ORIGINAL ARTICLE

Perception of Undergraduate Rehabilitation and Nursing Students of Khyber Medical University, Peshawar, Pakistan, Regarding an Effective Teacher: A Cross-sectional Study

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Author`s Contribution

[1-4] Substantial contributions to the conception or design of the work for the acquisition, analysis or interpretation of data for the work, [5][6] Drafting the work or reviewing it critically for important intellectual content, [1-6] Final approval of the version to be published, Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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A B S T R A C T

Background: Effective teaching is crucial in medical education, where instructor's performance and personality attributes significantly impact student learning.

Objective: The objective of the study was to identify the perception of students of Khyber Medical University (KMU) regarding teachers' most and least effective attributes.

Methodology: A cross-sectional survey of 288 undergraduate students was conducted in constituent institutes of KMU, Peshawar. Undergraduate students of any gender from the 2nd year to the final year were allowed in this survey after taking their written informed consent. One-way ANOVA and Tukey test were used to identify the differences among institutes.

Results: Performance attributes (M=4.39 ± 0.48) were more important than personality attributes (M=4.29 ± 0.53) to the students. The top 3 performance items were: Expert on the subject, facilitation of students' learning and desire to promote students' learning. The top 3 personality items were: Helpful, punctual and good communication skills. Uniform marking and not being strict/showing leniency were the least valued.

Conclusion: Performance attributes were found to be more important than personality. However, there were some highly endorsed personality attributes, which show that students want their learning needs to be met and desire some personality attributes which make a teacher effective.

Keywords: Perception, Clinical Competence, Students, Faculty, Teaching, Personality.

Introduction

The principle of academic federation rests on a core of accomplished, enlightened, committed and acquiescent instructors.[1] Successful learning has been linked with potent teaching.[2] Instructor's sentiments, credence and way of behaving have a remarkable effect on pupil's cognitive attainment.[3] Conversely, an incompetent trainer can have a deleterious effect on college students' attitudes to studying

and decrease their self-conceptions.[4] Teachers' support is crucial for the social, psychological and academic development of students.[5] A study by Azam & Kingdon shows an increase of 0.36 standard deviation in students' scores with each standard deviation increase in the quality of a teacher.[6] We are in dire need of effective teachers, as successful students will lead to the development of the economy.[7] The tremendous amount of money used to prove children different should be spent on improving the quality of teachers.[8]

Teaching entails many abilities and attitudes expressed via the instructor's conduct and is influential in shaping the learner's conduct.[9] It's far too tough to recognize specific teaching abilities that are considered effective.[10] An effective teacher is nicely prepared, passionate and interactive with students.[11] The effectual instructor is the outcome of three constituents: Potentiality, disposition and comprehension[3]. Instructional skills are considered to be a quality of an effective teacher [12] A teacher must be confident,[8] tolerant, trustworthy, punctual,[13] a good communicator, enthusiastic and subject specialist.[14] Adaptability empowers a teacher to cope with distressing circumstances.[13] An interpretation of what is conveyed (content know-how) and the way it's far conveyed (system expertise) is important to be an effective teacher. Personality play an important role in teaching because it influences the personality of students.[13]

Teacher-student relationship has been broadly studied in Western countries but not Eastern, although culture influences the teacher-student relationship.[16] To identify the features and elements of a notable demonstrator, an array of guidelines has emerged, but most of them are not pupil-centred.[17] Student grading can be a beneficial maneuver for assessing teachers' quality.[18] A study published in 2022 reported a successful shift from a teacher-entered approach to a student-centered approach and revealed that students of health sciences who participated actively in structuring their process of learning reported improved comprehension and retention, which is critical in applications in clinical contexts.[19] The study further revealed that teachers can effectively enhance the centeredness of their students in their teaching approaches in a very short duration.[19] Several studies have acknowledged, from the scholars' and teachers' views, the characteristics of an effective instructor in distinct universities and nations,[14] even though no such study has been done on students of Pakistani medical universities. Educational and cultural elements play an additional role in the distinction in perceptions about the noble trainer. Such intercessions are not likely to provide anticipated dividends. As there is evidence of successful shifting of education approach to more student-centered, feedback from students is significantly valuable in structuring the curriculum and teaching strategies.[19] Identification and understanding of the characteristics that the students want to see in their teachers can help in shaping the teaching approaches according to the expectations of the students, which will eventually lead to a rise in student's active participation and educational success.

