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In the 25 years since Ende[1] published the seminal article on feedback in clinical medical education, many of the concepts have been verified and repeatedly emphasized. However, physicians participating in needs assessments for faculty development frequently cite feedback as an area for improvement.[2] Considering the provision of feedback as a competency is quite appropriate, because feedback is an essential skill for learner improvement. Without effective feedback, learners struggle to achieve defined goals. Despite the focus on feedback, learners may still perceive a lack, even when explicitly informed that feedback is occurring. The stark difference between what teachers think they are delivering and what learners think they are receiving begs the question: are medical educators failing at promoting effective feedback?

Some evidence indicates that feedback is not being provided effectively. Learners still complain about not receiving enough feedback.[3] Verbal interaction analysis indicates that the feedback dialogue is too teacher centered and is skewed toward predominantly the positive or neutral. Feedback may be provided at a low cognitive level using basic and descriptive facts, precluding active engagement of the learner. Students' dissatisfaction with feedback may reflect a greater desire for praise than for constructive information to help them learn. Desires for mainly positive feedback may become a worsening trend as the "Millennial Generation" enters US medical schools.[4] This generation has been broadly characterized as being raised with an emphasis on being special; a previous absence of a balanced focus on weakness may present a barrier to accepting the validity of negative feedback.

These studies suggest that educators might not be providing learners with effective feedback. Possible reasons are use of incorrect measures of success (eg, Likert-type student satisfaction scales) or insufficient faculty development programs. Such arguments tend to focus on external factors (such as increased productivity pressures) or teacher-based behaviors.

The feedback dialogue has been overly centered on the role of the teacher while underemphasizing the role of the learner. As such, 3 potential reasons may help account for failing at feedback: poor ability of learners for self-assessment, overpowering influence of affective reactions to feedback, and lack of adequately developed metacognitive capacities.

There is increasing evidence that physicians, as a group of professionals, have little ability to accurately self-assess performance[5] and typically tend to overestimate abilities. This distorting cognitive process could be the result of a strong need to protect self-image. Physician-learners may be poor at assessing their own capabilities; even worse, the most deficient performers may be least aware of their lack of competence.[5] A dangerous medical professional is one who is unaware of what he or she does not know and lacks the skills and insight necessary for self-assessment.

Learners who tend to overestimate their own abilities may be surprised when they receive feedback incongruent with their self-perceptions. This conflicting feedback could generate more of an emotional reaction than an unemotional review of the facts, driven by feedback lessons unconsciously stored in memory from years past, possibly even from childhood experiences. Learners could view negative feedback as a personal attack. Since learners are motivated to defend their egos[6] and often prefer information that supports their positive self-views, these attacks on the ego can trigger negative emotional reactions such as guilt, anger, or self-doubt, often at an unconscious level. These emotions can in turn block any useful feedback from reaching the learner at some cognitive level, creating an insurmountable barrier. Learners with distressing reactions to feedback tend to devalue it as not useful.[7]

Damage to the learner's self-image by constructive feedback could lead to learners using cognitive mechanisms to protect themselves from narcissistic injury (eg, outright denial, distorting information).[6] Discounted feedback would not result in improved learner performance. Learners with more positive self-esteem and stronger egos may seek both positive and negative feedback, whereas learners with lower self-esteem may seek only positive feedback. The latter may avoid feedback interactions as a self-protective mechanism.

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Metacognition, described as thinking about one's thoughts and feelings,[8] seems to be an important cognitive capacity for a learner to know how well he or she is performing. Reflective thinking and learning have been advocated as one component of metacognition.[9] Adequate metacognitive capacity is necessary for feedback information to be translated and interpreted properly by learners.

Evidence suggests that novice learners have poorly developed metacognitive skills such as reflection, which may lead to inflated self-appraisals and contribute to perpetual incompetence. Further study of the metacognitive capabilities of physician-learners is needed. If metacognition is a requirement for development of expertise,[8,9] then another reason for failing at feedback may be insufficient focus on developing such capacities.

Medical educators may have been too focused on a narrow view of feedback. Building an approach or system around a few teacher-specific behavioral principles of feedback (eg, timely, specific) is inadequate. An approach to improving feedback incorporates teacher-based behaviors, learner-based cognitive principles, and a focus on the teacher-learner relationship. This approach begins with process behaviors that reflect the guidelines for providing feedback described in the literature and in the article by Ende.[1] Such teacher-specific behaviors must occur at least at a minimum required level of competency. Feedback from the educator must then pass through external channels, with the potential for interfering noise (eg, providing feedback in a crowded emergency department), which could dampen or modulate the feedback communicated. Whatever feedback emerges from the channel must then successfully overcome the learner's cognitive barriers. This entire exchange occurs within an influential professional and societal context, which also has an important role.

Strategies need to be developed to address the affective component of feedback, which represents one cognitive barrier to overcome. Learner curricula could include training in how to recognize, receive, and respond to feedback at a metacognitive level. Consideration should be given to desensitizing learners to negative feedback to lessen the affective response. Research should identify what may trigger an emotional, negative response.

Ongoing faculty development is needed to address all aspects of this feedback model. Faculty will need to acknowledge the difficult affective component of the feedback process for teachers as well as learners. A faculty member about to deliver negative feedback may need to facilitate specific follow-up activities. Emphasizing learner reflection on feelings, both the positive and negative, may prevent learners from discounting feedback. With directed guidance by the teacher, having the learner explore the effects of feelings on feedback data at a metacognitive level could enhance acceptance of disquieting information.

Focus on developing the metacognitive capacity of learners also needs to occur. Instruments measuring reflective skills can help determine baseline capacity. Learners can be instructed in the weakness of their self-assessments and the consequent need to obtain more multisource feedback.[10] With practice and effective feedback, learners can improve their self-assessment abilities.

Future research for this model could focus on the relational context of the teacher and learner in a feedback situation, specifically addressing new skills and ways of processing feedback by both teacher and learner. Effective feedback may require a mutual and trusting bidirectional negotiation process with give-and-take. Medical educators should take a renewed look at feedback, and a rigorous discourse is needed on further study of this crucial educational and social interaction.

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