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experiences using Myknowledgemap**

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# Electronic Clinical Assessment in Diagnostic Radiography: Experiences using Myknowledgemap

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## INTRODUCTION

The aim of this project was to design, build and deliver an electronic clinical assessment programme for diagnostic radiography using the *Myknowledgemap* (MKM) 'Myprogress' platform.

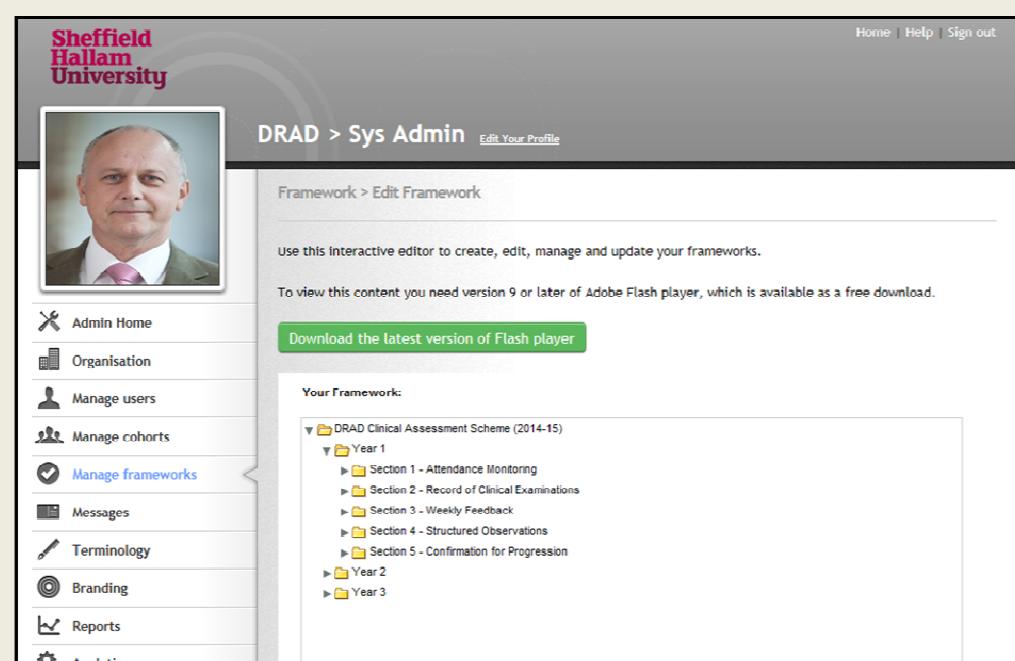
Clinical provision for students at Sheffield Hallam University covers a wide geographical area which creates a challenge for the visiting lecturers to provide high quality on-site support for the students and clinical mentors.

## Methodology

A Delphi approach was used to evaluate the existing clinical assessment scheme and consider opportunities for improvement. A full schematic of the new design was then built using a storyboard technique. Creating identical paper and electronic schemes enabled phased deployment and qualitative evaluation of the different approaches.

## ELECTRONIC DESIGN

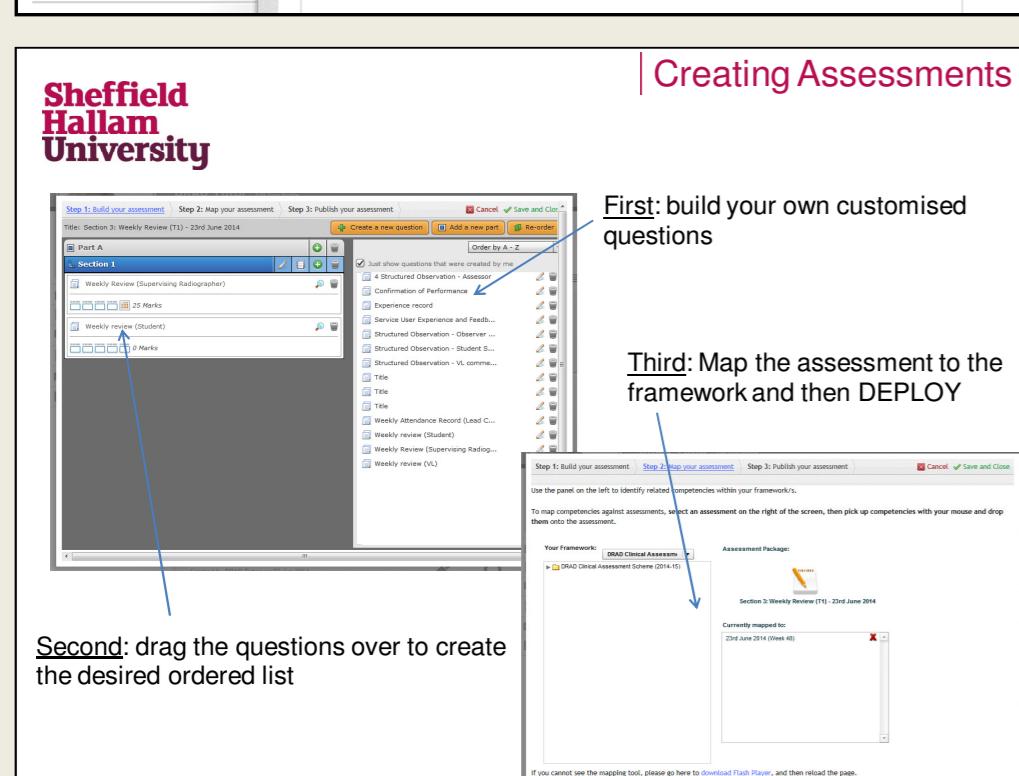
*Myprogress* is cloud based, available via computer (web), mobile tablet, or smartphone.



