USING STUDY STRATEGIES AND ITS CORRELATION WITH EDUCATIONAL STATUS IN STUDENTS OF PARAMEDICAL SCHOOL

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Abstract. Students' academic success reaches its peak when they use study strategies correctly. The objective of study was to survey the use of study strategies and its correlation with educational status in paramedical students. This research was a descriptive-analytical study. The 220 students of laboratory sciences, operating room technology, radiology technology and anesthesiology were studied at Paramedical School. The research tool was a researcher-made questionnaire consisting of two parts included demographic information and the second part was related to the study strategies, which included 20 questions that were planned in the 5-point Likert scale. The data obtained from the questionnaire were analyzed by SPSS-22 software. In the result, the findings of the study showed that the comparison of the mean status of study strategies in terms of economic status was statistically significant (p=0.021) so that students with poor economic status had lower reading skills. In conclusion, it seems that it is necessary to introduce students with study skills upon entering the university through workshops or training courses in order to witness students' academic progress at higher level.
Keywords: *medical students, study strategies, educational status, student, success*

Introduction

Manpower is the most valuable asset of any country, which will lead to economic, cultural and social development, training and nurturing the conscious and specialized forces of that society. The main mission of universities is to train the specialized human resources needed by the society, to promote and enhance knowledge, to expand research and to provide a favorable environment for the development of the country in order to achieve the mission of medical sciences, which is caring for healthy people, treating patients and caring for society. One of the principles of the quality management system is the existence of a monitoring system in the educational system of the university in order to determine the strengths and weaknesses of education, improve permanently the quality of education and training of responsive human resources to the needs of the community (Kumargazhanova et al., 2019). On the other hand, one of the essential and inevitable pillars of improving the educational quality of universities is the continuous evaluation of the educational status of students in different courses. Any changes in planning associated with students' academic achievement have been influential in their educational process (Safavi et al., 2017).

One of the most important tasks of students is to acquire knowledge through effective study to achieve the desired learning and ultimately academic success. Using effective learning strategies during self-study is crucial for positive long-term learning outcomes and academic achievement. However, most students rely on ineffective strategies, such as rereading. Many first-year university students struggle to develop effective learning strategies (Biwer et al., 2020). Various factors are related to students' educational status, including age, gender, high school education status, income, living conditions and many economic and social factors. Parental education and Socio-Economic factors are of vital importance in effecting students' educational achievements, as well. They are like backbone in providing financial and mental confidence to students. Explicit difference can be observed between those students who belong to different financial status and different parental educational level (Azhar et al., 2014). Numerous studies have been conducted in this field and claimed that factors such as students' personality characteristics (Salari et al., 2018) Social, economic and cultural conditions of the family (Naseh et al., 2017), Financial problems, living in a dormitory and away from family, characteristics of the field of study itself (Kashfi et al., 2017), costs and education equipment and teachers' methods of teaching have been related to academic status and students' failing, however study and learning strategies can speak louder in the field.

Learning strategies are behaviors or actions which students use to make language learning more successful, self-directed and enjoyable, or learning strategies are as 'behaviors or actions which learners use to make learning more effective (Bai, 2018). Learning-strategy training can support students, especially when they enter university. The positive effects of strategy training are not limited to improving learning processes. Further positive consequences are more efficient learning and lower dropout rates (Endres et al., 2021). Learning Strategies refers to general plans, methods, and techniques for problem solving and discoveries for information processing. In other words, there are activities that facilitate a person's performance (Anwer, 2019). Then, one of the most important goals of education is to ensure that students are academically successful. As was cleared, teacher attitude factor, family influence factor and out-of-school support factors were effective in achieving of successful students. It was also detected that unsuccessful students' academic failure was caused by difficulty of lessons, teacher attitude, friend effect and other factors. It is important as the study results express that how the success and failure factors identified can be reflected positively and effectively on the education and training environment (İncirli, 2021). Also, medical students can cause irreparable human and physical damage to individuals due to the sensitivity of their future jobs that are related to the health of people in the community if they have poor performance. Therefore, it seems necessary to conduct such studies in medical universities, which have to spend a lot of money to train experienced and skilled human resources. Since there has been limited studies on the status of study strategies in students at The University of Medical Sciences and it is one of the educational research priorities of the university, this study aim was to determine the use of study strategies and its correlation with academic status in Paramedical college students.

