

A FACULTY GUIDE

A Guide for Teaching in Clinical Settings

PART I Effective Feedback



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WHAT IS FEEDBACK?

A useful working definition of feedback is 'Information describing performance in a given activity that is intended to guide future performance in that same or related activity' (Boud & Molloy, 2013).



TYPES OF FEEDBACK

- **Formative Feedback** is provided during or shortly after a specific experience, with the content focusing constructively on specific behaviours, actions, or skills. It allows the learner to improve their performance during their learning processes (Black & Wiliam, 2009).
- **Summative feedback** typically occurs at the end of a course of study and provides final assessment or evaluative judgment on the learner's performance (Boud & Molloy, 2013).
- **Informal feedback** is provided on a day-to-day basis and is focused on any aspect of a learner's performance and behaviour, given by any member of the clinical setting's team. It is usually provided in verbal form.
- **Formal feedback** is a part of a structured assessment. It can be offered by any member of the clinical setting team, but most frequently by peers or supervisors. It is usually provided in written form (Zhu & Carless, 2018).

Wisniewski et al., 2020 further identified other types of feedback:

- **Reinforcement feedback** feedback which applies pleasant consequences to increase or decrease the frequency of a desired behavior. It provides a minimum amount of information on task level and no information on the levels of process or self-regulation.
- **Corrective forms of feedback** typically contain information about the task level in the form of "right or wrong" and the provision of the correct answer to the task. Feedback refers to how successfully a skill was performed (knowledge on result), as well as how a skill is performed (knowledge of performance).
- **High-information feedback** is comprised of information as described for corrective feedback and additionally contains information on self-regulation from monitoring attention, emotions, or motivation during the learning process.

FEEDBACK IN CLINICAL SETTINGS

Feedback in the clinical setting is defined as observation of a learner performing a specific task or set of tasks, analysis of the performance, and reflection of the observations to the learner. The goal of this process is improved clinical performance (Burgess & Mellis, 2015; Kritek, 2015). It is also defined as: "a process whereby learners obtain information about their work in order to appreciate the similarities and differences between the appropriate standards for any given work, and the qualities of work itself, in order to generate improved work" (Van De Ridder, Stokking, McGaghie, & Ten Cate, 2008).

In health professions education, learners find formative feedback more immediately relevant given its proximity to and focus on specific, recently performed clinical tasks and behaviours (Boud & Molloy, 2013).

IMPORTANCE OF FEEDBACK

Feedback has long been recognized as the “cornerstone of effective clinical teaching.”

Detailed and timely feedback on performance is central to competency-based and outcome-based education (Boud and Molloy, 2013).

Feedback provides learners with insights into their actions, and into the effects of their actions on patient care; inspires goal setting and helps learners to continuously improve their clinical and non-clinical performance (Qureshi, 2017).

It is only by pairing practice and effective feedback that novices can eventually become competent (Kritek, 2015).

PRINCIPLES OF EFFECTIVE FEEDBACK

Sources of Feedback

Feedback to the learners could come from various sources: teachers/trainers, patients, standardised patients, peers, and from inter-professional team members. Whether a teacher is providing formal or informal feedback, following the basic principles will make it more effective.

Effective feedback answers three questions:

1. Where am I going? (Feed up)
2. How am I going? (Feedback)
3. Where to next? (Feed forward) (Hattie & Timperley, 2007; Wisniewski, Zierer, & Hattie 2020).

The Role of Self-assessment in Effective Feedback

As described in Kornegay et al. 2017, the lens through which learners view feedback is of paramount importance. Learners generate most of their learning goals from their own self-assessments and, therefore, should be prompted to self-assess as part of the feedback interaction. Faculty might apply this to their feedback practice by eliciting learner self-assessment to increase buy-in and learner-initiated goal derivation and then build on this with faculty observation and refinement. Feedback-seeking behavior is highlighted as an important learner characteristic, as it sets the stage for a successful exchange of information during the feedback encounter.

