



Faculty members' viewpoints about the present and the ideal teacher evaluation system in Tehran University of Medical Sciences

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Abstract

Introduction: This study was conducted to determine the most important strengths and weaknesses of the present evaluation system in Tehran University of Medical Sciences and achieve the main factors to improve this system.

Method: It was a mixed method study design in two separate and sequential phases. The first phase was a qualitative step applying a document analysis method to interpret the present situation and the second was a quantitative phase applying a three dimensional questionnaire to collect teachers' viewpoints for improving the system.

Results: The findings indicated that the present system had 3 strengths versus 7 weaknesses. The quantitative phase demonstrated that the comprehensive and mixed evaluation method was preferred as the best method of evaluation, followed by self evaluation, students' output and students' evaluation of teachers. Other findings showed that %95.7 of faculty members were in favor of "using the result for correcting teachers' practice". %88.4 of the participants found "secret feedback of evaluation results" and %86.3 the students' comments as the best options. %95.8 mentioned that transmitting the concepts by teachers as the most appropriate question.

Conclusion: It seems that the mixed method evaluation is the only way ending in complete feedback of teaching quality and matches 360 degree evaluation. So it is important to correct and review the students' forms along with designing other tools for assessing managers, peers and colleagues and also designing log books and observation sheets, etc. to achieve a comprehensive and mixed package of evaluation.

Keywords: Teacher evaluation, Medical faculty, Mixed evaluation method

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Introduction

Evaluation is a pervasive and essential process for all organizations and this is increasingly a matter of necessity for all higher education institutes pursuing justice and excellence (1). Furthermore, since the fundamental value of educational entities is teaching-learning quality improvement, the evaluation programs necessarily constitute an important part (2). However, quality insurance of teaching-learning process in educational systems requires consideration of all factors involved in this process. The university faculty members are definitely considered as main

and effective factors in this process. To improve teaching-learning process, both continuous personal development of faculty members and the evaluation of their delegated tasks in this process are specifications of a successful university. Given the valuable role of faculty members in higher education systems, designing an appropriate evaluation system for them is of great importance (3).

In this regard, the evidence shows that the most complicated type of evaluation to perform is also the evaluation of teachers or professors' performance. The reason of this difficulty is low validity and inaccuracy

of measurement tools and methods used in this type of evaluation (4). In the meantime, there are various methods used to evaluate the faculty members such as student survey on teaching process (5).

On the other hand, the process of evaluating college faculty members faces many challenges in all universities and therefore there have been various attempts to answer the questions and ambiguities related to teacher evaluation and help to increase consistency between teacher evaluation results and actual results as much as possible through study and research (6).

In spite of this, the experience has shown that in most cases either the teachers are not satisfied with the evaluation results and so do not take into account the necessity of changing their performance or if the evaluation results are favorable for them and they take high scores, according to positively evaluation of their performance, they continue performing in the same manner. This means that the evaluation at current level of quality and quantity has no considerable impact on quality improvement of teachers' performance. Therefore, deeper thinking, complete studying and giving feedback of students survey on teachers in a more comprehensive and accurate way are of great importance to achieve the main goal of evaluation which is quality improvement of teaching activity (7).

In this regard, the teachers' activities, teaching dimension in particular, has been monitored and evaluated in different ways since the first step of establishing universities in the country and valuable efforts have been done to regulate, change and reform the teacher evaluation programs at university and faculty levels. However, there is no mix methods study on current status of the evaluation system and the present elements need to be changed to transform the system into a practical one which can be used in all universities of medical sciences in the country. Therefore, the current study aims to extract the strengths and weaknesses of the existing evaluation system in Tehran University of Medical Sciences as the first and largest university of medical sciences in the country while seeking for designing a proper tool to measure faculty members' opinion on the existing evaluation system and also to assess their points of view on its improvement.

Methods

The study used a mixed method design. This type of research is a combination of quantitative and qualitative methods in parallel or sequential phases which recently has been used more widely in health systems research (8).

