

## ORIGINAL ARTICLE

## UNDERGRADUATE DENTAL STUDENTS' AND INSTRUCTORS' PERCEPTIONS ABOUT THE QUALITY OF CLINICAL FEEDBACK

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**Background:** Feedback is an essential component of the clinical skills development of dental students. The clinical training is a complex integration of knowledge, psychomotor skills, behaviour and clinical communication skills under stress for both instructor and student. This study aimed to investigate the perceptions of undergraduate dental students and their instructors on the quality of clinical feedback.

**Methods:** The current cross-sectional observational study was conducted at the Department of Operative Dentistry and Endodontics, Riphah International University, Islamabad from August to December 2019. A self-administered questionnaire was used to collect responses from final year undergraduate dental students and faculty. The questionnaire comprised of 13 items, subdivided into six categories, targeting the various aspects of clinical feedback. SPSS 23 was utilized to analyse the data. Descriptive statistics were tabulated and data was analysed using the Mann-Whitney test ( $p < 0.05$ ) for differences between the two cohorts. **Results:** The mean age of the 64 students who responded was  $24 \pm 0.8$  years. Students' male to female ratio was 1:1.56, while for the 18 instructors the ratio was 1:1. Good agreement between the students and instructors was shown for items related to personal dignity and empathy. Moderate agreement was found for items covering the domains of time, understanding, comfort level, professionalism, and self-assessment. The disagreement was observed for the items associated with conflicting feedback, conflict satisfaction, and effective communication. **Conclusion:** Incongruousness existed between the dental students and instructors, about the quality of clinical feedback provided to the dental students. Communication between the instructors and learners must be promoted to increase the level of understanding of the feedback given by the clinical instructors.

**Keywords:** Dental education; Dental students; Feedback; Clinical clerkship

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### INTRODUCTION

Clinical instructors play an indispensable role in medical students' development and learning at the clinics.<sup>1</sup> Research findings have suggested that the learning at the clinical workplace is implicit and driven by the requirements of the workplace.<sup>2</sup> Clinical instructors face the formidable task of achieving the high-performance standards both in teaching and service. Good clinical instructors can enhance the experiential learning of the students by providing them support, supervision, and effective feedback.<sup>3</sup> Feedback is a particular perspective given after comparing the performance of the students with set standards. The precise and detailed feedback results in improved performance of the students by closing the gap between their present and intended performance.<sup>4,5</sup> The direct observation of the clinical procedures is an important prerequisite for the provision of effective feedback. However, the attestations on logbooks of students are frequently carried out without optimum observation of the clinical procedures.<sup>6,7</sup> Moreover, the current dilemma is that although feedback is instructionally robust yet it is a minimally understood component of educational design.<sup>8</sup> Accordingly, the concerns are raised by clinical

instructors, regarding their training for imparting potent feedback.<sup>9</sup> Considering this, instructors can be assisted in the provision of effective direction and feedback to students by providing them feedback for gauging their performance and identifying the domains that need improvement.

Literature has suggested the utilization of feedback from students for enhancing the quality of teaching.<sup>10</sup> An array of instruments, mostly written questionnaires, has been used for assessing the teaching skills of clinical instructors. One of the limitations of the written instruments is related to the understanding of the feedback provided.<sup>11</sup> Hence, written feedback alone is not sufficient to persuade teachers to modify their teaching practice.<sup>12</sup> The assimilation, acceptance and ultimately the application of the feedback to learn and improve is dependent upon numerous external and internal factors.<sup>13</sup> The external factors include credibility and nature of the feedback, facilitation of feedback and professional culture of the institution. Whereas, internal factors are reflective practice and self-perception of performance that can stimulate the feedback uptake.<sup>11</sup> The teachers will realize that real problem exists and alter their teaching methodology if they are persuaded to practice reflection, to identify the areas

that need improvement, by providing them novel ideas on effective teaching through continuous professional development.<sup>14</sup> The reflective practice enables the instructors to reflect on their existing mind frames which allows them to clarify their perceptions, including the perceptions on teaching skill.<sup>15</sup> The reflective practice can also be triggered by the self-assessment. Considering this and the limited capacity of feedback alone to stimulate improvement, reflection can play a significant role to foster positive change. Therefore, the objective of the current study was to investigate and compare the perceptions of Undergraduate Dental Students and Instructors' with regards to the quality of clinical feedback provided by the clinical instructors. Moreover, the similarities and differences in their perceptions were also explored.

