



REd alert 1

A-Z of learning and teaching activities and methods

Learning and teaching sessions should aim to be safe, supportive, challenging and engaging. Here are some examples of activities and methods you might use in your student sessions. For more ideas, see the resource section at the end of this alert.

A **'Advice columns'**
Students present questions like they might appear in the health sections of popular magazines, either as a letter or verbally in a way that a patient or client might pose a query, to a panel of 'experts' who may be other students. The tutor acts as facilitator and can direct the discussion.

Audio and visual material

'A picture is worth a thousand words' and can be a useful adjunct to your teaching. The use of photographs, snippets of movies, audio tracks, podcasts, paintings and animations can convey information and promotes discussion that engages students, particularly those who respond to visual learning methods. Asking students to provide or find audio and visual material to surround a topic can be a useful learning activity as well.

B **Blackboard**
Blackboard is the online learning platform for Monash University. Students and tutors access it through the Faculty intranet. Blackboard can be used as a repository for university policies, tutor presentations, additional information about topics and articles.

Brainstorm

Students present ideas around a topic that are written down on a whiteboard/butcher's paper as they are spoken. The rules of brainstorming are that any suggestion is alright and that the exact words as spoken are written down. The scribe (a student or the facilitator) doesn't comment on the ideas presented until they are all written down. The list generated can be used for reference during the session.

C **Captions and headlines**
Using pictures or images, ask students to come up with a caption or headline they think suitable for a newspaper. This may stimulate discussion about various topics from disease and disability, to advertising pharmaceutical products. Tutors can also direct the caption by placing boundaries around it eg. 'Put a caption on this photo to describe how this person presents to you as a doctor.'

Case discussions

A facilitated discussion about cases, patients or workteam situations can be a very useful learning activity. There are many ways to do this, including the standard case presentation format where students 'present' an interesting or topic-specific patient episode and talk about history and management issues. Here are some others:

- **Balint Groups:** facilitated reflective and professional practice groups consisting of students and clinicians that allow deeper discussion of issues relating to workplace and patient issues. For more information, see the RACGP website <http://www.racgp.org.au/Content/NavigationMenu/PracticeSupport/Consultingskills/BalintGroups/default.htm>
- **Common problems:** discussion around common problems seen in general practise, paediatrics, women's health and psychological medicine can help consolidate knowledge for students.

- **Critical incidents:** a critical incident is anything that occurs within the student's practice, whether it relates to a patient or not, that is stressful and overwhelms the student. Discussion around critical incidents can allow students to see the incident in a broader context and develop problem-solving techniques for incidents in the future.
- **Interesting cases:** these may be cases rarely seen, or ones that manifest atypically. Interesting cases may also include management concerns as well as presentation or diagnostic issues.
- **Integrated Case Learning (ICL):** This is a technique to assist in developing student's clinical reasoning abilities. The tutor is the 'patient' and presents with a case taken from real practice. Two students are the 'doctor' and take a history from the patient while another student scribes. The remaining students are allowed to ask questions of the 'patient' if the 'doctor' can't think of anything else to ask. The tutor will hand out investigation results but only when the students request them. This scenario will eventually lead to a discussion around differential diagnoses, and is a collaborative, safe way for students to express their thinking around clinical presentations.

Concept mapping

This is a visual technique that encourages students to represent interconnecting ideas to become a hierarchical 'diagram' that consists of existing and new knowledge about a subject. A bit like brainstorming or mind mapping, concept mapping can be done on paper, or by using computer software tools like Bubbl.us (free website).

Consultations with students present

There are many ways in which students can be involved with patient consultations, from observing particular clinician-patient interactions ('Watch how I examine Mr B's chest') to a student taking a patient history without a clinician present. The type of involvement will depend on many things including student ability, the complexity of the patient issue and the working style of the clinician. For further information, see *REd* Issue 8.

Debates

Take a controversial topic and get two panels to argue the positive and the negative. A vote from the audience concludes the debate.