The population of the study included all faculty members affiliated to Tehran University of Medical

Sciences. This study was designed in two consequent phases as below:

1. In the first phase, all evidence and documents existing in Medical Education Development center in the university were investigated in order to analyze current status of teacher evaluation system and identify its most important strengths and weaknesses. In this step, whatever related to teacher evaluation forms in theoretical and practical courses, type, number and weight of the questions in the forms, scoring and other effective and important factors reflecting current status of evaluation system, were investigated and analyzed. At the end of this phase, an overall picture of the system's strengths and weaknesses was extracted. For this aim the four step Scott method was used as follows (9):
 - Determining the authenticity of documents: After collecting the relevant documents, their authenticity was evaluated in terms of time, using the most recent records.
 - Approving the credit of documents: All selected documents were tested in terms of content, content validity and significance.
 - Indicators of the data: At this stage only the documents that clearly indicate the purpose of the study, and explain the teacher evaluation system from stakeholders' points of view were selected.
 - Significance: After doing the above four steps, ultimately, in order to do the content analysis of the selected documents, Nvivo software version 8 was used to extract the main themes.
2. In the second phase, according to the analysis in the previous phase, a questionnaire was designed to find out the viewpoints of teachers teaching theoretical and practical courses in all faculties of Tehran University of Medical Sciences. However, ideally, a questionnaire development should be derived from an appropriate population and also the literature review (10). As the objective of this study was to survey teachers' opinions on problems and possible strengths and weaknesses of existing system, the questionnaire items were designed using the results from evidence analysis on the first phase and the literature review. The teacher survey questionnaire was developed to contain the fewest possible items while not affecting its validity. Long questionnaires are not usually filled out completely because of time limitation and so they result in falling response rate. After designing the questionnaire, its content validity and face validity were determined using opinions of the experts in medical education and development. The questionnaire reliability was calculated using

Cronbach's alpha coefficient for 30 completed questionnaires. Finally, the questionnaires were distributed among all faculty members teaching theoretical and practical courses in all faculties of Tehran University of Medical Sciences. Given the teachers' high teaching workload, the teachers did not have enough time and were not so much interested in filling out the questionnaires. So all faculty members were selected to get a maximum number of opinions. Furthermore, a pen was put in a colored plastic folder for facilitating writing to protect teachers' dignity, draw their attention and increase the response rate. It is worth mentioning that a unique colored folder used for all teachers in each faculty. Appropriate statistical tests (t-test, ANOVA and ...) were used to analyze the collected data, using SPSS software, version 14.0.

In order to keep the confidentiality of the data, all the questionnaires were filed in a secret place and a private security code was allocated to the electronic file. Furthermore, the data were analyzed and presented without mentioning any special names or characteristics that may result in recognition of the participants' identity. The participation in the study was, of course, completely voluntary and just occurred after an oral consent of the faculty members.

Results

The results of the study showed that teachers' evaluation is currently done merely through questionnaires distributed among students. There are two separate survey forms for theoretical and practical courses and the evaluation is performed by Medical Education Development Center.

The results of the first phase indicated that the current method of evaluation in the university had 3 strengths including intelligibility of the questions for all groups, separate forms for theoretical and practical courses and short enough to be completed fully by the students. The weaknesses included limited number of questions, lack of coverage of all effective factors in teacher evaluation, lack of proper categorization of questions in each category, lack of the option "no opinion" in Lickert scale, too general questions, lack of a rational sequence in designing the questions and lack of controlling questions for avoiding random opinions (Table 1).

In the second phase, based on the results from the first phase and the literature review, a questionnaire was designed to examine the teachers' views on the current status of teacher evaluation system in the university.

The questionnaire was designed in three general

dimensions of "the methods used in evaluation", "executive process of evaluation" and "appropriateness of the questions". The first questionnaire draft included 30 questions i.e. 10 questions in each dimension. After finalization of this draft by the research team, the questionnaires were distributed among three professors and experts in the Medical Education Development Center and 2 professors at the Department of Epidemiology, expert in designing and developing research tools. According to their suggestion, some questions with low validity were omitted and more appropriate questions in accordance with the research objective were added to the questionnaire. Finally, the final version of the questionnaire including 31 questions (9 questions on "executive process of evaluation", 8 questions on "evaluation methods" and 14 questions on "appropriateness of the questions") was verified by the experts and the content validity and face validity of the questionnaire was confirmed.

