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THE ROLE OF CONSTRUCTIVE FEEDBACK IN MEDICAL EDUCATION

Education

Ghulam Mohammad Bhat*	Professor Department Of Anatomy, Government Medical College Srinagar, J&K *Corresponding Author
Ishfaq Hussain Bhat	Assistant Professor Chitkara Business School, Chitkara University, Punjab, India
Samreen Siraj Bala	Demonstrator Department Of Anatomy, Government Medical College Srinagar, J&K

ABSTRACT

One of the main aim of giving feedback is to provide specific information to help close the gap between what is understood and what is aimed to be understood, thus helping the learner in achieving a desired outcome. Feedback is an important constituent of formative assessment. Given the complexity of medical education, providing feedback to learners can sometimes be challenging to even the most experienced teachers. Frequently, there is a mismatch between educator's and learner's perceptions of the adequacy and effectiveness of feedback. In this article, we are discussing the need for better and complete understanding of the processes of giving, receiving, interpreting, and using feedback as a basis for student's future performance toward a desired goal.

KEYWORDS

Feedback Sandwich, Pendleton's Model; Aloba, Adapt

INTRODUCTION

Feedback is defined as specific information about the difference between a trainee's observed performance and a given standard, with the intent to improve the trainee's performance. In other words, feedback is a process which comprises communication of information followed by reactions to such communication. Feedback is an assessment for learning rather than an assessment of learning.[1] Feedback in medical education is an integral constituent of teaching as it encourages and enhances the learner's skills, knowledge and professional performance.[2] Feedback helps to guide the student's future performance toward a desired goal. It helps in improvement of the performance of the learners with the basic aim of helping them achieve their goals in addition to educational objectives.[3-5] One of the main aim of giving feedback is to provide specific information to help close the gap between what is understood and what is aimed to be understood (figure 1), thus helping the learner in achieving a desired outcome. In this way the learner becomes aware of the gap between their current level of knowledge or skill and the desired goal.[6]
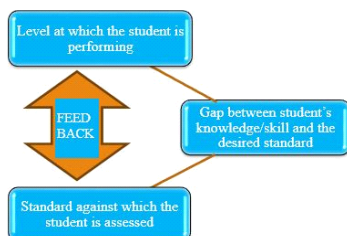

Figure 1: Showing feedback filling gap between student's performance and the desired standard.

Research has clearly shown that feedback is one of the most effective educational tools faculty can utilize to help students learn and improve. It is a key step in the acquisition of knowledge, skills and attitude, yet feedback is often omitted or handled improperly. Feedback is infrequently given because it is perceived as uncomfortable for both the giver and the receiver.[7] Feedback can be considered as constructive in the process of learning if it is delivered immediately and in a sensitive manner.[8,9] It is well documented that in academic settings, students learn more effectively when peer feedback is an inherent constituent of the overall assessment.[2] Feedback is an integral part of Formative assessment. Formative assessment is assessment to increase knowledge and skills of a learner. Feedback given as a part of formative assessment drives learning as it helps learner become aware of the gaps that exits between desired goals and their current knowledge.

TYPES OF FEEDBACK

A. Feedback can be verbal or written; can be given in groups or one-to-one basis.

B. POSITIVE (CONSTRUCTIVE) AND NEGATIVE FEEDBACK:

a. Positive or constructive feedback is defined as the act of giving information to a trainee through the description of their performance in the observed situation.[10]

b. Negative feedback can depress and discourage the learner and it should be avoided.[2,10]

C. FORMATIVE AND SUMMATIVE FEEDBACK

a. Summative Feedback: After the fact and conferring judgment.

b. Formative Feedback: Providing feedback to inform change and improve student learning and performance. This type is considered to be most useful.[11,12]

D. BRIEF, FORMAL AND MAJOR FEEDBACK

a. Brief feedback is usually given on a daily basis and is related to an observed action or behavior.

b. Formal feedback involves setting aside a specific time for feedback, such as after an interaction with a patient in an outpatient clinic.

c. Major feedback occurs during scheduled sessions at strategic points during a clinical rotation, usually at the midpoint, and serves to provide more comprehensive information to the learner so that he or she can improve before the end of the rotation, when the final evaluation is performed.[13]

E. 360-DEGREE FEEDBACK:

This is usually done in a clinical skill based posting. The learner is assessed by the senior faculty, junior faculty, peers, staff nurses, patients, and attendants of the patient. This gives a general idea about the performance of student.