In the cultural context of Pakistan, and specifically Peshawar, the views of students regarding traits of an effective instructor may vary from global standards due to traditions, local norms and values, and educational backgrounds. Identification of students' perceptions can reveal unique insights into how cultural norms and values influence their preferences in teaching styles, communication, and professional behaviors.

Methodology

The purpose of this cross-sectional study was to gather information about the perception of students from constituent institutes of KMU in Peshawar, Pakistan, regarding an effective teacher. The data were collected from a sample of 288 students from the Institute of Physical Medicine and Rehabilitation (IPM&R), Institute of Nursing Sciences (INS) and Institute of Paramedical Sciences (IPMS) from September 2023 to December 2023. The sample size was calculated on OpenEpi, taking all the enrolled students in the above-mentioned institutions of KMU, Peshawar, as the total target population. A Convenience sampling method was applied.

Students of both genders studying in 2nd year or higher classes in above mentioned institutes were eligible to participate in the study. Those students who did not give informed consent or had been dropped or skipped a year or a semester were ineligible. The study was ethically approved by the institutional ethics review committee of IPMR KMU (KMU/IPMR/2023/21). Permission for data collection was granted from each director of the above-mentioned institutes. Informed consent was taken from all the participants.

Data was collected through a self-administered questionnaire. The questionnaire had a total of 43 questions regarding the attributes of an effective teacher, divided into two sections: performance (25 items) and personality (18 items). Each item was measured on a Likert scale. The data were analyzed through SPSS version 22. Percentages for all the attributes of an effective teacher were calculated. Levene's test was applied to identify homogeneity. The normality of the data was assessed through the Shapiro-Wilk Test. The data was normally distributed, so One-way ANOVA and Tukey test were used to identify the differences among institutes.

Results

The age of 288 students in this study ranges from 19 years to 40 years and the mean age value was 21.920 ± 2.5234. Out of 288participipsnts, 130 (45%) were female and 158 (54%) were male. The number of students from IPMR, INS and IPMS was 111 (38.54%), 79 (27.43%) and 98 (34.03%), respectively.

The itemized list of performance and personality attributes, along with the percentage of each item, is given in Tables I and II, respectively. "Agreed" and "strongly agreed" are shown under a single term "agreed" and "disagreed" and "strongly disagreed" under "disagreed". The top 5 performance items were: Expert on the subject (knowledgeable) helps in the facilitation of students' learning, desires to promote students' learning, good guidance provider and understanding role of teachers. The least endorsed ones among performance items were 'telling jokes' and 'sharing personal experiences' (Table I).

The top 5 personality items were: Helpful, punctual, good communication skills, respectful to students and a good listener. Among the personality items, the least endorsed ones were 'showing leniency' and 'giving good marks to all the students' (Table II). The overall Performance mean (M=4.39 ± 0.48) was higher than the personality mean (M=4.29 ± 0.53).

A one-way between-subjects ANOVA was conducted to analyze if there was any difference in the perception of students of IPMR, IPMS and INS about performance attributes. Using Levene's Test, the assumption of homogeneity was tested and was found tenable, [$F(2, 240) = 2.45$, $p = 0.08$]. The ANOVA was significant [$F (2, 240) = 18.40$, $p = 0.00$]. Post hoc comparisons using the Tukey HSD test indicated that the mean score of IPMR (M = 4.59 ± 0.35) was significantly different ($p < 0.001$, 95% C.I = 0.12, 0.45) from IPMS (M = 4.30 ± 0.55) and also significantly different ($p < 0.001$, 95% C.I = 0.23, 0.57) from INS (M = 4.18 ± 0.46). No significant difference (($p = 0.29$, 95% C.I = -0.29, 0.06) was found between IPMS and INS (Table III).

