

COMPARISON OF SELF-EVALUATED AND STUDENTS-REPORTED TEACHING EFFECTIVENESS OF MEDICAL TEACHERS: A CROSS SECTIONAL STUDY

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ABSTRACT:

BACKGROUND & OBJECTIVE: Opinions regarding student's evaluation of faculty performance and use of formal feedback from students and/or lack of self-evaluation to improve their performance ranges widely. Keeping this under consideration, the present study was conducted to compare self-evaluated and students-reported teaching effectiveness of medical teachers.

METHODOLOGY: A cross sectional study was conducted in Islamic international Medical college Rawalpindi, of three months duration (10th September to 10th December, 2018), on a sample of one hundred medical students and twenty medical teachers. Teaching effectiveness was assessed using "Self-assessment Instrument for Teacher Evaluation (SITE)" and students rated "Evaluation of teaching performance (CEID)" questionnaires.

RESULTS: Teachers rated their teaching more effective with a mean score (M=111) than students (M= 109). The result was significant statistically.

CONCLUSION: Self-evaluated teaching effectiveness was rated higher than students reported teaching effectiveness.

KEYWORDS: Teachers evaluation, Self-assessment, Medical teachers.

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INTRODUCTION:

Teacher performance is assessed through a formal and methodical process of teacher appraisal system^[1]. In the present era, teachers are required to meet the set standards of teaching and the process helps to differentiate between effective and ineffective teaching^[2].

Various concepts have been used regarding teaching effectiveness in literature. Effective teaching has been described in terms of characteristics of a teacher, teaching processes and teaching outcome^[3]. Effective teachers help their students to develop a sound body, mind, health and refine their behaviors^[4].

However there is agreement on certain dimensions of effective teaching^[5]. These include preparation of the course and lesson plan being taught, expertise of the subject matter, helping in the process of learning, fair in assessment of students, class room management, having good teaching and communication skills, nonjudgmental personality, provide effective mentorship and use instructional aids appropriately^[6]. Teaching effectiveness of a teacher is evaluated for student's performance and promotion^[7].

Certain differences have been found in literature regarding differences in perception of teaching effectiveness by students and teachers^[8]. Students consider effective teacher is the one who has good communication skills, approachable, ready to help the students, what they learned (outcome of teaching) and make teaching and learning more interesting and enjoyable throughout the class period to decrease boredom and stress in the class^[9,10]. While in teachers opinion, giving more importance to motivating students, setting high standards, and making students lifelong self-directed learners, are the essential components of effective teaching^[2].

Students can evaluate their teachers in a negative manner. A common reservation is that evaluation score of teaching effectiveness is also influenced by other factors^[5]. Evaluation process, nature of the course and prior interest and perception of students regarding course and teacher, class size and meeting time, workload, difficulty of subject matter, and students motivations are the factors influencing evaluation score^[11]. Occasionally too much

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importance is given to summative component of student's evaluation of teachers, so faculty loses interest in collecting feedback from the students. Therefore student's evaluation of teachers is criticized as it is considered to be misleading, biased and invalid^[12,8].

Students are the end products of teaching process where knowledge is transformed into better performance of the students^[13]. So there is a growing evidence to include student's perspective of good teaching into the frameworks and a standard that directs endorses and rewards effective teaching in all disciplines of education^[8]. Students feedback is given due importance in faculty appraisal system in many institutes^[14]. Therefore, concerns have been raised regarding teachers preferences of doing changes in their teaching methods, just for the sake of getting positive feedback from the students^[15]. That's why student's feedback should not be the solely influential aspect of planning in higher education. Thus the situation is challenging for the teachers to balance all of the impelling features in their teaching to get positive feedback of the students and deliver quality education^[15]. In researcher's opinion, data from multiple sources should be used to assess teacher's effectiveness instead of relying on one, to provide clear and complete image of teacher's performance. Multiple data sources could be self- evaluation of a teacher, student's ratings and performance evaluation by the administration^[2].

As opinions regarding student's evaluation of faculty performance and use of formal feedback from students and/or lack of self-evaluation of teachers to improve quality of teaching process ranges widely. The present study was conducted to compare self-evaluated and students- reported teaching effectiveness of the medical teachers. Earlier studies conducted on evaluation of teaching effectiveness from students and teachers perspectives have been found in management and pure sciences. Medical education which is highly competitive

and academically demanding, studies on the issue are less in Pakistan. The objective of this study was to compare self-evaluated and student reported teaching effectiveness of medical teachers.