## MATERIAL AND METHODS

The current cross-sectional research was conducted at the Department of Operative Dentistry and Endodontics, Faculty of Dentistry, Riphah International University, Islamabad from August to December 2019. Ethical approval was obtained from the institutional ethical review committee (IIDC/IRC/2019/05/007). Nonprobability purposive sampling technique was used. The potential study participants comprised of 75 final year undergraduate dental students and 18 faculty members with a minimum of three years teaching experience in the specialty. Both the students' and instructors' information was kept confidential from each other.

The Likert scale questionnaire was adopted from a previous study conducted by Ahmed *et al.*<sup>6</sup> The items in the current questionnaire were modified for utilizing the homogenous Likert scale and the literature review directed us towards the identification of individual items into six separate categories for ease of interpretation. The questionnaire was then sent to the senior researchers from the dental background to provide expert opinion on the number of questions, ease of understanding, relevancy, and time needed to fill. The professionals provided suggestions on making the study instrument shorter and simpler. After a comprehensive discussion, the study instrument was finalized.

The questionnaire comprised of 13 items. The 13 items were further subdivided into six separate categories (Table-1). Students' and Instructors' perception of feedback given on the 13 items was distributed on a 5-point likert scale as follows: 1= Never, 2= Rarely, 3=Sometimes, 4= Frequently, 5=Always. One questionnaire was designed for students and in the other questionnaire, the same questions were rephrased from the instructors' perspective. For example, in question 8

the students are asked 'When requesting feedback how often does the faculty focus on the problem you present instead of making generalizations. For the clinical instructors, the same question is rephrased and they were asked 'When giving feedback how often do you focus on the problem presented by the student instead of making generalizations. Thus, the questionnaires returned by students reflected the assessment of their supervisors. Conversely, the questionnaires returned by supervisors would be their self-assessment.

Before distributing questionnaires, the final year students and instructors were informed about the objectives of the study and their participation in the study was voluntary. The questionnaires were distributed amongst the students at the culmination of the academic year before final examinations as the result of the final examination might have influenced the responses of the students. Subsequently, at an interval of one week, two reminders via email were given to the participants.

The students and instructors who elected to take part in the research were asked to return the questionnaires, by dropping them in two separately labelled boxes. The boxes were placed in the room that was accessible to students and staff only. Written consent was not obtained as the return of the completed questionnaires was accepted as implied consent. All the students who returned the completed questionnaire were included in the study and those who didn't return the questionnaire were excluded from the study.

Data analyses were completed using SPSS version 23. For simplification of analysis, the descriptors were modified to numerical values. Data collected from supervisors and learners were analysed by utilizing the Mann Whitney U test ( $p$ -value<0.05) for differences between the two cohorts.

## RESULTS

In the present study, dental students and their instructors' perception about the quality of clinical feedback was assessed, and compared (Table-1). Overall, 64 final year students responded by returning the filled questionnaires with a response rate of 85.33%. The students that responded consisted of 25 (39.1 %) males and 39 (60.9 %) females that corresponded to the male to female ratio in the class. The mean age of the respondents was 24±0.8 years. All 18 clinical instructors returned their filled questionnaires with a response rate of 100%. The highest level of agreement among the perceptions was noted for the Item 11, where 56.2% (frequently and always) of students suggested that they received and 61.1% (frequently and always) of instructors stated that they provided encouraging

