



# The Relationship Between the Quality of Learning and Educational Experiences of Medical Students During 2018-19

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### ABSTRACT

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**Introduction:** The effectiveness of the educational system along with the research development in each country is considered as one of the criteria of development measurement.

**Methods:** This study is a descriptive - cross-sectional study during 2018-2019. The statistical population includes all medical students who have passed the physiopathology degree in the second semester and data collection is done by field method. The instrument consists of two parts. The first part contains demographic information of the participants and the second part presents standard questionnaire of educational experience include Course Experience Questionnaire (CEQ) and Neumann's Quality of Learning Experience. The data were analyzed using mean and standard deviation, Pearson correlation coefficient, independent T-test and ANOVA were used.

**Result:** In this research, 45.7% were male (n=49), 54.20% female (n=58), 14% married (n=15), 86% single (n=92), 8.41% Have a work (n=9), 91.58% don't have a work (n=98), and finally 55.1% were interested in their field. There was a significant positive correlation between the scores of appropriate teaching (P-value <0.001), clear goals (P-value <0.001), appropriate evaluation (P-value <0.001), independence (P-value <0.001), and general skill (P-value <0.001), with experiences of courses. The strongest correlation with the quality of educational experiences was the appropriate evaluation (0.65).

**Conclusion:** The results of this study indicate that in order to achieve the most important goal of medical education, more efforts are needed to improve educational quality.

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### Introduction

The effectiveness of the educational system along with the research development in each country is considered as one of the criteria of development measurement (1), and students are the main customers of the educational system in universities, and measure the quality of educational services with their expectations and perceptions ]

of the received services (2).

Therefore, the quality and effectiveness of the education is very important and universities are constantly evaluating their quality and interfering factors (3).

Identifying the factors that influence students' academic development and performance

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provides an appropriate approach to plan and develop educational programs (4).

Teaching and learning are two independent processes. Learning is always focused on the learner, but education requires interaction between at least two people (the trainer and the learner) (1). It is necessary to mention that this does not mean that learning and training are two unrelated processes; rather, they are interdependent (5).

Learning is the goal, and training is the means to reach this purpose. Training is an activity performed by the trainer to facilitate learning in the learner, but learning is an activity performed by the learner (5).

Learning is a process and training is an external aspect in relation with learning. The "term" quality of learning experiences was first introduced by Neuman (6).

In his view, the quality of learning experiences refers to students' perceptions of the direct and indirect data they receive from their faculty (6).

The success and improvement of academic performance in each community reflects the success of the educational system in targeting and attending to individual needs (7).

In fact, the academic performance of students is one of the most important and objective criteria for investigating and evaluating the efficiency and effectiveness of educational systems, and all its efforts are considered to be truly fulfilling (8).

On the other hand, the quality of education refers to the desired and successful changes in learners. In this regard, the results of studies show that there is a positive and significant relationship between the quality of educational services and student and teacher satisfaction in educational settings. The aim of the present study is to answer the question whether there is a significant relationship between the quality of learning experiences and the quality of psychopathic medical students' education.

## Methods

This study is a descriptive - cross-sectional study and broaches in moral committee and get ethical justification and ethic code IR.MUMS.MEDICAL.REC.1398.056. The statistical population of this study includes all medical students of Mashhad University of Medical Sciences who have passed the physiopathology degree in the second semester of 2018-2019. Data collection is done by field method. In this regard, after obtaining the necessary ethic permits, we will complete the questionnaire after obtaining the consent of the subjects to participate in the study. The sampling method in this study is census. This means that all members of the community will be given

the questionnaires. Studies have shown that at least 100 questionnaires are needed.

Inclusion criteria: All medical students of Mashhad University of Medical Sciences who have completed physiopathology in the second semester of 2018-2019. Exclusion criteria: Students who don't tend to complete the questionnaire and cooperate.

The instrument of the current research consists of two parts. The first part contains demographic information of the participants including age and gender, field interest, academic achievement (GPA) and the second part presents standard questionnaire of educational experience.

