



The Effect of Class Attendance on Students' Academic Achievement, Professors' Motivation, and Student Professionalism: Perspective of Medical Sciences Students

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Abstract

Background: Student absenteeism is an acknowledged problem in many universities. The present study aims to evaluate the opinions of students of Mashhad University of Medical Sciences (MUMS) regarding the effect of class attendance on academic achievement, professors' motivation, and student professionalism.

Materials and Methods: This cross-sectional study was conducted on medical sciences students of MUMS (nursing and midwifery, pharmacy, and health sciences students, n=101) who participated in a two-day entrepreneurship workshop. The available sampling method was used. Data were collected using a standard questionnaire containing ten items on the effects of student attendance in classrooms on the academic achievement and professionalism of students and faculty members' motivation. Demographic questions on a five-point Likert scale were used. The data were analyzed using SPSS software version 16.0.

Results: A total of 101 students from three faculties of MUMS (nursing and midwifery (39.6%), health sciences (36.6%), and pharmacy (23.8%)) participated. The lowest agreement was related to components of class attendance as a criterion of student professionalism (3.6 ± 0.946), the effect of class attendance on academic achievement (3.53 ± 1.32), and the effect of class attendance on faculty members' motivation (3.50 ± 0.970), respectively. There was a statistically significant relationship between the field of study and the students' opinions about the components of professionalism criteria and professors' motivation ($p < 0.05$). The results of the Chi-square test showed a statistically significant relationship between the educational level and the students' academic achievement component ($p < 0.05$).

Conclusion: Students had the lowest agreement with the items of class attendance as a criterion of student professionalism, class attendance on academic achievement, and the effect of class attendance on faculty members' motivation, respectively.

Key Words: Academic achievement, Class attendance, Iran, Motivation, Professionalism, Students.

*Please cite this article as: Vahedian-Shahroodi M, Saeedi M, Ajilian Abbasi M, Behzad F, Vakili S. The Effect of Class Attendance on Students' Academic Achievement, Professors' Motivation, and Student Professionalism: Perspective of Medical Sciences Students. Med Edu Bull 2023; 4(1): 659-70. DOI: [10.22034/MEB.2023.385682.1072](https://doi.org/10.22034/MEB.2023.385682.1072)

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Received date: Jul. 22, 2022; Accepted date: Mar.12, 2023

1- INTRODUCTION

Absence from classrooms is an important problem in education. Non-attendance in class has become a norm (1), causing problems for students, the teaching staff, and education units (2), even though classrooms are a good place to transfer the professors' experiences to students and understand university subjects (3). Frequent absence from or low attendance of students in the class can lead to academic failure and is a sign of students' lack of interest and motivation toward the field of study (4, 5). A study showed a direct relationship between class attendance and students' academic success (6), and found that low, irregular class attendance is associated with students' lack of success (7). Absence from classes and not paying attention to the lessons can be detrimental to learning (8). Several studies show that presence in the classroom helps students use the resources and retain information (9). Also, it has been indicated that class attendance has a direct relationship with students' performance and a positive effect on professional success at a high level (10).

Mirzazadeh et al. (2017) studied the factors affecting absenteeism from the point of view of students and professors. The results showed that the scientific mastery of professors, the presentation of specialized content, the regularity of students, attendance, absence, appropriate classroom facilities, and the consistency of the class discussions with examinations encourage continuous classroom attendance. Researchers examining professional commitment and absence from classes showed that from the point of view of the professors, attending classes is an indicator of professional commitment of students, a viewpoint not shared by the students. In addition, professors believed that class attendance is effective on students' academic achievement (11). Madershahian et al. (2016) concluded that

the absence of students from the classroom was associated with lower course grades (12). Subramani et al. conducted a comparative study in India and found that the test scores of medical students who were required to attend the classroom were higher than those whose attendance was not required and who participated less in the class (13). The study of Zazulia et al. in the US also showed that not being present in the classroom has a negative effect on teachers' motivation (14).

Student absenteeism is an acknowledged problem in many universities. A high level of absence presumably has a large negative impact on the students' performance in the long-term. It is necessary to determine the variables that contribute to absenteeism among students to handle this problem (11, 12). A review of the published articles shows that in Iran, limited research has been conducted on the reasons for the absence of medical science students from classrooms (3-5, 15-21), and its effect on students' learning and professional performance (11, 12). In addition, no study has been conducted on this issue at Mashhad University of Medical Sciences (MUMS), and on students of health sciences, nursing, midwifery, and pharmacy faculties, which have the highest number of students after the medical field. The present study aimed to evaluate the opinions of medical sciences students of MUMS regarding the effect of class attendance on academic achievement, professors' motivation, and student professionalism.

