ViEW pre-conference workshop 2006
Clinical competency, training and assessment

Friday 15 September 2006

Introduction

The workshop was introduced by Prof. Peter van Beukelen (Utrecht) and Dr. Susan Rhind (Edinburgh). New and existing members were welcomed to the event. In total there were 35 participants, from medical and veterinary schools in 12 countries

Student perspectives on clinical training and assessment

Ms. Debbie Jaarsma (Utrecht) and Dr. Catriona Bell (Edinburgh) coordinated a short session on clinical year assessment strategies, which included final year student presentations by Ms. Emma Hall from Edinburgh, and Mr. Wolter Roorda from Utrecht.

Ms. Hall outlined the five-year undergraduate programme at Edinburgh, highlighting the over-assessment of knowledge in summative assessment, but extolling the virtues of the spot Objective Structured Practical Exams (OSPREs) that, combined with a clinical research project and a case presentation, comprised 80% of the students' final mark at Edinburgh. Ms. Hall also emphasised the importance of day one core assessment from the first day of undergraduate education, stressing the importance of communication skills training and assessment.

Mr. Roorda outlined the six-year curriculum at Utrecht, comprised of four theoretical and two clinical years. He emphasised the students' need to feel confident about practical skills as well as knowledge, but felt that confidence in these were lacking. Clinical clerkships often involved standing behind the clinician, straining for a view of the procedure being carried out, rather than hands-on training for the student. Drawing on the analogy of driving a car, Mr. Roorda noted that clinical training and assessment should be more like sitting in the driving seat, rather than sitting in the passenger seat, being told how to drive by the instructor.

Interjecting, Ms. Jaarsma commented that she had undertaken a study at Utrecht which revealed that recent graduates were less confident about their practical and communication skills than their knowledge

Although he felt confident about his communication skills, having received eight hours training within the Utrecht *Professional behaviour* course, Mr. Roorda like Ms. Hall, called for more assessment of these, making reference to a recent issue of the Journal of Veterinary Medical Education that focused on the teaching and assessment of communication skills (J Vet Med Educ, 33(1) Spring 2006).

Subsequent discussion involving workshop participants highlighted the need for clinical teachers to observe students in practice, the importance of teaching and assessment of business skills, and the difficulty in training extra-mural practitioners as assessors of clinical and communication skills.

Dr. Astrid Hoppe from Uppsala noted that their students always take a history from clients before the clinical examination. Ms. Hall noted that this was also the case in

Edinburgh. Dr. Donal Walsh (UC Davis) said this was true but rarely did the clinician *observe* the student talking to the client, a point followed up by Dr. Margaret Mackenzie who, from the perspective of a US medical school teacher, said that students were not being observed in practice – and this is where she felt the teachers were failing as educators. She said there was a requirement for 'master teachers' to observe students, this being their primary responsibility.

Ms. Linda Jones (Royal Veterinary College, London) called for a sharing of models of assessment of communication skills between medicine and veterinary medicine, particularly given the cost limitations of actors as simulated patients.

From the perspective of a practitioner, Ms. Sarah Baillie (Glasgow), emphasised the need to teach and assess business skills. Although there is a limited amount of instruction in the final year at Glasgow, delivered by external speakers, there is no assessment. Ms. Hall replied that billing clients is an area that Edinburgh students generally find very difficult. The lack of business skills was also highlighted by Ms. Jaarsma's study.

Ms. Hall suggested the need to formally assess extra-mural studies (EMS), as this was where clinical and communication skills were mainly developed. In response, Dr. Rhind, whilst acknowledging the immense contribution of veterinary practitioners to undergraduate education, expressed concern about the competence of practitioners to assess students, and noted the need for quality assessment in this regard. Ms. Hall made reference to foster placements, such as those set up by the University of Bristol, and suggested that assessment could be built into these more easily.

Dr. Walsh emphasised the importance of clinical reasoning skills, and assessment of these – to test the *depth* of clinical reasoning exhibited by students.

Alternative clinical assessment methods (1)

This session was chaired by Ms. Carol Gray (Liverpool).

Performance-based assessment and the mini-CEX

Having undertaken a literature review on performance-based assessment (PBA), Dr. Jeremy Morton (Edinburgh) made reference to two UK publications on the teaching and assessment of doctors at undergraduate and postgraduate levels respectively: "Tomorrow's Doctors" (General Medical Council, 1993) and "Modernising medical careers"(http://www.mmc.nhs.uk/pages/about), and also to Miller's pyramid for the assessment of clinical competences. Dr. Morton noted that the mini-CEX and multi-source feedback in postgraduate medical education targeted the top level of Miller's pyramid – "*does*" – through performance-based testing.

