

How to Improve the Efficacy of Student Feedback

NAMRATA CHHABRA,¹ SAHIBA KUKREJA,² SAHIL CHHABRA³

From ¹Department of Biochemistry, SSR Medical College, University of Mauritius, Mauritius; ²Department of Biochemistry, Sri Guru Ram Das University of Health Sciences, Amritsar, Punjab, India; and ³Graduate Division, University of California, San Diego, United States of America.

Correspondence to: Dr. Namrata Chhabra, 6, Loretto Convent Street, Curepipe, Mauritius. nam.biomed@gmail.com

Context: Feedback processes are intricate, generally misunderstood, hard to execute efficiently, and often fail in their goals to influence students learning. Research highlights that students usually do not value the benefits of feedback. This paper reviews the literature on the definition, purpose, and models of feedback; and on exploring why some students do not value feedback, what factors are influencing the effectiveness of feedback, and how to improve the efficacy of feedback. **Evidence acquisition:** The relevant articles were searched through 'Google Scholar,' 'CINAHL' and 'PubMed' using the key terms- "Student feedback," "Frameworks of feedback," "Barriers to effective feedback," and "Students' perspectives on feedback." The search criteria included: review and original research articles in the English language published in high-impact journals in the past ten years. **Results:** The results of different studies have illuminated diverse factors demanding the attention of educators to the effectiveness of feedback. Personal, relational, procedural, and environmental factors seem to affect the utility of feedback. To be effective, feedback should be actionable, non-judgmental, descriptive and specific, based on observable behavior, and should be given at a mutually agreeable time and place. **Conclusion:** The efficacy of feedback can be enhanced by creating students' feedback literacy, addressing students' perceptions and expectations, encouraging productive educational alliances, improving procedural elements of feedback, and environmental conditions.

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Feedback is a crucial process in student learning. Constructive feedback offers insight into students' performance, accentuates the difference between the expected and the real results, and provides momentum for improvement [1]. Substantial evidence supports the importance of feedback in learning; however, several studies have reported its inefficiency in executing its intended function in real practice. Feedback processes are intricate, executed inefficiently, generally misunderstood, and often fail in their goals to influence students learning [2,3]. Students often feel demotivated and demoralized after receiving feedback.

A National-level student survey reported a high degree of student discontent with the feedback process in England and Wales [4], similar to the Student experience survey in Australia [5]. These surveys have precisely identified feedback as among the highest complicated aspects of learners' training experience. Despite the mounting evidence to indicate that the students are not contented with feedback, educators justify the described discontent with the learners' inabilities [6]. The rationales in these discussions are that the students do not understand the concept of feedback [7,8], and they do not get satisfied with feedback despite the substantial degree of attention paid to them [9].

Researchers mention that inadequate student 'feedback literacy' is one of the significant obstacles to the effectiveness of feedback. Furthermore, the students respond differently to feedback within specific academic fields, curricula, circumstantial settings concerning their past experiences and personal attributes [10]. Some studies have identified the procedural elements of feedback, such as legibility and timeliness, as the issues demanding attention to improving student satisfaction with feedback. Reduction in motivation resulting from previous negative feedbacks has also been reported as a barrier to learners using feedback [11].

Results of different studies have illuminated diverse factors demanding the educators' attention to the efficacy of feedback. It is thus imperative to explicitly examine feedback from various perspectives. This article reviews the literature on the definition, purpose, and modes of delivery of feedback, the roadblocks to effective feedback, and the strategies to improve the efficacy of feedback.

