Teaching and Training in the Workplace

ASSESSMENT AND FEEDBACK

ANAESTHETISTS as EDUCATORS

The Royal College of Anaesthetists

The Royal College of Anaesthetists

Aims

This chapter sets out to identify where appropriate assessment and effective feedback sit within the educational process. It covers the basic principles of assessment and attempts to equip the reader with the tools used in the effective assessment of others.

Intended learning outcomes

By the end of this chapter you should have a better understanding of:

1. The importance of assessing and evaluating learning (TM_HK_08).
2. The importance of feedback for learning, in both the classroom and workplace (TM_IS_07, TM_HS_15, TM_HS_17).
3. The process and purpose of workplace-based assessments (WPBA) (TM_BK_04, TM_BS_04, TM_IK_07, TM_IS_05, TM_HK_09, TM_HS_13).
4. How to critically reflect on your own clinical and educational practice (TM_BS_04, TM_HS_15, TM_HS_16, TM_HS_17).
5. How to provide timely, specific and developmental feedback, based on 'good' judgement (TM_IK_06, TM_IK_07, TM_IS_07, TM_HK_10).
6. The important role of WPBAs within the RCoA 2010 Curriculum (TM_HK_06, TM_HS_14, TM_HS_15).

Activity

Basic - Using the table below critically appraise each assessment tool. For each tool, indicate whether it measures knowledge, skills and/or behaviours, and also indicate which assessment tools measure competent activity in the workplace, i.e. performance.

Assessment tool	Competence			Performance
	Knowledge	Skills	Behaviours	
MCQ				
SAQ				
OSCE				
VIVA				
DOPS				
CBD				
A-CEX				
ALMAT				
MSF				

Intermediate – Using the DOPS and A-CEX assessment tools on your next solo list, self-assess a skill and clinical encounter after the event. Use the forms as they are intended, filling them out honestly; then reflect on what you have written about your own performances.

Higher – Revisit Pendleton's "rules" for offering feedback (Pendleton 2003). Use this technique next time you offer someone constructive feedback. What are the advantages of this framework? What are its drawbacks?

Introduction

The GMC places a strong emphasis on assessment being an important skill for any doctor with an educational responsibility:

> *'You must be honest and objective when appraising or assessing the performance of any doctor, including those you have supervised or trained. Patients may be put at risk if you describe as competent, someone who has not reached or maintained a satisfactory standard of practice.'*
>
> (GMC 2010)

In 2002, the Department of Health published a report called *Unfinished Business* written by the then Chief Medical Officer, Sir Liam Donaldson (2002). It highlighted some of the disadvantages of the Senior House Officer (SHO) grade and called for postgraduate medical education to become more measurable and accountable.

Donaldson suggested that there should be a greater emphasis on competency-based assessment throughout the whole of postgraduate training and that this would act as evidence to support successful completion of training.

Competency based training was introduced shortly after the publication of Donaldson's report, and ever since there has been great debate surround what is actually meant by: *competence* and *competencies* and *competency based training*.

Competency and *competencies* may be defined as:

> *'The technical attributes and behaviours that individuals must have, or must acquire, to perform effectively at work.'*
>
> (CIPD 2012)

In 2010, a group of collaborators called the International Competency Based Medical Education (CBME), defined competence-based education as:

> *'An outcomes-based approach to the design, implementation, assessment and evaluation of a medical education program using an organising framework of competencies'.*
>
> (Frank 2010)

The Royal College of Anaesthetists (RCoA) has produced a competency-based curriculum (RCoA 2010), which sets out specific: **knowledge, skills, attitudes and behaviours** that must be achieved during an anaesthetic training programme in order to obtain a Certificate of Completion of Training (CCT). The RCoA curriculum can be seen as a dissection of what makes a 'good anaesthetist' and a set of standards against which it is possible to measure an individual's performance.

These competencies are identified as learning outcomes that can be achieved using a mixture of workplace-based assessments (WPBA), exams and regular reviews of progress. It

is assumed that the workplace (and the simulation suite) will offer all the necessary experiences that a trainee will need in order to achieve their competencies. Importantly, progress is said to be *competency* based, not *time* based, which in theory offers faster progression for those doing well, and deferment of progression for those deemed unsatisfactory for their stage in training (Brightwell 2012).

Task

Consider an occasion when you have been assessed clinically.

- How was the assessment carried out?
- How did it enable you to improve your performance?

