

## Appendix four: publication four

PEACOCK, S., SCOTT, A., MURRAY, S. and MORSS, K., 2012. Using feedback and ePortfolios to support professional competence in healthcare learners. *Research into Higher Education Journal*. vol. 16, pp. 1-23.

### Aim of the paper

The paper explored how ePortfolios can facilitate student engagement with feedback to support the development of professional competence and identify in healthcare learners.

Accessed online and/or downloaded	Citations	Impact factor of journal
2,167 times (accessed online) in June 2013 (information provided by Scopus)	3 citations (data provided on journal website in June 2013) 5 citations on GoogleScholar in April 2015	This has an impact factor of 1.141 and ranks 55 out of 219 journals in the education and research category in Journal Citation Reports (data provided by QMU librarian).

### Approval from publisher for inclusion in PhD

Provided by Academic and Business Research Institute (AABRI)  
Staff Editor  
06/06/2013

## **Background to the Research Project: basis for the publication plus an extensive literature review**

### **Title**

Exploring the learner experience of ePortfolios for formative and summative feedback in the health sciences.

### **Aim of the Research Project**

The study investigated whether, and in what ways, learners in healthcare education engage with formative and summative feedback delivered through ePortfolios.

### **The Research Team**

I was the lead researcher supported by Dr Sue Murray and Alison Scott (radiography lecturer).

### **Affiliation**

Funded by:  
UK Higher Education Academy Subject Centre for Health Sciences and Practice

### **Overview**

Whilst undertaking work for submitted publications two and three, tutors and students had noted the potential of ePortfolio as a facilitative tool for learners to create, record, collect, collate, and reflect upon feedback. Three programmes: BSc in Nursing; MSc (pre-registration) Physiotherapy, and BSc (Honours) Diagnostic Radiography were already trialling this approach and volunteered to be part of a study. Student feedback in the National Student Survey and institutional surveys had highlighted that student response to feedback was not always ideal at QMU, as in other institutions. I was aware of the conflicting reports about learners' attitudes to, and preferences for, feedback and wanted to investigate if this could in some way link with our work on reflection and ePortfolios as outlined in publications two and three. I was particularly interested in how learners could be encouraged to develop internal and external reflective dialogues about feedback. I wanted to explore this highly problematic and complex area. Thus, I led an application to the HEA Health Science and Practice for small project funding, focusing again on the learner voice, exploring the learner experience of ePortfolios for formative and summative feedback in the health sciences.

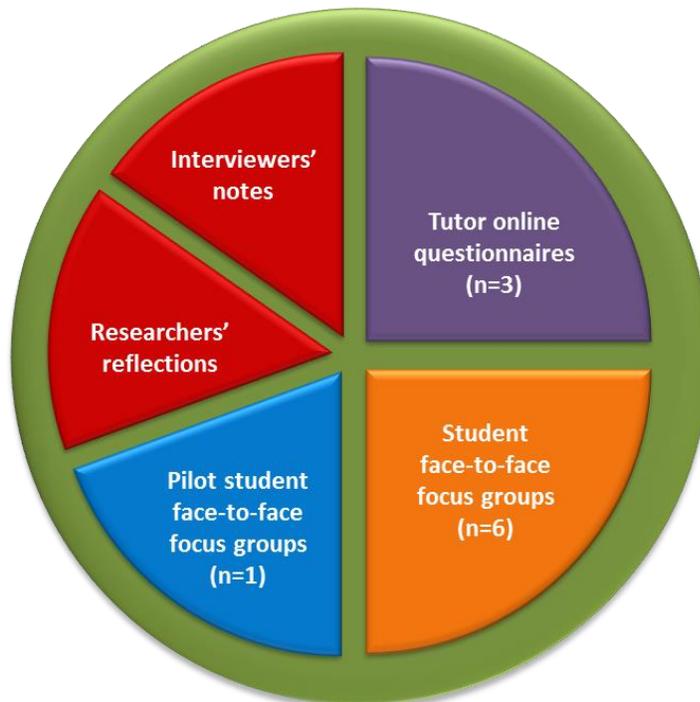
Dr Murray and I designed the inquiry process and we conducted the focus groups. All three researchers analysed the data to facilitate cross-checking and improve the quality and rigour of the findings. Tutors were asked to complete online questionnaires to provide information about their use of ePortfolio, their approach to induction, the availability and type of learner support provided, the range of feedback supplied and their perceived advantages of using the ePortfolio for learner feedback. Learners were questioned about their general preferences and experiences of feedback as well as within the ePortfolio. We wanted to determine the benefits and barriers of health science learners receiving feedback through ePortfolios and how this compared with their previous experiences of feedback.

The resulting study (Peacock et al. (2011)) indicated learners were very positive about receiving tutor-generated feedback on the product of their learning (summative assessment) through ePortfolio with some returning to it and, occasionally, reflecting upon it but there had been little engagement with the tool for collating, collecting and reflecting upon feedback. Learner understandings about feedback, their participatory role in the feedback process, and how feedback should be used for the development of metacognitive and self-regulatory skills, had also limited engagement with feedback in the ePortfolio.

### Shared outputs of the inquiry process

For P4 we ran a series of dissemination events including presentations, reports and two publications from 2010 to 2012. Further information is available at: <http://www.qmu.ac.uk/eportfolio/research.htm>

### Pictorial representation of research methods which informed this article



**Authors' contributions to the paper**

<b>75% by Susi Peacock</b>	I was the lead author establishing the structure of the article, conducting the literature review, creating the framework, drafting the paper and writing the discussions, the limitations and the conclusion. I also provided feedback on the method and data analysis.
<b>15% by Mrs Scott</b>	Mrs Scott provided subject expertise on health sciences, offered feedback on the paper and the framework.
<b>5% by Dr Murray</b>	Dr Murray gave feedback on the drafts of the paper.
<b>5% by Dr Morss</b>	Dr Morss made editorial contributions and gave feedback on the paper.

**Signatures**

<b>Susi Peacock</b>		03/04/2015
<b>Mrs A Scott</b>		07/04/2015
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## Using feedback and ePortfolios to support professional competence in healthcare learners

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### ABSTRACT

1           This article presents a learner-centric approach to feedback for healthcare students  
2 based upon current research literature and the authors' own research into student experiences  
3 of feedback using ePortfolios. Feedback is essential for all learners but for healthcare learners  
4 failure to engage with feedback may impact on patient care with potentially life-threatening  
5 consequences. Therefore, the aim of this practical approach is to support learners in the  
6 development of their professional competency and identity through deeper and broader  
7 engagement with feedback facilitated through learner-generated internal reflective and  
8 external dialogues. Such an approach requires learners to broaden their conceptual  
9 understandings of feedback, embracing its different forms and types regardless of when it is  
10 provided and by whom. Learners are also required to become active agents in the feedback  
11 process seeking out feedback opportunities in all their learning environments within and  
12 outwith academia. Fundamental to the approach is the ePortfolio providing a highly flexible,  
13 integrative environment for learners to create, record, collect and collate feedback over a  
14 period of study which can be used for reflective dialogue, appraisal of current progress and to  
15 plan for future learning activities. Practical tutor guidance is provided and the suitability of  
16 this approach for other disciplines is also-discussed.

