

Original Article

The Effect of Faculty Development Program on Students' Success: A concurrent Mixed Method Study

Javeria Usman,¹ Lubna Humayun,² Saima Rafique,³ Maimoona Nasreen,⁴ Zakia Saleem,⁵ Kinza Aslam,⁶ Lubna Baig⁷

¹Department of Surgery, University College of Medicine & Dentistry, The University of Lahore; ²Department of Pathology, University College of Medicine & Dentistry, The University of Lahore; ³Department of Obstetrics & Gynaecology, University College of Medicine & Dentistry, The University of Lahore; ⁴Department of Physiology, University College of Medicine & Dentistry, The University of Lahore; ^{5,6,7}Department of medical education, University College of Medicine & Dentistry, The University of Lahore

Abstract

Background: Faculty Development Programs (FDPs) are the pillars of teaching and learning in any institution. FDPs play crucial role in advancing quality teaching and learning for successful students' outcome in medical education. FDPs can indirectly improve students' academic performance and learning experiences through faculty enhancement of pedagogical, assessment, and mentoring skills.

Objective: To evaluate the effect of a faculty development program on students' academic success and learning experiences.

Methods: A Concurrent mixed, methods research was done at the University of Lahore from August 2024 to January 2025 after approval by the Ethical Review Committee (ERC/40/24/07). A self-administered, validated questionnaire was distributed among second, third, and fourth, year MBBS students (n = 400). Quantitative data were analyzed on SPSS version 24. Six FGDs were done with purposively selected high, and low, achieving students. Qualitative data were analyzed thematically.

Results: Over 70% of students agreed that FDP, led initiatives were beneficial for clarity of learning, enhancing teaching styles and assessment feedback. The mean (\pm SD) scores across categories of teaching and assessment were between 3.6 (\pm 0.75) and 4.1 (\pm 0.66) on the five, point Likert scale. Only 54.8% of students believed mentoring caused an improvement. Key themes from free text responses included improvement in teaching style, feedback from assessment and student confidence; whereas there were difficulties around consistency of mentoring and cognitive load.

Conclusion: Faculty development programs positively influence student learning experiences and perceived academic success. Robust mentoring systems and clinical application of improved teaching styles could be encouraged to further achieve heightened student satisfaction.

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Corresponding Author | Dr. Javeria Usman, Department of Surgery, University College of Medicine & Dentistry, The University of Lahore; **Email:** javeriausman93@gmail.com

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Introduction

Faculty Development Programs (FDPs) are widely accepted as fundamental to improving teaching quality and enhancing students' success.¹ These initiatives include activities to develop the teaching, research

and academic practice of faculty members, with evidence-based strategies to support both the professional development and academic performance.² Instead of a direct impact on the learners, the influence of FDPs on student achievement branches from influencing teaching, assessment and learning environments thereby indirectly creating optimal conditions for students to thrive academically and personally.³

FDP focuses on psychological and motivational orientations that impact teaching effectiveness. They help instructors develop confidence in their professional credibility and build positive expectations toward students' learning capacities which has been shown to have a knock-on effect to academic outcomes.⁴ Holistic initiatives that incorporate active learning techniques encourage critical thinking, engagement, and persistence, essential qualities for success in medical education and prepare students to tackle academic challenges heads on.⁵ Evidence supporting ongoing professional development has emerged, and long-term opportunities with structured faculty follow-up reinforce educator confidence in teaching ability and delivery, suggesting that sustained development can lead to improvement in teaching quality over time.⁶

With the shift toward Generation Z learners, practitioners must continuously refresh their teaching methods and factor in new knowledge and skills to stay relevant to the changing learner needs.⁷ Current FDPs therefore focus on learning centered pedagogy, educational technology and design flexibility allowing for accommodation to student preferences and learning styles. Such a fit has been correlated to higher student satisfaction, engagement and perceived academic achievement.⁸

As a result, faculty development has extended its purview beyond classroom performance and research activities, to include leadership, mentoring, and cultural change.⁹ Mentorship has been identified as a unique and powerful aspect of FDPs, providing constituents with support both of an academic and psychosocial nature, though not all programs implement mentorship as a formalized component.

The FDP at the University of Lahore (UOL) is designed to cover these wider areas through specific faculty development programs to meet short term and long term educational objectives. The program identifies gaps in faculty knowledge and pedagogical approaches to support a responsive and adaptive curriculum. In addition to technical teaching skills, faculty development emphasize collaboration, mentorship and foster leadership, whereby faculty serve as role models and inspire

students to excel academically and professionally.

For FDPs to function effectively, feedback mechanisms are essential.¹⁰ Systematic feedback from students and faculty evaluations helps to identify gaps in teaching and future focused professional development activities. Frequently, FDP workshops are designed based on the expressed needs of the faculty and students. For example, a recent FDP series prioritized workshops focusing on integration of technology in teaching. By keeping the FDP current, these initiatives guarantee that it will remain relevant in light of the most recent developments in the educational and technological landscape.

