EXPLORING TOP-PERFORMING MEDICAL STUDENTS' PERSPECTIVES ON FEEDBACK PRACTICES IN UNDERGRADUATE MEDICAL EDUCATION: A QUALITATIVE STUDY

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Abstract

Objective: To explore the perceptions and experiences of top-performing undergraduate medical students regarding timely and constructive feedback in medical education.

Methodology: A qualitative exploratory phenomenological study was conducted at CMH Kharian Medical College from January to April 2026 after ethical approval. Twelve top-performing MBBS students (≥75% marks or top 10% of class) were selected through purposive sampling. Data was collected using semi-structured interviews based on open-ended questions. Interviews were conducted in English or Urdu, transcribed verbatim and analyzed using Braun and Clarke's six-step thematic analysis framework with the help of NVivo 12 Pro. Member checking was performed to ensure credibility.

Results: Thematic analysis revealed five major themes: perceived importance of feedback, characteristics of effective feedback, barriers to feedback utilization, utilization of feedback among high achievers and recommendations for improvement. Students considered feedback essential for identifying learning gaps and guiding self-directed learning. Effective feedback was described as timely, specific, constructive, and individualized. Major barriers included delayed feedback, lack of clarity, and negative emotional responses. High-achieving students demonstrated active engagement with feedback by reflecting on and applying it to improve performance. Participants recommended structured feedback systems, use of digital platforms, and faculty training to enhance feedback practices.

Conclusion: Top-performing students value and actively utilize feedback; however, systemic and delivery-related barriers reduce its effectiveness. Implementing structured, timely, and learner-centered feedback approaches,

supported by faculty development and digital integration, can significantly enhance learning outcomes and professional growth in medical education.

Introduction:

Feedback is a fundamental component of the teaching–learning process and plays an important role in shaping the academic and professional development of students. It is commonly defined as specific information provided to learners regarding their performance in relation to a defined standard, with the primary aim to improve their future performance [1]. In medical education, feedback serves not only as an evaluative tool but also as a powerful mechanism to guide learners toward competence, clinical reasoning and reflective practice. Effective feedback decreases the gap between current performance and desired learning outcomes, enabling students to identify their strengths and areas of improvement [2]. The implementation of feedback in medical education has evolved significantly with the transition from traditional didactic teaching to competency-based and integrated curricula [3]. In modern medical curricula instead of judging the performance of individuals, feedback can be seen within formative assessment strategies and is intended to support continuous learning. Now various forms of feedback are under use, including verbal, written, individual and group-based feedback. These are delivered during lectures, clinical rotations and assessments [4]. Among these, formative feedback is considered the most educationally valuable as it provides ongoing guidance and facilitates progressive improvement. However, for feedback to be effective, it must possess certain essential characteristics, including timeliness, specificity, clarity and constructiveness [5].

Despite its recognized importance, the effective implementation of feedback in undergraduate medical education remains a challenge. Faculty members often face barriers such as heavy workload, time constraints, large class sizes and lack of formal training in feedback delivery. These challenges can result in delayed, inconsistent, or superficial feedback practices [6]. Additionally, the absence of standardized institutional frameworks for feedback further contributes to variability in its quality and effectiveness. Consequently, the intended benefits of feedback may not be fully realized, ultimately affecting students' learning outcomes and academic performance [7]. Equally important, but often less explored, is the perspective of students regarding feedback. While considerable research has focused on faculty perceptions and barriers, understanding how students perceive, interpret, and utilize feedback is essential for optimizing its effectiveness. Students are the primary recipients of feedback, and their engagement with it determines its ultimate impact on learning. In particular, high-achieving or

top-performing students represent a unique group, as they are more likely to actively seek, interpret, and apply feedback to enhance their performance. Exploring their perspectives can provide valuable insights into what constitutes effective feedback and how it can be better aligned with learners' needs [8,9].

