

Implementing an e-Assessment of Professional Practice

Pauline Morgan and Chloë Dyer

Abstract

The ability to accurately document undergraduate student nurses' development while in the clinical area is a requirement of the Nursing and Midwifery Council. Owing to a number of strategic and pragmatic drivers, the Faculty of Health Sciences at the University of Southampton has developed and implemented an e-Assessment of Professional Practice (eAoPP). This platform enables the student, mentor and academic staff to access the portfolio from any internet enabled device and has been rolled out in phases over 2 years to over 5000 students and mentors. The key factors underpinning the success of the project are presented along with an audit and preliminary analysis of support service activity provided during the roll out to 380 students in January 2015 across Hampshire and the Isle of Wight. Plans for future development, including employability and roll out to other student groups are discussed.

Key words: Professional practice ■ Documentation ■ Nursing assessment ■ Mentors ■ Nursing students

This article discusses the development and implementation of an online assessment of professional practice portfolio within pre-registration programmes for nursing and midwifery. It explores the choices made in relation to the design of the portfolio and the approaches to gaining full stakeholder engagement as well as lessons learnt. The approach to practice implementation will be discussed and reflected on, and an audit of user support needs are presented. Areas of good practice are highlighted, as are future plans for wide-scale evaluation and development including building in employability and inter-professional practice.

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Background

E-portfolios are becoming an increasingly common way of capturing information for showcasing, employability, continuous assessment and evidencing professional development (Karsten, 2012; Green et al, 2013; Hoekstra and Crocker, 2015). The implementation of educational e-portfolios in the UK nursing and midwifery settings have, however, been reported as problematic owing to NHS firewalls and the incompatibility between trust information technology (IT) systems, access to the internet in geographically remote locations and concerns over the IT abilities of NHS staff (National Nursing Informatics Strategic Taskforce, 2012; Teague, 2015). While there are several case studies of e-Portfolio implementation including the Joint Information Systems Committee (JJisc) case studies (Jisc, 2008; 2012), there are very few reports of e-portfolios being implemented to capture formative and summative assessment of practice that span over several entire undergraduate and postgraduate programmes.

As part of the redevelopment of its nursing and midwifery programmes, the Faculty of Health Sciences at the University of Southampton decided to introduce an online assessment of practice. The move to an online assessment system was, in part, owing to internal pragmatic drivers. These included the escalating costs of producing paper-based portfolios, the inaccessibility of the paper documents when the students left the University, and, on occasion, the damage or loss of the portfolio by students during the programme. Changing assessment from pass/fail to grading for each placement doubled the administration of the academics and administrative teams owing to the increase in paperwork required to be copied and filed during twice yearly portfolio verification.

In addition, external drivers such as the release of the Burgess Report (Burgess Implementation Steering Group, 2012; Universities UK, 2012), which recommended that all students in higher education have access to an electronic Higher Education Achievement Record (HEAR), highlighted that the expectation was towards online portfolio learning and showcasing. The future of nurse education, as discussed in the Willis Report (Willis, 2012), alongside proposals emerging from the NMC (2015) for an electronic revalidation process gave further impetus to securing an online solution. Having an online system for the collation of reflections and staff feedback will be beneficial in preparing both mentors and students for the electronic submission of revalidation portfolios.

Box 1: Summary of the key drivers

- Government strategy
- Grading in practice
- Costs
- Staff resourcing
- Student tracking
- Enhanced quality-assurance monitoring
- Increased security
- Preparation for Nursing and Midwifery Council revalidation

A summary of the key drivers for the development of a ne-portfolio system is given in *Box 1*.

It became apparent that traditional paper-based practice documentation was an outdated and an inefficient assessment system, and the convergence of these drivers provided an opportunity to modernise practice assessment through the development of an e-Assessment of Professional Practice Portfolio (eAoPP). The initial vision was that the eAoPP would support nursing students from the commencement of their training and prepare them for preceptorship and revalidation.

