Technologies for feedback

The theory of feedback

1 Formative and summative assessment

Assessment of learners is often described as either *formative* or *summative* (Harlen and James 1997)

Formative assessment is the provision of ongoing feedback to improve learning. Formative feedback helps trainees recognise their strengths and development needs and helps teachers plan next steps. Ideally, formative assessments aid trainees to develop a meta-cognitive awareness of their own development needs. It is both criterion referenced and learner centred/ipsative. Validity and usefulness are more important than reliability. Feedback is essentially formative assessment.

Summative assessment is to evaluate learning to compare it to a standard or benchmark, typically in a formal, public, systematic way that is perceived as 'high stakes' e.g. an exam or certification procedure. Validity and reliability are key. In this sense it is purely criterion referenced.

2 Definition of feedback

"Information provided by an agent regarding aspects of one's performance and understanding".

Feedback marks 1 and 2 (Boud & Molloy 2013)

Feedback mark 1: engineering/cybernetics paradigm. A performance thermostat. Problem is it accords little agency or volition to learners.

Feedback mark 2: sustainable feedback equipping students to learn prospectively

(1) involving students in dialogues about learning which raise their awareness of quality performance;

(2) facilitating feedback processes through which students are stimulated to develop capacities in monitoring and evaluating their own learning;

(3) enhancing student capacities for ongoing lifelong learning by supporting student development of skills for goal setting and planning their learning

(4) designing assessment tasks to facilitate student engagement over time in which feedback from varied sources is generated, processed and used to enhance performance on multiple stages of assignments.

Feedback as formative; feedback is not evaluation (Ende 1983). It should be information not judgement.

	Description	Advantages	Disadvantages
Judgement	Trainer makes a judgement of value from a position of authority (praise).	Useful with unconfident trainees. Can be a helpful form of feedback in learning a new skill.	A power dynamic is introduced where the trainer sets him/her self up as an expert in the trainee's work. The trainer doesn't have the opportunity to judge for him/herself whether something is good. At worst, judgement statements come across as patronising. They can lead to resistance or irritation with the trainer.

	Description	Advantages	Disadvantages
Impact	Trainer describes the trainee actions and then their own subjective 'prizing' response.	Impact statements are personal and can build rapport. Done well they can show to the trainee that their actions have an effect on the trainer, which can lead to a more equal relationship.	Because they are personal, they can shift focus unhelpfully on to the trainer. They are easy to misjudge and can either go 'over the top' or not resonate with the trainee.
Observation	Objective description of the trainee's achievements as data.	The objectivity can balance out talk focussed on deficits. The trainee gets the credit for their successes.	Can seem cold, clinical or removed.

Observation, impact and judgement statements (Undrill 2012)

3 Why give feedback

Practice doesn't make perfect, practice makes consistent. Practice plus feedback makes perfect. Feedback narrows the gap between performance and aspiration.

Feedback in other fields: Feedback in the arts and in sports. The damaging myth that it is necessary to measure something to give feedback on performance (very little that is worthwhile is measurable in the arts).

The value of feedback in developing reflective capacity (internal or self evaluative feedback).

4 Training people to get better at seeking and hearing feedback

Promoting feedback seeking behaviour: see appendix.

Feedback seeking behaviour happens anyway. Exams loom in importance. Trainees will pick up on your disappointment. There is a risk of developing an armour against feedback if it is given insensitively that can last a career.

5 Qualities of good feedback

•helps clarify what good performance is (goals, criteria, expected standards);

•facilitates the development of self-assessment (reflection) in learning;

•delivers high quality information to students about their learning;

•encourages teacher and peer dialogue around learning;

•encourages positive motivational beliefs and self-esteem;

•provides opportunities to close the gap between current and desired performance;

•provides information to teachers that can be used to help shape teaching.

(Nicol & Macfarlane Dick 2006)

Triangulation: getting feedback from multiple sources. As well as providing a richer feedback narrative, triangulation helps with being non-reactive because the trainee becomes aware that feedback varies widely.

6 Difficulties in giving feedback in communication skills

Both teachers and trainees are often unclear about separating the 'what' (typically well defined: e.g. the history and mental state examination) of communication skills from the 'how'. This is not just a problem for psychiatry and is well described in other fields where many tasks are complex, multidimensional and difficult to articulate (Sadler 1989).