2- MATERIALS AND METHODS

2-1. Study design

This descriptive-analytical cross-sectional study was conducted in 2022 at Mashhad University of Medical Sciences (MUMS) in Mashhad, Iran. Sampling was done using the census method in an accessible way. The sample included students from the three faculties of

pharmacy, health and nursing, and midwifery who participated in an entrepreneurial skill-training workshop. The participants who were willing to take part in the study completed the questionnaire.

2-2. Instruments

Data collection was performed using a questionnaire that consisted of two parts; the first part containing questions about the individual characteristics of the student (such as age, gender, marital status, the field of study, and the year of university entrance), and the second part containing ten items related to factors affecting student attendance in the classroom. These items covered three areas: academic achievement (three items), faculty members' motivation (three items), and attendance in the classroom as a professional commitment (four items). The items were scored based on a five-point Likert scale, with a score of 1 indicating "completely agree" and a score of 5 "completely disagree". The validity and reliability of the questionnaire were confirmed by Mirzazadeh et al. (11), with a content validity coefficient of 0.77, a reliability coefficient of $r=0.78$, and an ICC=0.77.

2-3. Ethical considerations

After obtaining permission from the workshop and university officials, the

questionnaires were distributed and collected in person. Participation in the study was not mandatory, and the participants completed the questionnaires willingly. Confidentiality of names, publication of results in a general manner, and collection of information without mentioning names were other considerations of the study.

2-4. Data analysis

Descriptive and inferential statistics, including frequency (percentage), and mean (standard deviation), independent t-test, Chi-square, and Spearman's correlation test, were used to analyze the data. A p-value less than 0.05 was statistically significant. Statistical data were analyzed using SPSS software (version 21.0).

3- RESULTS

A total of 101 students from three faculties of MUMS participated in this study. The average age of students was 22.96 ± 4.558 , 60.4% were female and 59.4% were undergraduate students (**Table 1**). Of the total participants, 39.6% were nursing and midwifery students, 23.8% were pharmacy, and 36.6% were health students.

Table-1: General characteristics of participants (n=101).

Variables	Sub-group	Number	%
Gender	Male	40	39.6
	Female	61	40.4
Major	Nurse	30	29.7
	Midwife	10	9.9
	Health Sciences	27	26.7
	Health Education	4	4
	Environmental Health	6	5.9
	Pharmacy	24	23.8
Educational level	BSc (Bachelor)	60	59.4
	MSc (Master Science)	12	11.9
	PhD	5	5
	MPharm (Master of Pharmacy)	24	23.8
Age, year	Mean \pm Standard deviation	22.96 \pm 4.558	

According to the results, students showed the lowest agreement with the components of class attendance as a criterion of student professionalism (3.6 ± 0.946), class attendance on academic achievement (3.53 ± 1.32), and the effect of class attendance on faculty members' motivation (3.50 ± 0.970), respectively.

Table 2 shows the mean and standard deviation of the students' views regarding the impact of classroom attendance on academic achievement, faculty members' motivation, and classroom attendance as a measure of professionalism. The data analysis of the impact of class participation on students' academic achievement showed that 36.6% of students disagreed with the item that the score of students who were frequently absent was higher, and 35.6% had no specific opinion. Also, 54.5% of students believed that attending the classroom did not increase the grade point average, and 63.4% believed that attending the classroom did lead to better learning (**Table 2**). The data analysis of the effect of students' classroom

participation on the faculty members' motivation showed that 40.6% of the students believed that professors would be unhappy with low student attendance in classes. Also, 52.4% of the students expressed their disagreement with the item that students' participation in discussions had a higher effect on teachers' motivation than physical presence in classes. In addition, 67.4% of the students believed that the absence of students from the classroom did not upset the professor (**Table 2**). The data analysis regarding participation in the class as a measure of professionalism showed that 55.5% of students believed that attending the classes did not make them better students. Also, 57.4% of the students expressed their disagreement with the item that attendance in the class showed their commitment to learning. In addition, 57.4% of students did not consider classroom attendance as an indicator of student responsibility, and 54.4% did not consider attendance in the classroom as a sign of student commitment and discipline (**Table 2**).

Table-2: Students' opinions of the impact of classroom attendance on academic achievement, a measure of students' professionalism and professor motivation.