F. UNHELPFUL FEEDBACK:

It has long been recognized that certain approaches to feedback may be counterproductive. When a feedback episode does not elicit a learner's ideas, feelings or goals, it unhelpful. Similarly, feedback conveying personal judgements is poorly received. Lectures or information that is regarded as redundant or gratuitous leads to failure of feedback, as is giving feedback in inappropriate places.[14,15]

DELIVERING FEEDBACK

Constructive feedback emphasizes the strengths of the session and areas which require improvement. Major impact has been observed when a student compares the teacher's/peer feedback with his or her own performance. The discordance between the desired and the actual performance acts as a strong motivating factor. For the effective delivery of feedback following should be considered:

1. *Johari window model*: There are many reasons why it is important to give students feedback on how they are performing.

For understanding the importance of feedback as a model of communication; it is useful to consider the Johari window model:

PUBLIC AREA	BLIND AREA
Known to others	Known to others
Known to self	Not known to self
AVOIDED OR HIDDEN AREA	AREA OF UNKNOWN ACTIVITY
Not known to others	Not known to others
Known to self	Not known to self

Figure 2: Johari window

The four areas of the model represent four different aspects of the individual's self-awareness:
a. the public area which is known to others and to the self,
b. the blind area, known to others but not known to self,
c. the avoided area, not known to others and known to self, and
d. the area of unknown activity, not known to others or to self.

In this model, the window represents information –feelings, experiences, views, attitudes, skills, intentions, motivations etc. within or about a person in relation to four perspectives. This model can be used to aid openness and self-awareness through feedback. Giving feedback to the student helps to reduce the size of their 'blind area' as they receive information about their strengths and weaknesses that they may not have been aware of.   This will increase the size of the student's 'public area' and help them to gain increased self-awareness of their own behaviour and skills.[2,16]

1. REASONS FOR GIVING FEEDBACK
a. Giving feedback to the student about their strengths is likely to increase the student's confidence, motivation and enthusiasm for learning and will help them to continue to learn and to further develop their strengths.
b. Students need to be given feedback about their weaknesses and areas for development. Feedback enables the student to focus on the weak areas and to take actions to progress their skills so that they are performing at the required level.
c. Giving a student regular feedback helps them to develop their skills of self-assessment so that they can recognize their own strengths and weaknesses and areas for development.
d. Some students have difficulty in reaching the required level. Giving regular feedback and developing action plans to develop the student's skills and knowledge ensures the student is appropriately supported and that a fair process of assessment is carried out.

2.PRINCIPLES OF DELIVERING FEEDBACK:
Key Principles For Giving Feedback Include:
a. Timeliness. Faculty members should always try to provide feedback in time and regularly. Feedback should be immediate and as often as practicable.
b. Specificity. It should be specific to learner's performance i.e. it should be related to agree upon goals, in easily understood language.
c. Balance reinforcing (positive) and corrective feedback. An imbalance between too much reinforcing or conversely corrective feedback can undermine the effectiveness. Feedback should reinforce positive outcomes and behaviors.
d. Language should be non- judgmental – referencing to the behavior and not to the person. Feedback has to be focused on modifiable behaviors, not on personality traits.
e. Learner reaction and reflection. Students should be allowed to react and reflect on the feedback, as this helps in development of action plans.
f. Feedback should be descriptive not evaluative.
g. Feedback should be as a dialogue and not as monologue between the mentor and the student, accompanied by explanations.
h. Action plans: Creating and executing an action plan is critical to feedback and professional development.
I. Student has to be at the centre of the feedback process, so that student understands what they need to do to improve their performance. Use such interactive communication skill so that student is not embarrassed but feels like an agent for change and ponders over his short comings.

