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Digitising Feedback and Assessment in the Clinical Environment

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Introduction:

As hospitals and radiotherapy departments move towards digitalised and paper-free working environments, [1,2,3] it is appropriate that radiotherapy students familiar with accessing and using electronic digital technology are able to bring their experience of this technology into the clinical setting. The use of such technology and data has been identified as more secure, efficient, versatile and hygienic[4] than the (previously used) paper based systems. Interactive technological strategies have also been identified as enriching healthcare student learning, through decentralising the teaching process and thereby facilitating learner independence.[5]

Sheffield Hallam University (SHU) is geared towards developing and incorporating Technology Enhanced Learning (TEL)[6] and therefore SHU Radiotherapy students do typically have exposure to a variety of different teaching styles and digital platforms; including flipped classrooms, Google Docs™, Qwizdom™, PebblePAD™, Socrative™, Blackboard™ and the use of the Virtual Learning Environments such as VERT™. This has seen experiential learning supported by the use of a blended teaching delivery put to use within the university. This has allowed for a praxis based approach to be applied to teaching and learning where the practical application of a theory [7] or a method by which practice, concept, or skill is endorsed and realised, is applied to knowledge gathering. The use of such an approach brings the real world of clinical into the teaching and learning environment via the use of such technology to enhance the student learning experience.[8] This learning experience, alongside student knowledge of different digital platforms, reassured the authors that SHU students would be open to utilising the software and devices in the clinical setting.

SHU students are used to being assessed academically via e-portfolio's utilising PebblePAD within all of their Clinical Education modules. The use of e-portfolio's is particularly beneficial as students are able to organise and contextualise their content and get real time feedback from their Professional Development Facilitators (PDFs)/Academic Advisors or Clinical Leads. Evidence supports the use of e-portfolios (webfolios) to support learning, provide a more holistic approach to assessment, promote personal development and improve employability.[3]

This article covers a qualitative study exploring the student and staff experience and perception of the use of digital feedback and assessment of student performance within the clinical setting.

Method

In 2014 a small pilot study (n= 11) was launched at one of the hospital sites where SHU students are based whereby radiotherapy students were given access to ipads and laptops within the department to access My Knowledge Map™ as a digital platform to gain

feedback from clinical staff around their personal learning objectives and clinical competencies. Students could also access this system via their mobile phones. The pilot involved 3, 1st year PgD students and 8, 1st year BSc students already experienced in utilising a paper placement report book. The implementation of the project was given careful consideration as this was the first time students would be using such devices within the clinical setting. The Clinical Lead held information training sessions for students and staff, posters were created and placed around the department and stickers were created to be stuck to the back of students personal devices or the departmental devices stating that they were being used for 'Clinical training purposes.' It was important that Service Users (SU's) and staff gained confidence and became familiar with seeing students using technology in this way. The use of this type of technology has been successfully introduced and effectively used within a variety of clinical settings by a variety of health care professionals. [2,4,10]

The administration of My Knowledge Map™ was arduous and very difficult to amend without losing feedback already provided by staff, which was very disheartening for students who often resorted to using their paper report books instead. The University support mechanisms available for staff and students involved in the pilot to support the use of My Knowledge Map™ were extremely limited at the time. Questionnaires were utilised to evaluate the use of the digital platform and digital devices, although there was a 100% response rate, it was undertaken using a very small sample size (n=11) unanimously, the students did not find the software user friendly and as it was still being developed at the time they often encountered issues when syncing their devices with the software. After this short period of use it was decided that the pilot would continue, but utilising a platform, more familiar to SHU students, PebblePAD™ and roll it out to 1st and 2nd year BSc and PgD students (n=23).

The paper versions of the placement report book and the clinical assessment handbook were replicated in PebblePAD™ and therefore the appearance and format were identically electronically simulated. Although this took a considerable amount of time, administration changes and template amendments could be made without affecting the students use of the system. The PDF at the pilot site took responsibility for enrolling staff as external users onto PebblePAD™ ensuring that staff could make feedback comments and sign off competencies. Staff input was digitally secure, students were unable to alter the feedback or grades submitted by staff. The PDF was able to access all submissions and add comments for students and staff. The clinical lead could access the system remotely to check on individual student profiles and track students if required by the course team.

With over 50 mentors within the department, setting up this system was a considerable task, however it was undertaken as and when staff became mentors or were required to use the system to assesses students clinical competencies and performance and so was not too time consuming. Radiotherapy students working within the clinical setting required access to either mobile digital resources such as laptops or i-pads or a PC with Wi-Fi. It was interesting to note that despite having access to mobile technology devices, in most cases, staff and students accessed the digital platform via PCs in the department. Staff reported that they didn't feel comfortable using the student's personal mobile devices, specifically smart phones, this may be due to the previous prohibiting of the use of mobile phones in the treatment setting. Students were also provided with stickers to apply to any device they

used within the clinical setting to highlight to staff and service users that these devices were being used for training purposes.
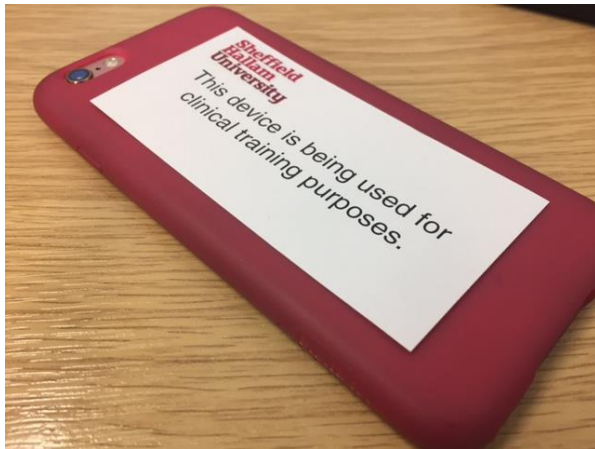
In terms of how these digital systems work, placement feedback is given to individual students in response to performance during clinical placement. Ideally the feedback is given face to face, although this does not always have to be the case. This incremental feedback allows each student to develop their knowledge and the ways that they learn, focusing on areas of practice highlighted as needing development and action planning.