DEFINITION AND PURPOSE

Feedback may be defined as "the process through which the students make sense of the information from various sources and use it to enhance their work on learning strategies [10]." This definition not only highlights the teacher's role in apprising students of their strengths and

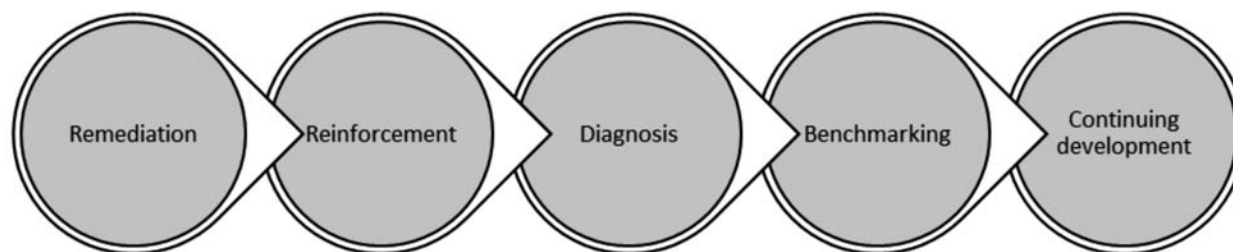


Fig. 1 The purpose of feedback- the roles ascribed to feedback create a nested hierarchy, and the constituent categories build on the direction provided by the preceding category.

areas for improvement but also includes the student's role in understanding and using comments to improve subsequent performance.

Feedback emphasizes remediation, positive or negative reinforcement to behavior, diagnosing gaps between demonstrated and expected standards of performance, benchmarking (setting standards) and facilitating ways to fill the gaps, and addressing activities to support continuing development [12]. The roles ascribed to feedback create a nested hierarchy, and the constituent categories build on the direction provided by the preceding category (**Fig. 1**). Effective feedback targets three areas:

- i) *Feed up*- "Where am I going?" The solution provides information about accomplishing learning goals associated with specific tasks or performance. Feedback can be ineffective if the goals are not clearly defined.
- ii) *Feed back*- "How am I going?" This aspect of feedback provides information about progress and about how to proceed to attain learning goals.
- iii) *Feed forward*- "Where to next?"- The answer provides specific information regarding more significant challenges, more information about what is not understood, more strategies to promote deeper understanding, and more self-regulation over the learning process [7].

These three questions do not work in isolation; instead, they work together; the answer to each question has the power to encourage further tasks relative to a goal.

HOW TO PROVIDE FEEDBACK?

Feedback can be formal (after a structured written or clinical assessment) or informal (in daily encounters between teachers and trainees, peers, or colleagues). It is directed at four levels for its effectiveness: feedback about the task, process of the task, self-regulation, and the self as a person [7]. Feedback should be actionable, non-judgmental, descriptive, specific, based on observable behavior, and given at a jointly settled time and location [1]. Several frameworks of providing feedback are mentioned in the literature. However, not every framework is applicable in all cases.

Feedback Sandwich Model

Feedback begins and ends with appreciative and positive feedback (about what the student has done well); the crucial feedback component (constructive criticism or the area of improvement) is 'sandwiched' between the positive aspects [13] (**Fig. 2**). This approach is useful for learners with low esteem; however, if used frequently, its effectiveness can be lost, as the students start ignoring the crucial middle component of feedback. An example is depicted in **Box I**.

Pendleton Rules

Pendleton rules are so designed that the learner's strengths are discussed first, avoiding discussing weaknesses right at the beginning [1] (**Fig. 3**). The learner is encouraged to reflect on the positive areas (What was done well?). The facilitator reinforces those positive areas. Further, the weaknesses

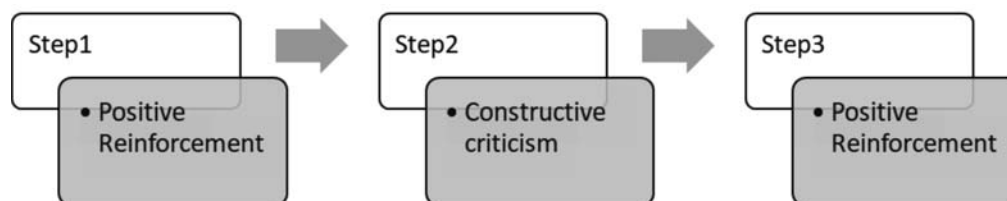


Fig.2 Sandwich model of feedback- The crucial component of the feedback (constructive criticism) is sandwiched between the positive aspects of the feedback.

