

Reviewing Grasha Teaching Methods among Faculty Members of Shiraz Medical School

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ABSTRACT

Introduction: Teaching and training are the basic responsibly of a faculty member. One of the fundamental problems of education in the universities is not having a criterion to identify the effective teaching styles. The aim of this study was to determine Grasha teaching method among the faculty Members in Shiraz Medical School. **Methods:** this descriptive, cross-sectional study was done on 100 faculty members who were selected by census sampling method. Data collection method was Grasha questionnaire which contains 40 questions in 5 sections. Data were analyzed by SPSS 18. **Results:** All questionnaires were completed. The age range was from 32 to 65 and the mean age was 46. 57% were male. There were 27 PhD, 35 specialists and 38 subspecialists. The highest average score belonged to "Expert" method (2/66±0/55) and the lowest to "Personal" (2± 0/76). 96% of the academic staffs were inclined to "Expert" method and %97, %83, %78, %80 to "Formal", "Personal", "Delegator" and "Facilitating" methods, respectively. There was no significant difference between male and female, but in "Expert" method, the average of females was superior. %77 was under 50 years and %23 over 50. There was no significant difference between elder and younger academic members. No significant difference was found in terms of university degree. **Conclusion:** This study suggested academic members are inclined to use "Expert" and Delegator methods. Therefore, it is necessary for the academic members to choose a method which creates intellectual excitement among the students through the clarity of teaching content and understanding among individuals that increase the efficiency of their methods.

Introduction

Everybody has a unique learning method formed during childhood and remains constant until adulthood.¹ The idea that people have different ways of learning goes back to ancient Egyptian times.² Most faculty members are trying to be effective trainers and train good medical students, but various complicated factors such as cultural, environmental, students' educational program can nullify their efforts.³ The faculty members like the students follow their own teaching method and in this regard they are responsible for managing and providing courses to meet different needs of the students. However, due to the lack of coordination between the teaching methods and learning, how do the professors overcome this problem.⁴ Some faculty members were aware of the advantages of methods used in their teaching but some others provide the students with some teaching materials unconsciously

without following a particular teaching method.⁵ The increasing advancement in all sciences including medical sciences is beyond the learning capacity of most students. Therefore, it requires a proper organization and training by the experts using various innovative methods.⁶ Knowing the teaching methods and personal characteristics of the faculty members can affect the educational patterns of the faculty members and their students' educational success.⁵ Grasha believes that five teaching methods can be seen among higher education professors which are as follows:

1. Expert: These faculty members are experienced and eager to transfer the information and are sure that the students are completely prepared.
2. Formal authority: These faculty members consider the positive and negative feed backs of the students' behavior, meeting the objectives, and regarding the rules by the students. They have clear expectations from their students.

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3. Personal model: These faculty members believe in the personal example on how the students can think and they encourage the students to observation and competition. In this method the emphasis is on the direct observation.
4. Facilitator: This method emphasizes the interaction of the students and professors. The students get training through asking question and expressing opinion. It emphasizes the enhancement of the students' capacity in gaining practical independency. The professors only supervise the students.
5. Delegator: the professors are interested in doing the things independently by the students. The students work on their projects independently and the professor is available when needed.⁷

Among the benefits of the consistency of learning methods with teaching methods are the reduction of the anxiety and enhancement of the satisfaction of the students and professors.¹

A descriptive cross-sectional study titled "Reviewing the Teaching Methods of Faculty Members in Rafsanjan University of Medical Sciences in 1996" which was census based was done by Razagi *et al* on 100 faculty members of the medical schools and educational hospitals. After conducting a pilot study and determining the validity and reliability of the questionnaire determining the Grasha teaching method, the main study was done. Average scores obtained from the questionnaire completed by the subjects showed that the highest mean score in terms of standard levels of each method were for the Expert and Delegator which were 5.13 and 4.6 respectively. Ninety two percent of samples were interested in using the Delegator and seventy three in Facilitator. The male academic members preferred the application of the Expert and Delegator highly whereas the female ones preferred the Facilitator and Expert. The academic members with master degree would rather use the Facilitator and Delegator teaching methods, the ones with PhD were interested in Expert, Delegator and Formal authority teaching methods and medical experts used the Expert and Delegator more than other methods. The preferred teaching method used by faculty members as instructors was Delegator while the teaching methods of the instructors, assistant professors and associate professors were Expert and Delegator, Expert and Formal authority and Expert respectively. The faculty members of basic sciences in Medical school preferred Expert and Delegator teaching methods, however, Delegator teaching method was used in dental faculty and facilitator, Expert and Delegator were used in nursing and midwifery faculties and the preferred teaching method of the clinical faculty members in educational hospitals were Expert, Facilitator, Delegator and Formal authority. The academic members teaching theoretical courses use Expert and Delegator teaching methods whereas those

who are teaching clinical and practical courses use formal authority teaching method in addition to the ones used in theoretical courses.⁸