Make the sessions very short, though, in order to maintain audience interest.

Definitions

Ask students to write a definition of a medical term in order to ascertain their understanding then facilitate a discussion around the term. Helps to broaden a student's perspective.

Demonstrations

A practical demonstration of a skill or technique is often done in learning and teaching sessions. Careful consideration needs to be taken about the sequence and explanation of each step. One example of how to demonstrate a skill for a student is the ATLS method: show the skill without explanation, repeat the skill with explanation, ask the student to verbalise the steps and then ask the student to verbalise while performing the skill.

Discussion boards

Discussion boards are an online communication method connected to Monash University's online learning platform Blackboard. They are areas where students and tutors can post messages to each other. Discussion boards can be useful for generating talk about an interesting subject. Participants can see every message posted and can enter into the 'conversation' at any time. This can be a useful way of connecting students across a hub.

Evaluation

Evaluating your teaching is an important component of the session. Evaluation of sessions is best done by the teacher themselves and can

be completed in a number of ways. A simple form asking what was done well and why, and then what could be improved and why, can provide valuable feedback about the structure and interactivity of the session. Evaluation of what students learnt can be done by and end of session quiz or strategic questions (see 'One Minute Papers'). Were the key points that the students learned the ones that you set out to teach? Allow time for this important process.

F Feedback

Timely, constructive feedback is important in learning and teaching situations. One way of doing this is the Pendleton method: asking the student what they did well in the situation, the tutor discussing what they did well, asking the student what they think could be improved and then the tutor discussing what could be improved. The outcome should be agreed areas of strength and some for improvement. Remember that negative feedback to a student far outweighs positive, so a relative balance is needed.

G Goals

Both teachers and students need to have goals for their learning and teaching encounters. Goals for teachers include those about student learning as well as those about their teaching. Student centred goals drive the teaching session: after all, the focus of any teaching encounter is to assist the student on their learning journey. Student learning goals or objectives are not teacher goals. A teacher, however, may have the goal of including interactive material into a largely didactic presentation or to encourage the quietest member of the student group to contribute.

H Heuristics and hesitations

Heuristical problem solving traditionally involves taking short cuts in clinical problem solving, relying on the previous clinical knowledge of the clinician and their 'gut instinct'. Students don't have this experiential knowledge and typically rely on deductive reasoning, working through potential diagnoses in a step by step way.

By using visual aids of presenting problems (eg Mongolian birthmark on a baby), you can discuss the diagnostic pathway with students. This may be done as an ICL (see 'case discussions') or with a pair of students (often a 'safer' way for a student to interact). It may also be revealing for students to discuss how heuristics can sometimes cause wrong diagnoses even in very experienced clinicians.

I Interviews

A student interview of a willing expert can be a very useful way for them to broaden their knowledge around a topic. If the interviewer consents, the interview could be recorded and played to the whole group for further discussion.

J Just a minute!

Ask a student to talk briefly on a topic for 1 or 2 minutes and beep them as soon as they start to waffle, deviate or hesitate. Ask another student to then take up the topic. This strategy can work well when exploring knowledge of a clinical topic.

K Keeping it all together

When working with a small group of students, it is worth suggesting that the group pose some 'ground rules' for themselves. This may be anything from switching mobile phones off during a tutorial to respecting another person's point of view. Ground rules that are negotiated by the group rather than the facilitator are more likely to reflect a learner-centred approach.

L Learning contracts

These are negotiated written agreements between students and tutors on what should be achieved over the course of time spent in a placement. The agreement outlines what should be done (the content), how this is to be achieved (with what resources and strategies), by when (the timeframe) and how this should be evaluated.

M Martians

An alien has landed on earth knowing nothing about us. The learner has to explain in a very simple way what something is (a disease or a procedure etc). This is a way of deconstructing language and looking at how we talk to patients.