Materials and Methods

This research is in the form of a descriptive-analytical cross-sectional research. The purpose of this study was to study the status of study strategies used and its correlation with educational status in paramedical students of The University of Medical Sciences. This study was conducted with the permission of the Ethics Committee with the code (IR.GMU.REC.1398.132). We used stratified random sampling method in this study (four departments of the faculty). To determine the sample size, the formula for estimating the ratio of variable traits in the community (study skill rate of Alimohammadi with 0.86) was used (Alimohamadi et al., 2018). At 95% confidence level and 0.05 error, the sample size of 184 students with considering the 20% drops increased to 220 students. Inclusion criteria included spending at least one semester of study, studying at the university and willing to participate in the study. Exclusion criteria were incomplete completion of the questionnaires by the samples. The research tool was a researcher-made questionnaire consisting of two parts. The first part included demographic information (field of study, diploma average mark, age, gender, marital status, residence, entrance exam quota, native status, academic semester, parents 'education, parents' occupation, economic status, academic failure history, total mark average point), and the second part was related to the study strategies, which included 20 questions that were planned in the 5-point Likert scale. In order to determine the validity of the instrument after compiling the questionnaire using scientific texts and articles, 12 professors of the paramedical school studied the questionnaire and presented their opinions for the questions revision. Cronbach's alpha was used for instrument reliability (α=0.746). The minimum score of the questionnaire was 20 and the maximum was 100. The authors also used descriptive and inferential statistical methods to analyze the research results. The data obtained from the questionnaire were analyzed by SPSS-22 software and then was analyzed by correlation coefficient tests using Spearman, Kruskal-Wallis, and Mann-Whitney. Students consent and assuring them of the confidentiality of information was one of the ethical considerations of the study.

Results and Discussion

In this study, 220 students of laboratory sciences, operating room technology, radiology technology and anesthesiology were studied at Paramedical School. The mean and standard deviation of the age of the research units was 20.33±1.44 (18-24). The mean and standard deviation of the mean was 18.55±9.07 (19.93-14). The majority of research units (59.1%) were female, (84.1%) single, resident in dormitory (84.1%), in terms of native status, native to the province (47.7%), in terms of quota (Region 2) (44.1%) and (34.1%) were in the 2nd semester. In terms of father's education degree (60%) and mother's education degree (59.5%) were diploma and under diploma, and in terms of father's job (62.7%) and mother's job (75.5%) had free (non-governmental) jobs. Considering the economic status of the family (81%) of students were reported to be average and 98.2% had no academic failure history (*Table 1*). The results of this study showed that the amount of study skills used by students (51.4%) was moderate (*Table 2*). The results of this study showed that using study strategies in both groups of successful and unsuccessful were moderate (50.9%) (*Table 3*).

Table 1. *Absolute and relative frequency distribution of students' demographic information.*

Demographic information	Frequency (N)	Percentage (%)

Study field		
Laboratory Sciences	41	18.6
Radiology	84	38.2
Operating Room	52	23.6
Anestesia	43	19.6
Gender		
Male	90	40.9
Female	130	59.1
Marital status		
Married	35	15.9
Single	185	84.1
Residential status		
Dormitory	185	84.1
Parents	21	9.5
Private house	5	2.3
Rental house	9	4.1
Native status		
Native	73	34.8
Non-native	137	65.2
Academic team		
2	75	34.1
4	59	26.8
6	48	21.8
8	38	17.3

Table 2*. The distribution of absolute and relative frequency of research units according to the use of study strategies.*

Study strategies	Absolut freq.	Relative freq. (%)
Non-desired	1	0.5
Average	113	51.4
Desired	106	48.1
Total	220	100

Table 3*. The comparison of study strategies in two groups (successful and unsuccessful).*

Study strategies	Successful students		Unsuccessful students	
	Absolut freq.	Relative freq. (%)	Absolut freq.	Relative freq. (%)
Non-desired	0	0.0	1	16.7
Average	109	50.9	4	66.6
Desired	105	49.1	1	16.7
Total	214	100	6	100

Note: Likelihood test: Likelihood=9/154; p-value=0/010

In this study, the students were divided into two successful and unsuccessful groups according to their grade point average and academic failure status. So that the students with a grade point average of less than 14 and with an academic failure history were in unsuccessful group and the students with a grade point average higher than 14 and with no academic failure history were grouped as the successful. The results showed that 97.2% were academically successful and none of the successful group was weak in terms of study strategies. While in the unsuccessful group (of 6 students) 1 student was in weak level in terms of study strategies (*Table 4*). Kruskal-Wallis test showed that the scores of study strategies based on different disciplines of paramedical school were

statistically significant. The highest academic achievement related to the field of anesthesia and the lowest academic achievement score was related to the field of operating room technology (p=0.001). The results also showed that in poor economic situation, study skills were lower (p=0.001).