Performance vs competence

There is a hierarchy of **knowledge**, necessary before you can perform a task. This is known as Miller's Pyramid (Miller 1990). Ones ability to *do* something may be inferred from *showing* someone how you would do it. This in turn requires knowledge of *how* to do a task, which in itself requires *basic knowledge* of the task, see Figure 1.

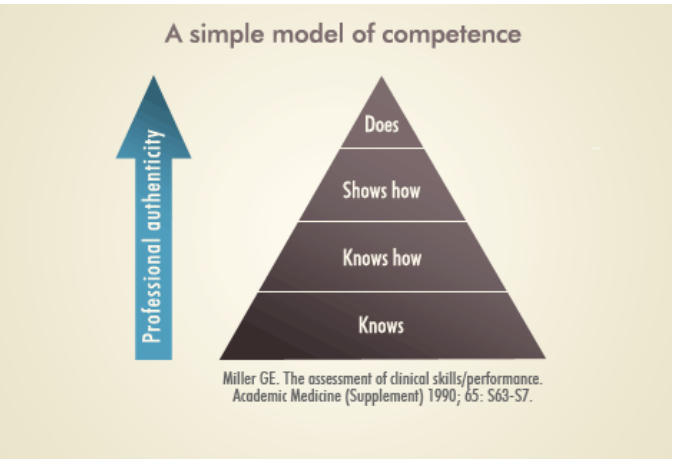

Figure 1. Miller's Pyramid of Competence.

Some have argued that what doctors do in controlled assessment situations (for example when being observed "delivering" anaesthesia in an OSCE station) correlates poorly with their actual performance in the clinical environment (Rethans 2002). The implication is that although they are more challenging to implement, assessment methods should ideally focus

on the top end of the pyramid, actual performance, which is where workplace-based assessments come in. This is in contrast to traditional assessment methods, such as examinations, that tend to assess only knowledge and basic understanding.

Task

Consider the Initial Assessment of Competence (IAC) used by the RCoA as the first milestone in the anaesthetic training programme (RCoA 2010).

- How is this form used?
- What are the benefits?
- What are the drawbacks of this assessment tool?

Functions of assessment

Assessment has a number of functions but it also has consequences and will inherently influence the learning process:

- It is a measure of progress or academic achievement.
- It allows a teacher to determine whether a learner has achieved the required standard of performance or competence.
- Assessment can be used to encourage student effort and will drive the learning process through feedback on strengths, weaknesses and the effectiveness of their learning.
- The style of assessment e.g. MCQ, OSCE or WPBA will influence the methods used by students to understand and apply their knowledge. This can encourage good, as well as poor, approaches to learning.
- Assessment is one way of evaluating course and/or teacher effectiveness, or identifying problem areas in the curriculum.

Forms of assessment

Formal/Informal

Postgraduate examinations are a formal type of assessment. They are designed to be as objective as possible and their purpose should be made clear to both assessor and the assessed. Supervision on a theatre teaching list may be regarded as an informal type of

assessment, with the assessor making a more subjective judgment of the assessed, who may or may not be aware that an assessment is taking place. WPBAs lie somewhere in between formal and informal assessment types and offer structure and objectivity to the daily assessments made by supervising colleagues.

Formative/Summative

Assessment may be formative or *for* learning, or summative or *of* learning. Formative assessment informs the learner of their progress through a course or during the acquisition of a new skill. It allows guidance toward a goal, or the redirection of effort. An underlying principle of these assessment types is one of encouragement. Summative assessments measure performance, often against a standard and data can be used to rank or judge individuals.

> **Reflection**
>
> Spend a moment thinking about formative and summative assessment and where postgraduate examinations and WPBAs fit into this structure.
>
> - Could exams be considered formative?

A 'useful' assessment tool

Assessment is an integral part of education and the usefulness of an assessment tool has been defined as the product of its reliability, validity, fidelity and educational impact (Van der Vleuten 1996). The term 'feasibility' has also been added to this list:

Reliability - assuming a constant curriculum, does the test demonstrate stability? Would the same result have been achieved if the assessment were repeated with different examiners in a different setting?

Validity - is the assessment fit for purpose and appropriate? Does it test what it is supposed to, and does it contain a representative and comprehensive range of components that need to be assessed e.g. behaviours, attitudes and knowledge.

Fidelity - is the test an accurate representation of real life or clinical activity?

Educational impact - what are the effects on teaching and learning?

Feasibility - does the assessment require prohibitive resources in terms of time, cost or staffing to achieve a result? Is it practical to run?

Assessment design should pay attention to all the above elements, although there may be a trade-off between elements. Traditional approaches to assessment could be accused of attempting to maximize reliability and feasibility to the detriment of fidelity and educational impact. WPBAs can offer high educational impact but might not be performed as reliably as other medical assessments.