It can be stimulated based on the following factors: culture and climate, relationship between learner and supervisor, and extent of contact with feedback deliverer. Additionally, the learners' emotional reaction to the feedback, including fear of receiving “bad” feedback or appearing incompetent, plays a significant role in their likelihood of seeking feedback (Kornegay et al., 2017).

Principles of Effective Feedback

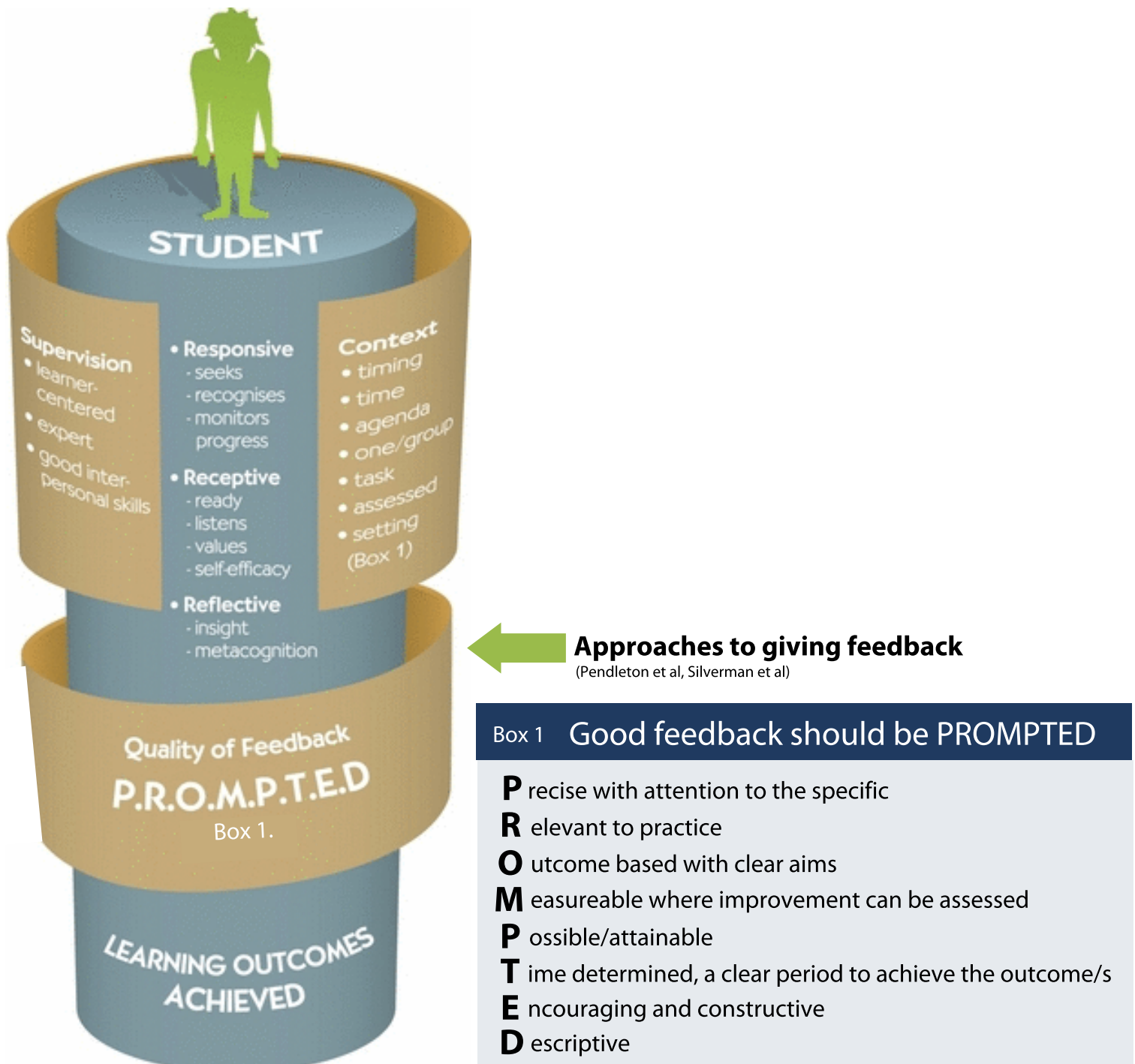
The main challenge in providing feedback is to engage with learners in ways that result in evident changes, considering the nature of the conditions necessary to ensure that feedback discussions are likely to be acted upon. Feedback involves much more than providing potentially useful information to learners about their work (Boud, 2015).