feedback (Figure-1 and Figure-2). Good agreement between instructors and the students was shown for the items related to the students' respect ( $p$ -value range 0.135 to 0.377) and empathy with students ( $p$ -value range 0.201 to 0.900). Moderate agreement between two sets of the cohort but with a statistically insignificant difference was noted for the items related to overall feedback level ( $p$ -value range 0.114 to 0.158) and students' self-assessment ( $p$ -value=0.145). Alternatively, a statistically significant difference was noted amongst the two cohorts in the

responses for the items related to communication and feedback effectiveness ( $p$ -value range 0.00 to 0.008). The aforementioned significant difference represented the disagreement between clinical instructors' and students' responses (Table-1). For instance, in response to item 8, 43.8% of the students noted that faculty frequently focuses on the problem they present instead of making generalizations, whereas, 66.7% of faculty members stated that they frequently focus on the problem ( $p$ -value=0.00) (figure-1 and figure-2).

**Table-1: Details of the responses recorded for the dental students and instructors and their comparison with Mann Whitney U test ( $p < 0.05$ ).**

No	Items	Participants	Responses of Participants* N <sup>1</sup>					p- value
			N	R	S	F	A	
<b>Category 1: Overall feedback level</b>								
1.	You had to do clinical work without supervision or feedback	Students	0	12	32	20	0	0.158
	Students have to clinical work without supervision or feedback.	Instructors	1	3	12	2	0	
2.	You understand the feedback given to you	Students	0	0	6	43	15	0.114
	The student understand the feedback you give	Instructors	0	1	4	10	3	
<b>Category 2: Respect for the student during feedback</b>								
3.	Your personal dignity has been compromised by the instructor when requesting feedback	Students	30	17	13	4	0	0.377
	You have shown belittling behaviour towards the student when giving feedback	Instructors	10	5	3	0	0	
4.	You are comfortable while requesting feedback	Students	0	2	19	27	16	0.178
	The students are comfortable with you when requesting feedback	Instructors	1	2	1	5	9	
5.	How often do you receive feedback in a professional manner without personal grudges	Students	1	1	8	16	38	0.135
	How often do you provide feedback in a professional manner without personal grudges	Instructors	0	0	1	3	14	
<b>Category 3: Effectiveness of feedback from multiple Sources</b>								
6.	How often have you received the conflicting feedback	Students	5	25	29	4	1	0.008
	How often the students mention that they have received conflicting feedback from instructors	Instructors	1	3	7	6	1	
7.	How often does the supervising faculty deal with this conflict to your satisfaction	Students	4	12	27	19	2	0.002
	How often do you deal with this situation amicably	Instructors	0	1	4	10	3	
<b>Category 4: Effective communication</b>								
8.	When requesting feedback how often does the faculty focus on the problem you present instead of making generalizations	Students	2	14	19	28	1	0.00
	When giving feedback how often do you focus on the problem presented by the student instead of making generalizations	Instructors	0	0	1	12	5	
9.	If you have not understood the feedback, how often does your instructor attempt to re-explain in another way?	Students	2	7	16	27	12	0.00
	If the student has not understood the feedback, how often do you re-explain in another way	Instructors	0	0	2	4	12	
10.	How often do your instructors confirm that you have understood the feedback?	Students	6	9	20	21	8	0.008
	How often do you confirm from students that they have understood the feedback?	Instructors	0	1	4	6	7	
<b>Category 5: Empathy with the Student</b>								
11.	How often did you receive the encouraging feedback	Students	0	2	26	23	13	0.900
	How often did you provide the encouraging feedback	Instructors	0	2	5	8	3	
12.	How often the instructing faculty tells you about your strengths and weaknesses as a clinician	Students	9	30	19	6	0	0.201
	How often do you tell the individual student about his strengths and weaknesses as a clinician	Instructors	1	7	8	2	0	
<b>Category 6: Self-Assessment before feedback</b>								
13.	How often does your instructor start by asking you for your assessment of the clinical situation	Students	7	11	26	15	5	0.145
	Do you start by asking the student about their clinical assessment	Instructors	1	4	3	6	4	

<sup>1</sup>N (Students' number (N) = 64 Instructors' number (N) = 18)

\*N = Never, R = Rarely, S = Sometimes, F = Frequently, A = Always.