The effect of participation in class on academic achievement		Number (%)					Mean (SD), ranged: 1-5
		Completely agree	Agree	No idea	Disagree	Completely disagree	
1	The score of people who are absent is higher	2 (2)	26 (25.7)	36 (35.6)	20 (19.8)	17 (16.8)	3.24 (1.078)
2	Attending class can increase a student's grade point average	5 (5)	7 (6.9)	34 (33.7)	33 (32.7)	22 (21.8)	3.59 (1.060)
3	Attending class can lead to more student learning	1 (1)	9 (8.9)	27 (26.7)	39 (38.6)	25 (24.8)	3.77 (0.958)
The effect of participation in class on academic achievement, Mean (SD)							3.53 (1.32)
The effect of students' participation in class on professors' motivation		Number (%)					Mean (SD)
		Completely agree	Agree	No idea	Disagree	Completely disagree	
4	A professor who wants to interact is happy with the low attendance of students	7 (6.9)	21 (20.8)	32 (31.7)	25 (24.8)	16 (15.8)	3.22 (1.154)
5	The student's participation in the discussion affects the teacher's motivation more than the physical presence in the class	5 (5)	11 (10.9)	32 (31.7)	36 (35.6)	17 (16.8)	3.49 (1.055)
6	If the absence of students in class is significant, it will cause the professor's discomfort	2 (2)	8 (7.9)	23 (22.8)	43 (42.6)	25 (24.8)	3.80 (0.970)
The effect of students' participation in class on professors' motivation, Mean (SD)							3.50 (1.059)

Class participation as a measure of student professionalism		Number (%)					Mean (SD)
		Completely agree	Agree	No idea	Disagree	Completely disagree	
7	Attending class makes me a professional student	4 (4)	14 (13.9)	27 (26.7)	43 (42.6)	13 (12.9)	3.47 (1.016)
8	Class attendance shows the student's commitment to learning	2 (2)	6 (5.9)	35 (34.7)	38 (37.6)	20 (19.8)	3.67 (0.929)
9	A student who attends the class is responsible	3 (3)	1 (1)	39 (38.6)	39 (38.6)	19 (18.8)	3.69 (0.892)
10	A student who attends class is committed and regular	3 (3)	6 (5.9)	37 (36.6)	37 (36.6)	18 (17.8)	3.60 (0.950)
Class participation as a measure of student professionalism, Mean (SD)							3.60 (0.946)

The Chi-square test showed no statistically significant relationship between students' gender and opinions regarding the ten items of the questionnaire. However, there was a statistically significant relationship between the field of study and the professionalism component (item 9). Specifically, students of health education and pharmacy showed the highest disagreement with attendance in the classroom being an indicator of student responsibility ($p=0.019$, **Table 3**). The results of the Chi-square test further showed a statistically significant relationship between the field of study and professors' motivation (item 4). Specifically, health and pharmacy students believed that professors would not be happy with the low attendance of students in the classroom. In contrast, nursing and midwifery students believed the professors were happy with the low classroom

attendance and that there would be more interaction between the professor and the students ($p=0.002$, **Table 3**). The Chi-square test also found a significant statistical relationship between the level of education and the academic achievement component (item 1). Specifically, Ph.D. students agreed with this item and believed that the score of a student who was absent from class was higher. However, M Pharm and BSc students disagreed with this item ($p=0.028$, **Table 3**).

The Chi-square test found no statistically significant relationship between the variable of the year of entering the university and the ten items of the questionnaire. Spearman's correlation test also showed no statistically significant relationship between age and students' opinions regarding the ten items of the questionnaire.

Table-3: The relationship between the items of absent student score, student responsibility, and interaction of professors with students' major and education level.

Variables	Option	Major						P-value
		Nurse	Midwife	Health Sciences	Health Education	Environmental Health	Pharmacy	
Item 9	Completely agree	2 (6.7)	0	0	0	0	1 (4.2)	P=0.019, Chi-square=35.117, df=20
	Agree	0	0	0	1 (25)	0	0	
	No idea	10 (33.3)	5 (50)	14 (51.9)	0	3 (50)	7 (29.2)	
	Disagree	11 (36.7)	4 (40)	8 (29.6)	3 (75)	2 (33.3)	11 (45.8)	
	Completely disagree	7 (23.3)	1 (10)	5 (18.5)	0	1 (16.7)	5 (20.8)	
Total		30 (100)	24 (100)	27 (100)	4 (100)	6 (100)	24 (100)	101 (100)

