

Effective feedback: An indispensable tool for improvement in quality of medical education

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Abstract

Feedback in medical education is an integral and important constituent of teaching as it encourages and enhances the learners' knowledge, skills and professional performance. Feedback has to be delivered in an appropriate setting; it should focus on the performance and not on the individual; should be clear and specific; delivered in non-judgmental language; should emphasize positive aspects; be descriptive rather than evaluative; and should suggest measures for improvement. An extensive search of all materials related to the topic was made using library sources including Pubmed, Medline and Google Scholar. Keywords used in the search include feedback, constructivism and medical education. Constructive feedback is defined as the act of giving information to a trainee through the description of his/her performance in the observed situation. It emphasizes the strengths of the session and areas which require improvement. The processes of giving and receiving feedback are skills that can be acquired only with practice. To integrate the concept of feedback in medical education, training of the trainers pertaining to techniques of adult learning and how to give feedback to trainees are foremost requirements. Interactive feedback is indispensable in bringing about professional development and overall improvement in doctors.

Keywords: Feedback; Medical education; Constructive feedback

Introduction

Feedback can be described as a process which comprises communication of information followed by reactions to such communication. It has been defined as specific information about the difference between a trainee's observed performance and a given standard with the target of achieving improvement in performance of the trainee (Rubak et al., 2008). Feedback in medical education is an integral and important element of teaching as it encourages and enhances the learners' knowledge, skills and professional performance. It aids in improvement of the performance of the learners with the basic aim of helping them achieve their goals in addition to the educational objectives (Schartel, 2012; Thomas & Arnold, 2011). In the absence of feedback from teachers, learners have to rely on self-assessment to determine what has gone well and what needs improvement. But this self-assessment does not consistently help in identifying learners' own strengths or weaknesses. Learners may also interpret an absence of feedback as implicit approval of their performance. The potential of feedback can be maximized provided the teacher is receptive to suggestions for change and willing to improve (Burr & Brodier, 2010).

Feedback can be considered as constructive in the process of learning if it is delivered immediately and in a sensitive manner (Nicol & McFarlane Dick, 2006; Sargent et al., 2007). It is well documented that in academic settings, students learn more effectively when peer

feedback is an inherent constituent of the overall assessment (Van den Berg et al., 2006). Many researchers have demonstrated the potency of feedback as a mechanism to improve learning outcome (Hattie & Timperley, 2007). However, despite consensus that feedback is an important aspect of improved learning capabilities, the available literature on feedback has revealed an increase in numbers of reports of dissatisfaction both from learners' as well as educators' aspects (Adcroft, 2011).

Methodology

An extensive search of all materials related to the topic was made using library sources including Pubmed, Medline and Google Scholar. Relevant documents, randomized trials, systematic reviews, research articles focusing on feedback in different domains of medical education published in the period 1990–2013 were included for the review. The identified articles were then re-grouped into different sections viz. characteristics of an effective feedback; types of feedback; bridging the gap; art of delivering feedback; feedback seeking behaviour; utility of constructive feedback; barriers to effective feedback; newer measures for strengthening the feedback process; and implications for further research. Keywords used in the search include *feedback, constructivism, medical education*.

Characteristics of an effective feedback

The mentoring relationship between teacher and learner is crucial in giving effective feedback. Feedback has to be delivered in an appropriate setting; should focus on the performance and not on the individual; should be clear, specific and based on direct observation; has to be delivered using neutral, non-judgmental language; should emphasize the positive aspects; be descriptive rather than evaluative; begin by encouraging self assessment by the trainee. It should acknowledge and reinforce their exemplary behaviour which will give them confidence in their skills; highlight areas requiring improvement; and suggest measures for the same. For a perfect outcome, the sender and receiver of feedback should work together as a team and thus help to achieve a better output for the trainees (Branch & Paranjape, 2002; Bhattarai, 2007). To improve the quality of teaching, qualitative and quantitative approaches have been used to obtain feedback from the participants on the course. The participants suggested meeting some pre-requisites (viz. establishment of an appropriate interpersonal climate; using an appropriate location; establishing mutually agreed upon goals; eliciting the learner's thoughts and feelings; being nonjudgmental; and offering suggestions for improvement) in order to give feedback effectively (Hewson & Little, 1998).