Workplace based assessments (WPBA)

The first commonly used WPBA was the Initial Assessment of Competency (IAC), implemented by the RCoA. It is a formal, summative assessment using criterion referencing (as opposed to norm-referencing). The IAC must be passed prior to undertaking anaesthesia without direct supervision.

Following the introduction of the Foundation Year training system, and a study of assessment techniques, in 2010 the Royal College of Anaesthetists introduced more formative tools and documentation for use in clinical practice. These tools used as of 2013 are:

- Multi-Source Feedback (MSF)
- Anaesthetic Clinical Evaluation Exercise (A-CEX)
- Direct Observation of Procedural Skills (DOPS)
- Case Based Discussion (CBD)
- Anaesthetic List (or Clinic/Ward) Management Assessment Tool (ALMAT)
- Acute Care Assessment Tool for ICM (ICM-ACAT)

The WPBAs sample the syllabus for each unit of training and are used as evidence of progression. The assessments should relate specifically to the trainees current unit of training. These assessments are taken into consideration when determining whether a trainee has achieved the minimum clinical learning outcomes defined for that unit of training and if the Clinical Supervisors end of unit Assessment Form (CSAF) can be issued. Both the MSF and CSAF are particularly useful for gathering information about the trainee's professionalism, communication skills and team working.

The A-CEX, DOPS, and ALMAT focus on observed behaviour in the clinical setting and they offer a structure for the supervisor or teacher to document and monitor performance and provide feedback to the learner. No single instrument can or should be used to access competency, instead various instruments should be used to build up a picture of someone's medical competence. It is also important to remember that the expectation is not for every WPBA to be 'passed'. Learning is a journey and these assessments should reflect this.

Standards

A well-recognised assessment tool, often seen as the bridge between formal examinations and workplace based assessments, is the Objective Structured Clinical Examination (OSCE).

It was designed as a summative tool for assessment of clinical skills away from the workplace. The OSCE highlights some of the innate difficulties surrounding standardising assessments.

In an OSCE, performance is measured against a 'standard of adequacy' using a checklist or rating scale. When designing an OSCE, a subjective decision must be made about what is 'good enough'. This identifies the *standard of adequacy* and subsequently helps to generate criteria against which actions may be measured. An arbitrary point is placed between *acceptable* and *unacceptable* practice, despite the knowledge and understanding that proficiency in a skill is actually a continuum.

This subjective boundary between acceptable and unacceptable practice is prone to interpretation discrepancies and it is not difficult to imagine that bias could be introduced into an assessment system.

It is well recognised that *experts* can recognise expertise in others, and can also decide where this point lies (Christie 1982). It would therefore seem appropriate for clinicians to be involved in setting the standards of adequacy and also play a key role in the assessment of candidates. However, one of the criticisms of WPBAs is that they are subjective and that the criteria against which a trainee is being assessed changes with each assessor. If a system is to be defensible and controllable, assessment criteria should be made as clear and unambiguous as possible and observations should be frequent and use multiple observers.

Criticisms of Competency Based Assessment

Assessment of competence has become a global phenomenon in medical education, where a syllabus has been distilled into competencies - a series of discrete activities that people need to posses. These skills, knowledge, attitudes and behaviours have been deemed necessary to achieve in order to engage effectively in a vocation, for example, in anaesthesia.

The implication is that behaviour can be objectively and mechanistically measured to determine progress through and exit from a programme of training. In order to measure these identified traits, each has to be broken down into smaller and smaller units. The result is often a long list of *context specific* skills that focus on the parts rather than the whole. There is concern that this style of training and assessment emphasises the possession of specific attributes rather than a principled, holistic approach to a clinical situation. The argument being, that with the act of *deconstruction* sometimes comes *destruction*.

Feedback

The ability to deliver high quality feedback is one of the most important skill-sets that a trainer must acquire. Without effective feedback, a learner may not appreciate when they are performing both correctly and incorrectly. Parsloe (1995) suggests the importance of

feedback, as part of effective communication, without which the learner may repeat activities without any improvement in performance:

> *'Communication is a two-way process that leads to appropriate action… in the context of developing competence, it is not an exaggeration to describe feedback as 'the fuel that drives improved performance'.'*
>
> (Parsloe 1995)

Feedback is a crucial part of experiential learning (Kolb 1984) and practice does not necessarily make perfect without feedback from a more experienced colleague, see Figure 1. The role of feedback is essential in the development of real understanding (abstract conceptualisation) prior to planning the next event.