Dr. Morton highlighted two critical features of PBA:

1. A doctor *observes* the student e.g. conducting a clinical examination of a patient
2. *Immediate feedback* from the observer is given to the student.

Feedback, Dr. Morton noted, was the motivational factor for changing learner's behaviour and improving performance.

In a survey of clinical teachers and students, Dr. Morton reported almost universal agreement that observation and immediate feedback should be part of clinical assessment. However, the majority of teachers were using a global judgement without

observation – only 20% of teachers included observation in the mark. Confirming evidence from the US, Dr. Morton noted that it was rare for students to be assessed in practice or in a simulated environment. Students were strongly in favour of PBA on the wards – 70% as opposed to 30% of teachers. Teachers appeared less in favour of PBA because of lack of time, large classes, inadequate resources, lack of educational training and conflicting priorities. Students' perceived barriers to PBA were that teachers were reticent to engage in PBA. Dr. Morton noted that in the Netherlands, the UK and the US, there was evidence from the literature showing that PBA was feasible out of the clinical environment – particularly mini-CEX, which replaced vivas in the US in the 1970s.

Outlining the mini-CEX in more detail, Dr. Morton noted the mini-CEX was a postgraduate tool, where students were given pocket-sized cards. Seven competency-based domains were assessed via a 9-point rating scale. This was a reliable, acceptable and feasible method of assessment, with a reproducibility coefficient of 0.8 with fewer assessments required to identify those who were or were not competent.

Dr. Morton emphasised the need to focus on borderline students to get reliable results.

The mini-CEX has yet to be implemented in Scotland. To date it has only been used in England and Wales. A study by Hill and others at the University of Southampton, presented at ASME 2005, included 2340 evaluations of the mini-CEX. The study revealed that the method was positively received by students and was easy for teachers to administer, however it was considered to be less holistic than long cases, and there was a lack of consistency in grading. In addition, students with good communication skills could pass even if their clinical skills were poor.

A mini-CEX pilot was conducted in Edinburgh with 94 students, taking part in 202 mini-CEX's over a four-week period. Assessor and student satisfaction were both rated 8 on a 1-10 scale.

In conclusion, Dr. Morton advocated the integration of assessments to increase validity. He suggested weighting the burden of assessment on borderline students. Use of the mini-CEX requires staff development and quality control, and has yet to be included in summative assessment. To facilitate this, Dr. Morton noted the need to reward excellence in teaching and assessment.

In the first of a series of voting exercises involving the pros and cons of different assessment methods, Ms. Gray asked participants to state whether they would use the mini-CEX, having heard Dr. Morton highlight the following benefits: good face validity, representative, strong correlation in the US with in-training assessments and UG national board licensing examinations, time-efficient, limited resources required, patient-centred and fostering deep learning. Participants' likelihood to use the mini-CEX changed slightly after hearing Dr. Rhind report the limited of the method: that only a single observer was involved, and that the mini-CEX could not be used in high-stakes examination since students could pass this while failing finals.

Objective Structured Practical Veterinary Examinations - OSPVEs

Dr. Stan Head presented the use of OSPVEs at the Royal Veterinary College, London, emphasising that these were *practical* examinations, differing from traditional OSCEs in the sense that there were no paper-based tests included e.g. on image interpretation

or data interpretation, as these could be conducted in other ways, more cost-effectively.

Photographs were shown of the clinical skills laboratory at the RVC, which doubled-up as a space for OSPVEs. A timing system, displayed on an overhead monitor, allowed one minute for students to read the instructions for a station, which was of five minutes duration, and one minute for feedback.

OSPVEs were also run in barns at the RVC, for example when assessing health and safety controls, or tethering animals (for the animal handling component). OSCE horse history taking was done 'on the hoof', whilst walking and talking with the owner, to the linked station on the respiratory system of the horse.

Dr. Head displayed a graph of the relibability of different assessment methods. In a survey, students agreed that OSPVEs were less stressful than other forms of examination.

Again, delegates were invited to take part in a voting exercise, after hearing the benefits of OSPVEs as relayed by Dr. Head, and again after Dr. Walsh, although a supporter of OSCEs, noted that they could not be used as a substitute for faculty observing and doing in-depth evaluations on the ward with students.