METHODOLOGY:

The study was conducted in Islamic international medical college Rawalpindi. The college was selected for its infrastructure, courses and approachability to the participants for rating of effective teacher for six months from 10th June to 9th December 2019. Twenty medical teachers were selected for the study and five medical students of the respective teachers each, a total of one hundred students participated in the study. Five medical students had to rate one teacher each, who was currently teaching them. Sampling technique was Non probability convenient sampling. Participants were selected depending upon their availability and willingness for the study. The inclusion criteria was all the MBBS qualified medical teachers (both male and female), currently working in medical colleges of Pakistan having Minimum teaching experience of 1 year and medical students of the respective teachers. Whereas teachers who are teaching in medical colleges in specialties other than medical like dentistry, rehabilitation, nursing etc. & medical teachers not currently teaching or having experience of <1 year were excluded from the study.

The study was briefly introduced to the participants and required instructions provided. Twenty faculty members were contacted, depending upon their availability and willingness to participate in the study, whose students had to rate them. These teachers were provided with a pre validated "Self-assessment Instrument for Teacher Evaluation (SITE)"^[2]. Students of second and third year MBBS participated in the study, depending upon their availability. They were provided a pre validated questionnaire regarding evaluation of teaching performance CEID [Centro de Estudios e Investigaciones Docentes (Center for Teaching Studies and Research)]^[16], along with the criteria for rating different aspects of the teacher's effectiveness. It was confirmed that faculty members were not present at the time of

rating and researcher was available for any query. Five medical students had to rate one teacher. The rating was anonymous and names of the raters were not required. Confidentiality of data received from the participants was guaranteed.

Two tools were used to measure teacher effectiveness. In "Self-assessment Instrument for Teacher Evaluation (SITE)", the items are constructed for self-evaluation of teachers. Evaluation of teaching performance of the teachers is rated by students using CEID [Centro de Estudios e Investigaciones Docentes (Center for Teaching Studies and Research)] questionnaire.

Self-assessment Instrument for Teacher Evaluation (SITE):

The instrument was designed by Muhammad Akram, et al. The scale consists of a total of 28 items. The items were rated on five points Likert scale with response categories of never, rarely, sometimes, often, always. Knowledge of the subject, teaching lessons and planning, assessment, environment for learning and communication were the aspects of teaching assessed through test items. The reliability coefficient of the scale was high ($\alpha = .94$)^[2].

Evaluation of teaching performance (CEID) using students rating scale:

The instrument, CEID [Centro de Estudios e Investigaciones Docentes (Center for Teaching Studies and Research)] questionnaire was developed by Moreno-Murcia, Torregrosa and Pedreno in 2014. It was used to rate teaching performance by the students. The scale consists of 28 items assessed three major areas i.e. planning of lessons, development and assessments. The items were rated on five points likert scale with response categories of never, rarely, sometimes, often, always. The reliability coefficient of the scale was 0.94^[16].

For analysis of data SPSS version 21 was used. Descriptive statistics were calculated in terms of frequencies, percentages and meas. Independent t test at 5% level of significance was applied to analyze the data. Two different scales were used to calculate teaching effectiveness for self-evaluated and students-reported teaching effectiveness. Percentages obtained from both scales were used to

compare self-evaluated and students reported teaching effectiveness of medical teachers. A cut off score of 60% was taken as teacher effectiveness for each item i.e. $\geq 60\%$ = teacher effective, $<60\%$ = teacher not effective.

RESULTS:

Total number of teachers participated in the study were twenty ($n = 20$) and the response rate was 100%. Total number of students participated in the study were hundred ($n = 100$) with a response rate of 100%. Table VI reveals comparison of self-evaluated (100%) and students reported (88.7%) teacher's effectiveness. Teachers rated their teaching more effective with a mean score ($M = 111$) than students ($M = 109$). The result was significant statistically and null hypothesis was rejected.