### 1. Course Experience Questionnaire (CEQ)

The questionnaire was developed by Wilson et al in 1997. The questionnaire includes 36 items and consists of six components. Questions are rated on a five-point Likert-type scale from "completely agree" to "completely disagree" and from one to five. The components of this questionnaire include good teaching, clear goals, workload, assessment, independence, and general skills.

### 2. Neumann's Quality of Learning Experience

This questionnaire was designed by Neuman in 1990 and measures five different ranges of quality of learning experiences, four of which are used in Iran. Each item based on five-point Likert scale from one to five. Four ranges include: 1- The quality of the library and facilities associated with the computer site, 2- The content includes the quality of the educational guide and the value of the subjects offered, 3- The flexibility of learning including independent learning opportunities, the ability to choose different courses, and to discuss in class, and 4- The quality of formal and informal relationships between faculty and students. Each question is scored from one to five. Neuman reported the validity of different dimensions of this questionnaire. Also, Naami in our country standardized this tool in 2009(12).

The internal consistency coefficient of the five ranges have been 86%, 79%, 85% and 82%, respectively, and have been obtained by Cronbach's alpha method. The data were analyzed using descriptive and inferential statistics. In descriptive statistics, frequency, mean and standard deviation and in inferential statistics, Pearson correlation coefficient, independent T-test and ANOVA were used. All analyzes were performed using SPSS version 24.

## Results

In this study 107 medical students of Mashhad University of Medical Sciences who had complet-

ed the second semester of physiopathology have been enrolled. There were 45.7% male (n=49), 54.20% female (n=58), 14% married (n=15), 86% single (n=92), 8.41% have a work (n=9), 91.58% don't have a work (n=98), and finally 55.1% were interested in their field (Table 1).

**Table 1:** Status of participants for quantitative variables

	Variable	Total
Sex	Male	N=49(45.7%)
	Female	N=58(54.20%)
Marital status	Married	N=15(14%)
	Single	N=92(86%)
Work status	Have a work	N=9(8.41%)
	Don't have a work	N=98(91.58%)
Level of interest	Very interested	N=35(32.7%)
	Interested	N=59(55.1%)
	Neutral	N=10(9.3%)

The quality of learning experience had a mean score of 71.88 and the quality of educational experience had a mean score of 63.47 which there was a statistically significant relationship between these two variables (P-value <0.001).

The relationship between these two variables was direct and linear.

There was a significant positive correlation between the scores of appropriate teaching (P-value <0.001), clear goals (P-value <0.001), appropriate evaluation (P-value <0.001), independence (P-value <0.001), and general skill (P-value <0.001), with experiences of courses.

The strongest correlation with the quality of educational experiences was the appropriate evaluation (0.65), but there was no significant relationship between the appropriate assignments (P-value = 0.15) and the educational course (Table 2).

Linear regression defaults were checked to predict the quality of learning experiences through the quality of courses. According to the value of Watson camera test (1.61), the errors were normal (p-value = 0.2), zero and independent from each other.

Quality of Experiences from Courses can well predict the quality of learning experience. In other words, at any increase in the quality of course experiences, quality of learning experiences increased by an average of 0.65 units, which was also statistically significant (p-value <0.001).

There was a statistically significant relationship between the quality of learning experiences and the quality of course experiences (p-value <0.001).

There was a stronger correlation between the quality of learning experiences and the quality of educational experiences in men group than woman's (r = 0.78) (Table3).

**Table 2:** The relation between different component of the quality of learning experiences and quality of educational experiences.

Components	Mean & Standard deviation	
Appropriate teaching	62.5±14.84	R*=0.62 P-value<0.001
Clear Goals	63.69±18.44	S**=0.4 P-value<0.001
Appropriate evaluation	62.25±14.56	S=0.49 P-value<0.001
Appropriate assignment	54.96±16.86	R=0.14 P-value=0.15
Independence	56.69±16.4	S=0.47 P-value<0.001
General skills	55.17±15.87	S=0.49 P-value<0.001

\*: Spearman correlation coefficient

\*\* : Pearson correlation coefficient

**Table 3:** The relation between the quality of learning experiences and the quality of educational experiences by gender.