(What could have been done differently?) and the strategies to overcome weaknesses are discussed (How can these be achieved?). Finally, an action plan is developed to fill the gap between the real and the intended results.

This method helps in creating a safe learning environment and prevents the defensive attitude of the learner. The student feels that he is valued, and his opinion is heard. Additionally, it encourages reflective behavior in the learner. However, it has been criticized for its rigidity, formulaic nature, insufficient time, and lack of opportunities for interactive discussions [14].

SET-GO Method

SET-GO is an *aide-memoire* for the sequence of actions while providing descriptive feedback [1,15]. A descriptive, non-judgmental, and outcome-based approach to facilitate a behavior change is employed in this model. The facilitator bases the judgment on:

What did I see? - Facilitator reflects to the learner, explaining what did he observe.

What else did you see? - The learner acknowledges the incident and reflects on it to identify the problem.

What do you think? - The learner is encouraged to solve the problem.

What goal would we like to achieve? - The learner is asked to identify the goals (an outcome-based approach).

Any offers of how we should get there? - The learner is asked to offer proposals, alternative skills, and rehearsals to accomplish the goals [1]

The agenda-led, outcome-based feedback method, illustrated below, underpins the SETGO method.

ALOA (agenda-led-outcome-based analysis) model: The principle of the ALOBA model is to identify areas where the learner requires assistance (**Fig. 4**). Feedback starts with agenda-setting; the learner is asked to express his problems and determine the objectives to be achieved. This early acknowledgment of difficulties offsets defensiveness and

Box 1 Example of Sandwich Model of Feedback

- *Positive reinforcing statement:* "I liked the way you systematically examined Mr. G's abdomen using the flat of your hand."
- *Constructive criticism:* "I observed that you did not pay any attention to his facial expressions while palpating his abdomen to know whether you were causing him any inconvenience."
- *Positive reinforcing statement:* "You ended your case presentation very well by accurately and succinctly summarizing your findings."

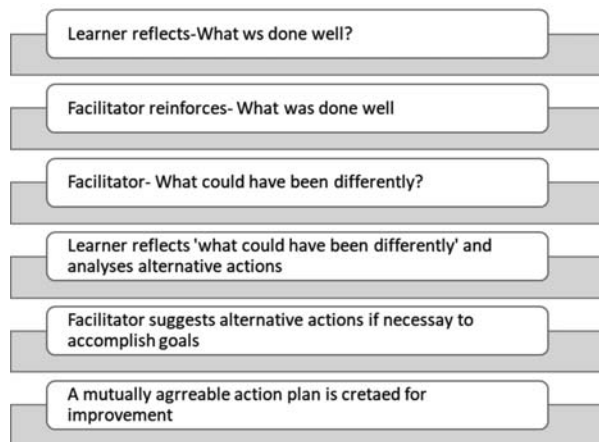


Fig. 3 Pendleton rules- the learner is encouraged to reflect on the positive areas first, later the weaknesses and the strategies to overcome the weaknesses are discussed.

allows the learner to emphasize the feedback itself rather than being apprehensive of the nature of the negative feedback. In the next step, the facilitator tries to determine the objectives that the learner intends to achieve. The learner is encouraged to self-analyze and make suggestions for improvement. The facilitator provides descriptive and non-judgemental feedback and suggests the skills to accomplish the objectives. The recommended skills are rehearsed, and a mutually agreed action plan is developed for improvement [16]. Contrary to Pendleton rules where the learner is a passive recipient of the recommendations from the facilitator, the learner in the ALOBA model is an active participant and equal contributor to the activities [1].