Differences among institutes for personality were also found using one-way ANOVA. The assumption of homogeneity for variances was tested using Levene's Test, [$F (2, 258) = 2.04$, $p = 0.35$]. ANOVA was found significant [$F (2, 258) = 7.99$, $p = <0.001$]. Post hoc comparisons using the Tukey HSD Test indicated a significant difference ($p = <0.001$, 95% C.I = 0.12, 0.50) of IPMR (M = 4.43 ± 0.44) from INS (M = 4.12 ± 0.56) but no significant difference ($p = 0.07$, 95% C.I = -0.01, 0.34) from IPMS (M = 4.26 ± 0.56). No significant difference ($p = 0.18$, 95% C.I = -0.34, 0.04) was found between IPMS and INS (Table III).

Table I: List of students (n) responses on Performance Attributes along with percentages			
Performance Attributes (items = 25)	**Students' response n (%)**		
	Agreed	**Neutral**	**Disagreed**
Expert on the subject/knowledgeable	268 (93.06)	11 (3.82)	9 (3.13)
Helps in the facilitation of students' learning	257 (89.24)	15 (5.21)	16 (5.56)
Desires to promote students' learning	256 (88.89)	19 (6.60)	13 (4.51)
Good guidance provider	256 (88.89)	14 (4.86)	18 (6.25)
Understands the role of teachers	256 (88.89)	20 (6.94)	12 (4.17)
Motivates students	256 (88.89)	18 (6.25)	14 (4.86)
Good command of clinical skills/teaches the practical useful points	255 (88.54)	17 (5.90)	16 (5.56)
Organizes good lectures/use of audiovisual aids e.g. PowerPoint	255 (88.54)	17 (5.90)	16 (5.56)
Good planner and organizer of the course/curriculum	253 (87.85)	19 (6.60)	16 (5.56)
Good role model	252 (87.50)	22 (7.64)	14 (4.86)
Teaching at the student level	251 (87.15)	18 (6.25)	19 (6.60)
Understands/relates to students	249 (86.46)	26 (9.03)	13 (4.51)
Offers good mentoring	246 (85.42)	23 (7.99)	19 (6.60)
Ask for feedback from students/try to improve according to their needs	243 (84.38)	30 (10.42)	15 (5.21)
Maintain his decorum as a teacher	243 (84.38)	27 (9.38)	18 (6.25)
Develops good learning resource materials for students including study guides (internet-based or printed)	243 (84.38)	26 (9.03)	19 (6.60)
A good examiner/makes/asks good questions relevant to the student's learning needs in the exam.	242 (84.03)	20 (6.94)	26 (9.03)
Monitors students' progress/ interested	244 (84.72)	28 (9.72)	16 (5.56)
Makes students feel comfortable	244 (84.72)	25 (8.68)	19 (6.60)
Interact with students	240 (83.33)	27 (9.38)	21 (7.29)

Available for consultation/advice	238 (82.64)	35 (12.15)	15 (5.21)
Sensitive to student problems/needs	229 (79.51)	42 (14.58)	17 (5.90)
Good skills as a problem-based learning facilitator	225 (78.13)	47 (16.32)	16 (5.56)
Tell jokes/funny stories during lectures/sessions to amuse students to maintain their interest	223 (77.43)	27 (9.38)	38 (13.19
Explains and shares personal experiences	211 (73.26)	39 (13.54)	38 (13.19)

Table II: List of students' (n) responses on Personality Attributes along with percentages

