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**Medical Student Perceptions of Feedback and Feedback Behaviors Within the Context of the “Educational Alliance”**

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Supplemental digital content for this article is available at [LWW INSERT LINK].

## **Abstract**

### **Purpose**

Using the “educational alliance” as a conceptual framework, the authors explored medical students’ beliefs about feedback and how their feedback behaviors reflect their perceptions.

### **Method**

Five focus groups (4-6 medical students each) at one U.K. medical school in 2015 were used to capture and elucidate learners’ feedback perceptions and behaviors within the context of the learner–educator relationship. A map of key feedback opportunities across the program was used as a tool for exploring student engagement with the feedback process. Qualitative data were analysed using an approach based on grounded theory principles.

### **Results**

Three learner feedback behaviors emerged: recognizing, using, and seeking feedback. Five core themes influencing these behaviors were generated: learner beliefs, attitudes, and perceptions; relationships; teacher attributes; mode of feedback; and learning culture. Conceptual models illustrating the relationships between the themes and each behavior were developed. Learning culture influenced all three behaviors with a wide context of influences.

## **Conclusions**

Ensuring feedback leads to improved performance requires more than training educators in best practices. The conceptual models support the educational alliance framework and illustrate the context and complexity of learning culture surrounding the educational relationship, learner, and feedback exchange. The educational alliance approach is underpinned by a mutual understanding of purpose and responsibility.

Enhancing learners' feedback literacy skills seems to be the key aspect of the educational alliance in need of attention. Empowering learners to recognize, seek, and use feedback received within diverse learning cultures is essential.



Feedback helps students make sense of their learning and compare their performance against a recognized standard.<sup>1-3</sup> One of the key functions of feedback is to develop learners' capacity to evaluate and change their learning behavior according to their personal learning needs. Compared with junior students, students nearer completion of training have a greater capacity to assess their own learning goals and are more proficient in self-directed learning, a factor related to their maturity.<sup>4</sup> It is therefore hypothesized that as learners mature, they take greater responsibility within their own learning and should rely increasingly on internally generated feedback.<sup>5-7</sup>

Providing effective feedback that improves learner performance has long been the Achilles' heel of medical education. A key issue is the student's recollection that feedback has been provided. Learners consistently report feedback provision as insufficient, a notion that is as consistently disputed by supervisors<sup>8-10</sup> and that best practices to improve feedback delivery have been unsuccessful in rectifying.

Recognition of feedback occurring is an important prerequisite to interpreting and understanding its message, but learners may not always recognize feedback.<sup>4,11,12</sup>

Ideally, this recognition should be enhanced by clarity around feedback opportunities and alignment with the underpinning educational purpose for both learner and educator. Understanding how learners recognize feedback and the role they believe they play in the feedback process requires further attention.

The mechanisms by which learners develop perceptions of feedback are complex and multifaceted.<sup>13-15</sup> Previous research has shown external feedback may be at odds with the learner's internally generated feedback, a conflict that presents a significant challenge in the reception of feedback by the learner.<sup>7,16</sup> Six maladaptive responses

have been conceptualized as occurring as a result of this conflict, including ignoring external feedback, rejecting external feedback, viewing feedback as irrelevant, refusing to see a connection between internal and external feedback, reinterpreting the external feedback to align it with internal judgement, or acting on feedback in a superficial manner.<sup>17</sup> Other factors—such as the emotional reaction of the learner, the credibility of the educator, or the time interval within which feedback is given—may all affect how learners perceive and interpret the feedback message.<sup>14,18-21</sup>

In addition to considering students' perceptions of feedback, educators need to consider how students understand and relate to feedback.<sup>22</sup> McLean et al<sup>22</sup> categorize feedback conceptualizations as “telling,” “guiding,” “developing understanding,” and “opening up a different perspective,” illustrating the variability in underlying conceptions about feedback and stressing the importance of understanding the learner.

Current best practice approaches position learners as passive receivers of feedback<sup>23-25</sup> and have been criticized as “too teacher centred.”<sup>26</sup> Reconceptualizing feedback as a two-way conversation has led to a greater emphasis on the learner's active participation in receiving and acting upon feedback.<sup>27-30</sup> Beaumont et al<sup>31</sup> describe a dialogic cycle within which the learner must decide when and where to seek feedback. In this approach, learners are seen as co-producers of learning who need to be positioned for “cueing educators” toward areas of performance requiring feedback.<sup>32</sup>

Drawing upon principles from the clinical therapeutic alliance, Telio et al<sup>33</sup> discuss the importance of the relationship between educator and learner. Using the framework

of the “educational alliance,” they conceptualize feedback as a process of “negotiation” within which both parties share a mutual understanding of the learner’s goals as well as an agreement on responsibilities for reaching those goals.<sup>33</sup> The learner’s perception of the educational relationship between the educator and the learner is the key determinant of the educational alliance’s success.<sup>32-34</sup>

Whilst the educational alliance viewpoint encourages medical educators to consider the context of the educational relationship from the learner’s perspective in their approach to feedback, further clarification on relationship influences is needed. The literature describes a lack of thorough appreciation of how learners “seek, interpret, and use” feedback,<sup>26</sup> an understanding of which is essential to the aim of developing an effective feedback educational alliance. In this study, we aimed to elucidate what medical students believe about feedback, and how their feedback behaviors reflect their beliefs. We utilized a comprehensive curriculum feedback map as a tool to explore learner feedback perceptions and behaviors and to investigate contextual factors surrounding the feedback process. We envisage that improving this understanding will inform efforts to facilitate medical students to become more active co-participants within their learning and will help drive forward implementation of effective educational alliances.