Chronological Fashion Feedback

This model emphasizes reflecting observations sequentially, recapitulating the experience that occurred during the feedback session. For example, an observer can go through a

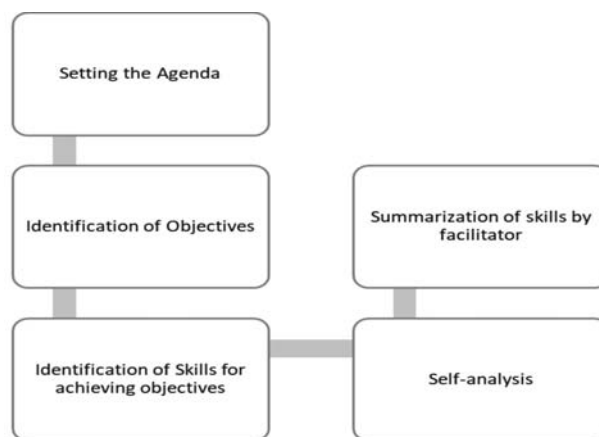


Fig. 4 ALOBA model of feedback-Agenda led outcome-based analysis.

learning session and give feedback for all the activities from beginning to end. This method is helpful only for short feedback sessions [17].

Alternative Models of Feedback

Several different models of feedback, such as One-minute preceptor [18], the Chicago Model [19], and the Six-step problem-solving model [20], are also in practice. These models are based on the principles of the ALOBA technique and Pendleton rules.

Learner-Centered Models

Learner-centered models promote the active participation of the learner in the feedback process. These models propose that the learners should take more responsibility for seeking (learner-centered) and responding (self-regulation) to feedback and for their own learning [21].

Educational Alliance Framework

Some authors have proposed a bidirectional educational alliance framework that emphasizes a cordial relationship between the learner and the educator [22]. This transformed feedback approach allows a collaborative understanding of performance objectives and a jointly settled action plan (Fig. 5).

Ask-Tell-Ask Model

The Ask-Tell-Ask model [23] is a simple, bidirectional, learner-centered model that fosters learners' self-assessment abilities and provides assessors with the opportunity to share constructive feedback with the learner (Fig. 6). This model increases students' accountability and can be used in diverse settings.

Using Ask-Tell-Ask, the assessor first asks the learner for their perceptions about strengths and weaknesses. Then the assessor tells them his impressions, supported by observations and specific examples, and then the assessor

wraps up by asking the learner to help create a development plan.

These learner-centered models increase students' accountability, promote self-regulated learning, and are underpinned by adult learning principles [23].

WHY DO STUDENTS NOT VALUE FEEDBACK?

Feedback has been widely shown as an intervention to promote learning. However, a substantial body of research highlights that the learners do not value the potential of feedback. These findings have led the researchers to explore why some learners do not appreciate the received feedback and which aspects are essential in affecting students' feedback practices.

Learners' Characteristics

Studies have reported that the feedback approach, which is perceived to threaten the learner's self-esteem, can adversely affect performance and motivation [7]. Students tend to renounce or overlook comments if they raise adverse emotional responses [24,25]. Research highlights that the learners' attributes and how the learners perceive feedback substantially affect the outcomes of feedback [26]. The learners with a rigid perception of their caliber interpret negative feedback as a personal failure, and thus they feel demotivated. The feedback that focuses on the learner's personality rather than 'behavior' is likely to impact negatively on the motivation and performance of the learner [8].

A lack of dialogue between assessors and students about what is expected of them can result in the student ignoring to act on feedback [24]. Students are generally not skilled in interpreting or working on comments competently. Therefore, important information remains obscure [27]. Student's imperfection in deciphering feedback can lead to mutual resentment and misconception of the remarks [28]. The student's prior experience with feedback also determines the effectiveness of feedback.