The basic principles of providing effective feedback include its delivery in an appropriate setting, its clarity, specificity, and being based on direct observations. Feedback should focus on the learner's performance, rather than on them as an individual, and should be delivered using neutral, non-judgemental language (Principles of giving effective feedback — E-Learning Modules, 2012; Feeney, 2007; Kornegay et al., 2017).

Effective feedback is descriptive, rather than evaluative. It should acknowledge and boost exemplary behaviour, to increase learners' confidence in their skills, then highlight areas in need of improvement and suggest measures for improvement (Hardavella et al., 2017).

When providing feedback, A PROMPTED strategy may be considered.

Figure 1 (Rudland et al., 2013, pp. 100 – 101)



FEEDBACK IN THE LEARNING CYCLE

Feedback enhances learning only when the learner acts to bring about a desired change, thus completing the feedback loop. This happens when the information provided to students has been taken up and has led to appropriate modifications in practice (Hattie & Timperley, 2007).

In order to identify an activity as feedback educators need to detect that information provided to learners was first apprehended and subsequently resulted in a change impacting their learning.

For this to be detectable, educators must have knowledge of the subsequent performance of the learner so that a modification can be noticed. Feedback is therefore not an act that occurs at a single point in time, at the point of transmission of information from teacher to learner, but is completed over time, when knowledge of subsequent work is communicated by learners (Boud, 2015).

Figure 2. (Boud, 2015, p.4)

