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Tips for teaching in the clinical environment

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This article forms part of a series of articles published in *In Practice*, aimed at providing veterinary staff and students with tips and tools to enhance the learning moments which occur on a daily basis in practice. The previous article introduced the different ways in which people learn. This article will give tips for identifying and making the most of teaching opportunities within a busy clinical workplace, to enhance the experience for both the teacher and the students. It draws from the literature and also from the authors' experience of workplace teaching in university clinics and in practice. Future articles will discuss ways of maximising the value of feedback conversations, teaching practical skills, teaching small groups, and lecturing or giving presentations during, for example, client evenings.

What are we trying to teach?

For veterinary undergraduate students in the UK, workplace-based learning either in university clinics or on extramural studies (EMS) placements, has the aim of helping students achieve the day one competences described by the Royal College of Veterinary Surgeons (RCVS) (www.rcvs.org.uk/document-library/day-and-year-one-competences). These relate to general professional skills and attributes, underpinning knowledge and understanding, and practical competences. Guidance for EMS providers is available on the RCVS website and is summarised in Box 1. All UK vet schools require their students to complete the EMS Driving Licence (Bell and others 2013) (www.vet.ed.ac.uk/ems_driving_licence) before undertaking placements; this was developed by several vet schools with input from practitioners and students, and provides information and tips on preparing for EMS. While the universities are responsible for teaching the core competences, the experience gained during EMS is recognised as being hugely valuable for reinforcing and developing students' clinical skills, as well as developing their communication skills with clients and members of the practice team, and allowing them to experience the time constraints and financial challenges of veterinary practice.

EMS placements can provide fantastic opportunities for students to observe and learn from practitioners, as both role models and teachers. Effective teaching involves not only having subject knowledge and clinical competence but also being enthusiastic, approachable and supportive, and establishing a rapport with students and providing direction and feedback. There are a number of aspects of a clinical workplace that can act as barriers to teaching and these include: patient (and client) -related challenges; time pressures; lack of reward, incentives or recognition for teaching; the physical clinical environment; difficulty managing students' expectations and establishing realistic objectives, and, on occasion, student-related challenges such as general attitude, or poor professional behaviour in front of clients. The following tips are designed to help optimise and enhance teaching and learning in the workplace.

1. Creating a positive learning environment

Enthusiastic clinicians with a passion for teaching are easily able to engage students. Establishing an environment in which the student feels safe, able to ask questions and admit their limitations, is important. This can be helped, for example, by ensuring the student is appropriately supported, by giving regular, constructive feedback in a non-judgemental

manner (see article 3 in this series), and perhaps by stating your ground-rules for asking questions e.g. 'It's fine to ask me any questions that you have about a case, but please wait until the client has left the room'. Additionally, the more that a student integrates into, and becomes part of, the practice team the more positive the experience should be for all.

2. Orientating yourself and the student

Some practices find it helpful to ask students for an introductory letter before their placement, outlining their current stage of training and experience to date. It can also be helpful to undertake entry interviews (see Box 1) at the beginning of an EMS placement. However, clearly not all members of staff can be made aware of an individual student's experience level and aims for the placement and it is not realistic for a veterinary surgeon to have a detailed understanding of the curricula of the different schools. Nevertheless, it pays dividends if, wherever possible, the individual student's level of training and experience can be established, through a few quick questions, prior to involvement in any given scenario. This establishes a realistic aim for the immediate session to be clarified with the student. It also helps to set some ground-rules for students from the start, for example how many times they might be allowed to attempt a blood sample, or how many minutes they might be given to take a history from a client. This helps manage expectations for both the student and teacher, and facilitates teacher intervention if appropriate from an animal welfare or time-management perspective. If teacher intervention is required, it should be ensured that the student doesn't feel humiliated or interpret this as a failure on their part, but is gently encouraged to identify specific areas for improvement e.g. 'Don't worry, let me take it from here as this dog is quite tricky to handle, but I'll let you have another attempt at blood sampling with the next quiet case that we admit'. It is also useful to have a named contact within the practice for each EMS student, so that both the student and others members of the team can report any problems.