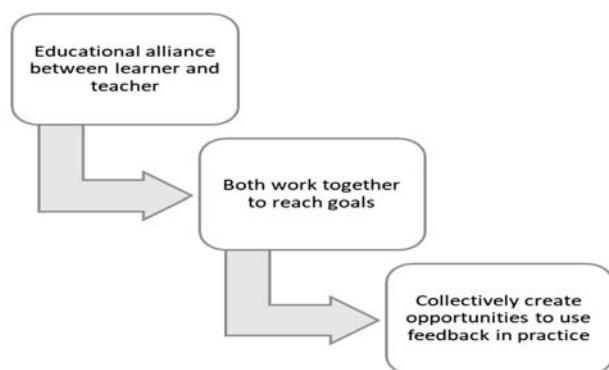


Fig. 5 Educational alliance framework emphasizes a cordial relationship between the learner and the educator.

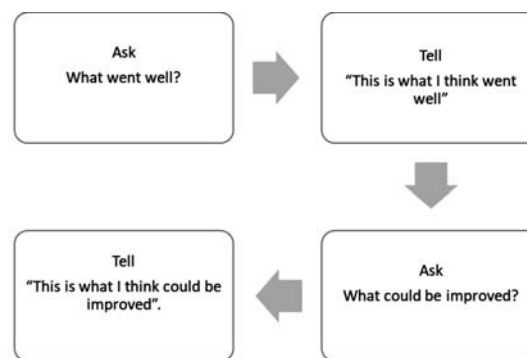


Fig. 6 The Ask-Tell-Ask model fosters learners' self-assessment abilities and provides assessors with the opportunity to share constructive feedback with the learner.

Some authors have mentioned that the students fail to use feedback provided in higher education because it may be dissimilar from the one they have previously received. Students are generally not familiar with what constitutes feedback at university against what they receive at school [29].

Assessors' Characteristics

The assessor's credibility [30] and authority [31] may also affect a student's use of feedback. Students prefer feedback from an experienced, competent, accomplished, and accessible teacher [30]; however, they feel reluctant and hesitant to seek feedback from the teachers in a hierarchical education system. Some authors have reported 'legibility' as a matter of concern; according to their results, 30% of students said that occasionally feedback that they get is not readable [29,32].

Feedback Process

Several researchers have mentioned the cultural factors that act as barriers to the effective use of feedback. Research shows that in some cultures, asking questions from older faculty is not an accepted practice; therefore, the students avoid seeking or using feedback [33]. Many researchers have identified 'improper timing' as a cause of the ineffectiveness of feedback. Feedback received after completing the module makes it problematic for the students to use it [34,12]. Literature also reveals that feedback dissatisfaction is a sign of enhanced capitalism, and that students now have higher expectations [35].

Studies [36] report that the fear of upsetting student or sabotaging the teacher-student relationship, fear of doing more damage than good, inability to handle emotional responses of students against the negative feedback, non-specific or generalized feedback, feedback without an action plan, lack of consistency of feedback, or the lack of respect for the facilitator are the common barriers to effective feedback (**Box II**).

IMPROVING EFFICACY OF STUDENT FEEDBACK

There are no prescriptive guidelines on how to give useful feedback. However, certain essential principles can help engender healthy educational practices in both learners and assessors.

Feedback Content

Feedback should emphasize correction as well as future development. Literature shows that there are three essential features to improve the effectiveness of student feedback: the student should have cognizance of the goal of performance, should be able to identify the discrepancy between the expected achievement and the actual achievement, and

should make efforts to fill the disparity using appropriate actions or strategies [37].

Therefore, if the feedback is not used to fill the gap between the current achievement and the expected achievement, it is not feedback; it is just 'dangling data' [37]. Furthermore, the language of feedback should be clear, free of jargon, and understandable [24].

Timing

Research highlights that feedback is highly effective when provided straightway after the activity [7]. However, delaying feedback on complicated tasks can give the learners time to self-evaluate and consider alternative approaches to improve future performance [38]. The educational environment and the learner's emotional state can also influence the time to provide feedback [2].

Qualities of the Assessor

The student's perceptions of the teacher's expertise and educational alliance with the assessor govern the feedback's effectiveness [39]. Some authors believe that the feedback from a teacher who has not built a learning relationship with the learner may be listened to but is not heard with an open heart and mind [40].