Keywords: feedback, ePortfolio, healthcare education, learner experience, professional competence and identity.

## Introduction

1 This paper proposes a learner-centric approach to feedback using an emergent  
 2 technology, the ePortfolio. It is a practical approach evolving from an extensive literature  
 3 review of student experiences of feedback within the higher education sector and a small  
 4 research study into ePortfolios and feedback involving radiographers, physiotherapists and  
 5 nurses. The aim of the approach is to facilitate long-term deeper and broader student  
 6 engagement with feedback for healthcare learners enabling the development of professional  
 7 competence and identity.

8 For the purpose of this article, 'healthcare education' includes learners in regulated  
 9 professions such as nursing, medicine and the allied health professions. In 2009-2010, there  
 10 were over 50,000 British students studying medicine or subjects allied to medicine (HESA  
 11 2010; Morrison 2010). The primary goal of such learners is the acquisition of professional  
 12 clinical competence to ensure patient safety (GMC 2010; HPC 2010; NMC 2010).  
 13 Professional competence has been defined as "...the habitual and judicious use of  
 14 communication, knowledge, technical skills, clinical reasoning, emotions, values and  
 15 reflection in daily practice for the benefit of the individual and community..." (Epstein and  
 16 Hundert 2002, 226). Such attributes are acquired not only in academic contexts but also in  
 17 busy, complex clinical and community environments. As the learner moves from novice to  
 18 expert developing professional identity, high quality support and mentorship is required;  
 19 feedback is a critical and integral element of this (Benner 2001). Given the particular  
 20 demands on healthcare learners - studying within diverse contexts and on numerous  
 21 placements, where there is a need learn to receive and benefit from feedback provided any  
 22 time, anywhere from many different sources - the ePortfolio seems the ideal vehicle for an  
 23 integrated approach to feedback. Thus, this paper explores:

24 "How can we use ePortfolios to facilitate student engagement with feedback to  
 25 support the development of professional competence and identity in healthcare  
 26 learners?"

## BACKGROUND AND CONTEXT

27 This section outlines the foundations for the approach:

- 28 • Feedback and healthcare learners in higher education;
- 29 • A collective case study into ePortfolios and feedback.

### Feedback and healthcare learners in higher education

30 Current research demonstrates that students at all levels and in all subject areas  
 31 believe feedback to be vital to their studies and fundamental to their progress (Carless 2006;  
 32 Johnston, Ciannon, and Olekalns 2008; Lizzio and Wilson 2008; McCune and Hounsell  
 33 2005; Orsmond, Merry, and Reiling 2005; Rowe and Wood 2008; Scott, Badge, and Cann  
 34 2009). In the healthcare professions, however, learners also consider feedback to be essential  
 35 for their ability to develop professional competence and identity, as these quotations drawn  
 36 from the authors' own research (Peacock, Murray, and Scott 2011) demonstrate:

37 If they didn't evaluate our work then we will never improve, it's better to enhance  
 38 it from now than to be in the field and don't know how to do it (radiography  
 39 student, online);

1           ...some markers are extremely academic...they'll also say you know 'it shows  
2           you've got an interest in this' you know and I find that much more personable  
3           ...which I find really useful because it maybe brings out things about your own  
4           sort of professional identity that you didn't really know before (nursing student,  
5           online).

6           It is also apparent that feedback is highly complex, reflecting students' individual  
7           preferences and personal learning experiences. For example, national student surveys  
8           consistently indicate students continuing dissatisfaction with the amount, timing and quality  
9           of feedback (Krause et al. 2005; Johnston et al. 2008; SurrIDGE 2008) whilst, in comparison,  
10          other studies suggest that learners frequently find that feedback is useful and indeed valuable  
11          (Bevan et al. 2008; Careless 2006; Johnston et al. 2008; Orsmond et al. 2005; Scott et al.  
12          2009). There is also little learner consensus about what constitutes quality feedback, the ideal  
13          amount of feedback and even the balance between positive and constructive feedback  
14          comments (Bevan et al. 2008; Poulos and Mahony 2008; Weaver 2006). There is,  
15          furthermore, little homogeneity amongst learners about the preferred delivery mechanism -  
16          the manner, type and way that feedback is delivered. Consensus exists in one area only: lack  
17          of understanding of tutor feedback comments and access to the academic discourse  
18          underpinning such comments (Bailey 2009; Carless 2006; Chanock 2000) as illustrated in the  
19          following student quotation:

20                 All these big words! You would like it in layman's terms but I suppose that  
21                 wouldn't be academic. No one wants to admit they are not sure what things mean;  
22                 no one wants to stand out (first year, nursing student, Bailey 2009, online).

23           The situation is further complicated by the apparent lack of learner engagement with  
24           feedback: learners focus primarily on the grade rather than the resource-intensive feedback  
25           comments provided by tutors (Carless 2006; Crisp 2007; Wojtas 1998). In healthcare, learner  
26           engagement with feedback is critical (HPC 2010). Unlike many other subject areas where  
27           failure to address feedback will only impact on the learner, in healthcare lack of significant  
28           learner engagement with feedback may have a direct impact on patient care, potentially  
29           having life-threatening consequences and compromising the clinical governance process  
30           (Price, Hopwood and Pearce 2000). However, feedback is particularly complex in healthcare  
31           education since it must address a range of multifaceted skills and knowledge that learners  
32           must develop for their future professional roles. Furthermore, feedback experiences for  
33           healthcare learners, often in the clinical setting, are less structured and organised than in the  
34           academic milieu (Wood 2000). In such circumstances individual preferences for the timing,  
35           delivery method, amount and quality of feedback cannot be accommodated. In the busy  
36           clinical environment workflow and service demands are prioritised and thus planned  
37           feedback sessions are extremely limited. Hence these learners must be prepared to enter into  
38           dialogue with all feedback providers (whoever, whenever and wherever) (Eraut 2006),  
39           engage pro-actively with feedback to appraise current performance and reflect on developing  
40           skills and emergent knowledge. Resultant internal reflective dialogues can identify areas for  
41           development and planning of future learning opportunities without which learner  
42           development of professional identity and competence will not be realised.