The learning outcome section of the placement report book means that students still need to initiate and negotiate learning outcomes with their clinical mentors. The mentor feedback and skill progression section enables staff to highlight any issues regarding professionalism. This incorporates areas such as punctuality, compassion and respect.

Results

Staff were asked to complete a questionnaire to assist in evaluating the new digital platform. The questions focused on their knowledge of digital platforms and and then specifically on their experiences and confidence in using the digital platform.

19 members of staff completed a 19 question questionnaire. The questionnaire was designed to identify how digitally familiar individuals were so that a correlation could be drawn if appropriate. Those staff (n=2) who found that providing feedback on PebblePad more challenging, had low confidence levels with digital platforms and had not attended training.

How have you found providing feedback in PebblePAD™?

Very Easy	8	20%
Somewhat easily	**6**	60%

Not very easy	**2**	20%
Unable to	**0**	0

As part of the questionnaire a qualitative text box was provided for additional comments from clinical staff. These are some of the verbatim comments:

'I actually have no experience of writing in books but doing things online simplifies the process, no need to worry about misplacing student book (and the same fear as a student is negated!)'

'I like it for the students, they are not having to chase the staff on the previous placement to enable a future one (paper placement report book) to be completed, but the absence of a physical book means I need a nudge to fill it in sometimes but that will hopefully change with time as we are used to filling them in.'

'I find the job quicker easier once the workbook has been located.'

'Allows a better feedback system as I feel I discuss more with the student face to face than I did previously. Feedback gets completed in a more timely manner.'

'Can see PDF comments after reports have been filled in, making it easier to see if mentees have acted on previous feedback.'

'It's much quicker once you have used it a few times.'

'knowing our feedback can't be altered/thrown away!'

'Quicker and easier to do things online than writing in books. Hopefully should encourage more staff to provide feedback in a quicker time frame.'

'Can be accessed at any time and from anywhere. Able to view all past entries.'

'Students cannot doctor or delete the feedback provided.'

'Easier to monitor what the student has done previously. Quicker & easier to view. Easier/quicker to read & understand than handwriting.'

'Students not having to leave report books on treatment machines where they could be misplaced.'

'Much better than my handwriting.'

'No lost work books.'

The main themes that came from the qualitative results were around resistance to the system. This was often down to staff reluctance about having to use a new and unfamiliar electronic system and move away from a familiar and established paper based system. However, once staff had accessed the system and completed an electronic/digital report book or signed off a clinical competency they became quite confident in using it and trusted

the system to record and maintain their feedback/assessment, without the ability for students to remove or change.

Students were also provided with a questionnaire to evaluate the use of digital feedback and assessment using PebblePAD™. 91% of students responded to the questionnaire and 82% preferred the digital system.

Do you prefer using PebblePAD™ to gain feedback/sign of competencies compared to the paper version?

Yes	19	82%
No	2	9%

A qualitative free text box was provided for general comments and the themes were similar to those from the clinical staff. The advantages were the permanent storage of feedback and assessment and there were some students who found that using the digital system developed their interactions with their mentor and feedback was improved.

Limitations and Recommendations

The critical feedback received from staff and students indicated that training is vital to the success and confidence of individuals using the system. Those who used the system more regularly had greater confidence in it and commented on how much quicker and secure it seemed. Most significantly staff and students commented on how the quality of the feedback has developed utilising the system which was further supported by the literature.[11]

Some of the projects more critical findings from both students and staff are listed below.

'I think it is just a training issue at the moment?'

'Workbooks need to be easier to find using a title on the submission page which is more descriptive.'

'Finding a quiet place with access to a computer, to complete the feedback and talk about this with the student can be difficult.'

Once staff are enrolled onto the PebblePAD™ system they are emailed a username and password. Due to clinical commitments staff occasionally forgot about these access details and occasionally deleted or lost this registration data though this could be resent to staff by the clinical lead or PDF.

Implementation is key with staff and students having comprehensive training to enhance their digital confidence in the system. It is important though to consider that mentorship and assessment training of clinical staff is still essential to improve the feedback given to students, irrespective of the method utilised.

Conclusions:

The introduction of the digital feedback system for student performance and assessment at pilot clinical site was not without challenges. The first digital system implemented had problems with effective connectivity and staff and student compliance. The use of the PebblePAD™ system (a system students and many staff were already familiar with) was more effective in terms of these issues. Staff and student support in the use of a digital system, as it is introduced, would seem imperative for a more effective and smoother implementation as evidenced by the feedback from this pilot. This support can and has been a time consuming task. The impact of breaking away from a familiar and established paper system and learning and incorporating a new digital system has to be acknowledged as a potential challenging issue (for staff particularly) to face.

Affirmative feedback registered from students and staff involved in this process though would seem to recognise the advantageous benefits of the introduction and use of a digital system. The advantages of the system in terms of security, confidentiality, connectivity, convenience and access to previous feedback would seem to indicate that such digital systems have a future within the clinical setting. Such systems look set to become part of student assessment and feedback over the coming years.

CPD: Guidance comments & a quiz?

Reflect upon a time when you've given feedback. Do you think giving this feedback digitally rather than in a written way could affect the feedback quality?

What problems do you think may be associated with implementing a digital assessment/feedback system for students in your department?

What would you foresee as the benefits of introducing a digital system of student assessment and feedback within the clinical setting?

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