The assessment programme is set up via the web access route. The administrator creates a series of folders with a framework. Each year group has five 'sections'.

Students and staff are added via 'manage users' and grouped by cohort and clinical site.

All users have a unique user name and password.



Assessments are created an academic tutor using a simple three step approach and 'stored' in a repository.

Deployment of these assessments can be to any identified student or group on a time/date trigger. Once completed the assessment is filed in the portfolio of the unique student.

Both clinical and academic staff can then provide feedback for student response and action planning

## DISCUSSION

The software is an assessment platform not a ready made assessment product. It enables almost limitless customisation and so careful storyboarding of the entire scheme prior to building is strongly recommended.

The structured observations (Section 4) are based on the Northern Counties clinical assessment format and are ideally suited to an electronic design, facilitating easy assessment via mobile tablet at the patient side. This feature rated highly on evaluation. One current limitation of the *Myprogress* software is that the mobile application does not have all the features of the web version which becomes increasingly problematic with growing volume of assessments deployed. This knowledge is clearly an important part of the storyboarding design process. All other sections within the assessment scheme are probably easier accessed via the web version (which can also be achieved via smartphone or tablet if WiFi access is available) because they allow full functionality.

The number of users is not a practical limitation of the *Myknowledgemap* software site licence. This pilot suggests that a common mobile platform would be the most stable however this has funding implications if users are to be provided with hardware.

### Section 4 - Structured Observations

- Chest (1)
- Hand or Wrist (1)
- Foot or Ankle (1)
- Elbow (1)
- Shoulder
- Abdomen
- Pelvis
- Knee (1)
- Cervical Spine
- Thoracic Spine
- Lumbar Spine

Student feedback suggests the two major advantages of the electronic system over paper is firstly the timeliness of the feedback and secondly the visibility of completion status. A 'green tick' signifies completed assessments and so both student and tutors can easily assess status and action plan the necessary next steps.

Clinical experience is provided in three blocks spread across the year. Visiting lecturers attend sites twice per block providing around 59 hours of support. Due to the large geographical area and home location of the staff, round trip travel ranges between 30 minutes to 4 hours per visit; 5 to 40 hours per year.

- ❖ To much time travelling; not enough time with the students
- ❖ MKM system enables time efficient and timely feedback

## EXPERIENCES

### System Set-Up:

Building the system for the first time is a time consuming process. Changes within the framework cannot easily be made highlighting the importance of accurate storyboarding at the outset. This will be improved in future software releases.

### Doing Assessments:

This design elected to deploy all assessments specifically to 'the student'. Identical assessments are available via web, mobile tablet, or smartphone. Wi-Fi synchronisation consolidates the assessments in the cloud portfolio. The smartphone option was not acceptable to the hospitals for use in patient areas.

### Giving Feedback:

Upon completion of each assessment, academic and clinical tutors linked to that particular student can give feedback via any of the electronic access routes. The timeliness of this feedback was very highly valued by the students. Staff also able to provide better monitoring and guidance.

### IT Challenges:

Lack of WiFi availability and 'safe site' status to access the *Myknowledgemap* web link can be problematic and negatively impact the usability of the electronic assessment system.

Accessing the assessments via more than one mobile platform (smartphone or tablet) is not advisable.

The staff and student training component should not be underestimated.

The number of students per site is 2 to 10 per year per site which means that the tutor availability per student ranges between 1 and 9 hours depending of which year the student is studying and how many students are at a particular clinical site.

- ❖ Equality in student 'time' is delivered by the tutor changing working practice to reinvest travel time in 'giving feedback' time

## CONCLUSION

Electronic clinical assessment has delivering a positive effect on the student experience compared to the identical paper based system. Maintaining parity was a requirement of the method however future developments will recognise this limitation. 'Storyboarding' needs to reflect the unique medium of the platform. The mobile tablet and smartphone versions proved unworkable however implementing a PC based electronic system with all future cohorts across the wide geographical area would have major benefits for all concerned. Electronic assessment does not eliminate the need for clinical visits to site, but changes the focus.



## ACKNOWLEDGEMENTS

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