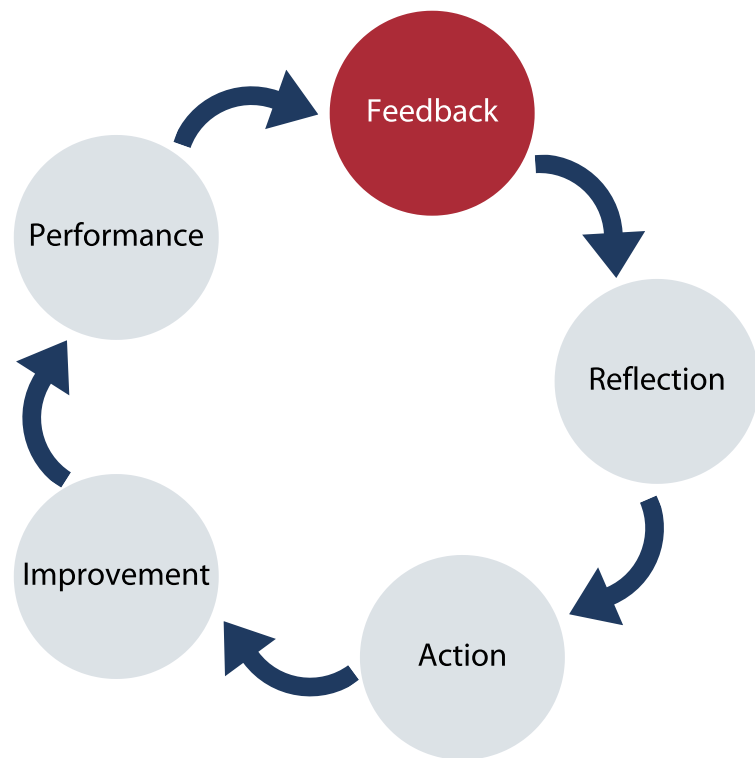
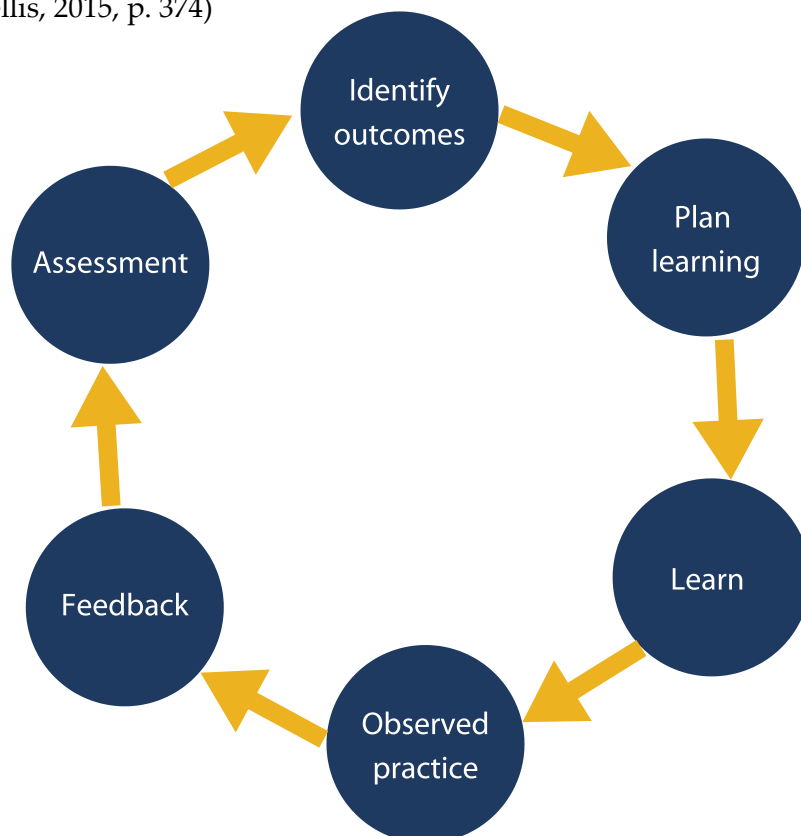
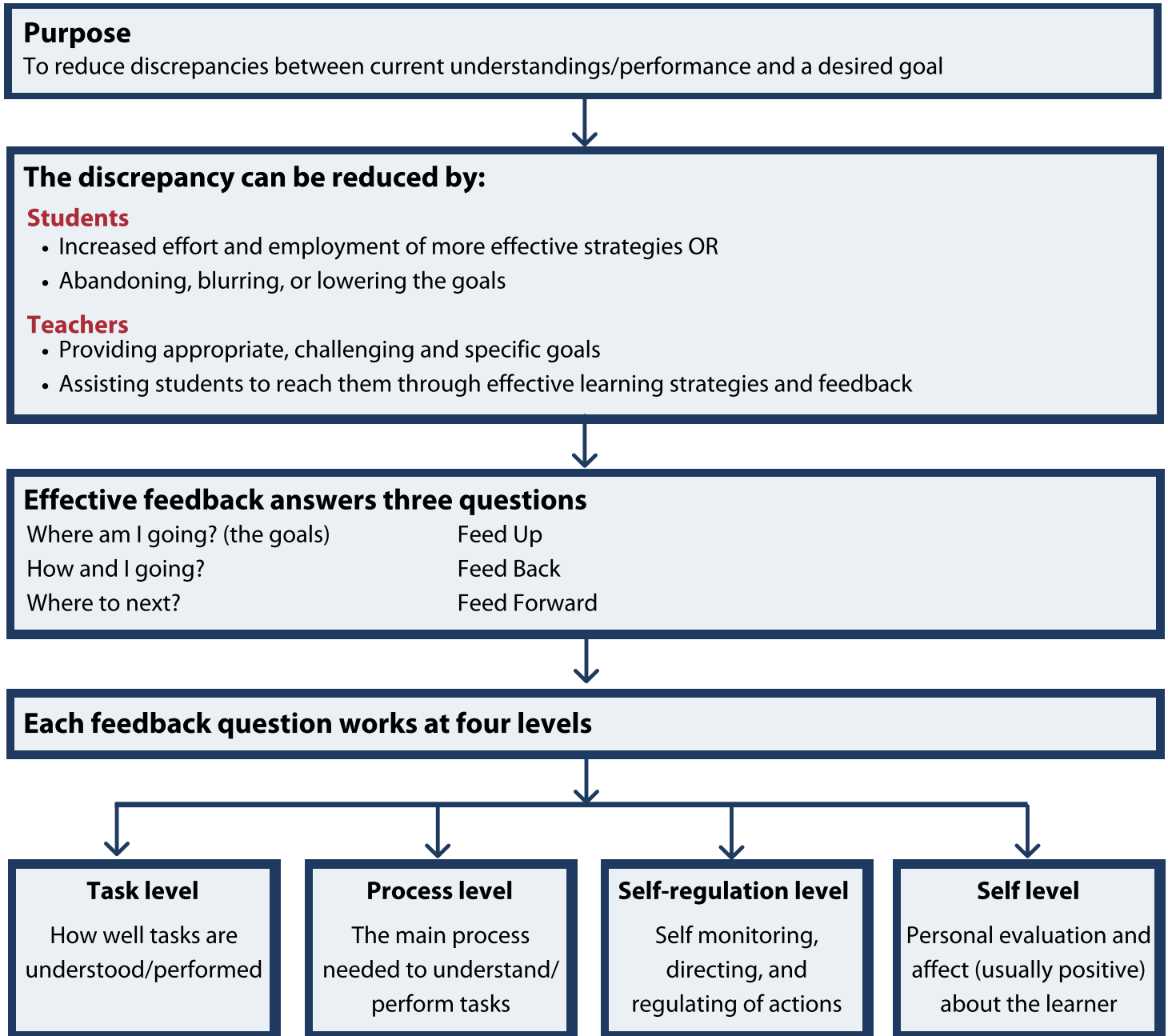