3. Being a positive role model

Role-modelling can be an incredibly powerful teaching tool, particularly when it comes to professional behaviours, and can have a very positive impact on students (Gordon 2003). This might include role-modelling behaviours such as teamwork in the clinical setting, or a willingness to learn and admit limitations, or even discussing examples of positive role models that influenced the teacher when they were a student.

4. Capturing teachable moments

Teachable moments can happen many times throughout the working day, and many teachers develop the habit of identifying these and highlight them to students. It could be helpful (from both a time-management and student-learning perspective) to focus briefly on a single teaching point within a case (eg, the rationale for the choice of a particular drug). If more detailed discussion would be beneficial, then it might be appropriate to plan this for later in the day, perhaps over coffee or on the way to a visit. The vet can discuss a similar case with a student in advance of a consultation or visit, and in that way provide the student with a framework for the clinical reasoning likely to be required. Students can also be prompted to do some reading or other preparation in advance, to maximise the value of further discussion.

5. Developing a teaching toolkit

Various strategies are described in the literature for time-efficient approaches to bedside teaching in human hospitals, and many of these are relevant to veterinary practice and include:

- Variations on the 'One-minute teacher' (see Box 2);
- Multi-tasking (eg, writing up clinical notes while the student does the discharge consultation in the same room);
- Using 'what if' questions to encourage the student to apply their clinical reasoning to different scenarios;
- It can be helpful to prepare some short case examples, sets of blood results, images, etc. on some kind of portable device, such as a USB stick, that students can work through independently; these might form the basis of useful discussions on the way to the next call.

6. Don't just focus on factual recall

Overuse of questions that ask for very specific pieces of factual information, except when necessary e.g. to establish the student's background knowledge in a particular area, is usually less beneficial in promoting learning. Additionally, teachers should be particularly aware of questioning styles that turn into "Read my mind" challenges for the students, when the teacher asks a long series of leading (and often confusing) questions to try to get the student to the "correct" answer. Alternatively, use of questions that are prefixed by 'why' and 'how', and 'what if' type questions can help develop the student's understanding of clinical scenarios. For example, if the student is discussing differentials for polyuria and polydipsia in an elderly dog, their understanding and ability to prioritise the possible differentials may be extended by asking "What if this was an entire bitch?" Or, when discussing treatment options: "What if the client couldn't afford that treatment; what could we do then?"

7. Activating prior knowledge

Any clinical student should have a fundamental knowledge of the basic sciences, including anatomy and physiology. Even if the clinical information is not yet well understood, it is helpful to encourage students to 'hang' new information on their pre-existing understanding (eg, of normal structure and function).

8. Encouraging active participation

We all learn by 'doing' and, for students in a clinical context, this includes not just practical skills but also being encouraged to commit to clinical decisions (Smith and others 2011). This is further enhanced when students are empowered to 'be the vet' in a safe, supportive environment; their confidence and skills can benefit enormously (See Box 3).

9. Encouraging students to be teachers

Senior students will often gain confidence and skill from being asked to explain basic clinical skills to junior students (eg, a logical approach to a physical examination, drug dosage calculations). This format is known as peer-assisted learning and has been shown to benefit the learning of both peer tutors and tutees (Baillie and others 2009).

10. Summarising what has been taught

Many vets are familiar with the Calgary Cambridge model for consultation skills (Radford and others 2006), using strategies such as 'chunk and check', in which information regarding, for example, treatment options is delivered in small chunks; the client's understanding of this information is checked before proceeding further. Similar techniques are valuable in

teaching encounters, for example asking the student to identify and describe or explain what they have learned, rather than having the teacher simply reiterate it.

11. Allowing time for feedback

Feedback is extremely useful for students; it has increased value and credibility when delivered by those who have directly observed the students' work and all members of the practice team should be encouraged to engage in feedback conversations with students. These should provide both encouragement and constructive suggestions for improvement (effective feedback strategies will be discussed further in article three of the series).