Karimi, *et al* has stated the priorities of teaching methods among the faculty members in Yazd Medical Sciences University which are as follows: Professor-centered, indifferent imperative and student-based.⁹ Khalili examined the differences between the effect of two education methods, classic and critical thinking based method, and found out that critical thinking based method is more effective.¹⁰ Behar and Michel showed more advantages for student-based method.¹¹ Zohoor *et al* sought the characteristic of effective teaching in the strength of relationship, scholarship and the professor's personality.¹² Students preferred the teaching method which is student-based and meets their individual needs.¹³ Salekzaman believes that the professors need an average level of intellectual excitement and must be very strong in interpersonal goodwill.¹⁴

In recent years, the methods of education which are student-based have been emphasized. For having an effective education, the identification of the teaching methods is crucial. The true method is the one which is inherent in learner and could be changed though education to some extent. Since a class is composed of a group of learners with diverse learning methods, identifying and applying the Facilitator and Delegator methods could have better results. So in this regard, we try to examine faculty members' teaching methods. It is hoped that this could be an effective step in development of medical education.

Methods

This study was conducted on 100 faculty members of Shiraz Medical School chosen randomly in 2010. The data was gathered through Grasha questionnaire and samples were taken anonymously. Grasha teaching method questionnaire containing 40 questions in five sections include the questions of Expert method (8 Questions), Formal authority (8 Questions), Personal model (8 Questions), Facilitator (8 Questions) and Delegator (8 Questions).

The questionnaire was translated by medical education experts and the validity and reliability of the questionnaire were confirmed using content validity method and test-retest on 10 samples (correlation coefficient of $r = 81\%$). Likert scales statements have been ranged from completely agree to completely disagree. The questions have ranked from 1 (extremely disagree) to 5 (extremely agree) and the total score of each section was divided to 8 and according to the questionnaire index in each teaching method, they were placed in one of the low, medium and high classes (depending on severity) which characterize the individual teaching method. After giving the needed description to the samples, they were given the questionnaire to complete.

Then the raw data was coded and recorded in SPSS and the results were extracted.

The present study is a descriptive cross-sectional one. One hundred fifteen out of three hundred faculty members of medicine school were randomly given questionnaires to complete of which one hundred completed and returned. The data gathering tool and process was Grasha questionnaire which was classified with a regard to age, gender, academic rank and group.

Results

In this study 100 questionnaire were completed by faculty members whose ages ranged from 32 to 65. The mean age was 46. Fifty seven percent was male and forty three percent female. Regarding their specialty, there were 7 people in the field of biochemistry, 9 in anatomy, 6 in physiology, 8 in bacteriology and parasitology, 18 in internal medicine, 13 in pediatric medicine, 6 in ophthalmology, 9 in gynecology, 18 in surgery and 6 in neurology. In terms of educational level, there were 27 with PhD, 35 M.D and 38 fellowships. Average scores obtained from the questionnaire showed that the highest score in terms of standard balance of each method belonged to the Expert method with an average of 2.66+0.55 and the lowest average was for Personal model method with an average of 2+0.76. (Table 1)

The preference of 97% of the participants was high or medium for Expert method and the percentage for the Delegator method was 96%, Formal authority 83%,

personal model 78% and Facilitator 80% (Table 2).

The application of Expert method among the academic members in terms of their gender 37% of women and 32% of men preferred this method highly and the preference 18% of women and 11% of men was medium. Based on the t-test, the difference was significant $P < 0.05$. The application of Formal authority method among the academic members in terms of their gender 18% of men and 4% of women preferred this method highly and the preference 29% of women and 32% of men was medium. Based on the t-test, the difference was not significant $P > 0.05$. The application of Personal model method among the academic members in terms of their gender 15% of men and 8% of men preferred this method highly and the preference 29% of women and 28% of men was medium. Based on the t-test, the difference was not significant $P > 0.05$. The application of Facilitator method among the academic members in terms of their gender 16% of men and 12% of women preferred this method highly and the preference 29% of men and 21% of women was medium. Based on the t-test, the difference was not significant $P > 0.05$. The application of Delegator method among the academic members in terms of their gender 22% of men and 21% of women preferred this method highly and the preference 30% of men and 20% of women was medium. Based on the t-test, the difference was not significant $P > 0.05$ (Table 3).

