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## Evaluation of Tikrit medical college educational environment by Medical students in 2024

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### ABSTRACT

**Background:** Educational environment is defined as: ‘a social system that includes the learner, the individuals with whom the learner interacts, the setting and purpose of the interaction, and the formal and informal rules or policies or norms governing the interaction’. An effective learning reflect positively on academic performance of medical students. This study aims to evaluate the students’ perception of the learning environment in Tikrit medical college.

**Subjects and methods:** A cross sectional study taken place at Tikrit Medical College, between 17<sup>th</sup> October 2023 and 20<sup>th</sup> February 2024, with a simple random sample represent by 458 medical students participated. the data collection and analysis were according to the Dundee Ready Educational Environment Measure.

**Results:** Tikrit Medical college have the following scores: regarding general attitude it was with "more positive than negative" direction with 110.7/200 score. Student’s perception of learning (27.09) and student perception of educational setting (25.39) showed a more positive than negative direction, with the exception of student social self-perception (14.79) which showed a more negative direction.

**Conclusion:** The overall score of learning environment perception was 110.7/200 (more positive than negative) and highlighted some areas of weakness including, insufficient support system, students’ tiredness and boredom, time management of the course, cheating, teachers’ authority and anger, plus some recommendations for enhancements for those areas of weakness.

**Recommendations:** Promotion of educational environment to improve teaching and learning process. As well as conducting a periodic studies and measurements of the learning environment.

## **INTRODUCTION:**

The journey of medical students is a transformative and demanding one, shaped by the unique learning environment of the medical schools. This environment faces large number of challenges and responsibilities such as heavy curriculum, long hours, competitive nature and emotional stress <sup>(1,2)</sup>. Knowledge, attitude, behavior and skills of medical students affected by educational environment <sup>(3,4,5)</sup>.

Learning environment is the environment where both the teachers and the students experience referring to a set of physical, social and psychological status in which learning takes place. In addition, it includes the perception of the teachers that they show in class and the methods they use for the teaching<sup>(6)</sup>. In addition to the curriculum of the medical school and methods used to deliver that curriculum, the climate or circumstances when teachers introducing their knowledge and sharing expertise . So, the learning environment can be affect directly or indirectly on learning process <sup>(6)</sup>.

Previous study has found that students' perception is not shaped by the individual student background as much as it is shaped by the school environment/culture and has been found that student perception affects the students' behavior, learning satisfaction, achievements and overall well-being <sup>(7)</sup>. As well as being measurable learning environment can be changed, change that enhance both the environment and the learning process itself<sup>(7)</sup>.

Measurement of learning environment perception of different aspects of concern is of high benefit for curriculum committees, faculties and directors<sup>(8)</sup>. Precise scientific measurement can direct efforts towards dealing with the challenges that hinder students' academic achievements and skills learning<sup>(8)</sup>.

The general medical council (GMC) is of the opinion that: 'Patient safety is

inseparable from a good learning environment and culture that values and supports learners and educators<sup>(9)</sup>. Many methods of learning environment measurement were developed since the late sixties but they were out run but the rapid change and development in educational process as well as not being intended specially for learning environment of medical schools/health professions, that was until the development of the Dundee ready education environment measure (DREEM) at the center of medical education, university of Dundee by an international Delphi panel of medical educators. The Dundee Ready Education Environment Measure (DREEM) was designed to measure the educational environment specifically for medical schools and health professions, it was published in 1997. It has been recommended as the most suitable tool for this purpose<sup>(10)</sup>. It has been translated to many languages including Arabic and used in more than 20 countries; The DREEM is a fifty statement closed question questionnaire that falls in 5 subscales <sup>(10)</sup>.

Evaluation of the learning environment in a medical school is one of the major components of medical school program appraisal. It is postulated that learning environment affects the ability of students to learn <sup>(11)</sup>. Lizzio et al. reported an association between the learning environment and development of students' performance, scoring and learning outcome<sup>(12)</sup>. Regular feedback from medical students regarding teaching process, curriculum and learning Therefore identification of defects that affect students' academic performance is very important for directors and curriculum planners<sup>(6)</sup>. Assessment of college environment should represent the expectations of students enter medical school<sup>(10)</sup> Particularly first year of medical school, thus the measurement of students' expectations and impression

regarding learning environment as classroom environment, examinations, clinical training, and other experiences<sup>(13)</sup>. These positive details will help students successfulness and influence the faculty Accreditation then influences wellbeing and professional competency development<sup>(13)</sup>.