Metaphor analysis

Using photographs, pictures, objects or words as a stimulus, a student is asked to present a metaphor that represents their way of thinking about a particular topic. These metaphors can then be explored in a group situation.

Comparison of metaphors at the beginning and the end of a placement can be an interesting method of seeing how a student has changed personally and professionally over time. See also 'The Third Thing'.

Micro-teaching

This is a student-led mini teaching session – a presentation or a demonstration of a skill. The session may be videotaped (with student permission) and discussed in reference to the teaching skills of the presenter (pace, clarity, use of body language etc). Other students can evaluate the 'teacher' during the micro-teach. This can be particularly useful in helping the student practise clear communication skills.

No, Yes, Maybe

To demonstrate a pathway for clinical reasoning, pair students and ask one to imagine they are holding something in their hands. The other student has to guess what it is by asking closed questions. After this exercise, ask the students how they decided to sequence their questioning: did they start with broad questions then narrow them down? Did they start with very narrow questions? By asking students to report on their problem-solving technique, a comparison can be made to clinical reasoning used in day to day work by clinicians.

One minute papers

Used at the beginning (to glean prior knowledge), the middle or the end of a session, a one minute paper tries to ascertain if the objectives of the teaching session were actually met. Students are asked to answer specific questions about the session (eg. What were the 3 main concepts you learned today? What was the muddiest aspect in the session today?) and either write their responses or verbalise them. The answers assist the tutor in planning the next session or acting on the information provided. One minute papers are a quick way of evaluating your teaching session.

Opinion polls

The group votes on current controversies and issues or treatment choices.

Panel of experts

Gather a team of experts together (they may be a multi-disciplinary community team or a group of clinicians from one discipline) and have students ask them questions about a topic. Make sure the session has some ground rules, so that students feel free to ask any questions safely.

Peer learning and teaching

Peer- assisted learning can take many different forms. It occurs informally as students share their clinical experiences, when students help each other to study for exams or when they practise a new clinical skill. Peer learning can also be encouraged in a more structured and planned way through activities such as student-led case presentations, peer assessment schemes, online discussion groups and the pairing of more advanced students with beginning students during clinical rotations. For more information, see REd issue 6.

Presentations, lectures, tutorials and seminars

A more traditional way of teaching, these forms are usually dependent on the presentation of spoken information from a teacher. However, presentations can include interactive components that encourage students to be active and not passive recipients. For information about how to make presentations more active, see 'small group learning'.

Quizzes

A quiz is a useful way of determining student's knowledge either before a teaching session begins or after it's finished.

Quizzes can be verbal, written, through a computer response system (like Kee-Pad) or assisted by existing online quizzes. If you are writing your own, you may want to consider the following types of questions that students frequently see in their written exams:

- **Key features:** written responses and best response selection using a short case scenario as the prompt. These sorts of questions often test clinical decision making.

- **MCQs:** multiple choice questions. The level of difficulty can be altered by using responses that are not necessarily mutually exclusive.
- **MEQs:** modified essay questions. A shorter written response to a question.
- **EMQs:** extended matching questions that have a short clinical scenario to which you should match one of the options listed.

For detailed information about how to write exam questions, see 'Constructing Written Test Questions for the Basic and Clinical Sciences' http://www.au.af.mil/au/awc/awcgate/documents/nbme_iwgindex.pdf

R Reflective practice

Sometimes known as professional practice, reflective practice helps develop critical thinking and heightens awareness of ethical issues in practice as well as issues of self care for practitioners. It can be facilitated in many ways of which those listed below are examples.

- **Groups:** small, facilitated groups are ideal ways of discussing issues surrounding a student's experiences and may lead to an analysis of their current beliefs and assumptions.
- **Journals:** a written record of a student's responses to situations can be a launching pad for discussion with a tutor. Reflective writing after a tutor meeting may assist in reinforcing strategies for better practice.
- **Storytelling:** using particular written templates that help deconstruct an event into main players, key emotions and responses, and outcomes, students share an event that has had an impact on their practice and discuss the things that they have learned.