Among teachers, gender ratio was male (40%) and female (60%). All male and female teachers rated their teaching effective (Table VI). However female teachers rated their teaching more effective with mean score ($M = 108$) than male teachers ($M = 99.3$). The result was statistically significant.

Ratio of teaching experience of medical teachers was <5 years % ($n = 11$) versus ≥ 5 years % ($n = 9$) with range of 1-20 years. All medical teachers rated their teaching effective irrespective of their teaching experience (Table VI). However, while comparing the mean score of teaching effectiveness; teachers with teaching experience of ≥ 5 years rated their teaching more effective ($M = 105$) than those

with teaching experience < 5 years ($M = 99.3$). The result was not significant (t test value = 0.179) and the difference is by chance (Table-III).

Students of second (2nd) and third (3rd) year MBBS participated in the study, with a ratio of 2nd year (46%) and 3rd year (54%). Among 2nd year students 90.9% rated their teachers' effective while 96.4% 3rd students rated their teachers effective (Table-VI). However mean score given by 2nd year students ($M = 113.4$) was higher than 3rd year students ($M = 109.4$). The result was not significant (t test value = 0.145) (Table-III).

Among male students, 86.6% rated their teachers effective and 91.1% female students rated their teachers effective (Table VI). However male students [mean score (M) = 112] rated teachers more effective than female students [mean score (M) = 110]. The result was not significant statistically (t test value = 0.495) (Table-III).

Table-IV shows that students rated their teachers with highest score in following attributes; teachers assess their students according to a criteria set in the subject curriculum (87.4), keep a relationship of respect with the students (87.2%) and helps students in practical application of their knowledge (87%)

Table-IV shows self-evaluated effective teaching, with highest scores in the areas of "to ensure students participation in the learning process" (88%) and "encourage students to interact respectfully" (88%).

Table-I: Mean scores of self-evaluated and students reported teaching effectiveness

	N	Mini score	Max score	Total score	Mean score (M)	Standard Deviation	Std. Error Mean
Students	100	72	140	140	109.8805	14.62841	.31117
Teachers	20	92	130	140	111.4471	10.39436	.22111

Table-II: Inferential Statistics for self-evaluated and students reported teaching effectiveness.

	Categor y	Min score	Max sore	Total score	Mean score (M)	SD	t-test
Student	2nd year	79	140	140	113.43	13.99	0.145
	3rd year	72	140	140	109.48	12.84	
	Male	83	140	140	112.05	12.41	0.495
	Female	72	140	140	110.2	14.65	
Teachers	≥ 5 years	94	121	140	105.45	11.12	0.179
	< 5 years	89	112	140	99.33	7.66	
	Male	89	98	93.75	3.41	0.000	0.000
	Female	98	121	108.66	8.21		

Table-III: Descriptive statistics for self-evaluated score of teaching effectiveness.

Self- reported teacher effectiveness	Teaching Effectiveness (% highest scores)
Ensure students participation in the learning process	88%
Encourage students to interact respectfully	88%

Table-IV: Descriptive statistics for students rated score of teaching effectiveness.

Students reported teacher effectiveness	Teaching Effectiveness (%highest scores)
Teacher assesses their students according to a criteria set in the subject curriculum.	87.4%
Teacher keeps a relationship of respect with the students.	87.2%
Help students in practical application of their knowledge (87%).	87%

Table-V: Descriptive statistics for students rated score of teaching effectiveness.

	Category	Teaching Effectiveness (%)
Students	2nd year	81.02
	3rd year	78.20
	Male	80.07
	Female	78.71
Teachers	≥ 5 years	75.32
	< 5 years	70.95
	Male	2.43
	Female	5.86

DISCUSSION:

Although it is obvious from earlier studies that formal feedback from students was not much helpful to the teachers in identifying their strengths and weaknesses. However informal consistent feedback from students can help

teachers to assess his or her abilities ^[5].

In a study conducted in Maastricht, Netherlands, on clinical teachers, self-assessment of clinical teachers was found to be useful, stimulated reflection and teachers evaluated their teaching in a more effective way. However, only few reported actual change

in their teaching. Others did not like the subjectivity of self-evaluation and feedback from students, colleagues and administration of the institute was preferred by them. Physicians having experience of more than 50 years, commented on no need for change, because they have a well-established understanding of self-efficacy and have an opinion that they will not be benefited from self-assessment^[17].