Previous quantitative research conducted at CMH Kharian Medical College identified several faculty-reported barriers to timely and constructive feedback, including workload, time constraints and lack of structured systems. The study also highlighted the negative impact of delayed feedback on students' motivation, academic performance and concept retention. However, while these findings provide important insights from the faculty perspective, they do not fully capture how students experience and utilize feedback in their learning process [6]. Therefore, there is a need to explore feedback practices from the students' perspective, particularly among top-performing students who demonstrate high levels of academic engagement and self-directed learning. Understanding their experiences can help to identify gaps between feedback delivery and its perceived usefulness, thereby informing strategies to enhance feedback practices in medical education.

Methodology:

Study Design: A qualitative exploratory study using questionnaire-based semi-structured interviews was conducted to explore the perceptions and experiences of top-performing undergraduate medical students regarding timely and constructive feedback in medical education.

Study Duration: Five months, from January 2025 to May 2025, after obtaining ethical approval from the Institutional Ethical Review Board (IERB) of CMH Kharian Medical College with reference no. CKMC/IERB/AC-00215.

Study Setting: The study was conducted at CMH Kharian Medical College, Kharian, Pakistan, a private-sector medical institution affiliated with the National University of Medical Sciences (NUMS).

Participants: Twelve undergraduate MBBS students identified as top-performing (≥75% marks or among the top 10% of their class) participated voluntarily in the study. Participants were selected using purposive sampling and included students from clinical years who had prior experience of receiving feedback in both academic and clinical settings. Students who had repeated any academic year, were on extended leave, or declined participation were excluded.

Data Collection: Data was collected through semi-structured interviews based on a questionnaire containing open-ended questions designed to explore students' perceptions, experiences and expectations

regarding feedback practices. Interviews were conducted in a quiet and private setting within the academic premises to ensure confidentiality and lasted approximately 40–60 minutes. Interviews were conducted in English or Urdu according to participant's preference and were recorded in written form and later transcribed verbatim for analysis. Participant anonymity was ensured by assigning pseudonyms (S1–S12).

Data Analysis: Data was analyzed by using Braun and Clarke's (2006) Six-Step Thematic Analysis Framework:

1. Familiarization with the data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

Coding was performed using NVivo 12 Pro (QSR International) to organize data, identify recurring patterns and retrieve participant quotations. Codes were grouped into categories and refined into overarching themes reflecting students' perceptions, utilization, challenges and expectations regarding feedback. Member checking was conducted with three participants to ensure credibility and accuracy of the findings.

Results:

A total of twelve top-performing undergraduate medical students participated in this study. Thematic analysis of the interview data revealed five major themes with corresponding subthemes reflecting students' perceptions, experiences and expectations regarding feedback practices in medical education.

Theme 1: Perceived Importance of Feedback in Learning

1.1 Feedback as a Tool for Academic Improvement

Participants consistently described feedback as essential for identifying gaps in knowledge and improving performance.

"Feedback tells me exactly where I am lacking and what I need to improve before exams." (S3)

1.2 Role in Guiding Self-Directed Learning

Students highlighted that feedback helped them plan their study strategies more effectively.

"It helps me a lot to focus on weak areas instead of studying everything blindly." (S7)

Theme 2: Characteristics of Effective Feedback

2.1 Timeliness of Feedback

Most participants emphasized that feedback must be provided promptly to be useful.

"If feedback is delayed, I forget what mistakes I made, so it becomes less helpful." (S2)

2.2 Specific and Constructive Nature

Students preferred feedback that was detailed, actionable, and focused on improvement.

"General comments like 'good' or 'average' don't help; I need specific points." (S9)

2.3 Individualized Feedback

Participants valued personalized feedback over group-based comments.

"Everyone has different mistakes, so individual feedback is much more useful." (S5)

Theme 3: Barriers to Effective Feedback Utilization

3.1 Delayed Feedback Delivery

Delayed feedback emerged as a major concern among students.

"Sometimes feedback comes after exams, so it doesn't benefit us." (S1)

3.2 Lack of Clarity and Detail

Students reported that unclear or vague feedback limited its usefulness.