Figure 3. (Burgess & Mellis, 2015, p. 374)



LEVELS OF EFFECTIVE FEEDBACK

Figure 4 Levels of Effective Feedback (Hattie & Timperley, 2007, p. 87)



MODELS OF EFFECTIVE FEEDBACK

Different Models for Providing Structured Feedback

A Replaying the Event

The teacher guides the learner chronologically through an event and provides feedback at each step, as required. This could be an effective strategy in one-to-one and short feedback sessions and can be less effective for long sessions (Qureshi, 2017).

B Pendleton's Rule

Pendleton presented this model in 1984 to provide feedback in advanced life-support training. The original technique did not present a set of rules, but with the wide-spread and acceptance of his work, the word 'rules' appeared with this type of feedback. Despite being used commonly, it is most suitable for providing feedback for practical skills. The model follows this structure:

1. The learner **describes** what went well.
2. The trainer **states** what the learner did well.
3. The learner **identifies** what could be improved.
4. The trainer **recognizes** areas for improvement and how to achieve this.

The strength of Pendleton's rule is that it helps to develop self-reflection and insight; however, a major criticism is that it could be too orderly and inflexible. Realistically speaking, providing feedback by Pendleton's rule could be time consuming and may impose a learner with much information in a single setting such as strengths, reflections, and a clear skill development plan (Klaber, 2012).

C Feedback Sandwich

In this model, positive feedback is placed on both sides of an area that requires improvement. The biggest inconvenience of this model is its predictability, as a learner may not listen to the positives and may instead wait for the imminent negative feedback. The main goal of feedback sandwich technique is to focus on how to soften the blow of receiving criticism, or on how to overcome reticence for delivering negative feedback (Parkes, Abercrombie, & McCarty, 2012).