**Aim of Study:** The study aims to evaluate of student's perception of learning environment in Tikrit Medical college.

### **Objectives**

- 1- Identify of students' perception of learning in Tikrit medical college.
- 2- Clarify of students' perception of teachers in Tikrit medical college.
- 3- Recognize of students' academic self-perception in Tikrit medical college.
- 4- Clarify of students' perception of atmosphere in Tikrit medical college.
- 5- Describe of students' social self-perception in Tikrit medical college.

### **Subjects and methods**

**Study Design:** This study is a cross sectional study done at Tikrit university college of medicine between 17<sup>th</sup> October 2023 and 20<sup>th</sup> February 2024.

**Sampling:** The sample size of the study is 458 students from different stages, sample was chosen by a simple random sample from all academic stages first to sixth class. Students were approached in class after lectures, face to face in the college center and using an online form of the study questionnaire in order to maintain a response from the majority of the students, students were asked to participate by filling a questionnaire that was explained by the investigators. The questionnaire was translated from English to Arabic language to simplify terms and sentences.

**pilot studies:** A pilot study was done for testing the questionnaire and it included 15 students that were excluded from the study. Some adjustments were conducted according to the pilot study including

changing some terms to a simpler term and using translations to Arabic questionnaire. Some demographic data was added by the investigators including age, sex, stage, accommodation, marital status, and last year evaluation. As well as a compare between clinical (4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup>) and subclinical (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>) groups

**Data Collection:** The data was collected by using "Dundee Ready Educational Environment (DREEM) questionnaire" which is contain fifty questions and it is a precise diagnostic method in measuring medical students' perception of the learning environment<sup>(10)</sup>. It consists of 5 subscales as:

- 1- Students perception of learning: This subscale include twelve questions with maximum score (48).
- 2- Maximum score of students perception of course organizers is (44).
- 3- Maximum score of students self-perception of academic performance is (32).
- 4- Maximum score of academic environment according to students perception of is (48)
- 5- Maximum score of students social self-perception is (28).

**Statistical analysis:** For statistical analysis of data, for DREEM overall score, individual subscale score and individual question score, the statistical package for social analysis (SPSS) version 23 was used and data was presented as mean (SD) or number (%).

**Ethical considerations:** Ethical permission was obtained from Tikrit medical college. Students was informed during the questionnaire distribution that the information collection will be kept anonymous and a verbal consent will be obtained from the students.

### **Results:**

1. **Demographic Variables the study population**

A total study sample is 538 students, 80 was excluded for not answering all the questions. There included medical students were 458 from six academic levels (first stage 9.6%, second stage 20%, third stage 23.3%, fourth stage 24.6%, fifth stage 12% and sixth stage 8.5%) divided into subclinical 54% and clinical 46%.

Female participants were more than male participants in the study 59-41% respectively. The mean age of participants in years was 20.7, with majority of the students living in their parent's home, and to a lesser extent in the dormitory and privately rented apartments. Participants last year's evaluation was good (38%) as shown in Table (4-1).

**Table (1):** Demographic Variables the study population

Variable	Mean±SD or number%
Age( years)	20.7 ±1.6
Sex	
Male	189 (41.3%)
Female	269 (58.7%)
Stage	
First	44 (9.6%)
Second	96 (20.96%)
Third	107 (23.36%)
Fourth	113 (24.67%)
Fifth	59 (12.9%)
sixth	39 (8.51%)
Accommodation	
Home	251 (54.9%)
Dormitory	115 (25.1%)
Privately rented	92 (20%)
Marital state	
Single	452 (98.6%)
Married	6 (1.4%)
Last year evaluation (not including 1 <sup>st</sup> stage)	
Excellent	30 (7%)
Very good	81 (19%)
Good	159 (38%)
Intermediate	96 (23%)
Acceptable	35 (8%)
Failed	5 (1%)

## 2. DREEM overall score and sub classes score among Tikrit medical college

The overall score of the DREEM 110.73 which indicated a more positive educational environment than negative. In the same manner student's perception of learning, student perception of teachers, self-perception of students' academic performance and student perception of the educating environment showed a more positive direction, with the exception of student social self-perception which showed a more negative direction as shown in table 2.