"We are told what is wrong, but not how to correct it." (S8)

3.3 Emotional Response to Negative Feedback

Some participants expressed hesitation in engaging with feedback due to fear of criticism.

"Negative feedback can be discouraging if not delivered properly." (S10)

Theme 4: Utilization of Feedback Among High-Achieving Students

4.1 Active Engagement with Feedback

Top-performing students reported actively reflecting on and applying feedback.

"I always review feedback carefully and try not to repeat the same mistakes." (S6)

4.2 Feedback as a Motivational Factor

Feedback was perceived as a key factor in maintaining high academic performance.

"Constructive feedback motivates me to do even better next time." (S11)

Theme 5: Recommendations for Improving Feedback Practices

5.1 Need for Structured Feedback Systems

Participants emphasized the importance of standardized feedback mechanisms.

"There should be a proper system so every student gets timely feedback." (S4)

5.2 Use of Digital Platforms

Students suggested incorporating digital tools to streamline feedback delivery.

"Online feedback systems can make the process faster and more organized." (S12)

5.3 Faculty Training in Feedback Delivery

Participants highlighted the need for faculty development programs.

"Teachers should be trained on how to give constructive feedback effectively." (S2)

Theme	Sub-theme	Codes	Key Insights	Interpretation
Perceived Importance of Feedback	Role of feedback in learning and improvement	Academic improvement, gap identification, guidance, self-directed learning	Students considered feedback essential for identifying weaknesses and guiding focused study. It helped them improve performance and avoid repeated mistakes.	Feedback is a central component of learning for high-achieving students and supports self-regulated learning.
Characteristics of Effective Feedback	Nature and quality of feedback	Timely feedback, specificity, constructive comments, individualized feedback	Students emphasized that feedback must be timely, specific, and personalized to be effective. Generic or delayed feedback was considered less useful.	Effective feedback requires clarity, timeliness, and individualization to maximize its educational impact.

Barriers to Effective Feedback	Challenges in receiving and utilizing feedback	Delayed feedback, lack of clarity, vague comments, emotional response, fear of criticism	Students reported that delayed and unclear feedback limited their ability to benefit from it. Negative tones sometimes reduce confidence and engagement.	Barriers at both delivery and perception levels hinder optimal utilization of feedback.
Utilization of Feedback Among High Achievers	Engagement and application of feedback	Reflection, self-improvement, motivation, performance enhancement	Top-performing students actively reviewed and applied feedback to improve their academic performance and maintain high standards.	High achievers demonstrate proactive engagement with feedback, enhancing learning outcomes.
Recommendations for Improving Feedback Practices	Suggested improvements by students	Structured system, digital platforms, faculty training, regular feedback sessions	Students recommended implementing structured feedback systems, using digital tools, and training faculty to provide effective feedback.	System-level improvements and faculty development are essential to strengthen feedback practices.

Table 1: Themes, Sub-themes and Key Student Perceptions of the Feedback System

Discussion:

This qualitative study explored the perceptions and experiences of top-performing undergraduate medical students regarding timely and constructive feedback. The findings revealed multiple interrelated themes, including the perceived importance of feedback, characteristics of effective feedback, barriers to its utilization, active engagement by high-achieving students and recommendations for improvement. These findings not only reinforce the critical role of feedback in medical education but also provide deeper insights into how feedback is interpreted and utilized by learners.

The first theme highlighted the perceived importance of feedback as a fundamental tool for academic improvement and self-directed learning. Participants consistently reported that feedback helped them to identify the gaps in their knowledge and guided them toward focused learning strategies. This aligns with the work of Obilor and Esezi who emphasized that feedback is essential for bridging the gap between observed performance and expected standards [10]. Similarly, Li et al. described feedback as a cornerstone of learning that supports reflective practice and continuous professional development [11].The findings of the present study further extend this understanding by demonstrating that top-performing students actively rely on feedback to refine their learning approaches and maintain academic excellence.