## **Method**

### **Setting**

The study was carried out in a U.K. medical school (University of Sheffield) with an enrolment of approximately 1,280 students across the five years of the program. The student population comprises predominantly undergraduates who enter medical



school directly from secondary school. In 2015, approximately 93% of first-year students were around age 18 on entry, approximately 8% were of non-UK domiciled international origins, and about 5% were from a targeted admissions route for students representing a wider socio-economic background.<sup>35</sup>

The five-year integrated hybrid curriculum is delivered over four phases. Early phases (phases 1 and 2A, years 1 and 2) covering underpinning clinical and medical sciences are predominantly delivered on the university campus. Instruction comes from a defined cohort of university-based teachers responsible for whole student year cohorts and with in-depth curricular knowledge. Clinical exposure increases sequentially. For the first half of the third year (phase 2B), small groups of learners are principally placed in hospitals or community health premises, where they are supervised by a multitude of clinicians teaching in their discipline and with less insight into wider curricular detail. Teaching modes transition, with reduced structured learning in lectures and university-based small group tutorials, and reflect an expectation of increasing self-directed learning responsive to the changing clinical environment as students move through phases 3A, 3B, and 4 (second half of year 3 through year 5).

### **Feedback map**

Prior to this study, a comprehensive mapping exercise of all key feedback encounters across our medical education program was undertaken.<sup>36</sup> This exercise, which used the educational alliance concept as the lens through which to investigate enhancing feedback,<sup>33</sup> was considered to be a crucial step to help learners and educators identify opportunities for feedback and to facilitate understanding and recognition of the underpinning purpose of feedback within the educational provision. A detailed

curriculum documentary analysis was conducted, and the results were collaboratively and iteratively reviewed by key faculty and educational supervisors across all four curricular phases. The resulting comprehensive feedback map clarified opportunities for feedback within the diverse learning encounters across the program. It provided an articulation of how feedback aligned with both the stage of the learner and the intended impact of the learning experience. This feedback map was made accessible to both supervisors and learners through the medical school virtual learning environment (VLE; a Web-based electronic curriculum and learning resources platform). Illustrative extracts from the feedback map are provided in Table 1.

For this study, we selected a qualitative methodology based on the principles of grounded theory<sup>37</sup> to facilitate a theoretical understanding of student's perceptions and behaviors toward feedback within the context of the educational alliance. We used the feedback map as a facilitatory tool through which to explore student engagement with the feedback process.

### **Focus groups**

The study was undertaken between February and April 2015. Ethical approval for this study was granted by the University of Sheffield's ethical review board. An invitation to participate was initially sent to all students, using the communication platform within the VLE and linkage to an online signup. No incentive was offered for participation. We purposively selected study participants by year group from the respondents to be representative of the demographics of their year and the academic population. We held five focus groups, one per year group, to represent students in all

phases of the program and allow for exploration of potential maturational differences across the student population.<sup>4</sup>

Participants attended a briefing session at which they were provided with further written study information including processes for data collection, storage, and anonymization, and a printed copy of the feedback map. After an opportunity for clarification, students signed a study participation consent form, which also stated their potential to withdraw from the study at any time (either through not attending their planned focus group or removal of their data from the study upon request). To prepare for their focus group sessions to be held the following week, they were asked to consider the feedback map and were encouraged to discuss it with their peers. The purpose of this was to ensure a focused and informed discussion to strengthen the data.

We designed the focus groups to generate multiple perspectives, through both facilitated discussion and spontaneous conversation, and to explore student perceptions as well as the context and circumstances in which their views about feedback have been formed.<sup>38,39</sup> A primary moderator (L.B.) facilitated discussion, with an assistant recording contemporaneous field notes and observations. The moderator was purposefully selected to be non-threatening and impartial to the results of the study. The focus group discussion guide included a flexible framework of questions generated from the literature (see Supplemental Digital Appendix 1 at [LWW INSERT LINK]).<sup>14,28,33,40-43</sup> Introductory questions initiated discussion around feedback and educational relationships, with prompted inquiries around the feedback

map content if the areas had not been covered spontaneously. Discussions continued until saturation was reached, with no new content emerging.

### **Data analysis**

The primary moderator (L.B.) transcribed the audiorecorded discussions, and included the field notes. The NVIVO software package (version 10, QSR International, London, U.K.) was used to assist with data management. The initial scoping analysis (conducted by L.B.) identified key themes. These themes were then refined by the research team (L.B., M.M., D.M.E.), using a constant comparative approach, based on the principles of grounded theory,<sup>37</sup> to elicit a theoretical understanding from the data. We included systematic and iterative stages within the analysis: (1) comparing themes amongst participants within a group, (2) comparing themes within a group, (3) comparing themes amongst different groups, and (4) comparing themes amongst participants in different groups.<sup>44</sup> Peer debriefing and reflexive dialogue with the research team took place throughout all stages of the analysis. Two of the research team members were experienced medical educationalists (D.M.E., M.M.) and one was a recent biomedical science graduate who was new to this field (L.B.). Although member checking was not performed, audio recordings were used to check authenticity of the data interpretation. Our analysis focused on core messages, similarities and differences, maturational differences, relationships between themes, commonalities of themes, and conflicting views between participants.

The emergent themes were developed into conceptual models based on strength of relationships and frequency of associations across the themes. These models were

then tested through fit with the original data and themes to check for saturation of theoretical constructs and trustworthiness. A full audit trail was maintained throughout.

## **Results**

Twenty-five students (16 men, 9 women) participated in the five focus groups. Each focus group included 4–6 participants in the same program year and was 55–70 minutes in duration.

Three clear learner feedback behaviors emerged: recognizing, using, and seeking feedback. Five core themes influencing these three feedback behaviors were generated: learner beliefs, attitudes and perceptions; relationships; teacher attributes; mode of feedback; and learning culture. We identified a number of subthemes contributing to these five core themes. Table 2 presents the themes and subthemes supported by illustrative participant quotes. (Participants are identified by year of study, unique identifying number, and gender, e.g., Y2:03:M).