Types of feedback

Feedback can be broadly classified in two categories – positive (constructive feedback) and negative. Constructive/positive feedback is defined as the act of giving information to a trainee through the description of their performance in the observed situation (Alves de Lima, 2008). It emphasizes the strengths of the session and areas which require improvement. Major impact has been observed when a student compares the teacher's/audience feedback with his or her own performance. The discordance between the desired and the actual performance acts as a strong motivating factor (Alves de Lima, 2008). The medical education unit of the National Academy of Medical Sciences, Nepal, has identified the principles which should be followed while giving constructive feedback:

'*ABCDEFGH IS*' - amount of information; benefit to the trainees; change behaviour; descriptive language; environment; focused; group check; interpretation check; and sharing information (Bhattarai, 2007). Negative feedback can depress and discourage the learner and it should be avoided (Alves de Lima, 2008).

One of the other studies has classified feedback in three types: brief, formal and major. Brief feedback is usually given on a daily basis and is related to an observed action or behaviour. Formal feedback involves setting aside a specific time for feedback, such as after an interaction with a patient in an outpatient clinic. 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 (Branch & Paranjape, 2002).

Bridging the gap

Every medical college/institute should establish a medical education unit (MEU) in their institute. The members of the MEU must be trained in conducting faculty development programs as a part of MEU activities. This should be followed by the organization of regular workshops/courses to develop the faculty in the presence of external or a third party observers. These workshops can be used as a platform to inculcate the skills of giving effective feedback and to reinforce the fact that giving and receiving feedback are skills that can be acquired only with repetitive practice. The institution should also develop a process for monitoring the feedback process in lectures, practicals or in clinical postings. Video recording of the feedback sessions can prove a very useful technique for monitoring a feedback session. Teachers have a responsibility to provide meaningful feedback to learners and at the same time learners should expect and seek feedback (Schartel, 2012).

Most clinicians are familiar with the concept and principles of giving feedback but often it remains underused, probably because the teacher is concerned about the impact of negative feedback upon the trainee and upon the future trainee-trainer relationship (Branch & Paranjape, 2002). Although there are many resources available to assist medical educators with feedback delivery skills, an understanding as to why physicians and students struggle with feedback conversation is important. In a qualitative content-analysis review to identify the probable reasons for the apparent disconnect between what should be happening and what is actually happening during feedback conversations, it was revealed that though solutions are available to bridge this gap, nevertheless there was little or no explanation for the reasons behind the observed deficiencies (McIlwrick, et al., 2006).

Considering that resident doctors play an important role in the education of medical students, a survey-based observational study revealed that peer observation and feedback of residents' teaching during work rounds is not only feasible but also rewarding for the involved residents and thus should be encouraged (Snydman, et al., 2013). Moving a step further, the findings of another study revealed that the provision of feedback by faculty staff to resident doctors after observing resident-patient interactions is a complex and dynamic process. In this feedback-giving exercise, there is definite scope for the adoption of a potential newer approach that can assist in enhancing the effectiveness of the feedback of

faculty members and thus, ultimately, in faculty development (Kogan et al., 2012). To integrate the concept of feedback in medical education, training of the trainers pertaining to techniques of adult learning and how to give feedback to trainees is one of the foremost requirements (Carr, 2006).

Delivering feedback

The feedback can be offered in different ways to the learners (Branch & Paranjape, 2002; Irby, 1994). A frequently-used method is the 'feedback sandwich' in which the top slice of bread is a positive comment (viz. about what the learner has done well); the middle of the sandwich is an area of improvement (viz. in what areas learner needs to improve); and the bottom slice of bread is another positive comment, to end the session on an upbeat note (Milan, et al., 2006). Another technique, PEARLS, describes the skills which can be used for developing trust between the educator and the learner. These skills include fostering a partnership for 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 for efforts at correction (Milan, et al., 2006). Medical graduates have to learn key clinical skills like history taking, physical examination, communication and counselling skills through patient care; as also in simulated experiences. As the learner progresses from amateur 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 behaviours based on direct observation by the teacher has been reported to be more learner-friendly and instructive than feedback based on second-hand reporting (Van Hell et al. 2009). 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 (Greenberg, 2004).

