Adapting Objective Structured Practical Examinations (OSPE’s) to assess laboratory science skills in pharmacology students.

Derek Scott, James Hislop & Alison Jenkinson
School of Medicine, Medical Sciences and Nutrition, University of Aberdeen, Foresterhill, Aberdeen, AB25 2ZD

Background

- Objective Structured Practical Examination (OSPE) assessments of theoretical, practical and problem-solving skills at multiple stations have been adapted to examine practical skills in science disciplines to enhance employability and prepare students for research projects (example provided below in Fig. 1).
- We have recently expanded the range of students formally examined by creating new assessment stations and adapting others to examine pharmacology practical skills.
- This was primarily done in response to student feedback—they had heard positive comments about the OSPE experience from the year ahead’s student body.

Aims

To design a 6 station OSPE assessment for Honours pharmacology students that would provide useful training and feedback regarding a variety of scientific concepts, transferable skills and graduate attributes.

Methods

- Piloted with smaller class to make development easier (n = 22 students).
- Team of academic and technical staff involved to design, review and assess material.
- Materials and logistics to make it successful for both staff and students had to be considered and developed.

Materials/assessment criteria were provided online to help them gain in confidence. Students attended during one hour practice session and set out to remedy these during the study period before the assessment.

No student failed the assessment. Three academic staff were involved in grading the OSPE.

This assessment style allows rapid assessment with large numbers, but we plan to review the development.

We have recently expanded the range of students formally examined by creating new assessment stations and adapting others to examine pharmacology practical skills.

Aims

To design a 6 station OSPE assessment for Honours pharmacology students that would provide useful training and feedback regarding a variety of scientific concepts, transferable skills and graduate attributes.

Methods

- Piloted with smaller class to make development easier (n = 22 students).
- Team of academic and technical staff involved to design, review and assess material.
- Materials and logistics to make it successful for both staff and students had to be considered and developed.

Materials/assessment criteria were provided online to help them gain in confidence. Students attended during one hour practice session and set out to remedy these during the study period before the assessment.

No student failed the assessment. Three academic staff were involved in grading the OSPE.

This assessment style allows rapid assessment with large numbers, but we plan to review the development.

Discussion & Conclusions

- Positive feedback from both staff and students but we feel we can still improve (See Fig. 5).
- Electronic answer submission using tablets at some stations could speed up grading/delivery of feedback for larger classes—this is already partially used for the anatomy and physiology OSPE’s.

Finalised Choice of Stations/Tasks for Pharmacologists

- Initial logistical issues are the main obstacle to overcome, but once the material has been generated, it can be re-used with minimal effort in future iterations.
- If stations rely too much on technology, backup plans must be in place.
- Stations do not have to focus upon traditional science skills to be challenging, informative and useful.
- Be willing to change stations if you feel they are not working well, or if you want to assess different skills/attributes.
- We have designed our stations/format to be run in any location, and to be scaled up in case a class in extremely large.
- Instructions/language in written materials must be clear.

This assessment style allows rapid assessment with large numbers, but we plan to review the scheduling of the OSPE so we match with other degrees. This could allow us to share resources and staff for the OSPE’s to further improve our efficiency and the student learning experience.