43           The literature review demonstrates that although healthcare learners believe that  
44           feedback is important for their studies, strong personal preferences about what constitutes  
45           quality feedback and individual preferences for delivery mechanisms may impede  
46           engagement with feedback. Furthermore, there is little understanding of how to engage with  
47           feedback provided in many different environments, which is impacting of personal and  
48           professional development.

### A collective case study: ePortfolios and feedback

1           In 2009, we undertook a study which stemmed from awareness that, as educators, we  
 2 need to support healthcare learners to engage with feedback, and to engage at a deeper level.  
 3 We had found through implementing and undertaking previous research into ePortfolios  
 4 (Peacock and Gordon 2007; Peacock et al. 2009) that this emerging technology, may, in some  
 5 cases, offer learners the potential to create, record, collect, collate and reflect upon feedback  
 6 and then plan for future learning opportunities. An ePortfolio consists of a number of  
 7 different online tools which can support these processes, such as blogs, folios, forms and self-  
 8 audit forms. It allows learners to create: ‘...a purposeful aggregation of digital items – ideas,  
 9 evidence, reflections, feedback etc.’ (Sutherland and Powell 2007). In some cases, assessment  
 10 for example, some of the artefacts may be shown to selected external audiences such as a  
 11 clinical supervisor, a tutor, a peer or even a potential employer.

12           The authors’ latest study in 2009 explored student engagement with feedback through  
 13 the ePortfolio in three disciplines: radiography (undergraduate), physiotherapy (postgraduate)  
 14 and nursing (undergraduate). In each of these case studies ePortfolios had been used for  
 15 summative assessments and to provide online feedback. The study was based at a small  
 16 institution, Queen Margaret University (QMU) in Scotland. QMU focuses on providing  
 17 relevant teaching and research which will make a practical impact on everyday life. The  
 18 programmes seek to produce well-prepared, well-rounded and flexible graduates in Arts,  
 19 Management and Social and Health Sciences. Most of the undergraduate programmes,  
 20 especially in vocational areas, involve four years of study and typically students start such  
 21 courses from 17 years of age onwards. Over the last ten years a range of technologies have  
 22 been implemented which are linked to the Learning, Teaching and Assessment Strategy  
 23 (QMUC 2006). In 2005, the institution introduced PebblePad as our institutional ePortfolio.

24           The full findings of this qualitative study are reported elsewhere (Peacock, Murray,  
 25 Kelly and Scott 2011). In general, learners liked the ePortfolio because accessing feedback  
 26 was quick and easy – it could be accessed anywhere, anytime and anyplace. Furthermore, the  
 27 feedback could also be viewed alongside a learner’s assignment:

28           ...you can keep it and go over it any time you want (physiotherapy student).

29           Much easier to access. Much easier to read! You can’t lose it (nursing  
 30 student).

31           It’s with the work, so it’s easy to see mistakes being talked about (radiography  
 32 student)

33           Most learners accessed the feedback and occasionally revisited but actual level and  
 34 depth of engagement with feedback was rather limited which reflected their lack of  
 35 understanding of what to do with feedback. Only with repeated encouragement from tutors  
 36 and after they had been introduced to the ePortfolio as a tool for long-term professional and  
 37 personal development did a few students return to feedback and use it to modify, amend and  
 38 improve future work through internal reflective dialogue and also through external dialogue  
 39 with educators. The role of the ePortfolio as a tool to self-generate feedback or to record,  
 40 collect, collate, and reflect on feedback across a programme was, however, infrequently  
 41 considered and used by learners (Peacock, Murray, Kelly and Scott 2011, 43). Many  
 42 students, therefore, missed opportunities for long-term, regular, active creation of, and  
 43 engagement with feedback through the ePortfolio. Thus, we concluded that to benefit from  
 44 the affordances of the ePortfolio to support development of professional competence and

1 identity, learners need a deeper understanding of how the ePortfolio can be used in their  
2 learning.

### AN EXPLORATION OF THE APPROACH

3 Drawing upon the authors' experiences as healthcare educators, the findings of our  
4 studies and emergent research into learners' experiences of and preferences for feedback, it  
5 was concluded that both learners and tutors need to:

- 6 • Broaden their conceptual understandings of feedback;
- 7 • Re-examine their role in the feedback process;
- 8 • Develop a fuller awareness of the potential of ePortfolios as a facilitative tool to support  
9 deeper and broader engagement with feedback.

10 These three elements underpin the authors' proposed approach to improving student  
11 engagement with feedback and enabling the development of professional competence and  
12 identity in healthcare learners. It is designed to support healthcare learners in developing,  
13 over time, a more informed sense of their skills, knowledge and achievements. It would also  
14 ensure that learners develop the skills and knowledge to become independent, self-appraising  
15 and self-critical lifelong learners.

16 Central to the approach is dialogue (Carless 2006; Nicol 2010). Learners expect  
17 highly personalised feedback which they want to discuss with external providers such as  
18 subject experts and clinical staff; unfortunately, this may not always be feasible leading to  
19 learner frustration. Yet healthcare learners are frequently unaware of who can provide  
20 feedback, especially in the placement setting, and how they can take responsibility and create  
21 opportunities for feedback dialogues (Bing-You, Bertsch and Thompson 1998). Such learners  
22 need guidance in helping them identify external feedback providers, such as clinical  
23 educators, placement supervisors and peers, and how best to ensure appropriate and timely  
24 feedback dialogues (Nicol 2010). For example, learners need to organise with their practice  
25 educators, feedback opportunities at agreed intervals throughout their practice placements, in  
26 order to evaluate and appraise their progress and development (Scott 2010). This echoes work  
27 into conceptual models of feedback (Jawah et al. 2004; Nicol and Milligan 2006; Nicol 2010)  
28 which present a wider perspective on-feedback, with the learner at the heart of the feedback  
29 process, playing an active rather than passive role:

30 Just as learning does not occur through the mere transmission of written or  
31 spoken information, nor does feedback-delivery on its own lead to learning  
32 improvement. For students to learn they must do something with transmitted  
33 information, analyse the message, ask questions about it, discuss it with others,  
34 connect it with prior understanding and use this to change future actions (Nicol  
35 2010, 503).

36 The evolving approach is much indebted to this work.

37 External dialogue is only one side of the coin; learners also need to discuss and reflect  
38 upon their feedback internally, but such engagement with feedback is rare (Carless 2006).  
39 Hence learners need guidance in how to develop an internal reflective dialogue about  
40 feedback which may serve as a springboard to self-appraise current performance and identify  
41 areas for improvement. This would lead learners to organise opportunities to test their  
42 emerging knowledge and skills and then make further modifications as appropriate (Moon  
43 1999). It would also help learners to objectify feedback and limit the impact on students'  
44 feelings (Young 2000).