D Agenda-led, Outcome-based Analysis

The principle of this model is to identify the learning goals and how they can be supported through feedback. Trainers focus on the learning outcomes the learner has chosen and avoid becoming distracted by other learning points. This model allows opportunities for bidirectional feedback (Kritek, 2015). During the first meeting with a learner, outline how and when you will be providing feedback. Identify that "in the moment" feedback will be provided so the learner is not surprised the first time this happens. Describe and justify if and when summative evaluation will be provided. If the goal is to also have bidirectional feedback, establish this at the same time. Creating this roadmap for feedback will help engage the learner in the process. Feedback is best given to and received from the learner. Prepare the learner early for a request for feedback and provide prior notice before encounters to allow them time to reflect and provide more constructive input. Directly ask how the experience could be improved. If open-ended questions don't result in constructive feedback, ask more focused questions of the learner based on self-identified areas for improvement.

Bidirectional Model Feedback: This model includes the following four steps:

1. Establish goals and expectations.
2. Intentional observation of the learner
3. Plan and prioritize the feedback
4. Discuss the feedback with the learner

E Learner-Centred Model

In this model, the learner is responsible for the whole process of feedback including seeking, preparing, and benefiting from the possible feedback (Klaber, 2012).

Ideally, a feedback recipient should demonstrate the three Rs: Receptive, Reflective, and Responsive, indicating self-efficacy. In another innovative model, instead of focusing mainly on corrective actions, it is often more useful to understand the thought process which drives learners' actions and frame the feedback into this learner's pre-existing frame (Rudolph, Raemer, & Shapiro, 2013).

FEEDBACK AND STAGES OF LEARNER'S DEVELOPMENT

Feedback on performance can help a learner to advance from a beginner to a competent learner in four stages, as shown in Table 1. Feedback given soon after an activity is most effective as the events are fresh in the minds of those involved.

Table 1 Role of Feedback in Learner's Development (Boud, 2015)

	Learner	Role of Feedback
1 Unconscious incompetence	Unaware of weaknesses	Helps learner recognise weaknesses
2 Conscious incompetence	Aware of weaknesses but lacks skills to improve	Helps learner define and refine skills
3 Conscious competence	Demonstrates competence but not fully integrated	Helps learner refine skills and encourages through positive feedback
4 Unconscious competence	Carries out tasks without conscious thoughts	Builds on strengths, identifies weaknesses

ROLE OF EFFECTIVE FEEDBACK IN LEARNERS' PERFORMANCE DEVELOPMENT

Clear, detailed, and timely feedback on performance is fundamental to competency-based education. Learning new concepts adds to existing life experiences and cognitive frameworks in adult learners. Effective feedback can narrow the gaps between actual and desired performance. It may seem that feedback has greater effect when a learner has significant deficits in knowledge or skills, but feedback is desired by and has the potential to be beneficial for learners at all performance levels (Boud and Molloy 2013).

Providing formative, behaviour focused, real time feedback can provide means of achieving consistent, meaningful, and effective feedback (Boud and Molloy 2013).

Table 2 summarises a stepwise approach to preparing for and providing feedback. (Boud and Molly, 2013, p. 3)

Table 2 Steps of Delivering Feedback

Educator actions in giving feedback	Rationale
Set the stage: inform the learner that feedback is planned and identify an appropriate setting	Encourages learner preparation and participation
Organise your own specific observations and commentary	Increases the effectiveness of the feedback
1 Clearly state, "this is feedback"	Makes the learner aware that a feedback session is starting
2 Ask the learner for 2-3 specific aspects of a skill or behaviour that they think they did well	Builds self reflection skills and confidence
3 Reinforce the positives and challenge inaccuracies of self assessment with specific examples	Encourages deeper self assessment and continues the two way conversation
4 Ask the learner to assess their own performance, identifying what went well and what they think needs improvement	Builds self directed learning skills
5 Offer specific, responsive feedback to the learner's behaviour and performance (using examples)	Offers objective (and not subjective) review of performance
6 Agree on areas for focus, ongoing reflection, and development in future clinical encounters	Considers goal setting
7 Agree on an action plan, with specific commitments and actions for both the trainer and learner	Considers goal setting
8 Agree on a timeline for implementing reflection and behavioural changes, and for a plan for review. Invite the learner to generate a plan for improvement, as opposed to providing a "to do" list	Considers goal setting
9 Ask the learner to summarise the "take home" points from the feedback	Reiterates and reinforces what has been covered

CREATING LEARNERS' FEEDBACK MINDSET

1st Students' development of a feedback mindset

Over time, students view feedback as an invaluable component of their training.