Table 4*. The comparison of study strategies score based on field of study and economic status.*

Variables	The ranks mean	Kruskal Wallis test results
Academic field		x^2=16/242; DF= 3; 001/P-value=0
Medical Laboratory Sciences	100.52	
Operating room Technology	85.67	
Anesthesia	133.22	
Radiology Technology	119.11	
Economic status		689/x^2=7; DF= 3; 001/P-value=0
Good	111.79	
Average	114.62	
Poor	74.31	

There was a statistically significant relationship between the mean scores according to the academic failure history and study strategies (P=0.046). In other words, in the group that did not have an academic failure history, the mean of the study status was higher. The result of Spearman test showed that there was a significant inverse relationship between study strategies and conditional academic failure number, so that with increasing the score of reading skills, academic failure number decreases (P=0.043). Due to the abnormality of the total Grade Point Average (GPA) distribution based on Smirnov's Kolmograph test (P=0.037), Kruskal-Wallis nonparametric test was performed. The results showed that the total GPA at different levels was statistically significant (P=0.019). It says that in groups that had a favorable status in terms of study strategies, the average marks of all courses were higher.

The findings of the present study showed that the majority of research units were in a moderate position in terms of study strategies. This finding is consistent with the study of Alimohamadi et al. (2018). The results also showed that there was a statistically significant difference between the total GPA and the study strategies. This finding is consistent with the research of Lotfi and Heidari (2017). Another study found that students with higher grades had better reading skills. This study recommended training and intervention to increase students' reading skills in the form of teaching a workshop or course unit at the beginning of university admission (Jafari et al., 2019). Based on the research findings, it is cleared that people who had a favorable situation in terms of study strategies had a higher average in all courses because they felt better about themselves and their future. Therefore, it seems that, this feeling in them provides the necessary power to improve. The results of this study showed that there was a positive and significant relationship between the mean ranks of study strategies in terms of field of study. This finding is inconsistent with the study of Khan et al. (2019) and Rahimi et al. (2014). In the explanation of this research, the field of study is one of the positive and important factors for academic progress and success. Because they spend more time and work hard to achieve their goals.

The results of this study showed that there was a positive and significant relationship between the average rankings and study strategies in terms of economic status. This result is consistent with the results of Lotfi and Heidari (2017) as well as Rahimi et al.

(2014). Some results of the researches showed that those who are from families with low economic status had poor educational performance (Jafari et al., 2019). However, some studies such as Khan et al. (2019) are inconsistent with the present study results and some considered it as weaker factor to be effective in the field. To explain more in this study, the results say that those from low-income families used study strategies less and had a negative attitude towards education. Based on the results of the present study, study strategies were not significant in terms of marriage. That is, marriage cannot be an obstacle to success and failure, which is inconsistent with the study of Esmaeilpour-Bandboni et al. (2017) but was consistent with the Jafari et al. (2019) study results, however, in some studies a significant relationship was observed. The results of the present study showed that there was no statistically significant difference between parents 'education and students' study strategies, which is inconsistent with the study of Esmaeilpour-Bandboni et al. (2017). However, it was consistent with the study of Rahimi et al. (2014) and proved the present study findings in this field. The results of this study showed that there was no positive and significant relationship between the statuses of study strategies by gender. This result is consistent with the results of the study of Esmaeilpour-Bandboni et al. (2017).

Based on the results of the present study, the authors did not observed any significant difference between the Conquer acceptance quota and the study strategies and good achievement in exams. That is, the distribution of acceptance quotas in both groups of students was the same, which is consistent with the study of Esmaeilpour-Bandboni et al. (2017) and Asadpour et al. (2016), while it was inconsistent with Rahimi et al. (2014) study result. The results of this study showed that there was a positive and significant relationship between comparing the average status of study strategies in terms of academic failure history. In the explanation of this research, it seems that students who are unmotivated to study really do not study hard enough, and this negligence and lack of effort leads to academic failure. The students who use more study strategies and are hopeful for their future, so they strive to achieve their goals. Various researches show that different factors affect the successful and unsuccessful academic status of students. Some studies attribute it to cultural factors and others to socio-economic factors of families. A number of studies have listed factors related to the educational environment. Research has also looked for the causes in the student and considered the important and fundamental factor as individual. In general, factors such as addiction, personality factors, motivation and interest, satisfaction and family conditions were recognized (Endres et al., 2021).

Conclusion

Improving the quality of education around the world is at the top of educational development programs. Considering that, students are the capital of each country and in the future, they will change the society, in order to strengthen the scientific base and to flourish the educational and cultural capabilities of the youth, a program should be developed to train manpower to be skilled and experienced enough. According to the research findings and the importance of teaching study strategies to students in increasing motivation and reducing academic failure, it is recommended that professors and officials provide conditions to be able to increase study strategies with different educational strategies so that students acquire knowledge with interest and motivation and feel self-satisfied.

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Conflict of interest

The authors declare no conflicts of interest.

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