Promoting diversity and inclusion in the educational setting is another significant function of FDPs¹¹. Such programs foster fair and encouraging learning environment by equipping teachers with the skills needed to address diverse learner needs. In addition to facilitating student engagement and community of practice, inclusivity in the educational environment fostered by FDP contributes to building a sense of community and preparing students for collaborative practice in increasingly diverse health care systems. Furthermore, instructional approaches promoted by FDP, including active and critical learning, encourage learner autonomy and support lifelong learning.

Despite a growing body of international literature supporting the effectiveness of FDPs, the current evidence available in the Pakistani and South Asian medical education setting remains limited. The existing literature in the South Asian setting is mostly based on the views of faculty members or program overviews, with fewer studies exploring the effect of FDPs on the success of students using mixed-method research.

The current study bridges the existing gap in the literature by exploring the effect of the FDP at UOL on the success of students from the perspective of students. By using both quantitative and qualitative data collected across several academic years, the current study adds evidence to the existing literature on FDPs in the South Asian setting and helps to develop areas for improvement in FDPs. Furthermore, the results will be a useful tool for other educational institutions looking to establish or enhance their own teacher development initiatives, greatly enhancing education overall.

Methods

A concurrent triangulation mixed-methods design was used, enabling the quantitative and qualitative components to be collected in parallel and integrated during analysis. After obtaining ethical approval (ERC/40/24/07), the study was conducted over a period of six

months. Second, third, and fourth year MBBS students were included to ensure meaningful exposure to faculty development program (FDP) related changes in teaching practices, assessment strategies, and mentoring approaches. First year students were deliberately excluded to reduce exposure bias, as they had not yet experienced sustained faculty engagement over time. Each class at UOL consists of 150 students that makes a total of 450 students. Fifty students failed to respond so a total of 400 students were included in quantitative survey.

A structured questionnaire was developed by the research team and refined through expert review by medical educationists and members of the FDP committee to ensure strong content validity. The instrument was pilot tested to evaluate clarity, relevance, and internal consistency before administration on Google forms via Whatsapp group of every class.

Focus group discussions (FGDs) were conducted with purposively selected students representing both high and low academic performance (based on the professional results of their previous years on the basis of which they were promoted to the next class) to capture a wide range of learning experiences and perspectives. A total of six FGDs two from each academic year were conducted, audio-recorded, and transcribed verbatim. The questionnaire of FGD was self-developed, verified and pilot tested. Data were analyzed using an iterative thematic analysis approach, with codes and themes refined through researcher consensus to strengthen analytical

rigor and credibility. Prior to the collection of data, informed consent was obtained from all participants. Participation in the study was entirely voluntary. For anonymity during thematic analysis, high scorers were labeled HS2–HS4, low scorers as LS2–LS4, juniors as J2–J3, and seniors as S4, reflecting their representative years.

Results

A total of 400 students participated in the survey and six FGDs were conducted. The demographics of the students are provided in table 1.

Table 1: *Demographics of Respondents*

Characteristic	Category	Frequency (%)	Total
Age	16–18	10 (2.5)	400
	19–21	145 (36.3)	
	22–24	236 (59.0)	
	25–27	9 (2.3)	
Gender	Male	149 (37.3)	400
	Female	251 (62.7)	
Year of Study	Second Year	123 (30.8)	400
	Third Year	146 (36.5)	
	Fourth Year	131 (32.8)	

Students' responses demonstrated an overall favorable perception of faculty development related changes across teaching, assessment, and mentoring domains. High levels of agreement were observed for items rela-

Table 2: *Key Survey Responses (Summarized Percentages)*

Questions	Agree/ Strongly Agree (%)	Neutral (%)	Disagree/ Strongly Disagree (%)	Mean	St. Deviation
You were provided well developed, clear Learning objectives for each class	88.3	8.0	3.8	4.1	0.8
Well-developed learning resources were identified by the faculty	80.1	11.3	8.8	3.9	0.9
Multiple and appropriate audio -visual aids were used by the faculty	76.1	14.8	9.3	3.8	0.9
There was improvement in innovative teaching methodologies such as SGDs PBLs, TBLs, and Flipped class rooms	74.6	16.0	9.6	3.7	0.8
The above mentioned methodologies helped you in learning	70.6	16.3	13.3	3.9	0.7
High quality practical sessions/demonstration was provided	58.5	25.8	16.0	3.7	1.0
There was a change in interactive lecturing over time	68.8	17.5	13.8	3.6	0.9
There was a change in conduction and impact of small group learning such as PBL, TBL and SGD	58.3	12.3	29.5	3.7	0.9
Timely feedback was provided by the faculty on assessments	87.6	4.3	8.3	3.3	1.2
The provided feedback helped you in organizing your learning	71.6	16.5	12.1	3.7	1.0
Mentors were available on designated time	87.6	4.3	8.3	4.1	0.9
There has been an improvement in mentoring sessions from the faculty	54.8	14.0	18.3	3.7	1.2
Mentoring helped in your growth and success	64	15.8	36.5	3.6	1.2

ted to instructional clarity, resource identification, and feedback practices.