Figure 3: Showing principles of feedback

Feedback has to be positive, constructive, provide suggestions not prescriptions and encouraging. These principles can be followed by mnemonic: "ABCDEFG IS", which stands for - Amount of information(should be limited); Benefit to the trainees (should serve the needs of the learner rather than needs of the provider); Change behavior (not personality); Descriptive language (neither evaluative nor judgmental); Environment (comfortable and safe); Focused (specific and not general); Group check (individual member receives feedback from group leader and from peers); Interpretation check (by the recipient, with the recipient and with others in the group); and Sharing information (rather than giving advice).[2,17]

4. LITTLE OR NO FEEDBACK[18]
a) Good performance is not reinforced and poor performance remains uncorrected
b) If a trainer makes no comment, trainees may assume that all is well
c) Trainees may have to rely on unreliable hearsay from colleagues and administrators to get the feedback they so desperately need
d) Trainees may have to guess their level of competence, based on how well they are coping i.e. inaccurate perception of performance.
e) Trainees may have to learn by trial and error at patients' expense.

MODELS OF GIVING FEEDBACK
A model of feedback should have following constituents:[19]
1) Where am I going (What are the goals)? - "feed-up"
2) How am I going (What progress is being made toward the goal)? "feedback"
3) Where to next (What activities need to be undertaken to make better progress)? "feed forward"

Following are the widely accepted models of giving feedback
A. **Pendleton's rules** are used as the conventional method of feedback.[20] In order to create a safe environment, Pendleton's rules are structured in such a way that the positives are highlighted first, followed by the facilitator or group reinforcing these positives and discussing skills to achieve them. Then the learner suggests "What could be done differently?" and is further improved by the person or group giving feedback. Avoiding a discussion of weaknesses right at the beginning prevents defensiveness and allows reflective behavior in the learner. There are some deficiencies in the rules:[21]
a. They create artificiality and rigidity by forcing a discussion of the learner's strengths first. Thus, an opportunity for an interactive discussion of topics that might be relevant to the learner is lost.
b. The discussion of strengths may appear patronizing, which makes the feedback more stressful.
c. A judgmental tone may occur when "What was done correctly and what was incorrect?" is discussed, which goes against the non-evaluative and formative nature of feedback.
d. There is also inefficient use of time because the same topic is discussed twice in its entirety
B. **ALOBA:** An alternative approach to Pendleton's model is known as 'Agenda-Led, Outcome-Based Analysis' or ALOBA.[22] In this method, the learner identifies the agenda and what they want help with. In this model, the learner concentrates on the feedback rather than being anxious about the nature of the negative feedback. The facilitator tries to ascertain the outcome that the learner is trying to achieve. The discussion then concentrates on the skills necessary to achieve these outcomes and removes the judgmental and moral slant to the advice given. This is followed by self-assessment and self-problem- solving. Either the group or the facilitator feeds back to the learner, using the SET-GO principle[23] (figure 4), which enables the learner to acknowledge and reflect on the advice given and to identify the skills required to achieve the desired outcome. Continuing to keep the focus on achieving the desired outcome,

the group or facilitator explores alternative skills to try and reach the goal, rather than criticize the learner for their failures. This process has to be descriptive, non-judgmental and pertaining to behaviour that is amenable to change. Finally, facilitator summarizes skills to achieve outcome.SET-GOprinciple[23] is an aide memoire for the sequence of actions when giving descriptive feedback, and is shown in figure 4 below.
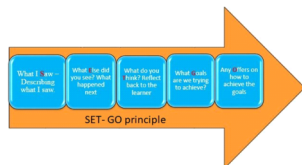

Figure 4: SET - GO principle

C. ADAPT model: Since feedback should be a dialogue and not a monologue, the ATA (Ask Tell Ask) model was revised as Ask-Discuss-Ask-Plan Together (ADAPT) model.[24,25] ADAPT model may help decrease stress and anxiety of the feedback by clarifying the process, applying a structure, and developing coaching relationships. It has the following steps (figure 5):
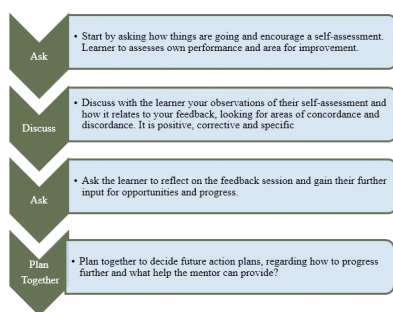

Figure 5: Showing Progression of feedback as per ADAPT model.