The intricate relationships between the core themes and the learner feedback behaviors are illustrated through three conceptual models (Figures 1, 2, and 3). Each model focuses on one of the three distinctive learner behaviors of recognizing, seeking, and using feedback and illustrates how the relationship between the core themes influences the identified learner behavior.

In the sections below, we describe how the core themes influence each of the distinctive learner behaviors.

## **Learning culture**

The learning culture theme was found to have an impact within all three feedback behaviors--recognizing, using, and seeking feedback--with a wide context of influences (see Figures 1–3). Students identified clinical learning environments as influential. Frequent rotations and shorter placements affected time available to develop meaningful educational relationships. Learners reported enhanced perceptions of feedback quality when student–supervisor relationships were able to mature.

[T]wo of them I spent a long time with ... I feel like I did get to know them fairly well, they could give some pretty accurate feedback in terms of bits I needed to work on. (Y3:03:M)

Learning culture influenced both relationships and teacher attributes, with impact additionally on mode of feedback. Students described learning cultures focusing on achieving competence but not excellence. Their comments indicated that after they reached a performance standard considered satisfactory for their stage of learning, supervisors were less likely to be recognized as providing additional feedback. Students considered there to be a “tick-box” culture, reflecting the required completion of standardized competency-anchored assessment documentation, particularly during clinical rotations. Students described this as leading learners to “just look at the circles” and “glance over” feedback but “never really take it in” (Y3:04:M). Learners expressed the weaknesses of written feedback, which could be affected by this learning culture, as lacking in value and being of a limited generic nature, restricting transference of learning to other situations.

### **Recognizing feedback (Figure 1)**

The challenge of feedback recognition, a fundamental prerequisite to receiving and being able to respond to feedback, was illustrated in the comments of some participants, particularly those more junior. It was apparent that providing participants with a printed copy of the feedback map prior to the focus groups, allowing time for review and reflection, had resulted in an increased awareness of available feedback opportunities and generated discussion. Students indicated that signposting has potential to better prepare learners to recognize and listen for feedback.

I thought it [the map] was quite detailed, I don't really remember getting a lot of this feedback, or it seems like I don't remember it. But I went through it, found all my feedback forms and went through it and most of it, actually I did receive it. (Y3:04:M)

**Learner beliefs, attitudes, and perceptions.** Whilst the purpose of using the feedback map was to enhance insight and clarity, the data revealed learners across all program years were often confused about what actually constituted feedback. This has potential consequences for student recognition of feedback. Students felt they did not receive the amount of feedback potentially available as indicated within the map. However, perception and recognition of feedback may be influenced by what students expect and the importance they place upon feedback. Some students viewed feedback as “getting signed off the placement rather than actively hearing something” (Y5:02:F).

Additionally, more senior students articulated perceptions that feedback given on their placement assessment forms was for the medical school and not them, highlighting a lack of recognition of the purpose of learner feedback provision.

**Relationships.** Students described their relationships with supervisors as a “major determinant” (Y4:01:M) in the feedback process, and this influenced teacher attributes and learner beliefs, attitudes, and perceptions. The student’s relationship with the medical school was also important, although some junior students had a blurred understanding of the difference between the medical school, as an academic entity, and the roles and responsibilities of supervisors as individuals. Positive relationships were perceived to lead to more “accurate” feedback, resulting in recognition of feedback.

**Teacher attributes.** Teacher attributes are influential in feedback recognition and demonstrate close association with learning culture and relationships. Learners made credibility judgements based on perceptions of educators’ effort level and engagement, with important consequences for their motivation to engage with feedback and learning. Learners valued educators who they felt were “focused” and “worked in the students’ best interests from an educational point of view” (Y1:01:M). Learners’ views that educators were not fully conversant with their stage of training had an impact on the perceived appropriateness of the feedback, and seemed to influence a perception that such feedback was not relevant and therefore not recognized as useful feedback.



**Mode of feedback.** Different modes of feedback clearly had an impact upon students' recognition of feedback. Verbal feedback was reported to be recognized less than written feedback, particularly by junior students when in a clinical context. More senior students identified the potential for verbal feedback to “result in two-way dialogue where they could discuss and clarify aspects of feedback” (Y5:01:F).

### **Using feedback (Figure 2)**

We found that students across all years rarely revisited or monitored their feedback. However, senior students identified the importance of demonstrating engagement, recognizing a shared responsibility between learner and educator.

[I]f they're giving you feedback, they're probably thinking what's the point of this if this person isn't going to learn anything, isn't going to listen, so you've got to be engaged. (Y3:04:M)

**Learner beliefs, attitudes, and perceptions.** Many students reported a lack of engagement and sense of apathy. Junior students felt it was the medical school's responsibility to motivate them to use feedback; some were focused on wanting to simply know the minimum standard required within assessments. Some students suggested that engaging with feedback should be incentivized. Others considered the biggest barrier affecting their behaviors toward learning opportunities, including feedback, to be their perceptions of “usefulness.” Distinct maturational differences were evident across the study cohort, particularly regarding engagement and learner behaviors: Senior students articulated an additional self-directed approach and were more likely than junior students to utilize feedback.

[O]bviously when you get further on, you care about changing your practice more and learning points. (Y4:04:F)

**Teacher attributes.** Credibility judgments affected students' likelihood of using feedback. When educators were seen to have an "organized system," learners felt they could see their "progression" and they could "actually see the use of doing it" (Y3:02:M).

Supervisor engagement affected some students' attitudes toward their engagement with feedback. We found significant dissatisfaction amongst students receiving the same feedback as each other, particularly in written content; this type of feedback experience was an important shaper of learner beliefs, attitudes, and perceptions.

