E-learning in medical education
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Abstract

E-portfolios are often celebrated as the choice of technology to engage students and trainees in the personal development processes which underpin their academic and professional careers, but the process of portfolio creation cannot work in isolation. Research highlights the importance of feedback, relevance and assessment in engaging users and encouraging the pedagogical processes which can be exploited by the online environment. The use of an e-portfolio needs to be embedded firmly into the curriculum and embraced by educators and users alike.

Context

Ellaway and Masters (2008) describe e-portfolios as ‘powerful tools for evaluation, assessment and personal reflection’. A simplistic view of an e-portfolio combines two elements: technology and a portfolio. Portfolios are a collection of learner-created artefacts. Some of these artefacts can represent important personal learning experiences, such as reflections on critical incidents, but others can demonstrate achievement of specific standards, such as the results of assessments and evidence of competencies. The most basic use of technology is to create a file that stores the chosen artefacts and incorporates a function to share these artefacts with others.

The use of e-portfolios in undergraduate and post-graduate medical education has continued to dramatically increase. The educational drive has come from an expectation that learners are self-regulated and will use e-portfolios to enhance their own personal and professional development (Batson 2002). Utilising technology is expected to increase engagement of learners in this process. The view of the learners, however, paints a different story.

Activity

The School of Medicine at the University of Leeds has been involved in the development of two e-portfolio systems. The undergraduate ‘Progress File’ was created within the university's VLE system and provides students with personal space to create entries against the expected learning outcomes of each module, often completed following tutor prompted ‘moments’ of reflection (such as after a test or exam). Non-academic aspects, such as time management or presentation skills, to enhance the learners’ understanding the importance of these skills and the wider opportunities for development within each module are also highlighted. The Progress File is launched annually to first-year students through an introductory lecture and supported with technical instructions. All students are expected to use the Progress File as evidence of their personal and professional development at their annual appraisal.

The School of Medicine also piloted the use of an e-portfolio for junior doctors commencing their training in a local hospital (The JISC-funded Enhancing Learner Progression Project (eLP), http://www.elp.ac.uk and http://www.leeds.ac.uk/medicine/meu/elp/index.html). This
e-portfolio was built around the Foundation Year Curriculum and launched to trainees through their induction process. Additional workshops were offered for those who needed extra support and guides were available for both supervisors and trainees.

Both projects have provided valuable understanding of the users’ viewpoint of e-portfolios and the learning processes they support.

Evaluation

Both projects were evaluated with a mixed-methods approach using both a questionnaire (including both quantitative and qualitative questions) and an analysis of the usage of the technology derived from the usage log. The response rate for first-year undergraduate students (n = 216) was 95% and the Foundation Year trainees (n = 32) 25%.

Eighty-eight percent of the undergraduate students and 87% of the trainees accessed their respective e-portfolio systems. However, only 24% of all e-portfolio users used the tool continuously throughout the year.

Those who engaged with the e-portfolio noted that the collection of evidence and personal thoughts not only aided the recollection of previous experiences but also helped them to think about issues which were outside their formal curriculum. For example, one undergraduate student noted,

*I have used it quite intensively and this has helped me in essays where I had to think back to a particular patient visit or work session.*

A junior doctor also noted,

*Using the e-portfolio has made me think about things which I wouldn’t normally think about.*

Other users stated that the affordances of the electronic format enabled them to organise and present their personal and professional development more easily to themselves and to others. This point was made by one of the junior doctors,

*Good to have all your evidence in one place so you don’t lose it and it looks far more presentable.*

A careful review of the usage log identified that the e-portfolio was mainly used by both groups of users at key points in their learning journey: 86% of undergraduates used the e-portfolio before their annual appraisal and 59% of the trainees only uploaded to their e-portfolios before their ‘End of Placement Reviews’. A trainee commented,

*I only used it near the end to collect things together*

The overall low level of usage of the e-portfolio in both projects appeared to be related to a number of factors, especially assessment and provision of feedback.

The undergraduate e-portfolio was not assessed and one student stated,

*I have not used it as I feel my time is better spent academically studying.*

Relevance was key to many of the users; a larger percentage of Foundation Year trainees accessed and used their e-portfolio, its contents would be used to determine their progression to FY2, but less than half were continuous users. This pattern of usage was also heavily influenced by the provision of feedback. Where trainees received feedback
in their e-portfolio space they were twice as likely to use it regularly. The undergraduates received no feedback in their e-portfolios and as a result their usage was reactionary. Audience is pivotal.

**Conclusion**

The findings from both of these projects mirror the use of e-portfolios in other disciplines (Woodward & Nanlohy 2004). Despite being heralded as a tool to support personal and professional development the potential is severely limited if the e-portfolio is not integrated within the wider educational approach. Technology provides a useful tool that can ease the time-consuming process of collation, storage, retrieval and presentation of artefacts. This simplicity encourages some users to reflect more on theses artefacts enhancing their personal and professional development, but the educational potential of e-portfolios will only be achieved if the technology is adequately supported by the main educational processes that motivate learners, particularly assessment and feedback.

**References**


**Notes on Contributors**

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