Portfolios

Hellen van der Maazen (Utrecht) gave a presentation on the usefulness of portfolios as a clinical assessment method. The portfolio, she said, allowed for the recording of student achievements, and their reflection on achievements over time.

When implementing this method, Dr. van Maazen stated that it was very important to have clear objectives at the start – to decide whether it constituted formative or summative assessment, and to have a clear structure, regular coaching, agreement on assessment criteria and an external review to increase validity.

Dr. Jan Ilkew (UC Davis) presented the limitations of this method, stating that she believed portfolios were good for formative assessment but not summative assessment, particularly because students would be reluctant to put in evidence of weakness, and would only reflect on tasks that they performed well. She also thought there were better ways to assess competence in her field of anaesthesia.

Portfolios, Dr. Ilkew said, were highly individual, very resource intensive, and required feedback via a coach or mentor, to make students reflect deeply on feedback. The literature suggests that students do not buy into this form of learning and assessment – they would rather be studying for high-stakes examinations.

In the ensuing discussion, Ms. Hall stated that portfolio assessment had been introduced at Edinburgh, as a *curriculum vitae* of sorts, but called for appropriate credit to be awarded to reflect student input.

In concluding, there was recognition among the delegates and presenters that successful clinical assessment should involve a combination of different assessment methods.

Setting up a clinical skills centre (CSC)

Dr. Matthew Pead related his experience of setting up a clinical skills centre (CSC) at the Royal Veterinary College, London, which opened in September 2004. Dr. Pead and his colleagues were successful in obtaining an LTSN-01 mini-project grant to

survey existing CSCs in the UK, which emphasised above all else that money was a key resource! Kings College London had ‘acres’ of space for skills labs, whilst Dundee had their CSC in the heart of Ninewells Hospital, which was also the centre-piece of their curriculum – an integral component, not an add-on. In emulating this model, the RVC CSC was embedded within the clinical rotations and embedded within the course.

In terms of equipment use, space and people, the clinical skills centre is fully committed for 6 months in the year. Consumables are an especially high cost – a bandaging practical as part of the equine course cost £2400 to teach all students.

Dr. Pead encouraged delegates, charged with a similar responsibility of implementing a clinical skills centre, to consider partnerships with industry.

Dr. Pead noted that the success of the CSC was transparent, but dealing with success is difficult, in the sense of the commitment of staff time. The CSC is relevant to OSCEs, but some students view it only as a way of learning the OSCE, and have asked instructors for the OSCE mark sheet. In response to this, staff have moved instructional material away from the OSCE checklist.

Dr. Pead noted that the qualifying year in 2006-7 will be the first year that has had maximal exposure to the CSC, and he will be looking at the students’ rotation grades to determine if it has had an impact on students’ performance.

Dr. Pead also made reference to delegate Ms. Nicola Coombs, who helped run the CSC and who had invented all sorts of innovative ways to teach and assess students – such as stitching a shallot into the back of a stuffed toy animal with which to practice the technique of fine needle aspirate!

Alternative clinical assessment methods (1)

The Script Concordance Test

The Script Concordance Test (SCT) was introduced by Prof. Van Beukelen as a tool for research into the development of clinical reasoning. Delegates were arranged into four groups, with one group made up of a panel of experts in cattle and equine medicine. The other groups worked their way through the script concordance test, which was either a bovine or equine case.

Ref.: The Diagnosis Script Questionnaire: A New Tool to Assess a Specific Dimension of Clinical Competence; B. Charlin, C. Brailovsky, C. Leduc and D. Blouin; Advances in Health Sciences Education **3:** 51-58, 1998.

At the end of the exercise, delegates’ answers were compared with those of the experts.

Closing discussion

In the closing discussion, participants were thanked for their input into the workshop.

A request was made for assessment-related websites and resources to be hosted on the ViEW website, perhaps with a Wiki facility and links to abstracts.

A possible theme for next year’s workshop was identified as ‘Change in veterinary education’, encompassing staff development.

Ensuing lunchtime discussions

Two lunchtime discussions were help involving core ViEW members, to discuss the format of next year's workshop, the possibility of regional meetings, and to discuss the advancement of ViEW as an official organisation with a directing committee. Members of the Royal Veterinary College staff offered the services of the LIVE Centre (www.live.ac.uk) to support the work of ViEW.