**Relationships.** The quality of relationships had significant influences on perceptions of feedback quality. Teacher attributes were influenced by relationships. Supervisors were valued when students felt understood by them on a personal level, reflecting a perception the supervisors were better able understand the skills and knowledge required for the students to improve.

[I]t's whether the staff care that you're there and it's all very well going and getting involved in things, but if I go and get involved with something and no one else cares that I'm there, I'm going to lose motivation quickly. It's not useful. The feedback isn't ... relevant half the time because the people just don't seem to take any interest in you improving. (Y3:02:M)

**Mode of feedback.** Senior learners particularly described verbal feedback as more useful feedback; in the context of a dialogue they were more "engaged in the

conversation” and felt the feedback to be more “honest” (Y5:01:F). Over longer periods, written feedback was appreciated because it was easier to come back to whereas verbal feedback was quickly forgotten. However, learners made numerous complaints that the quality of the written feedback affected its perceived usefulness to them. This feedback quality perception was often affected by the learning cultures previously described. Video feedback used in clinical skills simulations, whilst time consuming, was valued as a mechanism for self-evaluation.

### **Seeking feedback (Figure 3)**

We saw a clear transition from junior students, who viewed themselves as recipients of feedback, to senior students, who had changed their behavior to consciously seek feedback. Senior students discussed making judgements about whether the supervisor was the “best person” to give feedback and articulated views on being empowered to select feedback givers.

**Learner beliefs, attitudes, and perceptions.** Many identified subthemes reflected the complexity of learner attitudes toward feedback-seeking behaviors (Table 2). Junior students’ expectations were influenced by experiences in high school prior to medical school; feedback was perceived as “being better” with implications of feedback being “given without them having to seek it out” (Y1:02:M). Some junior students reported their feedback-seeking behaviors were influenced by other students’ reports of negative reactions to their asking for feedback.

[H]earsay ... you hear [of] incidences where people have plucked up the courage ... have got shot down and I think that then puts you off... (Y2:02:M)

Junior students were also more likely to consider peer comparison as credible reflections of performance standards. Students nearing graduation recognized increased learning opportunities available from feedback, highlighting the importance of a supportive learning culture during this transition from passivity to proactivity: “I’m a lot more confident to ask now” (Y5:04:M).

Senior participants observed that the feedback map could be useful for realigning expectations and encouraging proactivity in seeking feedback. One final-year student reflected on using resources, including the feedback map:

I don’t think I really knew that it [the map] was on the VLE ... I haven’t gone out there to seek it but maybe it needs to be highlighted earlier on, so that when you first start getting clinical feedback you can look at this and try and use it as more of an opportunity, so I think maybe introducing it earlier would be would be good....  
(Y5:P2:F)

The role of students in seeking feedback generated conflicting discussion amongst participants within and between groups. The use of the feedback map as a tool in the focus groups led to a positive change in the group participants’ perceptions about their role and about seeking feedback. Learners within all year groups indicated they would now be more proactive in their approach.

**Teacher attributes.** The supervisor’s approachability was a crucial factor in facilitating feedback-seeking behaviors, and reported variability whilst on placement had an impact on the educational alliance relationships formed. Supervisor attitudes had significant consequences for learner engagement: If students felt devalued, they became less engaged with feedback and were therefore less likely to seek it.

If I get that attitude from a consultant when I'm there, I sort of go what's the... What does it matter if I turn up here.... (Y3:01:M)

**Relationships.** If students had a good relationship with their supervisor, they were more likely to be able to ask for feedback. When educators were perceived as putting effort into the relationship, students reacted positively, were more engaged with the feedback, and considered the supervisor as credible.

[H]e had a very organized system of feedback ... he gave you feedback on yourself every week and then at the end he made you collate all of the feedback you'd been given so you could see your progression ... you could implement feedback on a week by week basis and you could actually see the use of doing it. (Y2:02:M)

## **Discussion**

Ensuring feedback is effective and leads to improved learner performance is a challenge. Current models of feedback in practice are frequently reported to lack dialogic partnership with shared responsibilities.<sup>8,13</sup> The “educational alliance” conceptual model describes a supportive educational relationship upheld by the alignment of values and learning intentions.<sup>33</sup> Our study explored the hypothetical ideal of this model in the reality of medical undergraduate training to capture students’ perceptions about their feedback experiences and influences on learning behaviors.

Core principles from the therapeutic alliance form the educational alliance and are underpinned by a mutual understanding of purpose.<sup>33,45</sup> This emphasizes the value of using our feedback map as a tool to facilitate a mutual understanding of feedback

aligned with the learning intentions of both supervisor and learner. The feedback map supported meaningful discussion with learners about their perceptions around feedback encounters; it also helped us understand the range of influences on effective feedback experiences and the implications for development of an effective educational alliance.

As described above, we developed three conceptual models of factors that have an impact upon three distinctive learner behaviors--recognizing, using and seeking feedback--through analysis of the data. Five core themes emerged: learner beliefs, attitudes, and perceptions; relationships; teacher attributes; mode of feedback; and learning culture. Each of the three learner behaviors is influenced by different relationships with the key themes, as evidenced by the data (see Table 2 and Figures 1–3). Our findings validate other core principles underpinning the educational alliance concept,<sup>33</sup> with learners identifying their relationships with educators as major determinants in the feedback process.

The learning culture emerged as a key influence on learner feedback behaviors, and would indicate a required commitment at the institutional and individual educator levels to address the learning culture, and thus enhance the potential for implementing an effective feedback educational alliance. By implication, this also acknowledges that optimizing feedback behaviors is not solely dependent on the feedback encounter, but is underpinned by a number of ideal practices that may not reflect the reality of learning within the medical environment. Even within the more controlled university environment, where there are opportunities to standardize faculty training, establishing and maintaining longitudinal relationships between educators and

learners is unlikely to be wholly feasible. In the busy workplace, the multiplicity of roles held by the clinical supervisors who oversee students inevitably leads to a variability in feedback quality, however unintended and irrespective of the commitment to a positive educational alliance.