Our experience is that trainers are usually good communicators and recognise good communication when they see it but struggle to operationalise it. This is also well described in the literature on expertise: "If one asks an expert for the rules he or she is using, one will, in effect, force the expert to regress to the level of a beginner and state the rules learned in school." (Dreyfus 2005). Often trainers will tell trainees to use a paradigm and rules for interacting with patients they no longer use, because these are the only rules they can articulate.

In other areas of academia (Nicol & Macfarlane Dick 2006), strategies are

(1) exemplars of good practice *we use videos and live demonstrations with experts*

(2) providing better definitions of requirements using carefully constructed criteria sheets and performance-level definitions; *we use coding*

(3) increasing discussion and reflection about criteria and standards in class ; *we use a semi-structured discussion*

(4) involving students in assessment exercises where they mark or comment on other students' work in relation to defined criteria and standards; *peer feedback: see below*

(5) workshops where students in collaboration with the teacher devise or negotiate their own assessment criteria for a piece of work.

2 Ways of giving feedback

1 Introduction: our scenario

Our teaching scenario is with a small group of 10 to 16 trainee psychiatrists. After a three day introduction largely based on MI, there are 9/10 half day follow up sessions using actors as simulated (not standardised) patients.

We explain that this is a chance to practise skills needed in day to day practice (and also to pass the exam). This is a chance to practise and experiment, to try something new in a safe and supportive setting. A key goal is being effective in communication

We describe the situation in enough detail to orientate the learner. Usually, a referral letter or written scenario is provided to the trainees with a brief outline. We recap what information is already known and what the specific task is. Sometimes we focus on a subsection: "let's assume you've done the introductions and they've just told you x". None of the scenarios require the trainees to focus **solely** on taking a history or performing a mental state examination. Where specific information is needed, we provide this (e.g. in a session on explaining the use of lithium, we provide information on lithium ahead of time).

2 Peer feedback: Negotiated Assessment grids

1 Discuss the problem and the potential approaches
We give the trainees a referral letter that they might receive from a primary care physician or a doctor in another speciality. We have an open discussion about what the issues are likely to be, aiming to elicit some of the pitfalls and some of the strategies in the scenario.

In discussing the scenario like this, we implicitly foster early hypothesis formation. Hypothesis formation guides questioning and the revision of the hypothesis when the interview takes place.

Open discussion about what strategies are likely to be helpful: 'success criteria' for the interview. These are put on a flip chart. If there seem to be some missing, we may ask co-facilitators 'what else might you do in this situation?'. In pedagogical terms, this list of success criteria is a negotiated assessment grid or NAG.

2 Run the simulation
Brief the individual trainee: 'is there anything you particularly want to practise? Remember you can stop at any time and ask for help. Don't be afraid to try something new: if you make a mistake or something doesn't work how you'd like stop the simulation and re-wind'.

Run the simulation. If something doesn't go well or they get stuck, the group brainstorms and they re-run.

3 Debrief
Debrief 'in order of vulnerability': the volunteer learner, the rest of the group, the actor (if using the actor), yourself.

The trainee: what did you do well from the NAG?

Other trainees: 'what skills did you see the trainee use from the NAG? Did you see them do anything well that isn't on the list?' Add the new skills to the grid. Encourage skill spotting as a high level skill to be developed (Kurtz et al. 2005).

One thing to improve (reserve this for the teacher: some groups can get quite critical).

4 Swap trainee and re-run
Rotating the trainees and working on fairly short segments often works better than longer runs.

If there are problems or deficits, these belong to the list and the group and not the learner and the interview. Refine the list. Encourage the group to express problems in terms of positive actions to be taken rather than

deficits/ things to avoid: e.g. rather than 'try using fewer closed questions', feedback might be 'try to increase the proportion of open questions this time'. Learning points for individual learners should be expressed in positive terms as much as possible, using mainly observation statements and using judgement statements least of all.

In general, the more detailed and specific you can be, the better. Often focussing right down and looking at a two minute subtask can be productive. Encourage learners with suggestions to show (by stepping into role) not tell.

Discussion is important, but more is learned by practicing and re-rehearsing techniques.

As the session progresses, if key skills have not been elicited from the group, ask for permission to add one or two things.

As facilitator, balance eliciting knowledge from the learners with adding your own perspectives, ideas and knowledge. Where possible, generalise learning points into principles to take away and introduce relevant research. Model the way you would give information to a patient: find out what the trainees already know; ask permission to suggest a different approach or perspective; seek their feedback on what you have just said.

5 Group debrief: more open discussion about the key learning points.
'What did you learn? What are the key take home messages from today?'