Note: Students' and Instructor's perceptions regarding feedback was assessed by giving 5 to A, 4 to F, 3 to S, 2 to R, 1 to N.

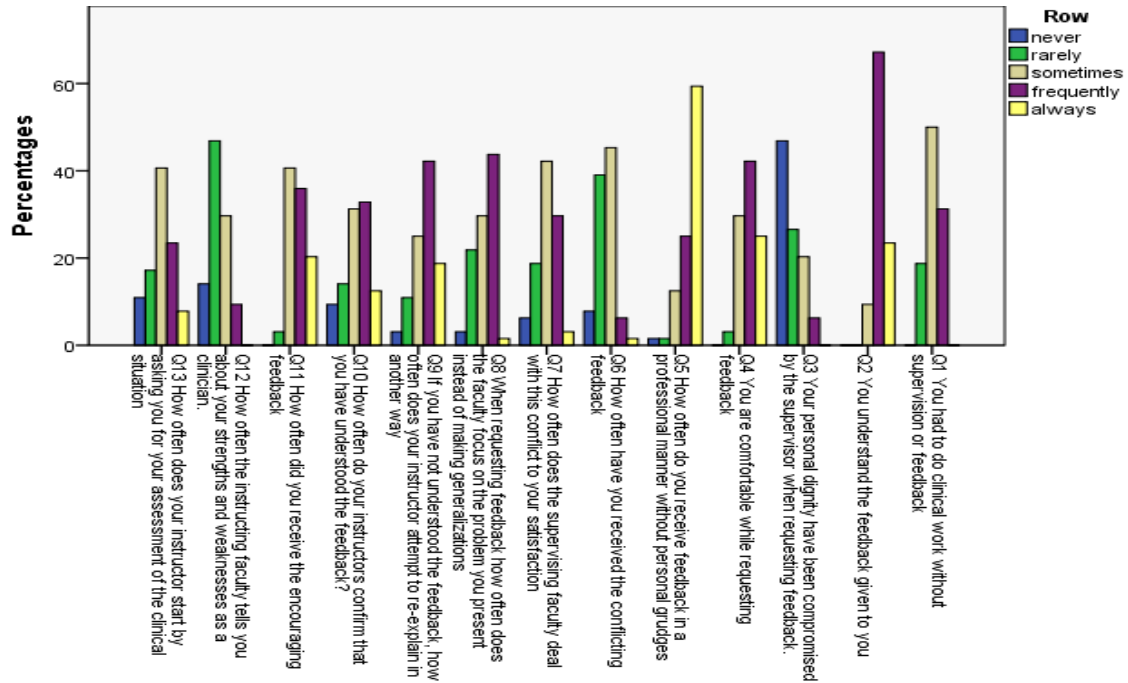


Figure-1: Bar Chart showing percentages of Students' responses on Likert scale

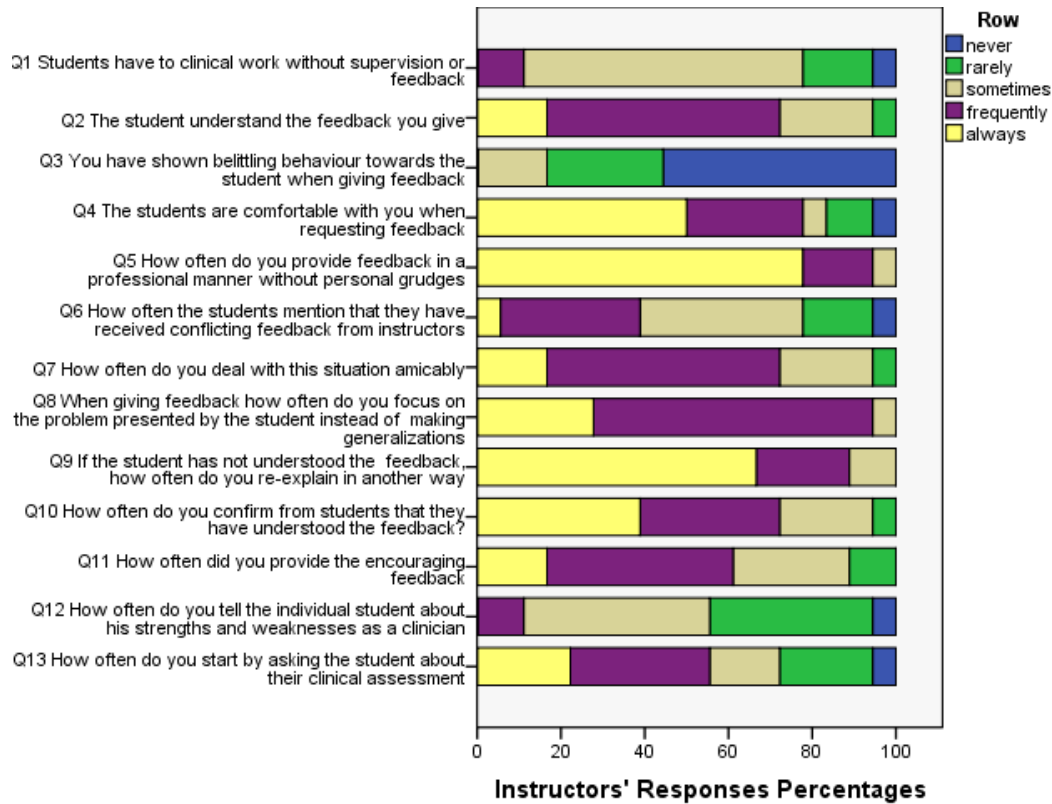


Figure-2: Stack Bar Chart showing percentage of Instructors' responses on Likert scale

## DISCUSSION

There is an increased demand for well-trained educators and clinicians worldwide. However, quality assurance in dental practical skills training and education for students is a demanding task.<sup>16</sup> Feedback plays an important role in any dental students' learning and training. Considering this, the current study reported the data on the perceptions of dental students and their instructors about the quality of clinical feedback. The clinical dental teaching and learning environment is challenging; where tutors supervise students undertaking irreversible procedures on patients.<sup>17</sup> Feedback is any information that helps learners to reduce the gap between what they know and what they need to know, to complete a task competently.<sup>4</sup> Universally, the question of congruence in learner and instructor perceptions towards aspects of feedback remains equivocal. The same observation was evident according to the results of the current study, where some items showed good to moderate agreement. Conversely, a statistically significant level of disagreement between the perceptions of dental students and their instructors was noted for other items.

The highest level of agreement among the perceptions for the Item 11 (addressing the students' reception and instructors' provision of encouraging feedback), highlighted the empathic attitude of instructors towards students. The literature has suggested a positive influence of teachers' empathy on the students' attitudes. As a result, students develop positive attitudes towards their peers and themselves.<sup>18</sup> Likewise, 55.5% of instructors and almost 47% of students agreed that instructors have never shown belittling behaviour towards students (item 3). The aforementioned, positive, supportive, and respectful teacher-student relationship stimulates the students' learning. Additionally, it might also put a learner on the path of success in the safe environment that is conducive to learning.<sup>19</sup>

Though, the study noted agreement among the students and instructors regarding item 13 (addressing the students' self-assessment of their clinical work). However, only 22.2% of the instructors stated that they always start the feedback by asking the students to assess their clinical work. An improvement is needed in this domain as Davies *et al*<sup>20</sup> argued that personal reflection of students on their performance is one of the key learning strategies.