45 Figure 1 (Appendix) provides a diagrammatic representation of the proposed  
46 approach, outlining the three key linking elements underpinned by dialogue. These are now  
47 discussed in more detail from the learner perspective, followed by guidance to tutors.

**The development of a broader conceptual understanding of feedback for healthcare learners**

1 Our studies (concurring with the work of others such as: Burke 2009; Hounsell,  
 2 McCune, Hounsell and Litjens 2008; Nicol and MacFarlane-Dick 2006; Nicol 2010; Sadler  
 3 2010) have found that learners had a rather limited, one-dimensional perspective on  
 4 feedback: it is perceived as a type of error-correction usually provided by an external such as  
 5 a supervisor or tutor. Learners also voiced strong individual preferences for the manner, type  
 6 and way that feedback was provided, often reflecting their preferred learning styles as the  
 7 following quotations from our study (Peacock, Murray and Scott 2011) illustrate:

8 ... I quite like when I get feedback that addresses ... how you looked at the  
 9 introduction and the structure ...rather than just a huge blurb of you know, things  
 10 that are hard to relate to and understand (nursing student, online);

11 ...constructive feedback... sometimes it can just be completely negative, but as  
 12 long as it is constructive and helpful then that's the kind of feedback I appreciate  
 13 (radiography student, online);

14 Personally I would need a discussion with someone ... for it to play a part in my  
 15 mind. Normally written-feedback just infuriates me... (physiotherapy student,  
 16 online).

17 Our approach, as advocated by Burke (2009) and Nicol and MacFarlane-Dick (2006),  
 18 requires learners to widen their understanding of feedback, to embrace its multifaceted  
 19 qualities, its many forms, its roles and purpose, and to engage with all types of feedback, in  
 20 whatever way and whenever it is provided.

21 Most of our learners saw feedback as fulfilling two roles:

- 22 (1) Giving *information* about current performance. For example, learners want to know if  
 23 they have performed a task appropriately to the requisite standard in line with current  
 24 procedures. Without such feedback learners understand that patient safety may be  
 25 compromised;
- 26 (2) Providing *guidance* about how to improve current performance (closing the gap  
 27 between current and ideal performance). For example, learners need advice on how  
 28 they can improve performance in the clinical setting especially in relation to clinical  
 29 procedures.

30 However, there are two additional roles that feedback should fulfill which are essential in  
 31 supporting learners to gain professional competency and identity:

- 32 (3) Supporting the *development of meta-cognitive skills* such as goal-setting, problem-  
 33 solving, time management, motivation and responsiveness. For example, in early  
 34 Personal Development Planning sessions, learners could be asked to outline their  
 35 plans for future development based on feedback received.
- 36 (4) Encouraging *self-regulation and self-assessment* in their chosen profession, especially  
 37 through developing students' awareness of quality. In this case, tutors will offer  
 38 feedback which relates to professional competencies. It is expected in future that  
 39 learners will use this type of feedback as a model to develop their own self-regulatory  
 40 skills.

41 Table 1 (all tables are in the Appendix) provides further examples of each of these different  
 42 feedback roles for healthcare learners.

43 During their studies, healthcare learners will also receive extensive feedback provided  
 44 in a variety of types and formats (written, verbal, visual; formal/informal; structured/ ad-hoc;  
 45 on-going/formative/summative) from many different sources as outlined in Table 2. Not all

1 of the feedback will meet learners' preferences for mode, format, volume and time. Yet, in  
 2 their development of becoming independent lifelong learners, they will need to find a  
 3 mechanism to engage with and benefit from feedback wherever, whenever and in whatever  
 4 form it is provided.

5 If healthcare learners do not broaden their conceptual understanding of feedback they  
 6 will:

- 7 • Miss opportunities for the timely receipt of, and challenging dialogues about, feedback  
 8 with external providers;
- 9 • Receive feedback that fails to support the development of cognitive, psycho-motive and  
 10 affective skills and knowledge;
- 11 • Have little, if any, internal reflective dialogue about feedback resulting in failure to  
 12 appraise current performance and the identification of areas for progress. This will lead  
 13 to learners not planning for opportunities to test their emerging professional competence  
 14 and identity.

### **A re-examination of the role of the healthcare learner in the feedback process**

15 Students rarely take specific action in response to feedback; their actual levels of  
 16 engagement are very limited (Brown and Glover 2006; Peacock, Murray, and Scott 2011) and  
 17 somewhat mechanistic, for example, skimming or reading through comments:

18 I probably would have read it [the feedback] so it would be in the back of my  
 19 mind, but I wouldn't refer to it really closely or exactly or anything. I would  
 20 probably be aware of what I had to do, but not really, it wouldn't be, like, in the  
 21 forefront of my mind or anything (Higgins, Hartley and Skelton 2002, 58).

22 Feedback is infrequently used as a springboard for planning of future learning opportunities  
 23 (Orsmond et al. 2005). Table 3 provides a snapshot of the type of student engagement with  
 24 feedback across a number of studies.

25 Our approach requires healthcare learners to re-examine their current strategies for  
 26 engaging with feedback and to become more active in the process (Nicol 2010) by seeking  
 27 out feedback opportunities and engaging deeply and repeatedly with it through internal and/or  
 28 external dialogues. Table 4 provides specific examples of the different ways in which learners  
 29 can engage actively with feedback including creating self-feedback, recording, collecting and  
 30 collating feedback, reflecting upon feedback and then using it to plan future learning events.

### **The ePortfolio as a facilitative tool in supporting learner engagement with feedback**

31 Our study demonstrated that learners were, in the main, comfortable with using  
 32 ePortfolios for responding to assessments and receiving feedback but had little understanding  
 33 of how the tool could be used in a wider sense to support their learning from, and engagement  
 34 with, feedback. Fortunately, ePortfolios have a range of facilitative tools that can support  
 35 active learner engagement with feedback through the:

- 36 • *Creation of feedback*: for example, a private blog can be used for learners to create  
 37 self-generated feedback about their performance with regard to regulatory processes  
 38 in a clinical skills laboratory. In some cases learners may create audio feedback on  
 39 skills development and upload this to the ePortfolio;
- 40 • *Recording of feedback*: ePortfolios provide tools for learners to record external or  
 41 internal reflective feedback dialogues before they are forgotten, for example, a blog;
- 42 • *Collection of feedback*: the ePortfolio system provides a readily accessible tool in  
 43 which all types of feedback (text, images, audio) can be collected;

- 1 • *Collation of feedback*: healthcare learners collect much feedback but to be readily  
2 found and used for reflection, the ePortfolio provides tools for meta-tagging. In this  
3 way learners can group feedback helping them to link ideas and identify themes;
- 4 • *Reflection on feedback*: the blog tool in the ePortfolio provides an ideal mechanism  
5 for both structured and unstructured reflection on the diverse feedback received by  
6 healthcare learners and a means to support their appraisal of performance to date;
- 7 • *Planning for future learning events*: learners can reflect on all types of feedback  
8 received and use as a springboard to plan future learning events in which they test  
9 their emerging knowledge and skills.