To calculate the reliability of the questionnaire, it was distributed among 3 selected professors at each faculty of the university (public health, pharmacy, medicine, dentistry, rehabilitation, nursing and midwifery, para medicine, advanced technologies in medicine, health management and information and nutritional sciences and dietetics) and Cronbach's alpha coefficient, as a reliability index, was calculated for these 30 questionnaires. In the meantime, 2 faculties, traditional medicine and E-learning in medical education, were omitted from the target group of the study due to differences in educational system and type of students.

In the next step, the finalized questionnaire was distributed among all faculty members teaching theoretical and practical courses in the aforementioned 10 faculties and totally 336 faculty members returned the completed questionnaires. The results of the survey showed that the faculty of medicine had the highest number of respondents (%19.34) while the faculty of advanced technologies in medicine had the lowest number (%2.98).

Other results concerning demographic characteristics of the participants showed that more than half of them were men (%51.2) and less than half were women (%49.8) and the average age of the respondents was 49 ± 5.2 .

With regard to academic rank, assistant professors constituted the highest number of the respondents (%36.01) while full professors constituted the lowest number (%12.2).

Regarding the evaluation method dimension, the multi-faceted or mixed evaluation method had the highest rank so that %84.8 of the faculty members perceived this method as the best method of teacher

Table 1. Strengths and weaknesses of the present teacher evaluation system in Tehran University of Medical Sciences

Area	Strengths	Weaknesses
Students' viewpoints	<ul style="list-style-type: none"> • Intelligibility of the questions for all groups • Separate forms for theoretical and practical courses • Short time to answer 	<ul style="list-style-type: none"> • Limited number of questions • Lack of coverage of all effective factors in teacher evaluation • Lack of proper categorization of questions in each category • Lack of the option "no opinion" in likert scale • Too general questions • Lack of a rational sequence in designing the questions • Lack of controlling questions for avoiding random opinions
Peer viewpoints	It is not available in the present system	
Head of department viewpoints	It is not available in the present system	
Educational assistant viewpoints	It is not available in the present system	
Head of clinical ward viewpoints	It is not available in the present system	
Other Evaluation Methods	It is not available in the present system	

evaluation.

Furthermore, in a separate comparison between the different methods, self assessment had the highest rank whereas students' learning rates and student survey were ranked second and third, respectively. Moreover,

observing the class by an assessor was considered as lowest ranked method by the respondents (Table 3).

Comparing the responses by male and female teachers, we found no statistically significant difference between their opinions ($p=0.2$). Also, regarding the rank of the professors, no statistically significant difference was found among them ($p=0.05$).

Table 2. Reliability index (α) for each of the questionnaire's dimensions

Questionnaire's dimensions	α
Executive process of evaluation	0.74
Evaluation methods	0.76
Appropriateness of the questions	0.79

In the executive process of evaluation dimension, using the evaluation results to reform the teaching method was the highest rated item so that %95.7 of the faculty members found it a proper question. In the meantime, %88.4 and %86.3 of the participants considered provision of confidential evaluation results feedback to the teachers and the use of students' opinions in executive process of evaluation

Table 3. The frequency of teachers answers to the questions of "Evaluation methods" dimension

Phrase	Percent of answers					Mean	Rank
	CF	F	N	UF	CUF		
Observing the class by an assessor	25.4	24.8	0.8	23.1	21.5	3.83	8
Student survey (Evaluation by students)	42.5	43.4	7.8	0.9	1.5	4.38	4
Student learning rates	31.7	41.8	11.1	5.3	4.4	4.45	3
Self assessment	41.5	42.4	8.5	3.4	1.5	4.49	2
Evaluation by peers and colleagues	26.8	35.2	24	7.7	5.3	4.01	6
Evaluation by head of department	31.5	37.6	20.1	3.3	6.1	4.14	5
Evaluation by educational assistant	23	37.1	23.1	8	6.2	3.96	7
Multi-faceted or mixed evaluation method	62.3	22.5	4.5	3.8	2.4	4.58	1