It is evident from the results that a significant difference of perceptions was documented for the items associated with the communication skills of instructors (Items 6–10). The clinical instructors in dental schools must possess excellent

communication skills. Effective communication skills will enable the instructors to help their students achieve the desired psychomotor skills that are essential to the successful and quality treatment of the patients.<sup>21,22</sup> Furthermore, good communication skill is mandatory for the instructors to achieve excellence in their careers as a clinical educator. Poor communication between the dental students and their instructors may compromise the learning process of the students, as well as the career path of the instructors.<sup>23</sup> In the current study, the items numbered 6–10 highlighted the areas where the feedback process needed considerable improvement. In the aforementioned items, the supervisors were unaware of the ineffectiveness of their feedback and did not realize that they had not dealt with a situation involving a difference of opinion amicably. Consequently, learners remained directionless. Accordingly, Mously *et al*<sup>24</sup> argued that supervisors' feedback on the clinical performance of the students is frequently not forthcoming and even when offered it is insufficient and fails to focus on the particular aspect of the clinical skills. These were the areas where faculty development initiatives were essential to improve the learning process and experience of clinical students. Likewise, Rogers *et al* in their study findings identified the training for imparting the effective feedback as one of the areas for professional development for clinical instructors.<sup>25</sup>

Self-evaluation by students has shown to be inversely correlated with performance<sup>26</sup> and there is no reason to believe any differently for self-evaluation of feedback giving skills of supervisors. Also, the self-perception of beliefs or performance taps into one's metacognition and self-efficacy, which are outside the consciousness of many individuals.<sup>27</sup> Contrary to this, Hussain and Khan<sup>28</sup> noted that Student's feedback about their teachers is an effective tool for evaluation of teachers and can play a significant role in identifying the areas where faculty development is required. Likewise, Debroy and colleagues<sup>29</sup> argued that feedback by students' is among the best methods for teachers' evaluation that can ensure the quality assurance and faculty development in medical teaching. They further highlighted the importance of the implementation of structured feedback mechanisms at the institution level, with the adequate training to inculcate in the faculty, the qualities and attributes of an excellent clinical dental instructor. Several studies have investigated the qualities, and attributes of an excellent clinical dental teacher/instructor.<sup>30</sup> Differences in the qualities and attributes between classroom teachers and clinical instructors are related to the differences in teaching environment. The attributes of the effective clinical teachers in the

dental clinics include individual rapport, organization, enthusiasm, learning, group interaction, visual/practical demonstrations and motivating the students.<sup>30,31</sup> At the same time the differences in the student's motivation, hard work, behaviour and professional conduct plays a significant role in their clinical learning.<sup>32</sup> Nevertheless, as mentioned in the literature the teachers should use a variety of teaching methods and instructional strategies in order to address the learning abilities and styles of all kinds of students without sacrificing high expectations.<sup>33</sup>

Considering the findings of the current study, it is recommended that all institutions should organize a workshop on the feedback and teaching methodology for clinical instructors as a part of continuous professional development program. The training workshop will assist in the inculcation of the aforementioned attributes amongst the clinical instructors. Subsequently, it will also increase their confidence level by enhancing their knowledge base in the novel feedback and teaching methodologies. Furthermore, it will enhance the clinical instructors' awareness of their metacognition, teaching and feedback imparting skills.<sup>27</sup>

The limitation of the present study is that it was conducted at one dental school of Pakistan, therefore, a discreet approach should be employed while generalizing the findings of the study. Further to this multicenter mixed-method research including dental institutes from various geographical areas within and beyond Pakistan can help understand which processes are successful for nurturing the best feedback skills in the student. Moreover, a multicenter study with comparisons between the centers and their feedback cultures would highlight the similarities and differences in greater depth.

## CONCLUSION

Incongruousness existed between the dental students and instructors, about the quality of clinical feedback provided to the dental students. Extreme disagreements were noted for conflicting feedbacks and inadequate/ineffective communication between the dental students and their supervisors. Communication between the supervisor and learner must be enhanced for increasing the level of understanding of the feedback given to the dental students by their instructors. This will improve the students' self-reflection, clinical problem-solving skills, learning, and ultimately upgrade the quality of patient care.

## AUTHORS' CONTRIBUTION

MQJ & AA have contributed to the design of the work, data collection and analysis, drafting and final approval of manuscript. SRH has contributed to the

drafting of the work and final approval of the manuscript.

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