		Mean & Standard deviation	
Women	Quality of learning experiences	72.78±11.82	R*=0.56 P-value<0.001
	Quality of education experiences	63.3±14.17	
Men	Quality of learning experiences	71.29±14.9	R*=0.78 P-value<0.001
	Quality of education experiences	63.84±13.63	

\*: Spearman correlation coefficient

The average of quality for learning experiences was 71.29 in males and 72.78 in females. There was no significant difference in quality of learning experiences between males and females (p-value = 0.38). Also, the mean of quality for learning experiences in married and single students was 71.19 and 71.83 respectively, showing that there was no significant difference in the quality of learning experiences between married and single students (p-value = 0.34).

In terms of job status, there was no significant

difference in the quality of learning experiences between have a work and dont have a work students (p-value = 0.64) and the average of quality for learning experiences in have a work people was 72.19 and in dont have a work people 83.71.

Finally, the quality of learning experiences in people who were very interested in their field had the highest average (72.79), but the average of quality for learning experiences was not significantly different among the different classes of interest (p-value 0.64)(Table 4).

**Table 4:** The relationship between the quality of learning and demographic variables

		Mean & Standard deviation	
<b>Sex</b>	man	71.29±14.6	z*=0.87
	woman	72.78±11.82	P-value=0.38
<b>Marital status</b>	married	72.19±12.37	T**=0.87
	single	71.83±13.23	P-value=0.34
<b>Work status</b>	Have a work	70.18±12.76	T=0.47
	Don't have work	71.37±13.21	P-value=0.64
<b>Interest level</b>	Very interested	72.79±12.64	F***=0.55
	interested	71.98±14.29	P-value=0.64
	neutral	70.81±7.19	
	uninterested	62.87±4.76	

\*: Mann-Whitney test

\*\* : Student T-Test

\*\*\*: One-way ANOVA test

The average of quality for educational experiences was 63.84 in men and 63.03 in women. There was no significant difference in quality of educational experiences between men and women (p-value = 0.76).

The average of quality for educational experiences in married and single students was 56.05 and 64.7 respectively. There was a significant difference in quality of educational experiences between married and single students (p-value = 0.02).

In terms of job status, there was no significant difference in the quality of educational experiences between have a work and dont have a work students (p-value = 0.62) and the mean quality of educational experiences in have a work people and dont have a work people was 60.54 and 14.63 respectively, and finally, the quality of training experiences in those who were neutral in their field of interest had the highest average (65.1), but the average of quality for training experiences did not differ significantly between the different classes of interest. Is (p-value = 0.94) (Table 5).

**Table 5:** The relationship between the quality of education and demographic variables

		Mean & Standard deviation	
<b>Sex</b>	man	63.84±13.63	T*=0.29
	woman	63.03±14.17	P-value=0.76
<b>Marital status</b>	marrieds	56.05±12.36	T=2.31
	single	64.7±13.54	P-value=0.02
<b>Work status</b>	Have a work	60.54±11.89	T=0.48
	Don't have work	63.14±15.17	P-value:0.62
<b>Interest level</b>	Very interested	63.61±14.7	
	interested	63.3±14.15	F**=0.11
	neutral	65.1±7.66	P-value=0.94
	uninterested	59.86±11.23	

\*: Student T-Test

\*\* : One-way ANOVA test

## Discussion

The aim of this study is to investigate the relationship between the quality of learning experiences and educational experiences. The results of this evaluation showed that there is a direct correlation between the quality of learning experiences and educational experiences, and this correlation is a direct and linear one so that the quality of educational experiences can predict the quality of learning experiences. In another word, at any unit increase in the quality of educational experiences, quality for learning experience increases for an average of 0.65 units. This means that improving the quality of educational criteria can clearly improve the learning process (7).