12. Reflecting on teaching

Good teachers tend to reflect regularly on their teaching, consciously or not. They give consideration to what strategies worked well and which didn't, and they try to identify situations in which new teaching tools could be tried, as this can help to enhance the process even further. Discussing teaching encounters and strategies with an interested colleague can be a great motivator and help the teacher feel supported in their efforts.

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Box 1

Excerpt from EMS guidance for providers, RCVS website, accessed 8/12/13

<http://www.rcvs.org.uk/education/extra-mural-studies-ems/#providers>

The practitioner's contribution to EMS is of vital importance. It is recommended that practices identify named individual(s) to act as EMS contact for students and the university, and that some time is set aside for entry and exit interviews with the students at the beginning and end of each placement. It is recognised that this can sometimes be difficult given the pressures of practice life, but a few minutes preparation and induction at the outset will help to make the placement more productive for the practice and the student.

The practitioner's aims should be to:

- Maintain and improve, where possible, students' present knowledge and level of training
- Encourage students to become familiar with the use of simple instruments and with drug compounds, their trade names and applications
- Provide experience under practice conditions of as wide a range of medical and surgical conditions as possible
- Provide experience in handling routine consultations and procedures
- Encourage students to relate to and communicate with clients where appropriate
- Teach students about the non-clinical aspects of practice: interaction with clients, employers/employees and lay staff; care of practice property; the limitations that may be placed on clinical work in a commercial situation
- Teach students the importance of the above in relation to professional behaviour and practice income by illustrating, for example: how practice fees are calculated; how bad debts are dealt with; how practice is structured and financed
- Ensure students see the Practice Health and Safety Policy and appreciate how it applies to individuals.

Box 2

The One-minute Teacher

This is a commonly used model for clinical teaching in medicine (Neher and Stevens 2003), following the presentation of a case by a student (ideally succinctly, but this is a skill in itself!). 'One-minute' is perhaps a little ambitious, but this approach can generate a useful discussion with identifiable learning outcomes in well under five minutes.

1. Getting the student to commit - the student articulates their opinion on the likely (not exhaustive) differential diagnoses and a suitable diagnostic/treatment plan;
2. Probing for supporting evidence - the vet encourages the student to 'think out loud' and finds out why has the student made those decisions;
3. Identifying and teaching a general principle - the vet encourages the student to apply what they have learnt to other situations;

4. Reinforcing what was done well - The vet encourages self-assessment by the students and gives positive feedback;
5. Correcting mistakes - Encouraging students to self-assess may lead them to identify their own errors; if these need to be pointed out then the feedback must be specific and non-judgemental (see Article 3).

Box 3

Examples of how to encourage active participation

- Encouraging students to examine in-patients and commit to a diagnostic, therapeutic or anaesthetic plan to be approved by the vet;
- Encouraging students to scrub in to surgical procedures even if time permits them to undertake only a small part of the procedure (eg, skin incision; find and identify ovary);
- When the opportunity and appropriate cases are available, it can be useful to allow more senior students to use a spare consulting room to take histories and examine animals in parallel to the vet's consulting session. The student can then briefly present their findings and proposed plan to the supervising vet prior to their assessment of the patient. This allows the student consulting experience with minimal impact on the vet's time.
- Ask students to write discharge notes for patients or undertake discharge appointments;
- Optimise laboratory samples (eg, make and interpret a blood smear from a routine pre-anaesthetic blood sample; make, stain and interpret a smear from an ear swab);
- Identify the most recent expert recommendations regarding 'gold standard' treatment regimes for a challenging ongoing case that you've seen with the student (eg, respiratory disease outbreak amongst growing dairy heifers). The information could be sought from up-to-date textbooks or journals. Many students are skilled in online literature searches, and increasingly experienced in the creation of clinical 'knowledge summaries'.
- Price up different treatment options for a typical first opinion case (eg, hyperthyroid cat: daily medication, thyroidectomy, diet, referral for I-131 treatment);
- Further ideas are given in article one of this series, under 'Suggestions for Active Learning tasks'.