No significant difference was seen between male and female academic members in application of Formal

Table 1. Comparison of the average and standard deviation of academic members' various teaching methods.

Grasha Teaching Methods	Minimum	Maximum	Average (SD)
Expert	1.8	5	3.93 (0.61)
Personal model	1.5	4.8	3.61 (0.66)
Formal authority	2	5	3.59 (0.60)
Facilitator	1.8	4.9	3.58 (0.68)
Delegator	1.4	4.9	3.16 (0.66)

Table 2. The score and frequency of Grasha teaching method.

	Expert		Formal authority		Personal model		Facilitator		Delegator	
	Freq.	Score	Freq.	Score	Freq.	Score	Freq.	Score	Freq.	Score
Low	3	1-2	20	1-2.8	22	1-3.2	17	1-3	4	1-2.5
Average	51	2.1-3.1	50	2.9-3.9	56	3.3-4.1	64	3.1-4	27	2.6-3.7
High	45	3.2-5	30	4-5	22	4.2-5	19	4.1-5	70	3.8-5

authority, Facilitator, Personal model and Delegator methods but in Expert method the average score of female academic members was higher than the male ones (Table 3).

The relationship between teaching method and age has

been shown in table 4. No significant difference was found in comparison of academic members' preferred method in terms of education level (Table 5).

The variable that had the greatest effect on increasing the scoring of Expert method was the education level of

Table 3. The mean and standard deviation of Teaching method and preferred teaching by sex.

Teaching Method	Sex	Frequency	Mean (SD)	t
Expert	Female	43	4 (0.5)	0.03
	Male	57	3.8 (0.6)	
Formal authority	Female	43	3.5 (0.4)	0.64
	Male	57	3.6 (0.7)	
Personal model	Female	43	3.6 (0.5)	0.69
	Male	57	3.5 (0.7)	
Facilitator	Female	43	3.5 (0.6)	0.8
	Male	57	3.5 (0.7)	
Delegator	Female	43	3.2 (0.6)	0.7
	Male	57	3.1 (0.7)	
Preferred Expert	Female	43	2.7 (0.5)	0.18
	Male	57	2.6 (0.6)	
Preferred Formal authority	Female	43	1.9 (0.4)	0.19
	Male	57	2 (0.6)	
Preferred Personal model	Female	43	1.9 (0.6)	0.75
	Male	57	2 (0.7)	
Preferred Facilitator	Female	43	2 (0.7)	0.93
	Male	57	1.2 (0.7)	
Preferred Delegator	Female	43	2.5 (0.5)	0.36
	Male	57	2.4 (0.5)	

Table 4. The mean and standard deviation of Teaching method and preferred teaching by age group.

Teaching Method	Age Group	Frequency	Mean (SD)	t
Expert	Under 50	77	3.9 (0.6)	0.37
	Over 50	23	4 (0.5)	
Formal authority	Under 50	77	3.6 (0.6)	0.69
	Over 50	23	3.5 (0.5)	
Personal model	Under 50	77	3.5 (0.6)	0.33
	Over 50	23	3.7 (0.5)	
Facilitator	Under 50	77	3.5 (0.7)	0.56
	Over 50	23	3.6 (0.6)	
Delegator	Under 50	77	3.1 (0.7)	0.73
	Over 50	23	3.1 (0.5)	
Preferred Expert	Under 50	77	2.6 (0.5)	0.43
	Over 50	23	2.7 (0.5)	
Preferred Formal authority	Under 50	77	2 (0.6)	0.85
	Over 50	23	2 (0.6)	
Preferred Personal model	Under 50	77	2 (0.6)	0.71
	Over 50	23	2 (0.6)	
Preferred Facilitator	Under 50	77	2 (0.7)	0.57
	Over 50	23	2.1 (0.7)	
Preferred Delegator	Under 50	77	2.4 (0.5)	0.9
	Over 50	23	2.4 (0.5)	

Table 5. The comparison between teaching method and educational level.

Teaching Method	Educational Degree	Educational Degree	t
Preferred Expert	Ph.D.	M.D.	0.7
		Fellowship	0.06
	M.D.	Ph.D.	0.7
		Fellowship	0.2
	Fellowship	Ph.D.	0.06
		M.D.	0.2
Preferred Formal authority	Ph.D.	M.D.	0.64
		Fellowship	0.74
	M.D.	Ph.D.	0.64
		Fellowship	0.9
	Fellowship	Ph.D.	0.74
		M.D.	0.97
Preferred Personal model	Ph.D.	M.D.	0.99
		Fellowship	0.85
	M.D.	Ph.D.	0.99
		Fellowship	0.86
	Fellowship	Ph.D.	0.86
		M.D.	0.86
Preferred Facilitator	Ph.D.	M.D.	0.98
		Fellowship	0.94
	M.D.	Ph.D.	0.98
		Fellowship	0.85
	Fellowship	Ph.D.	0.94
		M.D.	0.85
Preferred Delegator	Ph.D.	M.D.	0.87
		Fellowship	0.74
	M.D.	Ph.D.	0.87
		Fellowship	0.38
	Fellowship	Ph.D.	0.74
		M.D.	0.38

academic members (Table 5) the other variables had no significant effect on the increase in scoring Expert method. None of the variables of age, sex, level of education and education group explained the scoring of other methods.