10 Such an approach to using ePortfolio is aligned with the original vision of the  
11 ePortfolio as a tool to encourage personal development planning (JISCInfoNet 2008). In two  
12 of our case studies (Peacock, Scott, Murray, and Kelly, 2011), a few students, with tutor  
13 encouragement, started to experiment with using the tool in this way. However, learners will  
14 need to understand that the ePortfolio can be used in a much wider manner, to deepen their  
15 engagement with feedback, rather than just as a feedback collection mechanism. Table 5  
16 provides some examples of the different ways in which an ePortfolio can be used as a  
17 facilitative tool to support learner engagement with feedback with guidance from tutors and  
18 Figure 2 (all Figures are in the Appendix) provides a composite visual representation of our  
19 student-centric approach from the perspective of the learner.

## IMPLEMENTING THE APPROACH – GUIDANCE FOR TUTORS

20 This section provides guidance on implementing the approach for tutors. The success  
21 of our approach will be dependent on not only learners taking responsibility for feedback but  
22 also on but tutors by:

- 23 • *Broadening their conceptual understanding of feedback*. Although a more  
24 constructivist and student-centric attitude to learning and teaching is prevalent in  
25 higher education, tutors too often retain a behaviourist approach to feedback (Juwah  
26 et al. 2004; Weaver 2006). Consequently, feedback becomes a form of one-way  
27 communication focusing predominantly on error-correction and/or reinforcement of  
28 correct behaviour as well as justification of a grade. Our approach requires tutors to  
29 move beyond this and acknowledge that: “the overall purpose of the feedback process  
30 ...is to help students develop the ability to monitor, evaluate and regulate their own  
31 learning” (Nicol 2010, 504);
- 32 • *Re-considering their role in the feedback process*. This will require tutors to appraise  
33 the type of feedback they present to students. Such an evaluation should address  
34 whether their feedback adheres to current guidelines about quality, timing and  
35 delivery and specifically addresses lack of student comprehension about feedback  
36 comments (Centre for Excellence in Learning and Teaching in Assessment for  
37 Learning 2010; Nicol 2011). Tutors may also call upon subject-specific guidelines  
38 since most educators’ experience of feedback and assessment will be driven by the  
39 expectations, perceptions and needs of their academic discipline (Allin and Fishwick  
40 2009; Bloxham and Boyd 2007).

41 Tutors will need to provide more guidance to learners about feedback. Learners typically  
42 receive little or no guidance about either the roles or the complexity of feedback or how to  
43 engage with it to support the development of professional competencies and identity (Weaver  
44 2006; Burke 2009; Bevan et al. 2008). Unfortunately learners are too often unaware of the  
45 potential use of feedback (Orsmond et al. 2005) and will use inappropriate strategies  
46 developed pre-university in their responses to it (Burke 2009).

1 The next section provides specific tutor guidance about implementing our approach  
 2 and offers examples of how the ePortfolio can be introduced to learners. From the early  
 3 stages of their studies healthcare learners should be more aware of the long-term benefits of  
 4 engaging with ePortfolios and feedback, for example:

- 5 • Many professional bodies such as the Chartered Society of Physiotherapists and the  
 6 Society of Radiographers now embrace ePortfolios. At the end of a period of study,  
 7 graduates may be able to transfer their academic ePortfolios, including feedback, to  
 8 those of their professional bodies for continuation and development;
- 9 • Previous engagement with feedback and ePortfolio equips learners for the demands of  
 10 documenting Continuing Professional Development (CPD) to enable continuing  
 11 registration by regulatory bodies such as the Health Professions Council (HPC);
- 12 • Sections of the ePortfolio can be made available to prospective employers as part of  
 13 the recruitment process.

14 There are three specific stages during a healthcare module when tutors can support  
 15 learners to engage with feedback through ePortfolios:

- 16 (1) At the start of a period of study, typically a module or clinical placement;
- 17 (2) During the period of study, perhaps through a mid-placement meeting or formative  
 18 feedback on an ePortfolio after a placement block;
- 19 (3) After the period of study.

20 Feedback at each of these stages would allow tutor and learner to engage in a ‘guidance and  
 21 feedback loop’ advocated by Hounsell et al. (2008) who perceive feedback as a cyclical  
 22 process and essential part of preparing learners for their professional career and continuing  
 23 development.

### 1. Preliminary discussions about feedback and assessment at the beginning of a period of study

24 Discussions at the start of a module can form the basis of an on-going assessment and  
 25 feedback dialogue between students, peers and tutors (Hounsell et al. 2008; Nicol 2010;).  
 26 Such conversations may address a wide range of issues about assessment and feedback, such  
 27 as individual learner preferences for feedback and coping mechanisms for ‘less than ideal’  
 28 feedback or none at all. Ultimately this dialogue should ensure that students understand that  
 29 assessments and associated feedback are *for* learning, rather than *of* learning (Gibbon and  
 30 Dearnley 2010). Practical workshops would help familiarise learners with the ePortfolio as  
 31 well as its purpose in learning from feedback. Table 6 offers specific guidance about how to  
 32 support learners in:

- 33 • Developing a broader understanding of feedback;
- 34 • Becoming more proactive in the feedback process;
- 35 • Using the ePortfolio as a facilitative tool.

36 Prompts to stimulate discussion are provided, as well as materials and examples from  
 37 practice.

### 2. On-going dialogue and guidance about feedback

38 Learners require continual reminders about the role of feedback in learning. Students  
 39 need to be encouraged to use the ePortfolio to:

- 40 • Collect, collate and review all types of feedback received during their period of studies;
- 41 • Share feedback and associated reflections with tutors and peers;
- 42 • Reflect on feedback in order to plan for future learning.

1 Formative assessments provide an ideal tool for continuing the tutor-student  
2 assessment/feedback dialogue.

3 To encourage engagement with feedback, tutors can ask students to demonstrate that  
4 they have acted upon feedback provided in earlier modules as part of a summative  
5 assessment. Feedback which has already been collated in the ePortfolio could be printed and  
6 discussed in summative assessments or attached to assessments developed in the ePortfolio  
7 system.