Kluger and Van Dijk<sup>43</sup> argue that current feedback “best practice” in medical education is insufficient and potentially unrealistic. The contextual diversity within clinical environments and the range of learners’ prior experiences will influence both their feedback perceptions and learning needs and indicates the challenge to supervisors of “working with a mixed foci.”<sup>43</sup> The feedback giver is required to acquire an understanding of the student’s regulatory focus and individual learning needs in an almost certainly unrealistic time frame. Additionally, the reality of medical training and the number of supervisors in short rotations through hospital settings make it difficult to monitor feedback quality.

Whilst this is beyond learners’ control, how they engage and actively seek feedback can be under their control. Evidence from the literature suggests a shift from focusing on learner acceptance of feedback to supporting and priming learners as “co-producers” of learning.<sup>32</sup> The messy reality of learning within the often less-than-optimal educational environment of clinical practice may be regarded by many as requiring the preparation of learners for “adversity.” This, more explicitly, highlights the necessity of educating both learners and educators in optimizing feedback as a learning tool.<sup>46,47</sup> Molloy<sup>47</sup> suggests that students need to learn the theory and practice of feedback to afford them the confidence to “give and receive feedback within the supervisory relationship.” The notion that learners need concurrent training to make

feedback a meaningful activity supports the implications from our study outcomes. Supporting learners by empowering them with strategies to enable them to recognize, use, and seek feedback within the context of an educational alliance, alongside ongoing training for educators, additionally requires curricular transparency. Identifying feedback opportunities aligned with intended outcomes provides an inviting perspective from which to reconsider how to approach the “feedback gap.”<sup>11,26,34</sup>

So where does this leave the educational alliance as an ideal conceptual model within medical training? Feedback within the framework of an educational alliance may be inhibited if resources are merely focused on improving the practice of teachers, as has been the historical approach. Given the significant influence of learning culture within medical training in the context of an effective feedback exchange, on a pragmatic basis the focus needs to shift from what the educator can do to what the learner can do. In this study, we have shown that multiple factors have an impact on learner perceptions and behaviors in the feedback process. A holistic strategy is required, based on partnerships between educators and students with mutual responsibilities. In committing to an equal partnership within the framework of an educational alliance, learners need to understand the importance of feedback and be equipped with the necessary skills to recognize, use, and seek feedback.

Whilst this study’s small sample size from within one institution could be identified as a limitation, our purpose was to conduct an in-depth exploration of student perceptions of feedback within a medical school that had identified feedback opportunities available within the educational program. The emergent conceptual



models of feedback behaviors are grounded in the data generated through the discussions.

Our conceptual models linking the feedback behaviors support the educational alliance framework and give insight to the complexity of context and learning culture surrounding the educational relationship and the learner. Additionally, the network of factors within the models illustrates the complexity surrounding the feedback exchange and highlights a multitude of influences to be considered when reviewing feedback strategies. It reinforces that ensuring feedback has an impact upon learning requires more than a focus on setting the stage for effective feedback interventions. Provision of a mapping tool intended to potentiate mutual clarity of purpose behind a feedback interaction may be of value.

This study has allowed greater insight into the implications of the learner perspective within an effective educational alliance and has illustrated potential influences contributing to a “feedback gap.”<sup>11,26,34</sup> Factors contributing to learners’ adaptive and maladaptive responses to feedback have been clarified, addressing an important gap in the literature and one that the educational alliance approach might specifically influence. The reality is that many years of faculty development programs have had limited impact in this area. Shifting focus to enhancing learners’ feedback literacy skills, in order to enable them to recognize and seek out feedback relevant to their own personal learning needs would seem to be the key aspect of the educational alliance in need of attention. Whilst improved relationships might influence how feedback is perceived by learners, perhaps more essential is empowering learners to adapt to the variable quality of feedback received within diverse learning cultures.

This involves empowering students to take charge of their own learning when faced with the reality of a non-ideal workplace. Reducing reliance on external validation of performance and moving toward stable self-direction with competence in judging what is valuable feedback for the diversity of learning encounters within medical training is required.

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## **Figure Legends**

### **Figure 1**

Conceptual model of factors identified as influencing the learner behavior recognizing feedback. The strength of association between the core themes observed within the focus group data and their influence on the learner behavior are represented by the thickness and direction of the connecting arrows (the thicker the line, the stronger the association).

### **Figure 2**

Conceptual model of factors identified as influencing the learner behavior using feedback. The strength of association between the core themes observed within the focus group data and their influence on the learner behavior are represented by the thickness and direction of the connecting arrows (the thicker the line, the stronger the association).

### **Figure 3**

Conceptual model of factors identified as influencing the learner behavior seeking feedback. The strength of association between the core themes observed within the focus group data and their influence on the learner behavior are represented by the thickness and direction of the connecting arrows (the thicker the line, the stronger the association).