In contrast, responses related to learning impact and instructional depth showed greater variability. Items addressing the effectiveness of innovative teaching approaches, small-group learning, and practical sessions attracted comparatively lower agreement and wider dispersion of responses.

Mentoring-related items revealed a clear internal contrast. While mentor availability was rated positively, perceptions of mentoring quality and its contribution to students’ academic and personal growth were less consistently endorsed.

Table 2 summarizes the key survey responses.

The qualitative themes extracted from FGDs included Teaching Dynamics –Navigating the Classroom Com-

Table 3: *Thematic analysis of Focus Group Discussions*

Themes	Codes	Excerpts
Teaching Dynamics – Navigating the Classroom Compass	<ul style="list-style-type: none"> • Teaching clarity • Effective communication • Subject expertise • Student centered learning • Skill development • Interactive Sparring • Integrated learning • Contextual learning 	<p>"Earlier, classes were too theory -heavy, but now we get practical examples and case studies. It feels like the professors understand how we want to learn"(HS3)</p> <p>"Even though now theoretical LOs are not being followed religiously, the professors share their clinical experience, which I believe is better because we are preparing for professional life. Practical cases present differently than theoretical knowledge, and we learn by solving these daily"(HS4)</p> <p>"Teachers are always available, and we can go to their office without taking special time"(LS2)</p> <p>"Compared to previous years, it feels like teachers are trying to do too much. They bring in too many new tools and ideas, which makes the lectures feel overwhelming and disjointed"(LS3)</p>
	<ul style="list-style-type: none"> • Accessibility • Cognitive load & Diversity 	<p>"Assessments feel more aligned with what we study in class. It’s less about memorization and more about applying what we’ve learned"(HS4)</p> <p>"Feedback after exams has improved. Professors go over the results and explain what we did wrong, which helps me prepare better for future tests"(HS3)</p> <p>"We have not studied it like that. Questions come unexpectedly from anywhere. It should be narrowed down"(LS2)</p>
Assessment & Transparency – The Examination Enigma	<ul style="list-style-type: none"> • Clear expectations • Objectives based evaluation • Varied assessment methods • Timely feedback • Two way feedback 	<p>"We have not studied it like that. Questions come unexpectedly from anywhere. It should be narrowed down"(LS2)</p>
Faculty Engagement – The Invisible Hands of Mentorship	<ul style="list-style-type: none"> • Individualized support • Safe space • Empathy • Inspirational leadership • Life skills coaching 	<p>"They know our strengths and weaknesses and how to balance them"(HS4)</p> <p>"Mentoring has helped me personally to manage stress... now I feel like there is nothing too big"(HS2)</p> <p>"We need continuous support as the CBAs are very difficult. Our mentors should help us more"(LS3)</p> <p>"Our mentors changed many times over the year, I even now don’t know exactly who is my mentor"(LS4)</p>
Students’ Success – Charting Pathways to Growth	<ul style="list-style-type: none"> • Confidence • Communication • Motivation • Focused learning 	<p>"Even the students in our class who didn’t talk at all feel comfortable in talking in the sessions" (LS3)</p> <p>"Now, everything feels achievable. Even with a massive workload, we believe that a few focused and determined hours of study are all we need"(HS4)</p>
Faculty Revitalization – Prescribing Excellence in Education"	<ul style="list-style-type: none"> • Innovative pedagogies • Teaching strategies customization • Two way communication • Feedback loop • Feedback sensitivity • Holistic development support • Proactive mentoring 	<p>"The teaching methods seem to have changed, but they’re confusing rather than helpful. Sometimes, the lectures feel rushed, and we don’t get enough time to absorb the material. FDP should look into it"(LS4)</p> <p>"Feedback provided by students is sometimes ignored and not acted upon. It should be improved"(HS3)</p> <p>"Some mentors ask very superficial questions, to fill their forms, others are totally restricted to just that form. FDP should help in this regard"(HS4)</p>

pass, Assessment & Transparency – The Examination Enigma, Faculty Engagement – The Invisible Hands of Mentorship, Students’ Success – Charting Pathways to Growth and Faculty Revitalization – Prescribing Excellence in Education.

Table 3 shows the summary of thematic analysis.