Role plays

Students may take the role of doctor, patient or carer in an unstructured scenario that allows them to respond as their character. Role plays can be a good learning opportunity to assisting the student to see an event from different points of view.

S Serious games

Serious games are games that are designed for educational as well as entertainment value. They may be customised board games, video games, paper and pen – or many other forms. Many tutors have discovered that a game can be produced quickly and cheaply for their specific purposes, and that their imagination is the limit. A game may consist of using body markers to draw anatomy on a T-shirt worn by a selected person, or 'Celebrity Head' type of guess-the-disease. See REd 5 for further ideas.

Small group work

A 'small group' usually consists of 12 participants or less. Group learning like this is in keeping with the teamwork often required of health professionals in their workplaces. Small groups often set their own ground rules for working together and this allows them to take some control over the learning process. One of the main principles of small group learning is that students are often engaged in learning activities without direct intervention from the teacher. Strategies to use in small groups include:

- **Buzz groups:** 3 or 4 students talk together for a short period of time (5 minutes or less) about a topic or issue. One student is the scribe and reports back to the larger group at the end of that time
- **Fishbowl:** students sit in two circles (inner and outer). The students in the inner circle commence the discussion while the outer circle listens. If a student in the outer circle wants to join in the discussion, they swap chairs with someone in the inner circle.
- **Jigsaw method:** students are divided into a group of 3-4 (home groups) and number off. Each (for example) number 1 member then joins a number 1 group (known as the expert group) where an activity is implemented. Students then return to their home groups and report on the experiences in the expert group.
- **"Think, pair, share":** Each student thinks about their responses to a particular question or issue. They then share this with a neighbouring student. One member of the pair then reports back to the whole group.

- **Snowballing:** a small group discusses a topic and then combines with other groups to become larger and larger to share ideas and develop concepts further.

Successful group work doesn't just happen – it needs careful planning. For more information, see the resource 'Teaching small groups' in the "Practical Guide for Clinical Educators". See also 'Keeping it all together'.

Speed dating

Have students sit in two lines facing each other and ask them to briefly discuss a question from the tutor. After a small amount of time (1-2 minutes), ring a bell and ask them to move to the chair on their left. Ask another question and have them discuss the new topic. Once speed dating starts, it can become increasingly difficult to get people to move as they become very engaged in the discussion!

Spin doctor

Students act as advertising executives to 'sell' a concept to the audience eg. the use of statins, the benefits of smoking cessation or a surgical procedure.

T The third thing

The term 'Third Thing' comes from the educationalist Parker Palmer who wrote about exploring topics metaphorically by using a representation rather than directly addressing the topic. He writes, "I call these embodiments 'third things' because they represent neither the voice of the facilitator nor the voice of the participant."

Ask students to present a 'trigger' at a group session and facilitate a discussion around the issues that emerge from its appearance. A trigger may be a physical artefact (a photo, a flower or a box of crayons) but can also be a poem, part of a play or book, or a song – anything that the student finds has triggered a response in relation to their medical education. This may include a reminder of a doctor-patient encounter or of a challenging professional-personal balance. The resulting conversation may take 30 minutes so a tutor needs to allow adequate time.

Top five

This is a way of getting students to think about things in different ways. Develop a discussion around any 'Top 5' eg. Top 5 diseases of all times, Top 5 tips for smoking cessation, Top 5 pieces of equipment for a GP or Top 5 tropical diseases.

U Umbrellas

To extend the students knowledge of disease presentation or management, ask them to think of a problem in terms of another client group eg. if discussing the umbrella topic of asthma medication devices, you ask 'what would be a suitable device for an adolescent? Or a child under the age of 8?'. Patient groups to consider may be the elderly, those of another cultural or racial background, or those with significant disability.

V Visuals

Asking students to draw things can help them engage in a topic in different ways. For example, asking them to draw anatomical features from memory (eg. the landmarks of the liver or a femur) can help revise their anatomical knowledge. Asking students to draw about how they regard diseases (eg. epilepsy or MS) can initiate a discussion around that disease.