	Option	Major						P-value
		Nurse	Midwife	Health Sciences	Health Education	Environmental Health	Pharmacy	
Item 4	Completely agree	4 (13.3)	0	0	0	0	3 (12.5)	P=0.002, Chi-square=42.573, df=20
	Agree	6 (20)	7 (70)	3 (11.1)	0	1 (16.7)	4 (16.7)	
	No idea	14 (46.7)	3 (30)	6 (22.2)	2 (50)	2 (33.3)	5 (20.8)	
	Disagree	5 (16.7)	0	8 (29.6)	5 (50)	2 (33.3)	8 (33.3)	
	Completely disagree	1 (3.3)	0	10 (37)	0	1 (16.7)	4 (16.7)	
Total		30 (100)	10 (100)	27 (100)	4 (100)	6 (100)	24 (100)	101 (100)
	Option	Education level				P-value		
		BSc	MSc	PhD	MPharm			
Item 1	Completely agree	1 (1.7)	0	1 (20)	0	P=0.028, Chi-square=23.009, df=12		
	Agree	17 (28.3)	1 (8.3)	3 (60)	5 (20.8)			
	No idea	21 (35)	8 (66.7)	0	7 (29.2)			
	Disagree	10 (16.7)	3 (25)	1 (20)	6 (25)			
	Completely disagree	11 (18.3)	0	0	6 (25)			
Total		60 (100)	12 (100)	5 (100)	24 (100)	101 (100)		

df: degree of freedom.

4- DISCUSSION

This study aimed to evaluate the opinions of medical sciences students of MUMS on the effect of class attendance on academic achievement, professors' motivation, and student professionalism. Based on the results, students showed the lowest agreement with the components of class attendance as a criterion of student professionalism (3.6 ± 0.946), class attendance on academic achievement (3.53 ± 1.32), and the effect of class attendance on faculty members' motivation (3.50 ± 0.970), respectively. The results showed a statistically significant relationship between the field of study and the students' opinions about the components of professionalism criteria and professors' motivation ($p < 0.05$). The results of the Chi-square test also showed a statistically significant relationship between the educational level and the students' academic achievement component ($p < 0.05$).

Non-attendance of students in classrooms without an indefensible reason is considered absenteeism and an educational problem due to its increase and consequences (22). According to educational psychologists, learning and its effects will enhance and last longer if accompanied by the activity and participation of students in learning (8). In the education of medical sciences, as in other areas of higher education, the primary element is the learner who achieves education through active participation in the education and training processes and acquires special professional expertise by gaining the necessary knowledge, attitude, and skills (23).

Regarding the students' opinion on the effect of classroom attendance on the motivation of faculty members, the present study found that students had the highest agreement with the component of professors' motivation. Specifically, the students of health and pharmacy believed that professors would be happy with low

attendance in their classes. However, nursing and midwifery students believed that the professors would be happy with low student attendance, and following the attendance of students in the classroom, there would be more interaction between the professor and the students. This result is in line with the findings of Zazulia et al. in the U.S., who showed that not being present in the classroom has a negative effect on teachers' motivation (24). However, it is not consistent with the results of the study of Mirzazadeh et al., who found a statistically significant difference between the evaluation of faculty members and students, so that academic faculty members estimated the effect of classroom presence on professors' motivation higher than that of students (11).

Motivations are a powerful force in the teaching/learning process. The richest and best-organized educational programs will not succeed if learners lack motivation. Among the most important motivational factors is the connection of course materials with the final examination, creating a sense of interest and curiosity at the beginning of lectures, the teacher's passion for the course topic, feedback (25), the attractiveness of the course, and the exam and course grades (26). As professors' experiences are mostly transferred in the classroom, they can increase students' motivation by creating curiosity while teaching (27-29).

Classrooms are a good place to transfer professors' experiences to students and provide a better understanding of university subjects (3). Attending the classroom not only helps students understand the lessons but also puts them in a better position to deal with the lesson and study the subject, understand the teacher's attitude, and find solutions to problems (4). Frequent absence or low attendance of students in classes can lead to academic failure and is a sign of

disinterest and lack of motivation toward the field of study (4, 5). One study showed that inappropriate teaching methods and the professor's lack of mastery over the subject are the primary reasons for students' non-attendance in classes (21). Fjortoft conducted research at the University of Chicago on pharmacy students and found that students show great interest in classes where the professors present new materials and use practical methods in their teaching (30).

The results of the present study showed that attendance in the classroom affects the academic achievement of students. There was a significant statistical relationship between the level of education and students' opinions about the component of academic achievement. Ph.D. students believed that the score of the students who were absent from the class was higher than those present. However, the M Pharm and BSc students disagreed with this item. This finding is consistent with the results of Mirzazadeh et al. (2017) in the student aspect, who reported that professors believed that class attendance is effective on students' academic achievement, but students did not believe so (11).