Project development started in 2012. At that time, a preliminary review of the literature looking at the use of clinical assessment via e-portfolios in nursing in the UK revealed scant information using DelphiS (a commercial [system regularly used by the University of Southampton](#)). More material was found in relation to medical programmes at the University of Leeds and Bradford (Davies et al, 2010), and this was followed up by site visits to learn first-hand how the online platforms had been built and operated. The next step involved reviewing a number of off-the-shelf products to see whether they would meet the needs of the University of Southampton. The paper-based assessment of practice documentation used by the University of Southampton before the introduction of the e-portfolio was accessed by multiple mentors, along with relevant clinical and academic staff, as well service users. This meant that the product would need to cater for complexities of a large volume of multiple users (estimated at 15 000 when fully rolled out), in addition to overcoming potential technical problems, such as the NHS firewalls. After reviewing several commercial products and making initial enquires regarding creating a bespoke product, the decision was made that, in theory, it would be possible to move to a platform that would suit the University's and Trust's needs.

Project planning and management

Risk assessment

Internationally, many institutions have attempted to introduce e-portfolios into the nursing curriculum with varying degrees of success (Andrews and Cole, 2014). Therefore the authors carried out a risk assessment at the start of the project. This focused on five main areas: meeting educational/professional requirements, financial implications, stakeholder engagement, reputational risk and technical risks. The highest risk areas were considered to be stakeholder, engagement, technical risks and educational/professional requirements. *Table 1* summarises the main strategies used to mitigate these risks.

Table 1. Main risks and mitigation strategies

Risk Category	Main Concerns	Actions to mitigate risk
Stakeholder (students, mentors, trust education teams, service users)	Senior trust staff not supporting the idea of an online assessment of practice	Set up a strategic project group to include senior nursing management from each trust, service user representation, and senior academics from within the faculty and a representative from the contractor (Axia Interactive Media)
	IT literacy among NHS staff	Being able to provide 'just-in-time' support to students and mentors/practice educators. Provide support via a dedicated helpline and e-mail
	Mentors not engaging with the electronic system. Gaining access to mentors to provide training and professional development	Communication strategy including drop-in sessions, newsletters, flyers and briefings via mentorship updates
Technical	Limited access to the system in some practice areas owing to potential lack of computers	Discussions with IT lead for each trust to gauge scope of computer and internet access
	Variable access to the internet owing to remote geographical locations (e.g. the New Forest)	Phased roll out to clinical areas over a 3-year period. Close monitoring of placements in remote geographical locations
Educational (university and professional bodies)	The possible inability of the portfolio to capture professional and academic requirements	Develop strong collaborative working with the contractor. Review of the paper-based documentation and transfer of relevant sections onto the eAoPP
	Education and training.	Phased roll out to clinical areas over a 3-year period. Drop-in and training session held onsite at each trust with invitations to NHS and private, voluntary and independent sector staff. Development of online help resources

Stakeholder engagement

The starting point was the creation of a technical specification using feedback from several key stakeholder events attended by



Figure 1 Example of eAoPP interface

local trusts, students, service users, academics and professional staff including IT specialists. An initial scoping exercise highlighted that existing off-the-shelf products did not meet the technical requirements of the University. A decision was made, therefore, to create a bespoke product based around the technical specification that reflected the complexity of the assessment of practice process. Following a tendering process, AXIA Interactive Media were contracted to create eAoPP. The eAoPP contains sections seen in *Figure 1* and features a 4-tab system that captures the students' skills and competencies required by the NMC, formative activity, service-user feedback, mentor comments and grading in practice.

Technical

Phased approach to roll out

The roll out of the eAoPP started with 50 students in January 2013, followed by a second wave in April 2013. These numbers eventually increased to approximately 3250 students (both pre-registration and mentorship courses in January 2015, with 39 mentorship courses having been completed using the eAoPP during this time. For each mentorship cohort, up to 30 trainee mentors were enrolled onto the system, which provided them with a record of assessments and aided the transition from paper to an online portfolio (Sullivan et al, 2013). The benefits of undertaking a gradual roll-out process included having the time and resources to train staff effectively and the ability to gain the support of key stakeholders, which further increased staff participation in using the product. By the time the January 2015 cohort of undergraduate students began, there were provisions to provide e-mail and telephone support for staff and students using the system and educators in practice areas were able to support staff with any issues. Education teams in practice areas were able to support mentors with some issues, and referred them to the helpdesk with any technical queries.

Educational

Mentor development and support

A decision made very early on in the project was to develop a smaller version of the eAoPP to use with the Faculty's mentorship programme following the initial roll out to 50 students in January 2013. The mentorship programme attracts around 700 students each year (Sullivan et al, 2013). Using the eAoPP to assess trainee mentors enabled the authors were able to start building a significant capacity of mentors with accounts and familiarity to the system.