Figure 1

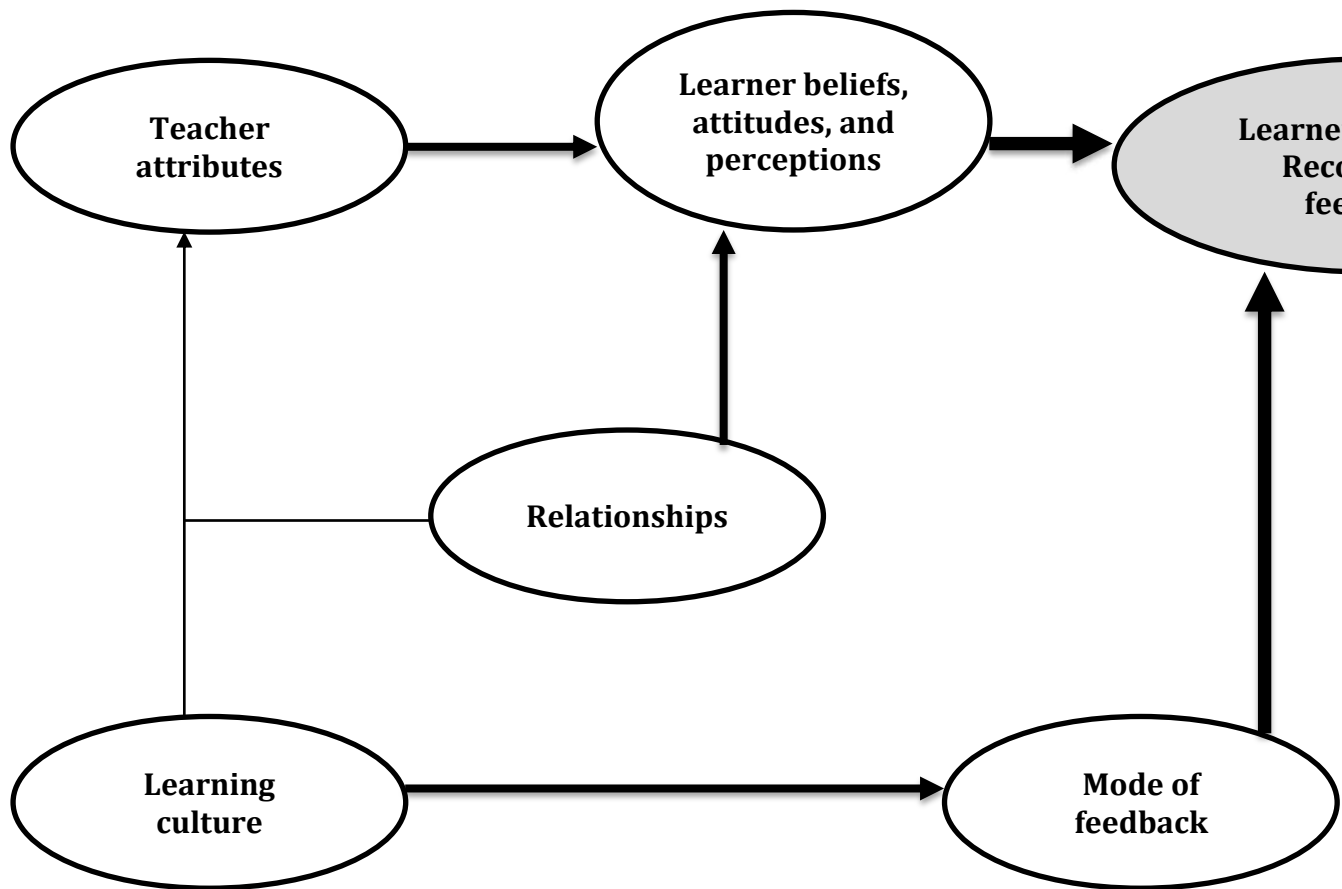


Figure 2

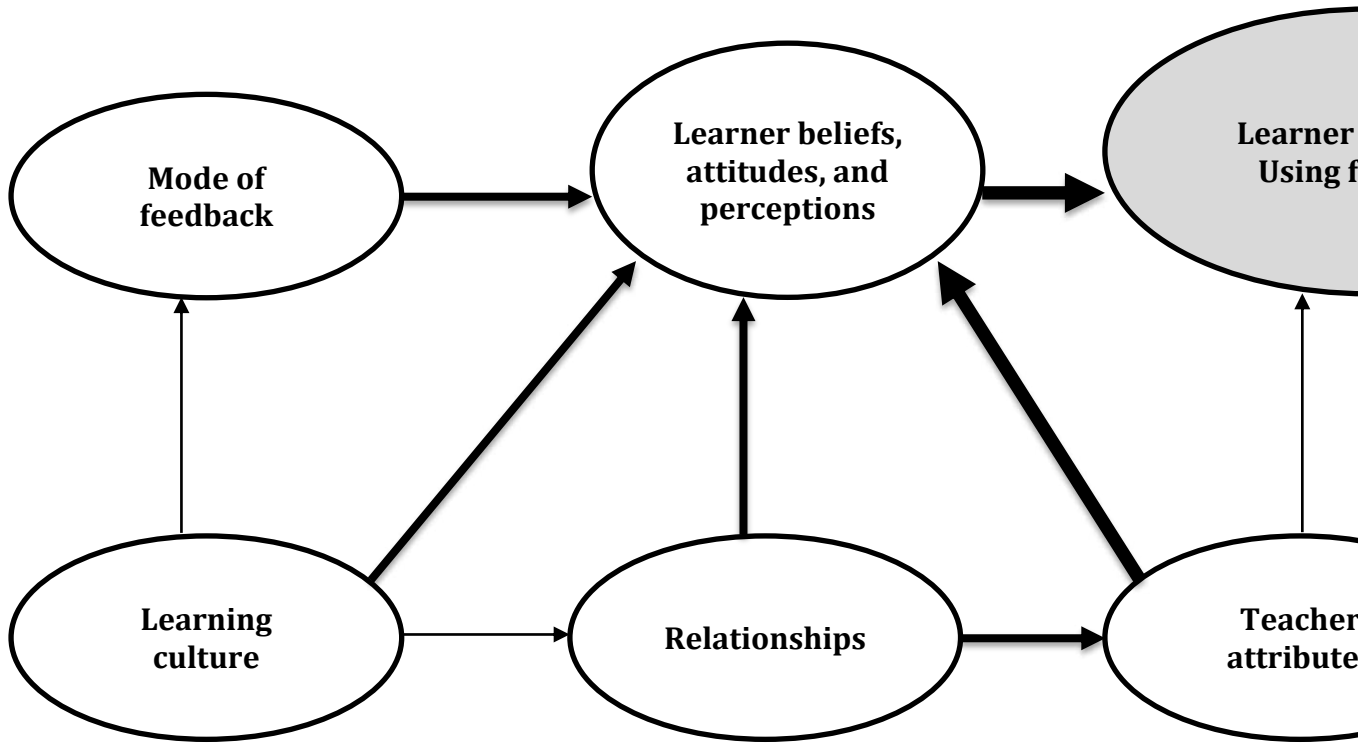
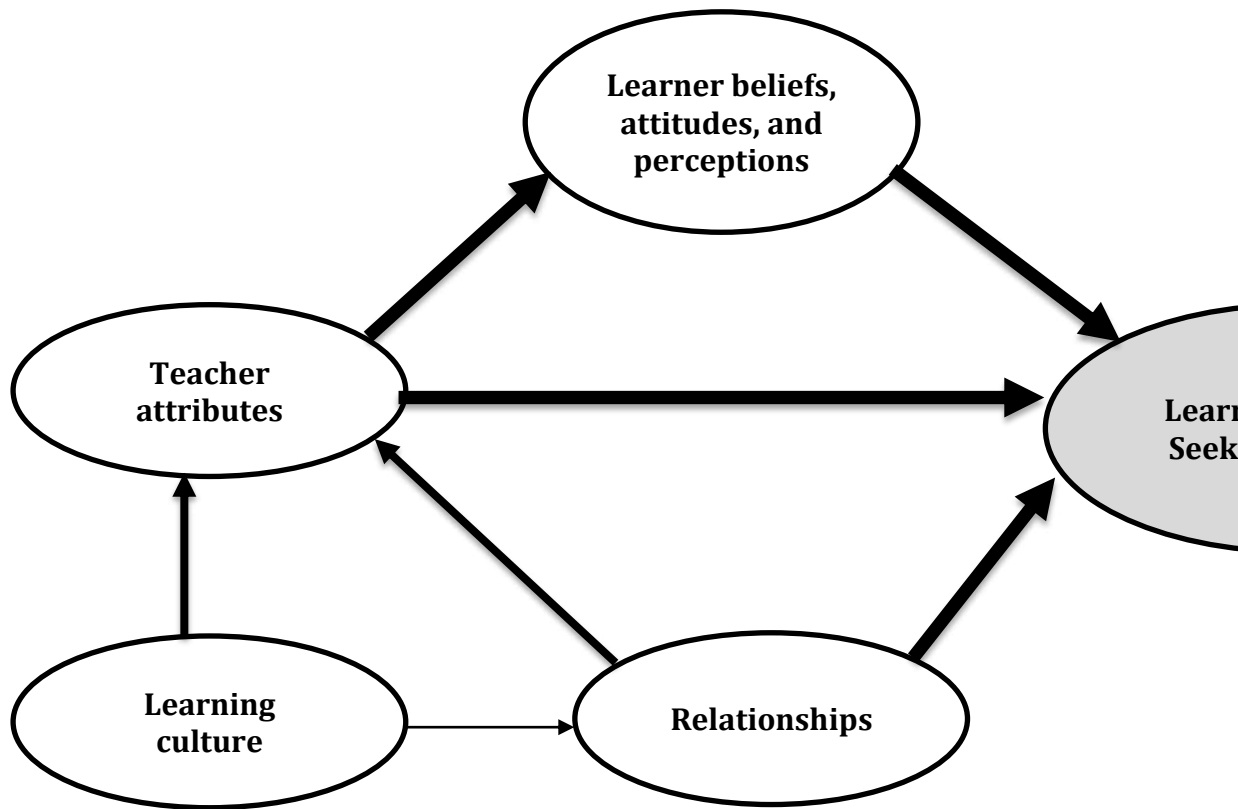


Figure 3



**Table 1**

<b>Curricular phase and component</b>	<b>Type of assessed outcome</b>	<b>Feedback type</b>	<b>Group or individual</b>	<b>Feedback timing</b>	<b>Feedback purpose a</b>
Phase 1: Intensive clinical experience (ICE) (clinical shadowing placement)	Overall performance	Written (ICE assessment template)	Individual	Immediate	<ul style="list-style-type: none"> <li>• Encourage student communication s</li> <li>• Enable students t</li> <li>• Enable students t</li> <li>• appropriate, take</li> <li>• Reinforce the Pro</li> <li>• Students (Univer</li> <li>• Understand the d</li> <li>• Council's Good I</li> <li>• Encourage studen</li> <li>• ICE</li> </ul>
		Verbal	Group		
		Verbal	Individual		
	History taking	Verbal and written (history presentation assessment template)	Individual	Immediate	<ul style="list-style-type: none"> <li>• Understand the d</li> <li>• Council's Good I</li> <li>• Encourage studen</li> <li>• ICE</li> </ul>
Phase 2: Consultation and communication (professional development course)	Lecture	Verbal	Individual (peer)	Immediate	<ul style="list-style-type: none"> <li>• Learn about the C</li> <li>• model<sup>49</sup> and how</li> </ul>
	Communication skills workshops	Verbal from peers, tutor, and patient Written Feedback templates	Individual	Immediate	<ul style="list-style-type: none"> <li>• Learn and practic</li> <li>• according to the t</li> <li>• Improve ability to</li> <li>• Improve confiden</li> <li>• Reflect on own c</li> </ul>
Phase 3B: Community clinical attachment (placement)	Consultation skills	Verbal	Individual	Immediate	<ul style="list-style-type: none"> <li>• Identify strengths</li> <li>• Practice complex interpreter</li> </ul>
	Mini-CEX	Written and verbal	Individual	Immediate	<ul style="list-style-type: none"> <li>• Identify strengths and presentation</li> </ul>

**Feedback Map Excerpts Highlighting the Progressive Learning and Aligned Feedback for the Development of Communication Skills, in Sequential Phases Within the University of Sheffield's Four-Phase, Five-Year Undergraduate Medical Education Program**

Abbreviation: Mini-CEX indicates mini clinical evaluation exercise.