2nd Setting the stage for feedback

Establishing feedback routines and a low-stakes environment for developing clinical skills were important facilitators of effective feedback discussions.

3rd Interpreting and acting upon feedback

Students described identifying, receiving, and implementing tailored and individualized feedback in an iterative fashion. As students gained comfort and trust in their coaches' feedback, they reported increased engagement in feedback conversations for learning.

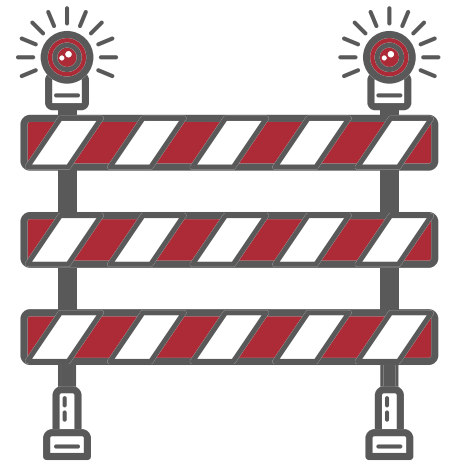
Frequent feedback opportunities and iterative feedback discussions help learners understand the importance of feedback for growth and learning. Longitudinal coaching relationships also positively influence how learners understand and engage in feedback discussions (Bakke, Sheu, & Hauer, 2019).

BARRIERS AND MISTAKES IN PROVIDING FEEDBACK

Feedback, positive and negative, can be a very effective educational tool. However, lack of effective feedback can be damaging. Many barriers limit the achievement of effective feedback experiences:

As described by Bakke, Sheu, & Hauer, (2019)

- Supervising clinicians rotate regularly, limiting opportunities for longitudinal feedback dialogues required to realize the feedback loop.
- Whereas feedback should be timely, specific, and actionable, educators may deliver insufficient, unconnected, or poor-quality feedback.
- Contrarywise, learners may not understand, adopt, or work upon feedback.
- Although learners tend to express desire for feedback, they show variation in how they receive, accept, apply, and value feedback.
- Learners tend to apply feedback when they perceive it to have received it from a 'credible' source (Hattie, 2007).
- Constructive feedback sometimes provokes negative emotions, especially if it opposes learners' own views of their performance.
- Learners can find it challenging to monitor and implement feedback, especially if the feedback provider and culture of the learning environment do not support ongoing engagement with the feedback process (Bakke, Sheu, & Hauer, 2019).



Common Mistakes When Giving Feedback

- Providing feedback when a learner is not receptive.
- Discussing previous mistakes (unless it is to address repeated behavior).
- Focusing on the personal level, such as personality.
- Providing negative feedback in front of a group instead of individually.
- Overloading the learner with many feedback points.
- Providing feedback when emotional: It is advisable not to provide feedback while being emotional or angry (American Society of Regional Anesthesia and Pain Medicine, n.d.).

Table 3 Weak versus strong modalities of feedback, based on its definition

Weak Feedback	Strong Feedback
• Competencies that are not observable	• Well observable tasks and competencies
• Uninformed or non-expert observer	• Expert observer and feedback provider
• Global information	• Highly specific information
• Implicit standard	• Explicit standard
• Second hand information	• Personal observation
• No aim of performance improvement	• Explicit aim of performance improvement
• No intention to re-observe	• Plan to re-observe

FRAME-BASED FEEDBACK: A FEEDBACK ALGORITHM

Rudolph, Raemer, & Shapiro (2013) explained that in clinical settings, effective teaching involves shifting our emphasis from changing only the external actions of our learners to also understanding and influencing their internal thought processes. A cognitive ‘frame’ is a mental model of external reality. Clinicians actively filter and make sense of clinical situations through these frames. Even mistakes make perfect sense once one understands how the person was framing the situation at that moment. Clinical teachers systematically misjudge the underlying reasons, or frames, for other people’s actions. Being open enough to elicit someone else’s frames requires a parallel process of testing our own assumptions (Rudolph, Raemer, & Shapiro, 2013).