In the early stages of the roll out to pre-registration students, support for mentors was given on a one-to-one basis. As the number of students using the eAoPP increased, these sessions became scheduled group sessions and drop-in sessions. These were held across six NHS trusts, as well as several private, voluntary and independent sector organisations. Practice educators in the clinical areas played a significant role in supporting and educating mentors in practice.

Education sessions included an overview of the system, what was expected of both students and mentors. Staff, both from education teams and mentors in practice, were also made aware of help guides that featured step-by-step

instructions for accessing and completing sections of the portfolio. Mentor education continues as the University of Southampton works to achieve a critical mass of mentors who are actively using the system.

In January 2015, the last phase in the nursing and midwifery roll out began. In this phase, 380 first-year students simultaneously went into practice. This was the largest phase of the roll out in terms of the number of students going into practice settings. Before arriving on placement, students were given computer-based training in using the system during their academic group meetings. This involved setting up their accounts and an in-depth discussion and demonstration of the system that ensured students could access their accounts when in practice.

To prepare the clinical environments, introductory posters were sent to each clinical area receiving students and students were supplied with paper-based instructions to hand to their mentors. Using paper-based instructions for an online system did strike a chord of irony with some colleagues, however feedback from students and mentors, especially those with limited IT skills, indicated that this strategy was successful. The support from practice educators featured highly in this last phase.

Initial informal evaluation

Informal feedback was canvassed from academic staff, mentors and students during support sessions and via ad hoc visits to seminar groups in May and June 2014 to capture opinions of staff and students involved in the roll out. Feedback taken from these sessions formulated changes made to the eAoPP in February 2015 with the addition of a 'communication' tab for students, mentors and academic staff to make records of conversations that were held outside, or in addition to, the normal assessment process.

Feedback from students

As the number of students in practice increased, students often fed back that they had to educate their mentors on how to use the e-portfolio, and first placements always presented a steep learning curve for both students and mentors. Students also reflected that by the end of the first year, they were very competent using the portfolio. This feedback was not surprising as, although multiple opportunities for mentor education were offered, some of these were poorly attended. In addition, while a plethora of help guides were provide in the help section of the e-portfolio, it was becoming questionable as to whether mentors, and in some cases students, were actually accessing these resources.

Feedback from mentors

In different clinical areas, mentor concerns were relatively similar with computer access and lack of time to complete the portfolio being the two most commonly discussed. The fact that the system can be accessed from any internet enabled device quelled many of these initial apprehensions. However on occasion, mentors and students working in the community, who often use a hot-desking system found locating a computer challenging. The availability and accessibility of computers is something being investigated currently and,

to date, no students have reverted back to using the paper-based portfolio. As the number of online initiatives such as ePrescribing and electronic patient records increases, the authors suggest that the introduction of the eAoPP may be highlighting a problem that was already in existence (Duffin, 2010).

Feedback from academic staff

An electronic system has cut the work of academic and administrative staff significantly. As the students' grades are directly transferred from the e-portfolio system into the marking database, transposition errors are avoided; in addition the security of the system reduces the risk of fraudulent entries and allows academic staff to track their students' progress while the student is in practice. All entries are time and date stamped and the system generates alerts to prompt students, mentors and tutors as to when the next review is due. This highlighted that interim assessments were not being completed until near the end of the students' placement which provided evidence previously only available verbally. The eAoPP is, therefore, starting to play a role in the quality assurance of placement experiences as academic staff are able to evidence the completion date of assessments and feed back to the trusts, which should lead to improvements in this area. Academic staff are easily able to read the entries made in the eAoPP as they are typed rather than hand written, which sometimes proved problematic. If required, mentor performance could be assessed based on contributions to students' portfolios.

Retrospective analysis of online support

To identify common problems encountered by students and mentors, a retrospective analysis was undertaken of the support-line activity. During the main roll out of the system to 380 students in January 2015, the support line (telephone and e-mail) received 515 enquiries. The support line was able to rectify 384 of these with the remaining 131 being referred on for technical support.