Personality Attributes (items = 18)	Students' response n (%)		
	Agreed	Neutral	Disagreed
Helpful	271 (94.09)	11 (3.81)	6 (2.08)
Punctual	269 (93.4)	11 (3.81)	8 (2.77)
Good communication skills	269 (93.4)	12 (4.16)	7 (2.4)
Respectful to students	265 (92.01)	7 (2.43)	16 (5.55)
Good listener	260 (90.27)	20 (6.94)	8 (2.77)
Honest	260 (90.27)	19 (6.59)	9 (3.12)
Tolerant / patient	258 (89.58)	23 (7.98)	7 (2.43)
Accessible	255 (88.54)	24 (8.33)	9 (3.12)
Enthusiastic	247 (85.76)	30 (10.41)	11 (3.81)
Good sense of humor	240 (83.33)	31 (10.76)	17 (5.90)
Emotionally controlled/doesn't get angry easily	239 (82.98)	32 (11.1)	17 (5.90)
Friendly	232 (80.55)	35 (12.15)	21 (7.29)
Dresses appropriately	229 (79.51)	39 (13.54)	20 (6.94)
Open minded	227 (78.81)	38 (13.19)	23 (7.98)
Self-sacrificing	216 (75)	45 (15.62)	27 (9.37)
Non-judgmental	206 (71.52)	43 (14.93)	39 (13.54)
Not strict / Shows leniency	205 (71.18)	38 (13.19)	45 (15.62)
Gives good marks to all students	166 (57.63)	44 (15.27)	78 (27.08)

Table III: Tukey HSD, Dependent variable: Performance & Personality

Variables	Institute	Vs Institute	Mean Difference	Std. Error	p value	95% Confidence Interval	
						Lower Bound	Upper Bound
Performance	IPMR	INS	0.40	0.07	<0.001	0.23	0.57
		IPMS	0.29	0.06	<0.001	0.12	0.45
	INS	IPMR	-0.40	0.07	<0.001	-0.57	-0.23
		IPMS	-0.11	0.07	0.29	-0.29	0.06
	IPMS	IPMR	-0.29	0.06	<0.001	-0.45	-0.12
		INS	0.11	0.07	0.29	-0.06	0.29
Personality	IPMR	INS	0.31	0.07	<0.001	0.12	0.50
		IPMS	0.16	0.07	0.07	-0.01	0.34
	INS	IPMR	-0.31	0.07	<0.001	-0.50	-0.12
		IPMS	-0.14	0.08	0.18	-0.34	0.04
	IPMS	IPMR	-0.16	0.07	0.07	-0.34	0.01
		INS	0.14	0.08	0.18	-0.04	0.34

Discussion

Effective teaching is considered to be the one that produces demonstrable outcomes in the form of cognitive and most effective development of students, and hence is the most important factor in every kind of teaching profession. In medical education, it is essential to blend theoretical knowledge with practical application, as it helps in ensuring both academic success and clinical competence of the students. Based on our reflection and feedback, effective teaching involves refining courses. The majority of students want their teacher to give them a clear and easy understanding of the relevant subject as well as a related topic. This trait of a teacher not only makes the learning process easy but also enhances student's confidence in their capability to incorporate the learned knowledge in real-world situations. According to a study majority of students want their teacher to teach the topic with fun so that learning can be made easy and interesting.[20] Many studies have investigated the qualities of an effective teacher both as a

clinical supervisor and as a classroom teacher,[21] but in this present study, no attempt was made to differentiate a class teacher from a clinical supervisor because most of the teachers of KMU are working as clinical supervisors as well as lecturers. This integrated role of teachers is very common in medical institutions, where clinical supervision often supplements theoretical teaching, providing students with a comprehensive experience of learning.

Schönwetter et al. identified that out of seven categories identified through this study, the classroom teacher was best identified by 'organization' and 'rapport' and in the clinic 'rapport' was most frequently described.[22] The attributes that were highly valued by the students of KMU were "expert on the subject/knowledgeable, helps in the facilitation of students learning, desire to promote students learning, good guidance provider and understands the role of the teacher". These qualities revealed a balance between communication skills and professional competence, both of which are very important in medical education.

In previous studies, "student-centered, effective classroom and behavior manager, competent instructor, ethical, enthusiastic about teaching, knowledgeable about subject and professional" were highly valued attributes of an effective teacher.[23] Ciraj et al found "motivation and inspiring students, defining objectives and clarifying concepts and communication" as important for a good teacher from a study on attributes of an effective teacher.[24] Motivation, predominantly, plays a significant role in keeping students interested and actively engaged, especially in complex and challenging subjects. Jahangiri L and Mucciolo found that students put more emphasis on personality out of the three core categories used in their study: personality, process and performance.[25] This underpins the importance of social connections in creating an environment where students feel supported and motivated to learn.