However, Madershahian et al. (2016) concluded that the absence of students from the classroom was associated with a decrease in course grades (12). The research by Seary et al. (2014), and Devadoss and Foltz (2016) showed that class attendance is related to passing grades and non-attendance to failing but found no relationship between class attendance and high grades (31, 32). Romer (1996) examined the prevalence of absenteeism, its effect on performance, and ways to reduce it. The results showed that absenteeism from classes was common, and one-third of the students did not attend classes. There was a significant relationship between performance and class attendance, so students who attended classes and practiced exercises with

continuous effort achieved better grades than those who occasionally attended classes (33). Subramanian et al. conducted a comparative study in India and found that the exam scores of medical students whose attendance was mandatory in the classroom were higher than others and those who participated less in classes (34). Dean et al. showed that the continuous presence of fourth-year medical students in the department and performing activities assigned by professors increased their final grades significantly (35). Another study showed that attending the classroom can reduce the rate of academic drop among students (36).

Based on the findings of the present study, there was a statistically significant difference between students' opinions regarding attendance in the classroom as a measure of professional commitment. Students had the lowest agreement with this component compared to academic achievement and professors' motivation. The results also showed that students believed that being a regular and responsible student did not mean regular attendance in the classroom. Students of health education and pharmacy showed the most disagreement with the item that attendance in the classroom showed the student's responsibility.

These results are consistent with the findings of Mirzazadeh et al. They examined professional commitment and absence from class and found that from the professors' point of view, class attendance was an indicator of the student's professionalism, a viewpoint not shared by students (11). According to Morin, examples of learning responsibility include participation in class, laboratory, and seminars (not only participation but also attendance with preparation and on time), and completing course assignments timely and with quality (37). Other studies have also shown that class attendance has a direct relationship with students'

performance and has a positive effect on professionalism and success at a high level (38). Campbell (2019) investigated the perception and attitudes of faculty members toward the presence of learners in classes. The results showed that, according to faculty members, attendance in class did not represent the professionalism of learners. They suggested that students could use classes by uploading the recorded file to the university website (39).

In one definition, professional commitment means a sense of responsibility and interest in one's words. Professional commitment also means that students and professors should pay attention to conscience in doing their job without it being subject to an external requirement or legal punishment in case of violation (11). Studies have shown that from the point of view of professors, student attendance in the classroom is a criterion of professional commitment (24). However, the findings of the present study indicated that students generally do not support this view and consider professional commitment more in issues and topics related to (future) patients.

Several studies have shown that learning is better and more effective when accompanied by the maximum cooperation and participation of students (40). Therefore, the absence of the student in the class can disrupt this dimension of learning (41). On the other hand, education experts believe that improving the quality of education of medical students is not possible without changes in teaching methods and techniques. Therefore, it is necessary for professors to make arrangements to encourage students to attend classes. These measures include attractive teaching methods, creative teaching, cooperative teaching, and active participation of students in teaching, Flipped Classroom, Jigsaw method, and gamification, among others (42-50).

The process of education in medical sciences has a significant impact on the health, prevention, and treatment of society as the future career of students and their educational and therapeutic activities after graduation and entering the labor market. Therefore, it is necessary for those involved in higher education to improve educational programs with attendance-motivated students and educationally creative professors and to plan according to the conditions of society.

4-1. Study Limitations

One of the limitations of this research was its quantitative nature and using a questionnaire. Qualitative methods such as interviews or focus groups and using open-ended questions can obtain more detailed students' opinions about the impact of classroom attendance on students' professionalism, motivation of professors, and academic achievement. In addition, this research was conducted among the students of Mashhad University of Medical Sciences, so generalizing the results to other universities and academic fields should be done with caution.

5- CONCLUSION

Absence from classrooms is an important problem in education. Based on the results, students showed the lowest agreement with the components of class attendance as a criterion of student professionalism, class attendance on academic achievement, and the effect of class attendance on faculty members' motivation, respectively. There was a statistically significant relationship between the field of study and the students' opinions about the components of professionalism criteria and professors' motivation. The results of the Chi-square test showed a statistically significant relationship between the educational level and the students' academic achievement component, too.

6- AUTHORS' CONTRIBUTIONS

Study conception or design: MV and SV; Data analyzing and draft manuscript preparation: MS, MA, and FB; Critical revision of the paper: MV; Supervision of the research: MV and SV; Final approval of the version to be published: MV, MS, MA, FB, and SV.

7- CONFLICT OF INTEREST: None.

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