Feedback-seeking behaviour

Feedback-seeking behaviour can be defined as the conscious devotion of effort towards determining the correctness and adequacy of one's behaviours for attaining valued goals. In a literature review to gain a better understanding of feedback-seeking behaviour, five key aspects of feedback seeking have been identified: the method used to obtain feedback; the frequency of feedback-seeking behaviour; the timing of feedback seeking; the characteristics of the target of feedback seeking; and the topic on which feedback is sought (Ashford, et al., 2003). A study reported three key factors influencing learners' feedback seeking behaviour. The first and foremost parameter deals with the intention and characteristic of the feedback provider. It was observed that the learners were more receptive to feedback provided by people whom they trust. The second parameter was the nature of the relationship between the feedback seeker and provider as it assists in creating an enabling environment for better learning outcomes. The third factor was observed to be the motive of the learner (Bok, et al., 2013). Another study showed that individuals who sought feedback frequently were able to improve their work performance by setting feedback-based goals. As individuals gained feedback information, they were better able to adapt their goals, which benefited their work in the long run (Renn & Fedor, 2001).

Utility of constructive feedback

Giving constructive feedback has been considered a commitment between teachers and students for overall academic and professional development (Hamid & Mahmood, 2010). In the findings of a thesis it was concluded that the art of giving feedback to medical students about their performance and competence can act as a strong motivating factor (Kusurkar, 2012). The usefulness of giving constructive feedback privately to medical students at the time of bedside teaching has been well documented and is found effective in acquiring and developing clinical skills, communication skills and professional bedside manner by medical students (Kianmehr, et al., 2010; Salam et al., 2011). In a randomized controlled trial done to determine the impact of a pocket card and feedback session on Internal Medicine residents, it was concluded that residents in the intervention arm felt that their clinical and professionalism/communication skills had improved to a significant extent based on the feedback obtained from the inpatients (Peccoraro et al., 2012). A novel system of prescribing feedback to reduce errors was introduced as a pilot project in the paediatric unit of the University of Salford, United Kingdom. The initial results indicated that this technique could be easily adopted in different settings as there was a statistically significant reduction in the error rate between baseline and completion at 3 months of the pilot project (Gordon & Bose-Haider, 2012). In a nonrandomized comparative study to assess the effect of feedback on improving handovers it was concluded that regular, real-time feedback can improve the accuracy and completeness of handovers in patient care (O'Horo, et al., 2012).

Barriers to feedback in medical education

A cross-sectional questionnaire-based study was conducted at the College of Medicine by the Department of Medical Education, Saudi Arabia, to explore the views of undergraduate medical students regarding the presence and sources of barriers to effective feedback in their settings. The study revealed that almost 45% of the undergraduate students indicated the presence of barriers to effective feedback (viz. absence of a clear system of feedback; inadequate skills of teachers for provision-effective feedback; and students' fear of insults due to feedback) (Al-Haqwi et al., 2012). Another reported barrier in the feedback process is the role of culture and language in communication, which is of significance for international medical graduates whose first language is not English (Woodward-Kron, et al., 2011). Also, feedback delivered publicly, in a manner associated with shame and embarrassment to the learner, can make it more difficult for them to participate in feedback inquiry. Medical teachers may not be involved in curriculum development, so they might be uncomfortable in defining expectations from their learners (Raszka, et al., 2010). Brief interaction with learners and busy schedules will result in limited opportunity for direct observation of learners (Hanson, et al., 2010). Some of the myths associated with giving feedback generally encountered are: the ability to give effective feedback is the sole responsibility of the faculty; shouting is a form of effective feedback; residents are not able to give feedback effectively to their peers; and residents can't give effective feedback to the faculty.