OTHER MODELS OF FEEDBACK:
Some other models of giving feedback include: The Chicago model,[26] the SCOPME model,[27] A five step micro skills model of clinical teaching,[28] and the six-step problem-solving model.[23] All these are modifications of Pendleton's rules and the ALOBA technique.[23,29]

DELIVERING STRUCTURED FEEDBACK
Giving constructive feedback has been considered a commitment between teachers and students for overall academic and professional development.[30] Feedback can be offered in different ways to the learners.[31,32]

a. *Feedback sandwich:* A frequently-used method in delivering structured feedback is the 'feedback sandwich' in which the top slice of sandwich is a positive comment (about what the learner has done well); the middle of the sandwich is an area of improvement (what areas learner needs to improve?); and the bottom slice of bread is another positive comment, to end the session on an upbeat note.[33]. So, in feedback sandwich, constructive comment is placed between two positive reinforcing comments, making it a good- bad- good sandwich which maintains the conversion positive (figure 6).
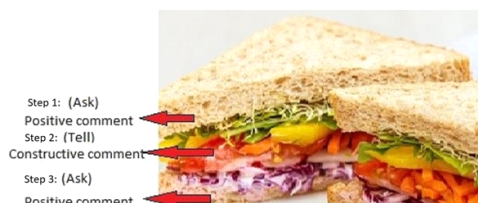

Figure 6: Sandwich model with Ask Tell Ask principle

b. *Combining Feedback Sandwich model with Ask- Tell- Ask Principle:* Combining feedback Sandwich with Ask Tell- Ask model will help to provide specific information to the learner so as to help close the gap between what is understood and what is aimed to be understood. Steps involved are represented in the diagrams 6 and 7:
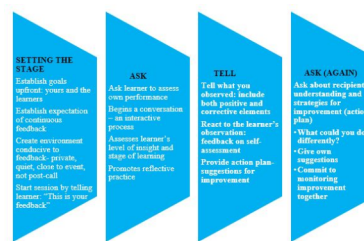

Figure 7: Sandwich model with Ask Tell Ask principle

c. *PEARLS model:* This describes the skills which can be used for developing trust between the educator and the learner. These skills include fostering a partnership for a joint *problem solving, empathic understanding, apologies for barriers to the learner's success, respect for the learner's values and choices, legitimization of feelings and intentions, and support (PEARLS)* for efforts at correction.[33] Medical graduates have to learn key clinical skills like history taking, physical examination, communication and counseling skills through patient care; as also in simulated experiences. As the learner progresses from novice to competent practitioner, experienced faculty staff must observe the performance and take an account of key areas of success or remediation. This direct observation forms the basis of the feedback session. Feedback on behaviors based on direct observation by the teacher has been reported to be more learner-friendly and instructive than feedback based on second-hand reporting.[34] Ultimately, learners themselves should be encouraged to make efforts to elicit feedback either by asking for it verbally or asking their audience to fill out a form.[35]

CONSTRUCTIVE/ EFFECTIVE FEEDBACK
For a best feedback outcome, the provider and receiver of feedback should work together as a team and thus help to achieve a better output for the trainees.[17,31] Eventually, feedback is about good communication. The key skills to good communication are listen and ask, not to tell and provide solutions.[36] Even though preceptors within health professions often lack formal training in teaching skills, research on the benefits of formative feedback has identified several key characteristics associated with effective feedback that can be incorporated into medical teaching with ease. Attending training programmes, 'on how to give feedback?' should be essential for those who teach in medicine because the need is for better and complete understanding of the processes of giving, receiving, interpreting and using feedback as a basis for real progress toward meaningful evaluation. In view of introduction of CBME, we have to create newer opportunities to observe trainees and thus provide quality and timely feedback to facilitate learning. Feedback has to be part and parcel of formative assessment. For effective feedback following features are to be taken into account:

A. Components of effective feedback Effective feedback has three components feed up, feedback, and feedforward.[3] Effective feedback must answer three major questions, so as to reduce discrepancies between current understanding/performance and a goal:[19]
a. Where am I going (What are the goals)? "feed-up"
b. How am I going (What progress is being made toward the goal)? "feedback"
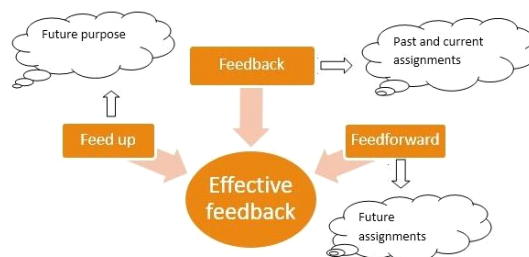c. Where to next (What activities need to be undertaken to make better progress)? feed forward.

Figure 8: Components of effective feedback

Feedback is a process in which effect or output of an action is returned (fed-back) to modify the next action or it is information describing students' performance in a given activity. It encourages learners to think about their performance and how they are going to improve. It is a powerful communication tool used to change undesirable and reinforce desirable behaviors. On the teacher's part, it also conveys an attitude of concern for the progress and development of the student.[31] Effective feedback occurs when the trainees are offered insight into their actions and the consequences there of. Such insight is valuable because it highlights the difference between the intended and actual result, and provides impetus for change.[17] Feedback that is specific to learner's performance is highly valued by learners, whereas nonspecific feedback results in disinterest. Receiving feedback is also essential for the learning process as it promotes self-directed learning, reduces discrepancies between current understandings and desired performance, and is essential in allowing a student to remain on course in reaching a goal.[7] Without effective feedback good practices are not reinforced and poor practices are not corrected. If we do not correct mistakes in time, they will go on repeating the mistakes. If we want to encourage the person to come back for more, then feedback should be non-judgmental, non-evaluative, and meant to guide and help the student improve their performance. Feedback if handled incorrectly may damage the student-teacher relationship and inhibit giving or receiving it in future. In such situations, the student may view feedback as a statement about his or her personal worth or potential, whereas in reality feedback presents information, not judgemen.[36]

B. BENEFITS OF CONSTRUCTIVE FEEDBACK:

Following are the benefits of constructive feedback for learners and mentors:

Table 1: Showing benefits of constructive feedback

For Learners	For Teachers
a. Identify strengths/weaknesses without academic penalty	a. Strongly associated with teaching ratings
b. Practice and improve knowledge and skills	b. Actively recognize student progress and achievement
c. Define teachers' expectations	c. Evaluate and modify coursework/ teaching.

C. BARRIERS TO CONSTRUCTIVE FEEDBACK

Feedback may not be effective for many reasons. Providing constructive feedback is a difficult task. Most clinical teachers have received little or no instruction in giving feedback and many believe that providing negative feedback is pointless because of a lack of resources to help the student to improve.[37] Following are the main barriers to effective feedback:

- Inappropriate, little or no instruction on how to give feedback
- Fear of damaging relationship with learner.
- Cultural and language context issues
- Issues related to hierarchy between teacher and learner
- Absence of standards of competence
- Absence of a clear system of feedback
- Inadequate skills of teachers.
- Students' fear of insults due to feedback
- Time constraints

CONCLUSION:

Giving feedback is an essential part of medical education but it is a responsibility that teachers often avoid. Constructive feedback is a special skill that can be learned because it is indispensable in bringing about professional development and overall improvement in doctors. It provides learners with information on past performances so that future performance can be improved. In the absence of constructive feedback, good performance is not recognized and problems with regard to clinical competence go uncorrected for long periods of time. Providing feedback to learners can sometimes be challenging to even the most experienced teachers. Frequently, there is a mismatch between educators' and learners' perceptions of the adequacy and effectiveness of feedback. Faculty development is a key in increasing the teachers' comfort and skills in providing effective feedback. Given the complexity of medical education, the need is for better and complete understanding of the processes of giving, receiving, interpreting, and using feedback as a basis for real progress toward meaningful evaluation. For achieving this goal, it is essential to conduct broad based studies to determine various mechanisms for promoting quality feedback as a part of teaching-learning methods.

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