In clinical settings, following the three-step algorithm to avoid ineffective feedback is likely to be most effective when instructors work with certain assumptions during the feedback conversation: we should assess our own conclusions about learner performance with healthy skepticism and assume that the learner is well intentioned and intelligent. With these assumptions in place, instructors can now engage (Rudolph, Raemer, & Shapiro, 2013).

STEP 1 Describe the problem from the instructor’s perspective

The ‘non-judgmental’ approach helps to avoid confrontation and defensiveness by using leading questions or gentle cross-examination. A common questioning sequence in this approach is as follows:

- ‘How do you think the case went?’
- ‘What concerns do you have about the pace?’
- ‘How can you show more confidence?’

STEP 2 Diagnose the frames

Ask questions to discover what ‘cognitive frames’ guided the learner’s action.

Accurate instructional diagnosis requires becoming a ‘cognitive detective’. For the clinician to ‘test’ their assumptions would require that they regard their own preliminary hypothesis about the cause of the learner’s problem with skepticism, and that they are curious enough to elicit the learner’s ‘frame’ or point of view about their apparent hesitance during the case.

STEP 3 Teach to learner’s frames

Tailor instruction and discussion to the learner’s frames.

Feedback efficiency and efficacy can be greatly enhanced by eliciting the cognitive frames that drove the learner’s actions and using these frames to target instruction (Rudolph, Raemer, & Shapiro, 2013)

FEEDBACK: A TWO-WAY DIALOGUE

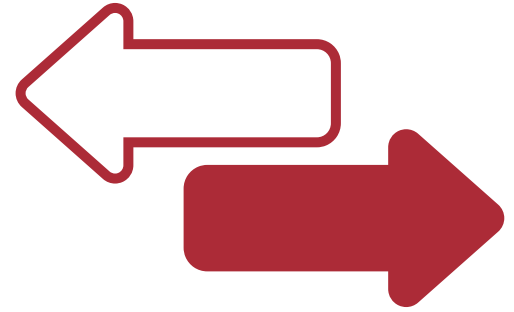
Feedback involves dialogic processes whereby learners make sense of information from various sources and use it to enhance their work or learning (Zhu and Carless, 2018).

The feedback communication should neither be a monologue nor unidirectional; rather, it should be an interactive, two-way dialogue (Zhu and Carless, 2018). The one-way provision of simple information as feedback (e.g., numerical data) is not likely to be helpful.

FROM FEEDBACK TO FEEDFORWARD

Providing feedback is not only to bring the recipient's attention to 'mind the gap' in their performance but also aims to assist them to 'bridge this gap'. A learner's awareness of the gap is a strong stimulus for improving learning (Kraut, Yarris, & Sargeant, 2015).

Feedback usually focuses on the learner's current performance, while 'feed forward' looks onward to provide positive guidance for improvement. Combining both feedback and feedforward ensures that assessment affects learning development positively.



Learning opportunities must provide learners with both feed back and feed forward, which are often referred to as feedback. The term 'feed forward' is used to clearly indicate to learners that the information received aims to inform subsequent achievement as well. Feedback providers should ensure that opportunities are made available to repair any shortages in learning and performance. Assessment and feedback/forward should be viewed as part of a longitudinal dialogue between trainers and learners (Transforming assessment and feedback with technology, 2015).

CONCLUSION

Feedback is an essential component of education and – if carried out effectively –it stimulates learners to develop their knowledge, competencies, and performance.

The main challenge for providing feedback is engaging with learners in ways that result in marked improvements. It is the provider's role to confirm that all facets of feedback are optimised to guarantee their highest effectiveness.

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