates viewed their portfolios as a hoop they needed to jump through to graduate, and not the lifelong reflective tool that had been envisioned. (Barrett & Carney 2005)*

Ownership of the e-portfolio is also an issue is this type of learning. Our portfolio tried to do two contradictory things by incorporating the paper portfolio to demonstrate professional accountability and also creating a student personal portfolio. Although the student inputs into the portfolio and it is theirs to take out-with the institution, unfortunately this is not possible with the format we used and the portfolio requires to be open to scrutiny by both the profession and academics. The actual structure and component parts of the competency based portfolio are also laid down by the profession. This would require that for some subject areas nursing and education for example, that two portfolios may be required one that is entirely student led and one professionally led. It is hardly surprising that the students maintained the paper portfolio in preference to the e-portfolio. We had created three masters for the student to be accountable to; profession, academic and self. Personal development became the least important task master.

Portfolios and the associated assessment of is an under researched area. Technological advances and pedagogical approaches require to be brought together in congruent paradigms. At present the competing paradigms of individuality, choice and institutional requirements of assessment seem to be at battle within the portfolio system. That there advantages to using portfolios is in one sense self evident. They provide continuity, development, some degree of choice and structure for the learner and educator. However the lack of research evidence and the tendency to place technology before pedagogy may lead to problems and disillusion with what is inherently a very exciting future for education. On reflection despite many of the drawbacks we learned valuable lessons and the student cohort is willing to engage in our new improved version.

6. Future directions

As with all things technical time marches on, change overtakes us and we are now faced with a new e-portfolio system Pebble pad. We have now developed a pedagogical approach to the new e-portfolio system and devised a different approach to our introduction of e-portfolios to the student. We have also removed the competency based portfolio from the e-portfolio and will look at ways in which it can be gradually introduced and linked to the students learning. We are now also part of the college of Humanities and Social Science pilot evaluation of the new e-portfolio system which includes staff evaluation. The process has allowed us to develop our understanding of e-portfolios and we have extended our use of e-portfolios by developing a new Masters programme base on e-portfolio principles.

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