Several recently published studies reveal similar findings as the results of our research, particularly concerning the noteworthy role of performance and personality attributes, such as helpfulness, conscientiousness, and communication skills in academic accomplishment and perceptions of the students regarding effective teaching. A 2023 study by Hui Wang et al. studied the influence of Big Five personality traits on academic achievement and revealed that conscientiousness and extraversion have a positive impact on academic outcomes, principally through the facilitating effects of self-efficacy and major identity.[26] The study also reported that agreeableness

had negatively influenced the academic accomplishments, resounding our finding that not all traits of personality uniformly contribute to perceived performance or student outcomes.[26] In the same way, a comprehensive meta-analysis published in 2022 by Mammadov S confirmed that cognitive ability and personality traits together elucidate a substantial portion of academic performance variance. Conscientiousness, specifically, was a strong predictor of academic achievement, even when controlling for cognitive ability. The study also mentioned that helpfulness, punctuality, and strong communication—attributes identified in our study as top personality items—are strongly associated with conscientiousness and affect learning outcomes in a positive way.[27] A 2025 study by Dang et al. assessed the relationship between personality traits, emotion regulation, and learning engagement among college students.[28] Their findings indicated that there was positive association of traits such as conscientiousness and agreeableness were with learning engagement, and that a mediating role is played by emotion regulation. This supports our findings showing the importance of positive personality traits (helpfulness, good communication, respect) in promoting an effective learning environment.

Contrastingly, on the other hand, some recently published research reported dissimilar findings from our study's conclusions, predominantly regarding the predictive value of certain personality traits and the uniformity of their effects throughout various educational environments. A 2022 study by Naidoo et al. found that there was no correlation of conscientiousness with academic performance, and emotional stability showed a negative correlation with performance.[29] This finding shows a contradiction to the majority of the literature as well as our findings, where conscientiousness and positive personality traits were strongly associated with improved academic results. Another 2024 study by Leikas et al. explored the influence of gender-typical personality traits and revealed that male-typical personality traits were not associated with Grade Point Average (GPA).[30] This indicated that, at least in some circumstances, personality traits are not significantly associated with academic achievement, differing from our findings that highlight the importance of personality in student perceptions and outcomes. Additionally, the similar study published in 2023 study by Hui Wang et al. reported that the effects of agreeableness and openness on educational accomplishments were weak or even negative in certain situations, and that the impact of personality traits can

fluctuate depending on major and cultural background.[26] This nuanced finding contrasts with the more uniformly positive role of personality attributes observed in our study.

The findings of this study can be used to inform faculty development and teacher training programs by highlighting the specific performance and personality attributes students' value most in effective teachers. Incorporating student feedback into teacher evaluations can help educators tailor their teaching strategies to better meet student needs, promote engagement, and enhance learning outcomes. Additionally, these insights can guide institutional policies to prioritize and reward teaching practices that align with student expectations, ultimately improving the overall educational environment at KMU and similar institutions

Since data was collected only from three constituent institutes of KMU in Peshawar, which may not reflect perceptions in other regions or universities, further studies should cover all the affiliated institutes. Similarly, excluding students who had dropped or skipped a year or semester may omit the perspectives of those with different academic experiences, potentially affecting the comprehensiveness of the results.

Implications of The Study: The findings of the current study highlight the dual importance of both teacher's expertise and interpersonal qualities in shaping student's learning experiences. The study's findings suggest that future efforts in teacher training and professional development should emphasize both subject expertise and positive interpersonal traits such as communication, punctuality, and attentiveness. Recruitment and evaluation processes may benefit from incorporating these qualities as key criteria. The negative view of excessive leniency highlights the need to uphold professionalism and academic rigor in teaching. Institutions should also encourage student-centered approaches and regular feedback to support continuous improvement, ultimately fostering a more effective and respectful learning environment.

Conclusion

The findings reveal that students value teachers who demonstrate strong subject knowledge and actively engage in facilitating learning, combined with positive personality traits such as helpfulness, punctuality, effective communication, respect, and attentiveness. In contrast, attributes perceived as less effective include behaviors like excessive leniency and casualness, indicating a preference for professionalism and academic rigor.

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