Discussion

The results of this study underscore the transformative impact of faculty development programs (FDPs) on student success, highlighting both their strengths and areas for improvement. By bringing together quantitative trends and qualitative insights, the study provides a nuanced picture of how students experience FDP-driven changes and where implementation gaps remain.

Students consistently reported the evolution of teaching methods toward more practical and student-centered approaches. For example, the integration of case studies and hands-on demonstrations, such as using human skeletons or cadavers, reflects a shift from theory-heavy to experiential learning. This aligns with existing literature that underscores the importance of contextual and integrated learning in medical education.^{12,13} High-performing students seemed to benefit most from these methods, likely because the student centered approaches enable the students to take the ownership of their learning inculcating problem solving skills and self-directed learning.¹⁴ However, some low scoring students felt it difficult to cope with the challenging and fast paced learning environment. This may be due to self-doubt, fear of failure or being overwhelmed.¹⁵ This suggests that the same pedagogical changes can affect students differently depending on their prior preparation and the support available to them. Participants also noted variability in teaching quality, highlighting the need for more consistent implementation of FDP strategies across faculty. Differences in teaching quality and other competencies of faculty have been reported in literature.^{16,17} These differences can be due to variance in experience, subject matter knowledge and professional practices and FDP should take these factors into account.

A quality assessment isn’t only the need of accreditation, but also highlights for the students what is considered important and strongly encourages them to focus their efforts in the right direction.¹⁸ A good assessment should be aligned with the learning objectives and outcomes of the curriculum.¹⁹ Our high scorers reported improved alignment of assessments with learning objectives and timely feedback mechanisms that have significantly enhanced students' learning experiences. This is in line

with the published literature.^{20,21} Conversely, the low scorers perceived the assessments complex and not properly aligned with the learning objectives. This may be due to their individual learning styles or assessment formats or how clearly assessment expectations were communicated.²² The communication and scaffolding of the improvements in instructional design and formats might not be getting through and benefitting all students. Additionally, students who perform poorly; sometimes attributes the results externally (misaligned assessments) rather than their own performance.²³

The shift away from rote memorization toward application-based evaluations mirrors global trends in competency-based medical education.²⁴ Nonetheless, students expressed a desire for feedback that is more actionable and personalized, emphasizing that FDPs should not only introduce improved assessment formats but also support faculty in delivering feedback that is clear, specific, and directly useful for student development.

The research also suggests that managing feedback processes is challenging, and the resulting frustrations experienced by both teachers and students hinder the full potential of feedback to enhance learning.²⁵

The participants described the role of mentorship as a cornerstone of student support. They reported that Faculty accessibility, individualized guidance, and the creation of a safe and empathetic learning environment have empowered students to manage stress and build confidence. These findings resonate with the concept of faculty as inspirational leaders who foster both academic and personal growth. Similar results have been published in the literature indicating the strength of mentoring.²⁶ However, the inconsistent quality of mentorship, as reported by some participants, indicates room for enhancement in mentor training and accountability. These findings resonate with the results of a mentoring audit in education department of Canada.²⁷

Students acknowledged the FDP’s role in fostering faculty confidence, communication skills, and innovative teaching strategies. They reported improvements in classroom dynamics and students’ engagement highlighted the program’s success in bridging gaps in teaching and learning. Yet, challenges such as rushed lectures and unresponsive feedback loops suggest that the program could benefit from a more structured approach to monitoring and evaluating faculty performance.

Overall, while the introduction of innovative teaching methods and proactive mentoring has created a more dynamic learning environment, inconsistencies in implementation were evident. For instance, some stu-

dents felt that feedback mechanisms lacked follow-through, while others observed superficial engagement in mentorship activities. Addressing these gaps through enhanced faculty training and a robust feedback culture could further optimize the FDP's impact.

Aligning FDPs with well-defined educational objectives, maintaining mentorship continuity, and establishing systematic evaluation frameworks can maximize their long-term impact on teaching quality and student success. Institutions should also consider mechanisms to monitor faculty engagement and responsiveness, ensuring that FDP benefits reach all students equitably.

Conclusion

The findings of this study underscore the pivotal role of faculty development program in shaping student success. By fostering innovative teaching practices, transparent assessments, and supportive mentorship FDP has significantly enhanced the educational experience. Addressing the identified gaps through targeted interventions and continuous improvement mechanisms will ensure that this programs remains responsive to the evolving needs of students and faculty alike.

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Authors' Contribution:

JU: Conception & design, Acquisition of data, drafting of article, final approval of the version to be published

LH: Analysis & Interpretation, drafting of article

SR: Conception & design, analysis & interpretation, drafting of article

MN: Analysis & Interpretation, drafting of article

ZS: Analysis & Interpretation, final approval of the version to be published

KA: Critical revisions for important intellectual content, final approval of the version to be published

LB: Critical revisions for important intellectual content

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