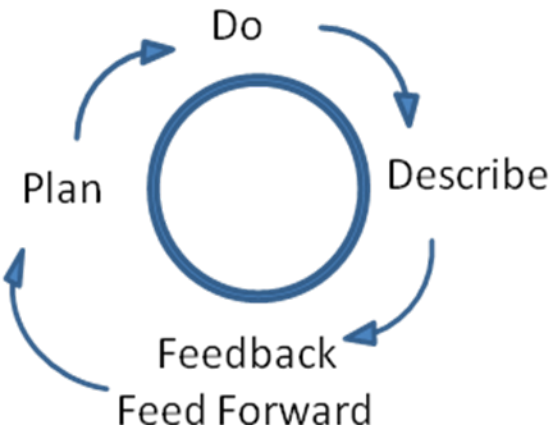

Figure 1: Illustration, utilising Kolb's learning cycle, of where feedback (and feed-forward) plays a role in experiential learning.

There are a number of factors that facilitate successful feedback. It is better:

- Invited than imposed
- Prompt than delayed
- Relevant than generic
- Private than public
- Descriptive than subjective
- More positive than negative
- Targeted than general
- Limited than wide-ranging
- Focused on behaviours rather than characters

Task

Consider the last time you received feedback.

- How did it differ from the above list?
- How would you have liked the feedback delivered?

Types of feedback

Successful delivery of feedback is as much about using active listening skills and non-verbal communication as offering an opinion. Learning points become much more powerful if they are initially recognised and disclosed by the learner themselves.

Useful verbal cues to employ in feedback discussion include: clarifying, repetition and summarising. These can help to open up discussion and encourage valuable dialogue. All feedback should; focus on what actually happened (rather than on opinion and conjecture), be honest and specific and must concentrate on the things that can be changed, whilst also bearing in mind the emotional components of a given situation.

The generic statement; **'well done'** is as equally unhelpful as the phrase **'that wasn't very good'**. These sorts of phrases do not inform the learner which areas were and were not of the appropriate standard, nor do they provide any guidance as to what could be improved or which elements of the performance should be repeated to perpetuate good practice.

SUPPORT ⟷ **CHALLENGE**

The aim of feedback should be for individual development through a supportive yet challenging 2-way conversation.

Task

Consider feedback structures you have witnessed.

- How was the conversation conducted?
- What were the benefits and downsides of the structure used?

Models of giving feedback

Pendleton (2003) described one framework for giving feedback which became popular through its use in Life Support courses. **'Pendleton's rules'** (although never intended as such) are structured in such a way that positives are highlighted first, in order to create a safe environment. The facilitator then reinforces these positives. The learner then suggests what could be done differently, again followed by the person giving feedback. An advantage of this method is that the learner's strengths are discussed first, preventing defensiveness, and then weaknesses are dissected to offer opportunities for reflection.

However, this recipe has since been replaced by **Agenda-Led, Outcome-Based Analysis** (Silverman 1996) because it was felt that Pendleton's rules were too rigid and formulaic and less suited to healthcare professionals. In agenda-led, outcome-based analysis the principle is to identify what the learner wants help with. The initial question is particularly important in establishing the agenda. It must be open and un-weighted, for example: *'What would you like to talk about?'*.

The discussion is then directed towards achieving the learner's goals by encouraging self-assessment and discussing new theories and concepts at opportune moments. Early acknowledgement of difficulties, removes defensiveness and anxiety about negative feedback, and allows discussion to focus on the outcome that the learner is trying to achieve. This ensures that the learner is actively involved and not merely a passive recipient of advice.

Debriefing

Feedback is a way of discussing the outcome of the actions and behaviours witnessed. However, *debriefing* is the process of reviewing judgements and decisions, paying particular attention to the relative merits of different decisions. It does not involve assessment of the event, but rather helps to make sense of the event. Some suggest the difference between this and feedback is the absence of formative (or summative) assessment in debriefing.

Glossary of terms

- **Assessment**: a systematic procedure for measuring a trainee's progress or level of achievement, against defined criteria, to make a judgment about that trainee.
- **Competence**: to demonstrate abilities to the prescribed standard in a particular aspect of practice.
- **Competencies**: a group of descriptors of acceptable evidence relating to a particular area of practice.
- **Competency**: a single descriptor of observable evidence.
- **Competent**: to have demonstrated a standard of practice that is equal to the measure set for that stage of training.
- **Criterion referencing:** an assessment of performance that is interpretable in terms of a clearly defined domain of learning.
- **Norm referencing:** an assessment of performance that is interpretable in terms of an individual's relative standing within a peer group.
- **Performance:** whether you actually do something as part of your everyday practice.