Mean score base is calculated out of 5* CF= Completely favorable F= Favorable N= Neuter UF= Unfavorable CUF= Completely Unfavorable

Table 4. The frequency of teachers answers to the questions of “Executive process of evaluation” dimension

Phrase	Percent of answers					Mean*	Rank
	CF	F	N	UF	CUF		
Use of %50 of top students' opinions in executive process of evaluation	58.8	27.5	2.1	3.2	8.1	4.45	3
Using the evaluation results to reform the teaching method	64.5	31.2	3.5	0.8	-	4.61	1
Current teacher evaluation trend in Sama system	11.5	40.7	26.5	9.7	10.6	3.80	9
Provision of confidential evaluation feedback to the teachers	60.1	28.3	4.4	0.9	3.5	4.54	2
Time of evaluation (2 weeks before the end of each course)	38.1	42.5	5.5	5.3	8.5	4.05	6
Selecting at least 3 theoretical courses accidentally among a teacher's classes	37.8	31.9	15.5	7.7	5.1	3.95	7
Employing school or hospital clients for distributing and collecting the evaluation forms	30.2	35.1	9.7	15.5	8.1	3.91	8
Employing assessors of EDC	43.4	36.2	11.5	4.4	3.5	4.18	5
Educational assistant supervision on distributing and filling the evaluation forms	57.8	25.5	3.8	4.5	4.6	4.22	4

Mean score base is calculated out of 5* CF= Completely favorable F= Favorable N= Neuter UF= Unfavorable CUF= Completely Unfavorable

useful methods, respectively (Table 4).

On the other hand, it was found that, as displayed in Table 4 current teacher evaluation trend in Sama system of Tehran University of Medical Sciences which is merely based on students' viewpoints, had the lowest rank among other options in the executive process of evaluation.

Regarding the appropriateness of the questions dimension, attempts to explain the subject matter and transmit knowledge to the students were considered as the most appropriate question by %95.8 of the participants. Discipline and timely attendance in class were ranked as the second and finally both providing new knowledge with practical examples and teacher proficiency were ranked third with the same average. On the other hand, the lowest three rates were for the questions “transparency of the questions for students with respect to accountability”, “comprehensiveness and adequacy of questions including all aspects of teaching” and “adequate number of questions to evaluate teachers in theoretical courses”. These results indicated that the teachers participating in the study did not consider the concepts and questions about these aspects proper enough. In the meantime, there was no statistically significant difference between the female and male faculty members with different academic rank regarding these elements.

The analysis of the questions in this dimension suggested a statistically significant difference between male and female faculty members on the questions of

“attention to student attendance in class” ($p < 0.001$) and “taking different exam throughout the semester” ($p < 0.008$).

Regarding gender and academic rank of the participants, there were no statistically significant difference in their opinions in this dimension ($p = 0.5$ and $p = 0.11$, respectively).

Discussion

The findings based on data analysis indicated that currently the form filled by the students is the sole method of teacher evaluation in Tehran University of Medical Sciences. In the meantime, Nelson believes that teaching evaluation by students at post graduation level, as the sole valid source of information, has a major effect on education (6). Moreover, Aultmon considers teacher evaluation by students as a valuable source for education quality improvement (10).