The second theme focused on the characteristics of effective feedback, particularly timeliness, specificity and individualization. Participants strongly emphasized that feedback must be prompt and detailed to be meaningful. The study of Butt et al. has also emphasized on the importance of timely feedback particularly in medical education, as delayed feedback may lose its relevance and fail to influence learning behaviors. When provided promptly, feedback allows learners to reflect on their recent performance and implement corrective measures before misconceptions [6]. Similarly, the study of Nurkhamidah et al. also described in detail that specific and constructive feedback can help students to understand exactly what aspects of their performance require improvement and how such improvements can be achieved. In contrast, vague or overly general feedback may lead to confusion and limit its educational value. Furthermore, feedback that is delivered in a supportive and non-threatening manner enhances student motivation, promotes self-confidence and increases a positive learning environment [12]. These findings are consistent with the study of Tatiana Tutunaru, who highlighted that effective feedback must be clear, timely, and actionable to significantly influence learning outcomes [13]. Moreover, individualized feedback was particularly valued by students in this study, as it addressed their specific weaknesses. This reflects the principles of

learner-centered education, where feedback is tailored to individual needs rather than delivered in a generic format [14].

The third theme identified several barriers to effective feedback utilization, including delayed delivery, lack of clarity and emotional responses to negative feedback. Students reported that delayed feedback limited its usefulness, as they were unable to recall their performance or apply corrective measures. This finding complements previous research conducted at the same institution, which identified workload and time constraints as major barriers faced by faculty in providing timely feedback [6]. Additionally, the issue of unclear or vague feedback emerged as a significant concern, as students often struggled to understand how to improve. This is supported by the work of Jin et al. who emphasized that unclear feedback can hinder learning by failing to provide actionable guidance [15]. Emotional factors also played a role, with some students expressing discomfort or discouragement when feedback was delivered in a harsh or non-supportive manner.

The fourth theme explored the utilization of feedback among high-achieving students, revealing that these students actively engage with feedback and use it as a tool for continuous improvement. Participants described reflecting on feedback, identifying recurring mistakes and implementing corrective strategies in subsequent assessments. This proactive engagement aligns with the concept of self-regulated learning, as described by Zare et al. where learners actively monitor and adjust their learning behaviors [16]. The findings suggest that high-achieving students do not passively receive feedback but instead integrate it into their learning process, thereby enhancing their academic performance and motivation.

The final theme focused on recommendations for improving feedback practices, with participants advocating for structured systems, digital platforms and faculty training. Students emphasized the need for standardized feedback mechanisms to ensure consistency and timeliness. The suggestion to utilize digital platforms reflects the growing role of technology in medical education, particularly in streamlining feedback delivery and maintaining records. This is supported by a recent study of Singaram et al, highlighting the effectiveness of digital tools in enhancing feedback efficiency and accessibility [17]. Furthermore, participants underscored the importance of faculty development programs to improve feedback skills, which aligns with previous research demonstrating that trained educators are more effective in delivering constructive and impactful feedback [18].

Overall, the findings of this study highlight a critical alignment as well as a gap between feedback provision and its utilization. The present study reveals that students, particularly high achievers, are highly

receptive to feedback when it is timely, specific and supportive. This underscores the need for a holistic approach that addresses both faculty and student perspectives to optimize feedback practices.

Limitations:

This study was limited to a single institution with a small sample of top-performing students, which may restrict broader applicability. Data were based on self-reported perceptions, which may introduce bias. Future studies should include diverse student groups across multiple institutions and explore structured feedback systems and digital tools to improve feedback practices.

Conclusion:

This study concludes that top-performing medical students perceive feedback as a vital component of their learning, particularly when it is timely, specific and constructive. While these students actively engage with and utilize feedback to enhance their academic performance, barriers such as delayed delivery, lack of clarity, and absence of structured systems limit its effectiveness. Addressing these challenges through standardized feedback practices, faculty training and integration of digital platforms can significantly improve the quality of feedback, ultimately enhancing student learning outcomes and professional development in medical education.

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