Key thoughts

Assessment and feedback go hand in hand within the modern postgraduate training and education system. Change is a desirable outcome of any assessment system and is only possible through high quality feedback that promotes learning.

Evidence of progression

Basic level

- Look at what the RCoA 2010 Curriculum says about assessment and feedback, with particular reference to WPBAs. How should these assessment tools be used in the clinical environment?

Intermediate level

- Use each of the forms (CPD, A-CEX, DOPS, ALMAT) as they were intended. Reflect on each tool's benefits and limitations.

Higher level

- Offer a feedback session to a colleague. Then have *them* critique your feedback technique.

Further reading

Parsloe, E. (1995). Coaching, Mentoring and Assessing: A Practical Guide in Developing Competence. London, Nichols Publishing.

Khan, K. and Ramachandran, S. (2012). Conceptual framework for performance assessment: competency, competence and performance in the context of assessments in healthcare - deciphering the terminology. Medical Teacher. 34(11):920-8.

References

Brightwell, A., Grant, J. (2012). "Competency-based training: who benefits?" Postgraduate Medical Journal.

Christie, T., Forrest, G., M. (1982). Defining Examination Standards. Schools Council Research Studies. London.

CIPD. (2012). "Competence and Competency framework." 2013.

Donaldson, L. (2002). Unfinished Business: Proposals for the reform of the senior house officer grade. London, Department of Health.

Frank, J. R., Mungroo, R., Ahmad, Y., Wang, M., De Rossi, S., Horsley, T. (2010). "Toward a definition of competency-based education in medicine: a systematic review of published definitions." Medical teacher **32**(8): 631-637.

GMC (2010). Good Medical Practice, General Medical Council.

Kolb, D. A. (1984). Experiential learning: Experience as the source of learning and development, Prentice-Hall Englewood Cliffs, NJ.

Miller, G. (1990). "The assessment of clinical skills/competence/performance." Academic Medicine **65**((Supplement)): S63-67.

Parsloe, E. (1995). Coaching, Mentoring and Assessing: A Practical Guide in Developing Competence. London, Nichols Publishing.

Pendleton, D., Schofield, T.,Tate, P., Havelock, P. (2003). Learning and teaching about the consultation. In: The New Consultation: Developing Doctor–Patient Communication. Oxford, Oxford University Press.

RCoA. (2010). "Curriculum: http://www.rcoa.ac.uk/document-store/curriculum-cct-anaesthetics-2010."

Rethans, J., Norcini, J., Baron-Maldonado, M., Blackmore, D., Jolly, B., La Duca, T. (2002). "The relationship between competence and performance: implications for assessing practice performance." Medical Education **36**: 901–909.

Silverman, J. D., Kurtz, S. M., Draper, J. (1996). "The Calgary- Cambridge approach to communication skills teaching 1 Educuation in General Practice **4**: 288–299.

Van der Vleuten, C. (1996). "The assessment of professional competence: developments, research and practical implications." Advances in Health Science Education **1**: 41–67.

RCoA 2010 Syllabus Key

TM_BK_04 Knows the process and purpose of workplace-based assessment

TM_BS_04 Demonstrates self-critical review of their own clinical practice in the context of workplace-based assessments such as Multi-Source Feedback

TM_IK_06 Knows how to give and receive effective feedback

TM_IK_07 Knows how to perform WPBA for foundation and less experienced anaesthetic trainees

TM_IS_05 Appropriately performs workplace-based assessments for foundation trainees

TM_IS_07 Gives and receives effective feedback

TM_HK_06 Describes the assessment strategy employed by the RCoA in the context of their own learning and the learning of others

TM_HK_08 Understands the importance of assessing and evaluating learning and is able to distinguish between formative and summative assessment

TM_HK_09 Understands the role of, and the appropriate conduct of, the workplace-based assessments

TM_HK_10 Understands the importance of providing timely, specific, non-judgemental and developmental feedback

TM_HS_13 Accurately and reliably uses the workplace-based assessment tools

TM_HS_14 Shows willingness to participate in workplace-based assessments and demonstrates a clear understanding of their purpose

TM_HS_15 Gives appropriate feedback for the purpose of training clinical professionals

TM_HS_16 Receives feedback appropriately for the purpose of self-improvement

TM_HS_17 Assesses the quality of teaching both classroom and workplace-based and records this in their reflective portfolio

TM_HS_19 Maintains honesty and objectivity during appraisal and assessment