The top 200 enquiries were split into five main categories as shown in Table 2. A total of 72 of these enquiries (36%) were received from mentors who had not entered their NMC/Health and Care Professions Council (HCPC) registration numbers when creating their accounts and could then not verify the students completion. In total, 50 enquires (25%) were from mentors who had forgotten their username and password and 29 enquiries (15%) were owing to a reporting anomaly whereby some completed entries in two areas of the portfolio were not pulling through to the main summary sheet. The fourth and fifth most common (25 and 24 enquiries, or 25% added together) involved requests for the portfolio to be 'unlocked' owing to typographical errors and students asking how to link to their mentor's account.

The remainder of the enquiries were fairly equally spread with various issues being highlighted. Many of these appeared to be general enquires regarding placement such as student hours, missed induction days and study days that were not directly related to the eAoPP. There were 17 support instances (3% of the total number of 515 enquiries) of mentors creating multiple accounts as they had forgotten their login details,

Table 2. Top 200 enquires raised to help line by category

Total enquiries	Type of issue
72	Progression sign off—mentor concerns
50	Forgotten username and password
29	Needing the contractor to sign off sections
25	Asking for sections to be opened owing to mistakes made
24	Adding mentor or tutor to eAoPP

and this was problematic for students who needed to link with them.

In total, 25 support logs (5%) were related to mentors requesting to have the interim and summative assessments unlocked as they had not completed them sufficiently and 23 calls (4%) were related to students asking for confirmation that their portfolio had been passed and submitted following a social-media scare from a group of students.

Key success factors and lessons learnt

A summary of the key success factors are shown in Box 4 and include having an understanding of the potential risks and actions in place to combat any issues, which was vital in enabling the transition to the eAoPP. The three main success areas have been achieving stakeholder support, starting small and learning along the way and using the mentorship course to implement the portfolio.

Although there is a large help section in the eAoPP, informal feedback from both students and mentors highlighted that they do not access this information. This proves problematic as detailed guides have been developed to aid understanding of the system and details of any updates to the system are held here. The portfolio needs to be more intuitive and steps have been taken to improve this. Video guides that take the student through the whole portfolio have proved useful and students have commented that they are 'extremely helpful'. When alterations are made to the system, students are contacted directly via email by the support team.

Following the success of the student video guides, mentor video guides are in development and hover guides are to be added to the main areas of the eAoPP with additional details about what is expected in that section. Students have also commented that they feel that the time between having the face-to-face training session and going into practice is too long. This has been reviewed in readiness for the next cohort of students going into their practice placement in January 2016.

Review of the main support calls shows some general issues which could be expected of using any online platform, for example users forgetting their username and password

Box 2. Summary of key success factors

- Stakeholders involvement
- Starting small and phased roll out
- Involvement of trust practice educators
- Student /staff education and dissemination
- Building capacity
- Just-in-time support
- Responding to feedback
- Collaborative working with contractor

KEY POINTS

- The ability to accurately document undergraduate student nurses' development, while in the clinical area is a requirement of the Nursing and Midwifery Council
- The Faculty of Health Sciences at the University of Southampton has developed and implemented an e-Assessment of Professional Practice (eAoPP)
- The key factors for success included stakeholder engagement, staged roll out and building mentor capacity
- The main challenges arising included users incorrectly setting up accounts and forgetting login details
- Using the eAoPP has greatly reduced the staff time involved in moderating and verifying practice experiences

and accounts not being set up correctly by the user. Minor technical anomalies were corrected promptly and did not affect the students' progression through the portfolio.

Future plans

The expansion of the eAoPP into other programmes at the Faculty including the Allied Health Professions (AHPs) are in development. The creation of an 'employability' tool for students to build a CV and portfolio to present at interview is nearing completion and will be trialled by the end of 2015. This development will enable students to extract specific practice experiences to create a comprehensive personal and professional profile including additional skills and competences gained throughout their programme of study. They will be able to showcase their clinical achievements including service-user and mentor comments to take to future interviews.

Conclusion

The eAoPP is thought to be one of the first wide-scale implementation of online nursing assessment of practice portfolio in the UK. The initial implementation, combined with stakeholder engagement and a scaled approach to roll

out, was instrumental in ensuring the successful uptake of the system by both students and mentors. There is still work to do in making the system intuitive for users and adapting the model for implementation across the University's AHP pre-registration programmes, and the development of reflective and employability sections. A large-scale formal evaluation is in progress. BJN

Conflict of interest: none

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