On the other hand, others believe that there is always a doubt about solidity in using students' opinions and the measurement scale of the validity is hard to achieve. According to the professors' points of view, the students cannot completely judge the teachers on their qualities because of their lack of awareness of teaching process and therefore teachers do not usually trust the results of such evaluations. Some argue that the students exert their personal opinions and sometimes their opinions are influenced by factors such as executive processes related to teaching, characteristics of courses, professor personality

Table 5. The frequency of teachers answers to the questions of “Appropriateness of the questions” dimension

	Percent of answers					Mean*	Rank
	CF	F	N	UF	CUF		
Discipline and timely attendance in class	54.7	32.9	0.7	6.1	5.5	4.81	2
Attention to the students presence and absence	12	40.8	10.6	30	6.2	4.08	9
Teachers' attempts to explain the subjects and transmit knowledge to the students	88.8	7.1	1	1.1	0.9	4.89	1
Stating the importance of subject and presenting in a logical order	37.8	31.9	2.2	17.5	8.5	4.19	7
Providing new knowledge with practical examples	58	27	4.4	8.4	-	4.75	3
Active cooperation by the students	49.6	31.9	5.8	3.5	6.2	4.68	4
Applying valid and modern references	38.2	42.5	-	5.3	5.3	4.32	6
Using educational aids	43.4	34.5	5.8	8.5	6.3	4.55	5
Teacher proficiency	58.5	26.5	6.5	5.3	3.2	4.75	3
Availability of teacher out of class time	30.2	34.5	10.6	9.7	15	4.11	8
Mid terms and Quizzes	47.8	40.7	-	6.2	0.9	4.01	10
Transparency of the questions for students with respect to accountability	37.2	42.5	-	16.3	-	3.98	11
Comprehensiveness and adequacy of questions including all aspects of teaching	30.8	45.4	1.5	18	2.5	3.81	13
Adequate number of questions to evaluate teachers in theoretical courses	34.5	47.8	1	8.5	3.1	3.95	12

Mean score base is calculated out of 5* CF= Completely favorable F= Favorable N= Neuter UF= Unfavorable CUF= Completely Unfavorable

type, students characteristics and their previous and current interests in subjects which are not so related to the evaluation. The results also showed that the current evaluation system in the university enjoyed several strengths, for instance, the understandability of the questions and the existence of separate evaluation forms for theoretical and practical courses. In this regard, the studies have indicated that a useful and practical method which is acceptably valid and reliable could be developed, taking into account cultural, social and educational factors (10).

On the other hand, the current evaluation system had some weaknesses including limited number of questions, lack of coverage of all effective factors in teacher evaluation, lack of proper categorization of questions in each category, lack of the option “no opinion” in lickert scale, too general questions, lack of a rational sequence in designing the questions and lack of controlling questions for avoiding random opinions and giving opinion with no study (10).

In this regard, Dargahee, et al.'s study on student survey forms in Para medicine faculty of Tehran University of Medical Sciences showed that there were some weaknesses related to content of the questions of the evaluation form for theoretical courses. The

results from the quantitative phase of the study indicated that the multi-faceted or mixed evaluation method had the highest rank so that %84.8 of the faculty members perceived this method as the best method of teacher evaluation which included other evaluation methods in addition to the student survey (11).

Similarly, Dargahee concluded from his study that the multi-faceted (mixed) evaluation method was the most proper method to evaluate teachers (11). Fatahi also suggested that multi-faceted methods, appropriate questions, correct implementation and confidential feedback provision be used (12). These findings confirm the current study results.

The results of an experimental study in Stanford University of Medicine also indicated that professors' promotion based on multi-faceted evaluation considerably increased their effectiveness and provided needed support for promotion. According to the results of most studies, student survey constituted the major part of the multi-faceted evaluation. This might be due to the students' involvement in the teaching process and their communication with the professors (13).

Other findings from the quantitative phase of the

study showed that in a separate comparison between the different methods, self assessment had the highest rank whereas students' learning rates and student survey were ranked second and third, respectively. Moreover, observing the class by an assessor was considered the lowest ranked method by the respondents.

In this regard, Rahimi's study indicated that the average total score of professors' self-assessment was significantly higher than the average total score of the evaluation done by students. Other results from a systematic review implied that the scores of professors' self-assessment were more than the scores based on the students' survey and a low correlation between the scores was reported. Therefore, self-assessment results should be used to plan for removing weaknesses and empowering teachers (14).