Newer measures for strengthening the feedback process

The Medical Education Unit of Melbourne Medical School, Australia has devised the Communication and Language Feedback (CaLF) methodology to counter the barrier of language between teacher and international medical graduates. CaLF comprises a written tool and a video recording of role-plays of patient-doctor interactions in a classroom

setting/in an objective structured clinical examination (OSCE) practice session with a simulated patient. The international medical graduates' trainees receive verbal feedback not only from their hospital-based medical clinical educator, but also from the simulated patient and linguists. The CaLF methodology acts as an efficient tool for medical educators and language practitioners to work collaboratively with international medical graduates to enhance their communication and language skills (Woodward-Kron, et al., 2011). Another study finding suggested that these challenges can be mitigated by acknowledging the anxieties that learners (international medical graduates) may have, and by ensuring that all (learners and supervisors) are trained in feedback skills, and thus have a clear set of expectations (Broquet & Punwani, 2012). Multisource feedback (MSF) has been recommended by the Accreditation Council for Graduate Medical Education (ACGME) as a key method for assessing several of the competencies, including professionalism, and interpersonal and communication skills. MSF is an assessment approach that uses input from peers and colleagues to gather information about an individual's behaviour in the workplace (Richmond, et al., 2011). The Assessment of Professional Behaviours (APB) is one of the MSF programs developed by the National Board of Medical Examiners to provide physicians, medical students, resident doctors and fellows with feedback on the professional behaviours that are essential to the safe, effective, and ethical practice of medicine. The participants believed that the APB program had an appropriate structure and a clear focus on 'professionalism' rather than being an add-on to existing assessments. The behavioural focus of the form was perceived as an improvement over current practice (Richmond, et al., 2011).

Implications for further research

It is essential to conduct broad-scale studies to determine various mechanisms for promoting quality feedback as a part of teaching-learning methods. Future research work should answer questions pertaining to different domains of the process of feedback such as quantifying/measuring outcomes of interventions aimed at improving strategies of trainees/learners to encourage feedback; current levels of teacher knowledge and skill in the area of feedback in the local settings of the institute; factors which can affect the success of feedback; and practical strategies to encourage feedbackseeking behaviour among the students. Results derived from these studies will help the medical education unit members to modify/emphasize/strengthen existing strategies so that the ultimate challenge of improving the learners' knowledge, skills and professional performance is met.

Conclusion

To conclude, interactive feedback 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 adequate feedback, good performance is not recognized and problems with regard to clinical competence go uncorrected for long periods of time. In view of recent changes in medical working patterns, we have to create newer opportunities to observe trainees and thus provide quality & timely feedback to facilitate learning. 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. Staff 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.

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Key Pedagogic Thinkers: Sigmund Freud

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Freud in School:

Freud (1856-1939) was always an exemplary student. From infancy his parents invested heavily in their eldest child, undertaking his education at home until he reached adolescence and enrolled at the Gymnasium grammar school in Vienna. His serious and studious nature yielded great academic success, as he consistently placed at the top of his class, graduating with distinction in 1873. After briefly wrestling with whether to pursue a career in law or medicine, he opted for the latter, a choice apparently driven less by a desire to heal than by the allure of becoming a scientific practitioner. In fact, Freud identifies a singular influence on his career path, stating 'it was hearing Goethe's beautiful essay on Nature read aloud... just before I left school that decided me to become a medical student' (1925b/1961:8).

Though Freud describes his medical studies as 'negligent' and the completion of his degree as 'belated', it appears he maintained diligent work habits during this period (Ibid.). By most accounts, Freud had less interest in medicine *per se* than in research biology, the latter being his intended career path at the outset of his training (Rosen, 1972). After receiving his medical degree, however, rather than dedicating himself to research, financial necessity compelled Freud to take a hospital post, working first as a clinical assistant and then as a junior physician. Within the hospital's psychiatric clinic he maintained his interest in research work, gravitating increasingly towards neurology, and securing a more academic position as Lecturer in Neuropathology in 1885. As he moved away from the hospital milieu and established a private practice as a doctor of nervous diseases (1886), Freud continued to develop academically, working with senior clinical practitioners, including Charcot—a Parisian psychiatrist specializing in hysteria—and Breuer—a Jewish-Viennese physician with whom Freud published the first psychoanalytic case studies (1895/1961).

Freud on School:

Nobody knew how to raise a controversy quite like Sigmund Freud. In one fell swoop, he manages to trouble several cherished institutions, declaring: 'there are three impossible professions—educating, healing, governing' a view he reiterates at a number of points in his work (1925/1961, p. 263). This disconcerting proclamation is rooted in Freud's observation that no application of psychoanalysis 'has excited so much interest...as its use in the theory and practice of education' (Ibid. 273). It is, therefore, clear that Freud saw the significant