### 3. After the module

8 At the start of each module, students, in tutorials, could be asked to discuss feedback  
9 received on the previous semester's module/s, reflect on this with peers and plan for future  
10 action and learning (Nicol and Milligan 2006). Such plans could be shared with academic  
11 advisors or directors of study. Individual guidance could also be offered to students by  
12 module co-ordinators to ensure that written feedback on summative assessments is  
13 understood and used as a basis for reflection and planning.

### SUITABILITY FOR OTHER SUBJECT AREAS

14 Although our approach is focused on healthcare education, it has many synergies for  
15 other disciplines, especially those where adherence to standards is essential and there is a  
16 need to develop professional behaviours. Many other professional and vocational subjects,  
17 such as law and engineering, need students to engage with feedback if they are to reach  
18 professional competence, and failure to do so may well impact on the lives of others. Such  
19 students will also receive feedback from many different external providers, in many different  
20 forms and in a variety of learning environments. Therefore, guidance will be required on how  
21 to recognise and benefit from all these feedback interactions, and tutor encouragement to use  
22 the ePortfolio as a facilitation tool for engaging with feedback is required. *All subjects* require  
23 students to *learn* from feedback, and reflection on feedback provides an ideal mechanism for  
24 learners to appraise their current performance and to reflect on how knowledge and ideas  
25 introduced through their feedback can alter their understandings of their subject.

### SUGGESTIONS FOR FUTURE RESEARCH

26 In this paper we have proposed a learner-centric practical approach to feedback which  
27 envisages the ePortfolio as a facilitative tool to encourage a deeper and broader level of  
28 engagement with feedback in healthcare education. Further studies are needed to implement  
29 and evaluate this approach. Studies should include other subject areas and consider the  
30 potential of harnessing a wider range of media, such as social networking sites and audio  
31 feedback. More longitudinal studies would chart the development of a more complex learner  
32 understanding of feedback and its role in learning, and the potential for the ePortfolio to  
33 support this.

### CONCLUSION

34 Learners believe in feedback and have strong preferences about the way it should be  
35 delivered, as well as the amount, the timing and the quality. Critically, students' perceptions  
36 of the quality of their learning experience are linked to their experiences of feedback (Bevan  
37 et al. 2008; Lizzio and Wilson 2008; Rowe and Wood 2008). With changes to funding in  
38 higher education, there will be increased pressure to respond, and to be seen to respond, to

1 the results of national student surveys. However, in a busy clinical environment, individual  
 2 learner preferences cannot be accommodated. Learners need to be equipped to benefit from  
 3 feedback in the wide variety of formats and forms it is provided to them – whenever,  
 4 wherever and however. Ultimately, lack of healthcare learner engagement with feedback may  
 5 have life-threatening consequences which are the responsibility of both tutor and learner.  
 6 Our approach provides a practical way forward, supporting healthcare learners to understand  
 7 and then respond to feedback using ePortfolios, but it also accepts that educators need to  
 8 explore their own understandings of feedback and to re-consider their role in the feedback  
 9 process which may require “a greater investment of time and effort” (Hounsell 2008, 7).

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APPENDIX

Table 1: An exploration of the different roles of feedback for healthcare learners

The different roles of feedback in student learning	Examples of different roles of feedback for healthcare learners
1. Feedback which provides <i>information</i> about current performance.	Healthcare learners need timely information about whether they have performed a task appropriately and are competent to undertake their professional roles. For example, in the clinical environment, immediate feedback from a supervisor is required to inform the student, provide reassurance on the quality of the performance and prevent the perpetuation of errors which may be detrimental to patient care
2. Feedback which offers <i>guidance</i> about how to improve current performance (closing the gap between current and ideal performance).	Healthcare learners need constructive evaluation of performance to enable change and improvement. Through tutor feedback on reflective accounts of practice experiences, the perceptions and attitudes of learners are challenged encouraging learner internal and external dialogue.
3. Feedback which supports the <i>development of meta-cognitive skills</i> .	This involved using feedback for goal-setting, problem-solving, time management, planning, monitoring and evaluating learning and feedback leading to autonomy and independence of thought and action. In healthcare, tutor feedback on summative assessments provides an ideal opportunity for signposting areas for improvement of such skills.
4. Feedback which encourages <i>self-regulation and self-assessment</i> .	Healthcare learners are encouraged throughout their programme of studies to reflect on their on-going development and link this to feedback received. Feedback provided by tutors offers examples of the professional competencies expected of learners and critical evaluation of practice. Ultimately to develop a professional identity learners will need to develop self-regulatory skills ensuring that they continue to improve their own professional competencies and assist others in the process.

Table 2: Examples of different types, forms and sources of feedback available to healthcare learners over a programme of studies

Different types of feedback in student learning	Examples of different types and sources of feedback for healthcare learners
Feedback on written coursework; for example, reflective writing in ePortfolio.	This may be provided by a tutor either on a one to one basis or in groups. It will generally be structured and formal.
Feedback in clinical workshops.	This may be verbal, sometimes visual, provided from tutors, clinical demonstrators and peers. Feedback and correction may be through demonstration – e.g. ‘that was quite effective, can I show you ...’
Feedback in clinical settings.	Clinical supervisors and other clinical staff will be providing almost continuous unstructured verbal feedback whilst learners are in the clinical setting.
Feedback in annual appraisal interviews.	In this situation, the tutor will discuss performance and progress; this feedback will be formal, structured, written and/or verbal. Learners will be expected to reflect upon this feedback and use it as a springboard for planning future learning opportunities.

Table 3: Examples of the impact of student engagement with feedback

Study	Impact of student engagement with feedback
Scott et al. (2009)	Nearly 50% of individuals in a study of first-year students admitted that, despite good intentions, feedback was not often re-read before commencing the next assignment.
Glover and Brown (2006) and Higgins et al. (2002)	Students “bore in mind” feedback comments in a rather random fashion.
Orsmond et al. (2005)	Biology students use “the essence” of the feedback.
Johnston et al. (2008)	Less than 50% of students used feedback to revise material and less than 25% thought it helped with future work!