Video

With consent from student and patient, of course, videotaping a consultation and viewing it with the student can be a very real way of giving feedback on features (communication and examination) of the encounter. Students can self-assess the video first. It can also be peer-reviewed. All feedback, however, should be given within a similar framework to the Pendleton Method (see 'Feedback').

W Web 2.0 tools

Most students have access to the internet and use it every day for educational and social purposes. As a tutor, you can utilise aspects of the internet in your teaching without additional cost other than internet access. With the increasing availability of open access (free) resources on the net, this is an area of growth for learners and teachers.

- **Blogs:** a blog is a 'web log', a place where you can discuss a topic and receive responses through 'comments' left by members of your blogsite. Blogs can be easily set up within minutes. For examples, explore wordpress.com or blogger.com
- **Websites:** there are a range of existing sites you can utilise in your teaching. YouTube, for example, has a range of medical education videos, including system examinations (see St George's Hospital on YouTube). Other sites have interactive elements (see Edheads 'Virtual Surgery'). Patient and student profiles can also be found and used to demonstrate aspects of your program (see the 'Patient Voices' project page). Some websites require paid membership but a remarkable number are free.
- **Wikis:** a wiki is a collaborative, online repository where information can be placed and, very importantly, edited by students who have direct access. A wiki is owned by the group and not the individual therefore edited changes aim to improve the overall quality of the resource. Wikis are useful tools for revision as well as ongoing learning. They can be set up on the internet directly through sites like wetpaint.com and wikispaces.com.

For general information about educational technologies, see *REd* issue 7

Word attack

Print some words or phrases onto cards and ask students to discuss their responses. The words may be directly related to a particular topic (eg. for chronic illness issues, relevant words may be 'smoking', 'quality', 'choices' or more esoterically-directed words such as 'cup of tea', 'life goals' or 'fishing') or about broader medical education subjects.

X-rays and clinical artefacts

The use of de-identified clinical investigations helps students' experiential learning. Investigations can show normal and abnormal findings as a point for discussion. Comparison of the two can also aid in consolidating knowledge.

You then me

This role playing game asks students to interview each other with one role-playing a medical practitioner and the other a patient.

A scenario is established with roles for each participant that are reversed after a few minutes. The difference in this game is that the 'patient' being interviewed has one of their visual or auditory senses limited (eg. blindfold across one or both eyes, hearing blocked with earmuffs). After experiencing the interview, follow up with a discussion about communicating with a sensory-impaired person (and a reflection on their likely experiences).

Zonoids

Although the most important presentations for students to learn about are common problems and typical issues, the occasional discussion of rare or unusual diseases can prompt student interest. Confining these discussions to small zones (zonoids) means that the information, although interesting, is not overwhelming.

Learning and teaching resources

Printed resources

REd: a quarterly resource for clinical educators.

For past issues, see Monash University School of Rural Health website.

“Practical Guide for Clinical Educators”
produced by CMHSE, Monash University

Internet resources

Monash University Library:
www.lib.monash.edu.au/

Rural Health Education Foundation (RHEF)
“Facilitating groups of Learners: adult learning principles to guide facilitator’s delivering the Better Access to Mental Health Care Learning Guide”: www.rhef.com.au/

Scaling New Heights:
scalingtheheights.com/4587.html

The University of Queensland Teaching and Educational Development Institute:
www.tedi.uq.edu.au/teaching/toolbox/pedagogy.html

Victoria University, NZ: www.utdc.vuw.ac.nz/tutors/

Useful academic journals

Journal articles are often available through hospital and university libraries. Here are some that focus on health professional education:

Medical Education
Medical Teacher
The Clinical Teacher

If you’d like to share your teaching ideas in future editions of this publication, or for further information about any learning and teaching activities, please contact the North West Rural Medical Education Unit

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