Therefore, it seems that efforts to promote different aspects of education by Medical Sciences planners of the country at different levels can lead to the improvement of learning in learners.

Khoshrang and his partners in Guilans University of medical science determine the quality of training on the clinical skills labs of medical students. There was no statistically relationship between quality of training and age, sex and OSCE score (11).

Herein we assess the relationship between the quality of learning and educational experiences which was different with what they done. Their study was done on different medical students and in 8 groups of medical interns, but we have evaluated the physiopathology passed students.

To further analyze the dimensions of this relationship, it should be noted that in the Educational Experiences Questionnaire used in this study, 36 questions were asked of students, which in fact

study the students' point of view for the six main areas of education that includes proper teaching of professors, clear goals of instructional courses and professors, appropriate assessment by professors, appropriate assignments, independence and general skills in the educational path.

On the other hand, the Learning Experiences Questionnaire consists of 12 questions that include components of educational content, resources, curriculum flexibility, and quality of teacher-student relationships. This study shows that students experience better learning to the extent that their educational components are more appropriate.

In addition, a cross-sectional study of the questionnaires which was done by Aghajeri and his partners revealed that there was a significant relationship between the component of clear educational purposes and the improvement of the quality of learning experiences(9).

It means that the students clearly knew what he is expected at the end of the course, and the educational goals are clearly stated, similar to what we achieved.

So it seems that the clear expectations of the professors and what the student should know, will lead to better student learning.

There is a positive relationship with the quality of learning experiences in the appropriate teaching subscale (10).

For men, this means improving the quality of teachers' teaching in a variety of ways, such as trying to improve teaching quality and how best to present content, motivating students while teaching, and providing appropriate feedback, as well as the importance of receiving student feedback for faculty and efforts. Teachers understand students' problems to improve students' learning.

In the appropriate assessment subscale, there was a positive relationship with the quality of learning experiences. Proper evaluation means that the design of the questions is appropriate, that is, the questions are not merely axioms or memorizations and can only be achieved through the hard work of the exam night. Evaluations are not only about grades and ratings, but also about students' understanding and of the content; the

Characteristics of an appropriate assessment are considered to be related to improving the quality of learning experiences (11).

There was also a positive relationship with the quality of learning experiences in the independence subscale. Thus, independency

in the field of education seems to mean that the students can study and grow their interests and also have a role in choosing assignments and types of learning (12).

Another positive relationship was with the quality of learning experiences in the General Skills subscale. General skills mean that training in each course can improve problem-solving skills, improving teamwork skills, increasing students' self-confidence, improving written communication skills. It seems that efforts for education that improve students' skills also improve the quality of students' learning experiences (11).

In addition, there was a statistically relationship between the quality of learning experiences and the quality of educational experiences in the participating men and women. There was a stronger correlation between the quality of learning experiences and educational experiences in women than men. The average of quality for learning experiences in men was 71.29 and in women were 72.78. There was no significant difference in quality of learning experiences between men and women.

Finally, the results of the present study show that the quality of learning experiences was highest in people who were "very interested" in their field. But the average of quality for learning experiences did not have significant statistical difference between various interested classes.

## Conclusion

Therefore, the results of this study indicate that in order to achieve the most important goal of medical education, more efforts are needed to improve educational quality criteria's.

Appropriate teaching through rationalization and teaching of the instructors to improve teaching quality and build stronger relationships with students, clarify students' learning goals, plan for appropriate evaluation so as to evaluate perceptions and concepts. Determine appropriate assignments so as to homework heaviness causing students not to learn very well.

Maintaining students' independence in choosing and discovering their academic interests, and teaching students important scientific and practical skills are among the main ways to improve the quality of educational criteria that is recommended to be have a work to improve the quality of learning experiences.

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## Conflict of Interest

Authors declare no explicit and potential conflicts

of interests associated with the publication of this article.

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