Table 4: Ways in which learners can engage with feedback

Learner role	Healthcare learner engagement with feedback
Creating self-feedback	Healthcare learners have the opportunity to practise clinical skills development in the clinical skills laboratory in the university or on clinical placements in line with current standards. After such learning experiences, students can create their own feedback about their experiences and learning and consider: “How well did I perform that intervention? Was it in accordance with national/local guidelines?”
Recording verbal feedback (audio or text)	During placement learners will receive a vast amount of verbal, ad-hoc unstructured feedback from clinical tutors and supervisors, which can be recorded and saved in either text or audio format.
Collecting feedback	Healthcare learners receive a range of verbal, visual and written feedback in all of their learning settings through continuous or staged clinical assessments for example.
Collating feedback	Too often feedback is lost in the filing cabinet. Learners need to take an active role in bringing together different sources of feedback in addition to linking and organising them. This will provide a longitudinal perspective of progress.
Reflecting upon feedback	Learners need to consider, objectify, and review feedback, considering how it fits in with their current learning and what it tells them about the development of professional competence and identity. Reflection provides an ideal mechanism for this.
Planning learning events based on feedback	Frequently, this element of the reflective cycle is forgotten – after having reflected on feedback, what next? What further training is required? What does the learner need to explore to develop their psycho-social skills and professional competence? It is intended that the planning process will support learner self-regulation.

Table 5: Examples of how the ePortfolio can be used by learners as a facilitative tool when engaging with feedback

Learner engagement	Role of the ePortfolio
<i>Creation</i>	Many of the tools within the ePortfolio provide opportunities for learners to create feedback. Private blogs are an excellent tool for learners to create self-feedback. Blogs allow learners to describe a learning activity, then, develop their own feedback about progress to date, their level of achievement and areas for development. The blog is a support vehicle which helps learners develop the ability to self-assess and critique and create self-feedback: positive and constructive – a skill which is too often overlooked in academia but essential for lifelong learning.
<i>Recording</i>	External providers will offer healthcare learners verbal feedback as and when required but it is too easy for such feedback to be forgotten in a busy clinical environment. ePortfolios especially when accessed through an iPhone app., allow quick access to a blog where external feedback dialogues can be recorded quickly by the learner. Alternatively mobile phones provide learners with audio recording tools where feedback can be quickly recorded by the learner and then uploaded to the blog at a later, more convenient, time. For example, after a day on a busy ward, learners may be provided with verbal ad-hoc feedback about progress. Students can record this on a mobile phone and then upload to the ePortfolio.
<i>Collection</i>	Healthcare learners amass an extensive range of feedback throughout their studies through external or internal dialogue. This feedback is frequently filed and then lost. The ePortfolio system provides a readily accessible tool in which all types of feedback (text, audio, images) can be collected. For example radiography students may have copies of radiographic imagery and with appropriate permissions may wish to upload to their secure ePortfolio for reflection.
<i>Collation</i>	Not only can learners upload and store feedback in the ePortfolio but also it can be organised, meta-tagged and easily categorised in the system.. This facilitates quick and easy access to feedback which helps learners to make links between feedback received from different learning environments and experiences. For example, learners can upload feedback received on placements, tag them and then check if these relate to other assets within their ePortfolio. This should help in linking theory to practice.
<i>Reflection</i>	The ePortfolio allows learners to generate internal reflective dialogues about feedback received, whenever, and wherever in their studies, helping them to make links between theory and practice. For example, the blog can provide structured guidance to support learners to reflect upon feedback, objectifying the feedback and considering with regard to protocols and standards.
<i>Planning</i>	Once learners have reflected on feedback they need to plan for future learning opportunities to test emerging skills and knowledge. The action plan tool in the ePortfolio asks student to describe future learning opportunities, the rationale for these, resources required, and prompts reflection. Healthcare learners can use this to help organise experiences.

Table 6: Tutor guidance for preliminary discussions about feedback, assessment and ePortfolio

Purpose	Focus of discussions	Materials	Example from practice
<p>To support learners in healthcare education to develop a broader understanding of feedback and its complexity.</p>	<p>What is feedback?                      What is the purpose of feedback? What are the different types of feedback? Who are the different providers of feedback? How does feedback convey ideas of quality work?</p>	<p>Tutors use Table 1 as a basis to demonstrate different roles of feedback provided during a module. Tutors use Table 2 as a basis to demonstrate different types of feedback which learners may encounter during a module. Learners discuss feedback provided for marked exemplars and discuss:</p> <ul style="list-style-type: none"> <li>• Types of feedback;</li> <li>• The language of feedback;</li> <li>• Learner preferences for feedback.</li> </ul>	<p>In radiography, learners are prepared for their first clinical placement through an exploration of the assessment documentation the requirement for feedback (from the learner and the practice educator), the demands of the service and the needs of the patient.</p>
<p>To support learners to develop awareness of themselves as active agents in the feedback process.</p>	<p>What are learners expected to do with feedback provided externally? How can learners generate feedback?</p>	<p>Tutors use Table 4 as the basis for discussions about learner role in the feedback process.</p>	<p>Students who receive a great deal of feedback from individuals in the clinical environment need to organise and integrate it with other material in the ePortfolio as part of a holistic learning and feedback process.</p>

<p>To support learners to develop a vision of the ePortfolio as tool for learning from feedback</p>	<p>How can an ePortfolio be used to support learning from feedback?</p>	<p>Tutor demonstrates using the ePortfolio:</p> <ul style="list-style-type: none"> <li>• To store the wide range of feedback that students collect within the university and placement settings;</li> <li>• As a reflective tool for the development of an inner dialogue about feedback. Students can use tools such as the blog for recording of events, feedback received and then to develop an internal discussion about the event for current and future learning</li> </ul>	<p>Students at level 1 can practise using the technology to record feedback and professional development by submitting a reflective ePortfolio at the end of a short, formative clinical placement. This process enables the student to become familiar with the process of reflective writing and to engage in a feedback conversation with the tutor – as opposed to just receiving information.</p>
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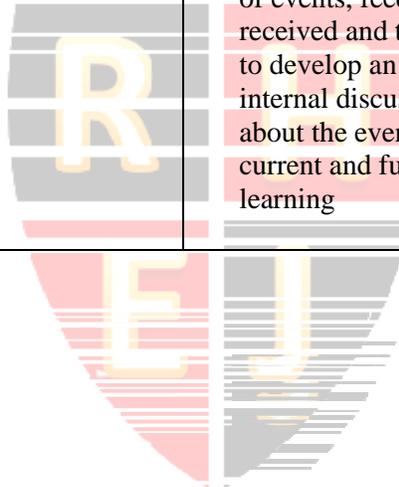


Figure 1: Diagrammatic representation of the conceptual approach to feedback using ePortfolio