Discussion

Every academic member adopts different methods regarding the personality traits, different subjects and environmental factors which usually becomes the individual feature over the time that the person cannot do without. However, the learners with different tastes and opinion have diverse definition for their favorite and effective teaching method. Of course it seems reasonable that the professors of two different fields, for instance, math and medicine have various methods for teaching. But in different conditions, it is expected that the academic members of an education group have diverse methods

which is inevitable.

In this study 100 questionnaire were completed by faculty members whose mean age was 46. Fifty seven percent of the participant was male and 43% female. There were 27 PhD, 35 MD and 38 subspecialties In terms of educational level. Average scores obtained from the completed questionnaires showed that the highest score in terms of standard level belongs to Expert method and lowest one to Personal model.

Average scores obtained from the completed questionnaires showed that the highest score in terms of standard level belongs to Expert method in Rafsanjan university and is consistent with the study of Dr. Karimi in Yazd university.^{8,9} Professor- centered method is another definition of Expert method and the role of the professor is to teach and he is also the center in the process of teaching.⁹ Also, in examining the differences of the teaching methods among ten groups of instructors, Grasha found that the instructors

of math, computer, art, music, theater use Expert method the most.⁷

The average score of the females is higher than males in using Expert method. The fact that the first method of female faculty members is Expert and the male are Expert and delegator is consistent with study of Dr. Razagi.⁸ Eagle and Johnson described the method of the female academic members which is Expert in a specified structure as well.¹⁵ No significant difference was found in comparison of the faculty members' preferred teaching method in terms of education level which is in consistent with Dr. Razagi' study. However, comparing the result of this study with the report of Grasha which shows the tendency of the instructor in using Expert and Personal model methods in undergraduate levels and Facilitator and Delegator in postgraduate levels, a significant difference was seen.^{8,7}

However, Grasha study was done on wider range in non-medical fields, and this difference could be due to sample difference.

No significant difference was found among the professors of various fields in using the different methods in comparing the studies. It must be mentioned that in none of the studies the professors were differentiated in terms of their specialties.

Regarding the results of this study which is the preference of faculty members of this faculty to use Expert and Delegator methods and since these methods lead to the increase of students' abilities in learning and cooperating in practical works and more responsibility on students' academic achievement and increase of the mutual trust, it is crucial that the professors create an enthusiasm by increasing the mutual understanding (professor-student) and clarity of their teaching methods so that they can enhance the efficiency of their methods because too much applying a particular method like Expert method could be boring and difficult for the young and inexperienced students and reduce their amount of learning.

In an efficient and effective teaching, a teacher tries to be an active element in the way the students learn better. Those who learn better, they add other strategies to their own strategies for acquiring education. One of the main purposes of teaching patterns is increasing students' learning abilities. The professors have central role in guiding education as the students' guide and are essential elements of success in achieving their educational goals.

Using the student-centered methods because of their active and involving role in learning seems essential to use their abilities as much as possible. In addition to encouraging the students and delegating the responsibilities to them, the professors must have a distance guiding to lead them in the right direction and they must offer the learner the opportunity to express their opinions and create motivation for them.

Since the preferred methods of most of the professors

are Expert and Delegator, it is essential for medical academic members to focus on practical teaching as well as experiencing other methods and spend more time on the patients' bedside. They have to use educational tools such as videos, slides and pictures in their teaching. In order to identify the strengths and weaknesses of each method, we have to review the differences of the various methods in other studies.

As the attitudes of the students on how to improve the quality of the teaching seems effective and the students are the side of the spectrum, these kinds of studies must be conducted among the students of the participating academic members based on Grasha method in order to be compared with our study and to find out that whether or not there is a difference between the professors and students attitudes in terms of effective teaching indicators and result in the best effective method.

Conclusion

There are many factors involved in teaching which cannot be controlled and changed by the professors but they could promote the quality of teaching to some extent by applying suitable teaching pattern, providing needed equipment, providing clear and practicable objectives and providing productive and effective communication with the students.

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