Shakoor Nia et al. in their study, similar to the current study showed that %65.8 of the participants considered professor evaluation by students as a valid and reliable source and believed that the students were honest in expressing their opinions. Therefore, students' opinions can be used as a major part in professor education program while existing shortages should be identified and removed (15).

Although student survey was ranked third among other evaluation methods in the current study, some studies criticized the value of this method. For example, Haji Aghajani in his study showed that the professors teaching in his university believed that students cannot completely judge the teachers on their performance due to lack of awareness of teaching process so they do not trust the results of such evaluations (16). Najafipour also reported that teachers do not believe in teacher evaluation by the students and argued that the students exert their personal opinions on evaluation (17). In Ahvaz University of Medical Sciences, 54 percent of the faculty members also believed that teacher evaluation by students hurt the dignity of teachers (16).

Other findings from the quantitative phase of the study showed that using the evaluation results in reforming the teaching method was ranked first by the teachers. In the meantime, providing confidential feedback about the evaluation results to the teachers and using students' opinions (%50 of top students) were ranked second and third among others. On the other hand, current teacher evaluation trend in Sama system of Tehran University of Medical Sciences, merely based on surveying all students, has the lowest rank among other options in the executive process of evaluation.

In this regard, Fatahi, et al.'s study indicated that teachers' awareness of evaluation results had a considerable effect on teaching method reform (12).

This reflects the importance of evaluation goal as a tool to improve the future teachers' performance.

Despite the results of the current study regarding the third rank of using %50 of top students' opinions, Shakoor Nia's study showed no statistically significant difference between the opinions of male and female students with top and low grades in teacher evaluation (15). Afshar et al. conducted a study on three groups of students of medicine (top, intermediate and weak) in Birjand University of Medical Sciences and found that there was no statistically significant difference between three groups' scores on most favored dimensions. However, regarding teachers' dignity, the weak students scored the teachers higher than the top students (18). Moreover, providing confidential evaluation feedback to the teachers was ranked second in the executive process of evaluation dimension and the results of Amini's study was in accordance with ours (19).

Finally, other findings from the current study showed that in appropriateness of the questions dimension, attempts to explain the subject matter and transmit knowledge to the students were considered as the most appropriate question. Discipline and timely attendance in class were ranked as the second and finally both providing new knowledge with practical examples and teacher proficiency were ranked third with the same average.

In this regard, different studies reported similar results. For instance, Raofi argues that all participants pointed out the best options in the evaluation form for theoretical courses as follows: teacher proficiency, timely attendance in class, planning for optimum use of class time and giving practical examples when teaching (20).

On the other hand, the lowest three rates was related to the questions of "transparency of the questions for students with respect to accountability", "comprehensiveness and adequacy of questions including all aspects of teaching" and "adequate number of questions to evaluate teachers in theoretical courses". These results indicated that the teachers participating in the study did not consider the concepts and questions included in current evaluation form transparent and clear adequately.

In this regard, Emdadi's study showed that the students pointed out five items as most effective factors on teacher evaluation including "academic rank of professors", "teacher discipline", "teacher ethics and morals", "student-oriented teachers" "teacher appearance" (21). However, many of these items are not included in the survey form of Tehran University of Medical Sciences.

This study had some limitations, too. First of all, it was restricted only to Tehran University of Medical

Sciences. Secondly, the data was collected through a questionnaire and there was not a place for holding any focus group discussion or expert panels for brain storming and collecting open ideas. Finally, this study just focused on the teachers' viewpoints and did not consider the other groups like the students. So it is highly recommended for future studies to use individual or group interviews for achieving further viewpoints of the teachers and the students in this university.

Conclusion

Given the above discussion, it seems that the multi-faceted method is the most appropriate method of evaluation resulting in complete feedback about quality of teaching and is compatible with the 360 degree evaluation approach. Therefore, it seems necessary to complete and reform the teacher evaluation form as the only source of evaluation along with designing other needed tools (such as evaluation forms from the head of the department, educational assistant, head of faculty and alumni, portfolio, students' output and grades, classroom observation, etc.) to develop a multi-faceted evaluation package.

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