One aspect of the debrief: bring out what the difference might be between using simulated patients and work back on the ward (Yardley et al. 2013).

2 Peer feedback: paper coding

Based on motivational interviewing. A stripped down version of the MITI (Motivational Interviewing Treatment Integrity code). Using pen and paper behaviour counts to get guideline ratios for good practice.

What we learned:

Benefits: some (able) trainees really thrive off this kind of objective feedback and can readily increase their scores. Some trainees quickly internalise the criteria and increase their ability to reflect on their own practice. Difficulties: 'I didn't ask any closed questions'; poor memory of actual interventions. Difficult to transcribe and code live. Not much buy-in to the coding model.

3 Actor feedback

'In role in neutral': this means the actor gives feedback in character and in the first person but (for example if the trainee had angered them, they do not give the feedback in an angry tone).

Problems we had: rather general feedback. Actors have the same problem as teachers: they often know what works but struggle to say why (or put a finger on why something isn't working).

It is important to keep tight control of what feedback the actors give to ensure this is restricted to their competence. We plan on experimenting with structuring feedback next year using tools adapted from patient feedback schedules e.g. the CEMI (Madson et al. 2013) or the RCRS (Epstein et al. 2004).

4 Video feedback first try: Calgary Cambridge

We initially introduced video following the methodology and suggestions of the Cambridge Calgary group:

•learners who can observe themselves understand their own strengths and weaknesses much more readily ...our own perceptions of our behaviour are not always accurate…

•recordings encourage a learner-centred approach with the learner being more centrally and actively involved in the analysis of the interview…

•recordings help prevent misconceptions and disagreements over what actually happened…

•recordings allow feedback to be much more specific…

•recordings help feedback to focus on description rather than evaluation…

•recordings allow areas to be reviewed on several occasions…

(Kurtz et al. 2005) pp 68-69.

What we learned:

Choose your equipment carefully. Some video cameras are much more fiddly to operate than others. Price is no guide!

We found it harder to use than expected (e.g. persuading the equipment to show timecodes, rewinding to specific timecodes) . Despite generally very good feedback, the video element got poor feedback from the trainees who said the video 'adds nothing' and was 'intimidating'. This was not my (GU) experience on the Calgary Cambridge course and may have reflected a lack of skill on the part of the facilitators.

5 Video feedback second try: video with live coding

StudioCode is a piece of proprietary software that allows coding to be used to label specific video segments. One member of the group codes by clicking buttons on a code window that labels particular segments of video e.g. as open or closed questions. There is an immediate output of behaviour counts but also the facility to review instances of particular behaviour e.g. all the closed questions.

The feedback was better: all sessions got a 100% 'yes' to the question 'would you recommend this session to trainees at your stage of training?'. Free text comments about coding: 'Computer coding software very useful','Coding also is a very helpful exercise as it helps the coder to be more aware of their observation and systematically analyse the interview' 'The coding software was particularly helpful in the early stages of engagement', 'watching other trainees gives you a chance to sit back and analyse techniques that isn't possible when you are running [a] consultation'.

What we learned:

There was more buy-in to the coding approach. There is an element of 'gamification' that seemed to make

 it enjoyable even though trainees found live coding mildly stressful because of the concentration required. We got more dialogue about quality criteria, with suggestions of buttons or modifications. Our groups liked the informality of huddling round a laptop for review more than sitting looking at a big widescreen TV.

StudioCode is expensive, Mac only and requires a video adaptor to work with the computer.

6 Next steps

The 2014 intake will have the ability to review their coded video segments at home as streaming video.

Other groups in our organisation have expressed interest in the software (a group training MBCT and a group of primary care physicians) and we anticipate being able to exchange experiences with them.

StudioCode can link to multiple iPads to enable the whole class to code in real time simultaneously. This can be used either to code multiple dimensions (e.g. MITI behaviour counts, therapist vs client talk time, change talk and sustain talk) on a single live pass, or to use the iPads as 'voting buttons' for one coding scheme (so for example if 50% of the class thought a reflection was simple and 50% thought it was complex, the teacher could jump to that reflection and replay it for discussion). We are currently working on a business case to provide this functionality in 2015.

Struggling trainees: there is some evidence that poor performance is difficult to remedy in part because poor performers often over-estimate their abilities (Kruger and Dunning 1999, Ehrlinger et al 2008). A colleague (Scheeres, personal communication) has found this effect in psychiatric trainees taking clinical exams locally. We hope to explore the use of self-coding as a way of remediating the performance of this group.

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