**Table 2**

**Core Themes and Subthemes Generated From the Focus Group Data,  
Demonstrating Factors Affecting Learner Behaviors of Recognizing, Using, and  
Seeking Feedback**

<b>Subtheme</b>	<b>Participant<sup>a</sup> and supporting quote</b>
Knowledge and understanding of feedback	Y2:03:M: "I think possibly, you maybe need a bit more ... precise definition of what is ... feedback" Y5:01:F: "I realise now that all that feedback all along wasn't supposed to be feedback to the me was supposed to be feedback to me, makes a big difference"
Ethos	Y3:01:M: "I think on like a medical student's agenda it's not top of the list to be, to ask people for feedback"
Expectations	Y1:04:M: "people are not getting as much feedback as they want, or they were expecting"
Importance of feedback	Y5:01:F: "there's that conception that you don't need to get feedback ... it's not really that important"
Engagement	Y4:01:M: "a lot of the battle is gonna be, is getting myself motivated ... to go and get feedback"
Hearsay	Y2:02:M: "it's all hearsay, you hear on incidences where people have plucked up the courage to something and have got shot down and I think that then puts you off"
Perceived usefulness	Y3:02:M: "it's not useful, the feedback isn't relevant half the time because the people just don't take any interest in you improving"
Learner experience	Y5:03:M: "I felt really devalued by it ... I completely stopped enjoying the experience and place became a hassle"
Positioning in feedback exchange	Y2:02:M: "receiving it and understanding their points"
Self-efficacy	Y5:04:M: "I'm a lot more confident to ask now"
Maturity	Y3:04:M: "I think I'm getting better at like paying attention to feedback so first sort of two years I just didn't really care ... whereas now I'm more conscious of the fact that you should really be improve"
Importance	Y3:02:M: "I think it's important that you get the relationship and that sort of everyone's on the same"
Relationship quality	Y1:02:M: "whereas if it was someone who I didn't really know ... then I wouldn't be as willing to ask them for feedback"
Feedback quality	Y1:03:F: "you don't know someone and they're not really familiar with you ... is their feedback gonna be as accurate"
Perceived equality	Y2:03:M: "they said our points were invalid and that we were wrong essentially, it's just not a two-way relationship"
Approachability	Y1:04:M: "just didn't feel comfortable to approach him"
Attitudes	Y3:02:M: "it's whether staff care that you're there when you go"
Credibility	Y3:02:M: "they don't know what level you're supposed to be aiming at, they can't really ... people can't give feedback that's relevant to you" Y1:01:M: "like he was very ... education focused ... you really felt like he was here to make your experience better"
Delivery	Y1:02:M: "normally, it's quite one way"
Verbal feedback	Y5:01:F: "when you're engaged in the conversation and you're listening to it, it's I find it's usually good quality"
Written feedback	Y4:03:F: "written feedback we've already said like most of the time it's not useful and it's just gonna be ignored"
Video	Y5:02:F: "it's good for giving feedback to yourself which we're all rubbish at[P:yeah <sup>b</sup> ] ... people can't tell how you did on something and you're like ... I don't want to give myself feedback ... [P:mmm <sup>b</sup> ] and it makes you do it ... makes you think oh ... gosh I need to work on that ... but I did that bit quite well"
Time	Y5:02:F: "because they're just getting that constant rotation of students, they don't get to know you, they don't spend that time with you"
Tick-box culture	Y4:05:M: "the reason it feels like a tick-box exercise is [because] it is a tick-box exercise, there's no real bearing on us, it has no impact"
Competence but not excellence	Y3:05:F: "it's kind of like a culture of being competent but not excellent"

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Workplace environment Y5:03:M: “the culture of the working place that you’re in, so anaesthetics and GP [General Practitioner] certain type of training structure which lends itself to ... our trainers being used to having a trainee whereas somewhere like a general medical ward ... where you’re just ... a function ... that doesn’t come as easily”

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Program structure Y5:02:F: “because they’re just getting that constant rotation of students, they don’t get to know you, they don’t spend that time with you”

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<sup>a</sup>Participant identifiers indicate year of study, participant number, and participant gender

<sup>b</sup>Another focus group participant’s comments supporting the views being expressed.

## Supplemental Digital Appendix 1

### Focus group discussion guide

(Questions used as prompts only if required and area did not arise through spontaneous

- How do you monitor your feedback? Do you think it reflects your progress?
  - *Purpose: Do students record their feedback and reflect on it? If they are recording it does it signify recognition? Do they find it reflects their progress?*
- What do you think your role in obtaining feedback should be?
  - *Purpose: Determine the role students believe they should play in the feedback process.*
- How do you feel about asking for and discussing feedback? Are there any situations where you have felt uncomfortable? Who do you prefer receiving feedback from?
  - *Purpose: To give an indication of the current relationship students have with educators - do they feel comfortable asking for feedback and is this stopping them from asking for it if otherwise?*
- What were your first impressions of the feedback map?
- Do you think the feedback on the map represents what is occurring?
  - Is this the same for everyone?
  - Do your expectations of feedback influence the feedback experience you have with the giver?
  - In an ideal world how could the medical school manage staff and student expectations?
- Are there any items you would not consider as feedback?
- What types of feedback do you think provide the strongest feedback?
- What types of feedback do you think provide the weakest feedback?
- After looking over the map do you feel differently about feedback on the course?

discussion)