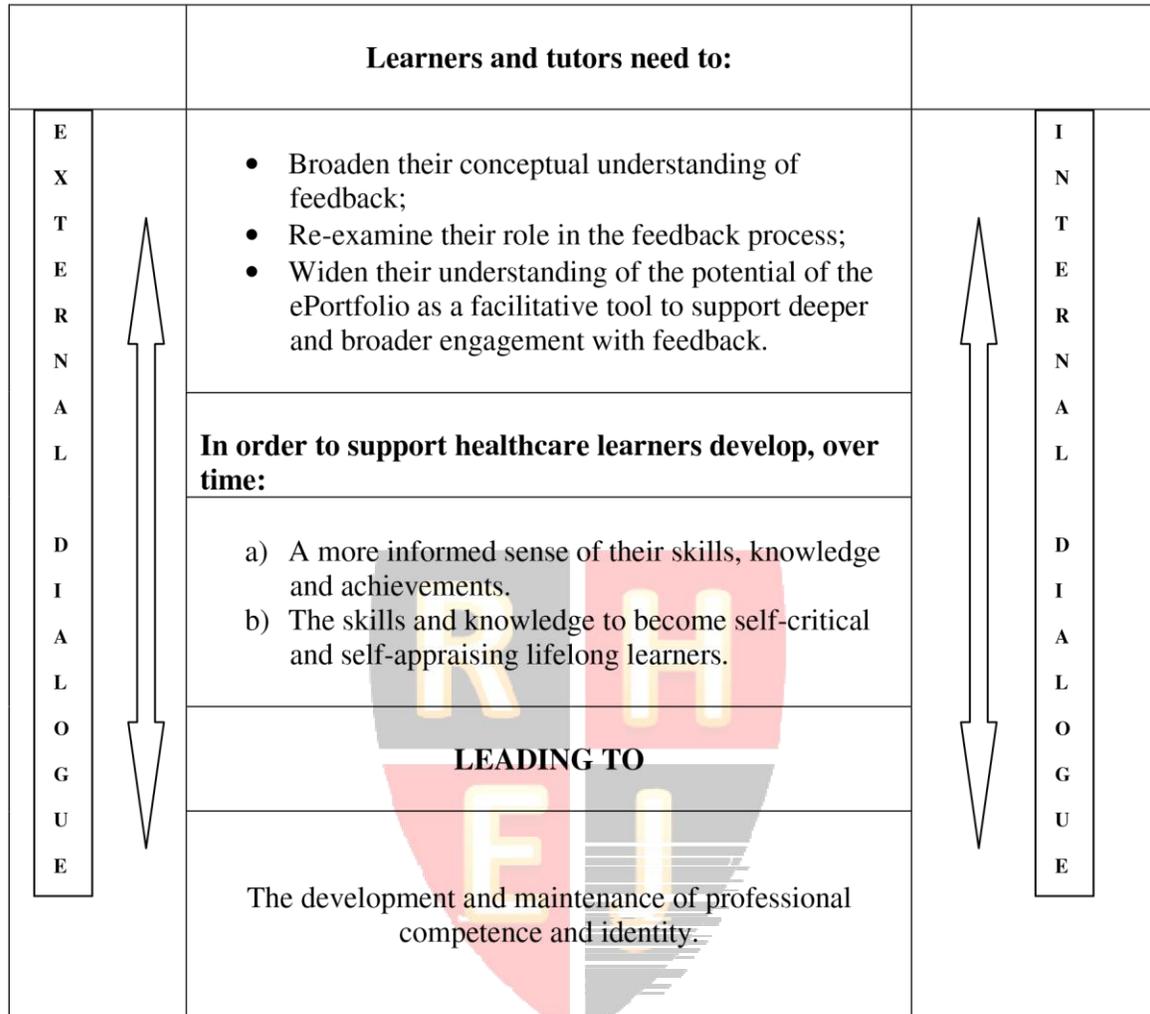
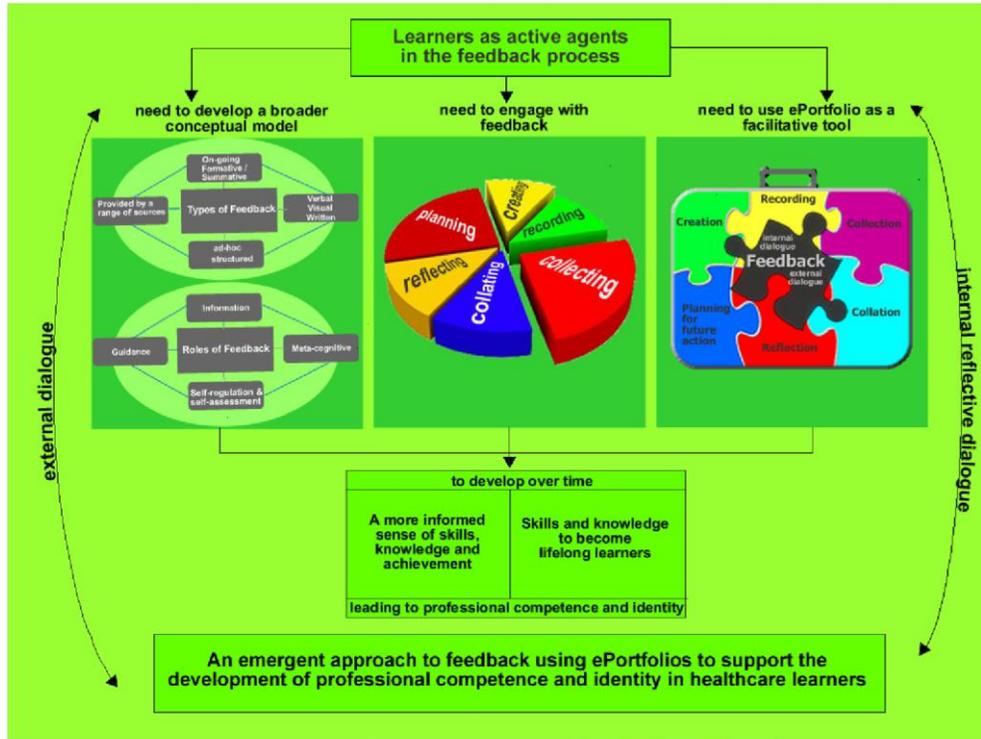


Figure 2: Diagrammatic representation of the emergent approach to feedback using ePortfolios



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**Dr Sue Murray** received her PhD in Information Management from Queen Margaret University (QMU), Edinburgh, in 2007. For the past four years she has been working with the technology enhanced learning team based in the Centre for Academic Practice (CAP) at QMU, supporting the implementation of a range of learning technologies, including ePortfolios and online synchronous learning environments (Wimba and Adobe Connect). Recent research interests have focused on student and tutor experiences of learning technologies. With her co-researchers, Sue has presented at international conferences and published in peer-reviewed journals in relation to learner experiences of ePortfolios

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Further information available at:

<https://eportfolio.qmu.ac.uk/viewasset.aspx?oid=78945&type=webfolio>

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