Creating Student Feedback Literacy

Feedback literacy has been described as the ability to read, interpret and use written feedback [41]. Some authors have

Box II Barriers to an Effective Feedback

Learner

- Emotional response to feedback
- Learner's rigid perspective
- Lack of feedback literacy
- Prior dissimilar experience
- Higher expectations

Assessor

- Lack of communication between learner and assessor
- Lack of credibility and authority of the assessor
- Lack of skills to give feedback
- Fear of upsetting student
- Fear of sabotaging the student-teacher relationship
- Fear of doing more harm than good
- Lack of respect for the assessor

Process

- Feedback approach that targets learner's personality and self-esteem
- Non-specific feedback
- Feedback without an action plan
- Lack of consistency of feedback
- Improper timing

Environment

- Cultural factors
- Lack of privacy
- Threatening environment

Box III Summary of the Principles of Providing Effective Feedback

Learner

- Feedback should target specific behavior or performance, not the personality of the learner.
- Feedback should provide opportunities for learners to seek, listen and respond with honesty to feedback.
- Learners should be apprised of the advantages of feedback.
- The learner should be engaged in critical reflection of the performance (self-analysis through reflection).

Assessor

- The assessor should be credible and experienced.
- Assessors should develop a concrete educational alliance with the learners.
- The assessor should protect the self-esteem of the learner.

Process

- Feedback should be given privately, especially if it is negative.
- Feedback should be given straightway after the activity except under specific conditions when feedback can be delayed.
- Feedback should include an emphasis on improving the self-regulatory ability of the learner.
- Feedback should not be provided in a threatening manner.

Content

- Feedback should inform the learner of performance goals, the discrepancy between the expected and the actual achievement, and the action plans to attain the desired goals.
- The language of feedback should be clear, free of jargon, and understandable.
- Feedback should be aligned with the learning objectives, clinical activity, or teaching session.

emphasized four elements of student feedback literacy viz., appreciating feedback processes, making judgments, managing affect, and taking actions to use feedback. 'Appreciating feedback' relates to students identifying both the importance of feedback as well as their active participation in the feedback process. 'Making judgment' is about students learning to evaluate judgment, developing capabilities to self-evaluate and assess the work of others. 'Managing affects' relates to controlling feelings, emotions, and attitudes; and avoiding defensiveness [10]. 'Taking actions' relates to understanding the essence of information and making use of it to improve performance [6].

The student feedback literacy can be improved by peer feedback or peer review. Peer review helps the students to compare their work with that of others, and through this exposure, students develop the competence of self-evaluation [42]. Studies have reported that the feedback-seeking behavior can be generated if the students are apprised of the benefits of feedback through appropriate activities and are offered opportunities to engage in meaningful tasks with peers or others [6]. Research shows that digitally-enabled peer feedback, because of its quick delivery and transportability, can help the learners to generate feedback and engage in peer review [10].

The student feedback literacy can also be improved using selected student work samples that illustrate the standard and coherence of feedback expectations [43]. However, sometimes assessors have reservations regarding the role of 'exemplars' in that they feel that students may consider them as models to be emulated [44]. Furthermore, feedback should be aligned with the learning objectives,

clinical activity, or teaching session. A summary of guiding principles has been highlighted in **Box III**.

CONCLUSION

Feedback is a vital component of the learning cycle. Constructive feedback improves learning and sets the momentum for future development. To be effective, it ought to be actionable, non-judgmental, descriptive, and specific, based on observable behavior, and should be given at a collaboratively settled reasonable time and place. Adopting a constructivist approach to feedback, introducing qualitative changes in the feedback process, and improving student feedback literacy might help the learners to understand and make effective use of feedback.

The arena of student feedback is not well researched, and there has been little pragmatic research on students' beliefs, attitudes, perceptions, and expectations regarding feedback. More work is needed to explore the strategies to strengthen students' beliefs about feedback and improve their abilities to receive and use feedback.

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