A pilot study of clerkship students’ perceptions of feedback related to their self-reflection capabilities

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Background: The responsibility for providing constructive and effective feedback for the medical student generally resides with the faculty member. Potentially limiting the effectiveness of the feedback is learner capacity for self-reflection and insight, factors that may have an influence on the students’ perception of feedback. Our aim of this pilot study was to assess clerkship students’ perceptions of feedback received in relation to their insight and self-reflective capabilities.

Methods: Twenty-one clerkship students completed a validated scale assessing self-reflection and insight capabilities. Following the presentation of a patient case to a standardized faculty member, the students described perceptions of the feedback received using visual analog scales.

Results: Students scoring higher in self-reflection and their own self-perception were more likely to score higher on feedback receptivity and more likely to indicate changes in their performance on the basis of the received feedback.

Conclusions: Medical students and residents need to be open to all feedback and perceive the feedback is helpful. Students’ self-reflective capabilities relate to their perceptions of feedback and increasing these capabilities may help improve behavior change with feedback. Our hope is that the description of this association will spur other medical educators to explore further approaches to improving feedback.

Keywords: feedback, reflection, medical students, insight

Article

Introduction

Medical students and residents have often stated they do not receive much if any feedback or that feedback is not helpful or pertinent (De et al. 2004). Approaches to improve this perception have mainly
focused on defining (Ende 1983) and improving the skills of the feedback deliverer through faculty development efforts (Bahar-Ozvaris et al. 2004). Archer (2010) argues that our current feedback models are reductionist and remain an educator-driven, one-way approach, without enough regard to the influence of the recipient. Other factors such as learner’s emotional state (Eva et al. 2012) and learner’s perceived credibility of the feedback provider (van de Ridder et al. 2015; Bing-You et al. 1997) can impact how feedback is perceived. A group of us recently completed an extensive scoping review on what is known about feedback for learners in medical education (Bing-You et al. in press). This broad review included 650 full-text references and indicated a lack of high-quality, evidence-based literature on feedback in medical education.

If the purpose of feedback is to improve the learner’s performance, then learners who possess adequate insight and/or self-reflection capabilities may be more receptive to feedback. The aim of our pilot study was to assess how clerkship students’ perceptions of feedback they receive were related to their insight and self-reflective capabilities.

**Methods**

All thirty-seven third-year clerkship students from the same New England medical school, who were rotating at Maine Medical Center, were invited to participate in the study. Twenty-one agreed to participate. These students had at least 8 months of clerkship experience. In return for participating in the study, students received a $25 gift card. The Institutional Review Board of Maine Medical Center approved the study (IRB #3766).

The assessment occurred during evening hours over a one-week period. After students completed the informed consent forms, they completed the Self-reflection and Insight Scale (Roberts and Stark 2008). The SRIS is a 19-item questionnaire where students use a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree). Besides an Insight score (maximum of 35) and an Overall self-reflection score (maximum 60), the latter is further divided in subscales of Engaging in self-reflection and Need for self-reflection. Roberts et al. (2008) have validated the use of the SRIS with medical students. Since there is no published or validated tool to measure students’ perceptions of feedback, we chose to use 10-cm visual analog scales (VAS), anchored with the following paired statements: “my experience with feedback has been constructive—my experience with feedback has not been constructive”; “with feedback, I have changed what I do—with feedback, I have not changed what I do”; ”I am receptive to feedback—I am not receptive to feedback.”

Students read a brief, one-page case of a middle-aged man with shortness of breath, and were asked to write down what other specific information regarding the history and physical they wanted to make the diagnosis, and also to list in order of likelihood the top five diagnostic possibilities. Following the above activities, the students each met privately with a standardized “faculty” person (one of the authors). The same faculty person was used for all the students, and she gave similar, non-judgmental, specific feedback to each student according to a scripted outline and answer key (e.g., “you were able to list 2 information items for additional history”; “you listed 3 diagnoses”). After receiving the feedback, students completed the three visual analog scales described earlier. Pearson correlations between the feedback VAS and the SRIS subgroup scores were assessed using SPSS.

**Results**
There were several correlations between the SRIS scores and the three visual analog scales related to perceptions of the feedback received. Higher scores in Overall self-reflection were moderately correlated with the perceptions “With feedback I change what I do” ($r=0.36$, $P=0.1$), “I am receptive to feedback” ($r=0.34$, $p=0.1$), and “Experience with feedback is constructive” ($r=-0.36$, $p=0.1$).

Engaging in self-reflection and Need for self-reflection subscores were only significantly correlated ($p <0.1$) with the statement “With feedback I change what I do” ($r=0.38$, and $r=0.43$, respectively). The Insight score was not significantly correlated with any of the three visual analog scales.

**Discussion**

The aim of our pilot study was to assess the relationship of students’ perceptions of feedback and their insight and self-reflective capabilities. Archer (2010) emphasizes the importance of reflection-in-action and self-monitoring in a proposal for a new model of feedback in medical education. Our students’ score for Overall self-reflection did appear to correlate positively with their self-perception that they change what they do with feedback and that they are receptive to feedback. These same students, scoring higher on Overall self-reflection, seem to perceive their experience with feedback as less constructive. It is possible that students with more self-reflective capabilities may have a clearer sense of their own performance and as a result require more specific or detailed feedback to benefit from that feedback. Reflection-in-action (Schon 1983) skills are thought to be important for the development of professionals. The related skill of self-monitoring has been described in expert clinicians (Moulton et al. 2007). Epstein (2008) suggests that clinicians need to be more mindful by enhancing their self-monitoring abilities. Our results suggest that in addition to focusing on how feedback is delivered (van der Leeuw and Slootweg 2013), medical educators may advance feedback interactions by also finding ways to increase learner’s self-reflection skills. Doing so could have a significantly positive impact on learners receiving feedback and subsequently improving their clinical performance, although it may require providing a higher level feedback or framing the feedback differently (van de Ridder et al. 2015).

Since there are no validated tools to measure students’ perceptions of feedback, our study was possibly limited by the use of visual analog scales. Students’ self-reports may not be the best approach, though we remain intrigued as to why students continue to frequently complain of not receiving an adequate amount of feedback. Developing and validating an instrument measuring students’ perception of feedback may be a useful tool for faculty developing more effective skills in providing formative and summative feedback. We acknowledge the small sample size in this pilot study limits broad or firm conclusions. Effective feedback should result in behavioral changes and improved student performance, which could be assessed instead of learners’ perceptions, but this type of assessment may be challenging.

**Conclusions**

Medical students and residents need to be open to all feedback and to perceive that the information received is helpful (Bing-You and Trowbridge 2009). Students’ self-reflective capabilities appear to be positively related to their perceptions of feedback and increasing these capabilities may help improve behavior change with feedback. Our hope is that the description of this association will spur other medical educators to explore further approaches to improving feedback.
Take Home Messages

Notes On Contributors

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**Appendices**

**Declaration of Interest**

*The author has declared that there are no conflicts of interest.*