In researcher's opinion, multiple data sources are useful in providing a clearer picture of teacher's effectiveness. These sources could be self-evaluation of a teacher, student's ratings and performance evaluation by the administration^[2]. In the present study teacher effectiveness was rated by both faculty members and students. Faculty members rated their teaching effectiveness significantly higher than students. The result is consistent with a study conducted in India where faculty members of medical and engineering colleges rated their teaching more effective than they were rated by students^[5]. The reason may be due to lack of self-awareness of teachers or lack of receiving regular feedback from students. Therefore it is suggested that teachers must take informal feedback from their students on regular basis regarding effective teaching and welcome their suggestions.

In the present study, all teachers rated their teaching effective, irrespective of their teaching experience. However those with teaching experience of more than five years rated their teaching more effective than those with less than five years of teaching experience. Research shows that teacher's teaching experience of up to five years has positive effect on achievement of students, the effect then levels off. However some studies show that in the later years of teaching experience, students learning become negative. As the teacher grows older, he gets tired of the job and does not take interest to learn recent advances. However continual learning and collaboration improves their performance^[18]. Statistically significant difference was found in self-evaluated teaching effectiveness by male and female teachers in our study. Female teachers rated their teaching more effective than male teachers. In a study conducted in India, no significant difference was found in both self-

reported and students-rated teacher effectiveness, among male and female faculty members^[5]. Male students rated teaching effectiveness higher than female students. In a study conducted in Dakota United States, female students rated teaching effectiveness higher than male students^[19]. Further research on larger sample size and across different countries is required to investigate the explanation to the gender bias found in our study.

In our study, teachers rated themselves as more effective in the areas of "they ensure students participation in the learning process" (88%) and "encourage students to interact respectfully" (88%). In a study conducted in Saudi Arabia teacher rated following attributes to be essential components of effective teaching; good communication skills (86.7%), honest (81.1%), students motivation (77.8%), organizes good lectures (76.7%) and expert on the subject (77%)^[7]. According to a study conducted in Spain, teachers consider setting high standards, and making students lifelong, self-directed learners, as the essential components of effective teaching^[20,21].

In our study, students rated their teachers with highest score in following attributes; teachers assess their students according to a criteria set in the subject curriculum (87.4%), keep a relationship of respect with the students (87.2%) and helps students in practical application of their knowledge (87%). In a study conducted in India, students consider an effective teacher the one who has good communication skills, approachable, ready to help the students, what they learned (outcome of teaching) and make teaching and learning more interesting and enjoyable throughout the class period to decrease boredom and stress in the class^[9].

CONCLUSION:

A significant difference was found between self-evaluated and students-reported scores to quantify teaching effectiveness of medical teachers. The results can be utilized by medical institutions to identify the gap between teachers and students' perception of effectiveness of their teaching process and to

recognize the areas that can be improved upon. Best judgment of teaching effectiveness can be done through student's performance in formative and summative assessments. Therefore teaching effectiveness can be better judged through learning of their student. Although student's formal feedback in the evaluation of faculty members is controversial, however informal personal feedback can build a rapport between teachers and students. Teachers must be aware of their flaws in teaching performance and self-awareness training must be a part of faculty development programs. Moreover, the generalizability of the study can be increased by conducting the study in multiple institutions on a large sample size.

LIMITATIONS AND FUTURE RECOMMENDATIONS:

Our study was conducted within a single institution and a small sample size was used. It is therefore recommended to conduct similar studies with medical teachers and their students with large sample size in multiple institutions and also in other provinces, countries and cultures, so as to generalize the findings of the study.

Experimental studies are needed to be conducted in the future to explore cause and effect relationship among informal personal feedback from the students, improving self-awareness and effectiveness of teaching process. Research in future is required to investigate the gender bias in teaching effectiveness. The present study findings justify direct informal feedback from the students for improvement of teacher's performance. Teachers must keep themselves aware of their flaws in teaching performance. It is therefore recommended that the issues needs to be addressed in faculty development programs of medical teachers.

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Gull Shaikh: Study design, manuscript writing and proof reading.

Seema Gul: Final approval of the version to be published.

Maya Tahir: Drafting the work or revising it critically for important intellectual content.

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