**Table (2):** DREEM score and subscales in Tikrit medical college

Domain	No. of questions	Min-Max score	Tikrit medical college	Interpretation of perception
DREEM overall score	50	0-200	110.73	Positive
Students' attitude of education	12	0-48	27.09	Positive
Teachers according to <u>Students</u> perception	11	0-44	24.16	Take a right direction
<u>students</u> self-perception of academic performance	8	0-32	19.13	Positive
Academic Environment according to <u>Student</u> perception	12	0-48	25.39	Positive
Social self-perception of students	7	0-28	14.76	Not a nice place

## 3. problems of the course as determined by the DREEM score

A number of individual weaknesses was identified according to the DREEM score, that falls into all the five subscales, as this individual area show negative direction that require enhancement and monitoring in order to achieve a better educational environment leading to a better outcome and achievements as shown in Table (4).

**Table (4):** Problem areas as determined by the DREEM score

Poor DREEM score in twelve areas	Mean±SD
SSSP3 there is a good support system for registrars who get stressed	1.59±1.19
SSSP4 I am too tired to enjoy the course	1.39±1.07
SPoT9 The teachers are authoritarian	1.53±0.99
SPoA12 This course is well time tabled	1.79±1.20
SSSP14 I am rarely board on this course	1.65±1.23
SPoA17 cheating is a problem on this course	1.34±1.37
SpoL25 the teaching time is put to good use	1.73±1.06
SASP27 I am able to memories all I need	1.90±1.07
SPoT39 the course organizers get angry in teaching sessions	1.86±1.07
SPoA42 the enjoyment outweighs the stress of the course	1.88±1.22
SpoL48 the teaching is too teacher centered	1.87±1.08
SPoT50 the registrars irritate the course organizers	1.78±1.26

## Discussion:

Medical curriculum is considered as an important feature for medical college environment<sup>(14)</sup>. The center of medical education in Dundee university developed DREEM score to estimate educating environment. Many limitations were presented in the study, Students were widely uncooperative and refused to participate in the study when they were approached both in class and out of class. Resulting in small number of samples that is less representative of the study population. Some students gave inaccurate/ inadmissible answers while being impractical when they participated in the study. Resulting in a large number of samples being excluded from the study as they would affect the accuracy of the study to a certain degree. Students had difficulty understanding the exact meaning of some questions, resulting in them not finishing the entire questionnaire being excluded from the

study as the DREEM score requires all questions to be answered.

In this study DREEM score in Tikrit medical college was positive (110.73/200), while in Saudi Arabia 102/200<sup>(15)</sup>, Kuwait 105/200<sup>(16)</sup>, Iran 99.6/200<sup>(17)</sup>, India 101.13/200<sup>(18)</sup>, Sri Lanka 108/200<sup>(19)</sup>, Germany 109/200<sup>(20)</sup>, were less than us and Turkey 117.6/200<sup>(21)</sup>, Sudan 125.29/200<sup>(22)</sup>, United Kingdom 143.3/200<sup>(23)</sup> was higher than us. This variations in DREEM score results may be due to many factors as different students educational background, regions and curricula<sup>(24)</sup>.

Social self-perception is play role in development of social adjustment as acceptance by peers, but poor social perception associate with poor peer relationships<sup>(25)</sup>. By incorporating social perception into the curriculum and employing effective teaching strategies, educators can enhance students' social skills, communication abilities, and overall well-being, thus achieving a better learning environment and outcomes<sup>(26)</sup>.

When comparing between the mean value of the DREEM items some areas of the course that needs to be improved was presented. those areas include, the support system for stressed students, that could be beneficial in providing information, guidance and support such as in times of uncertainty, making students feel comfortable and enhance their feeling of security, especially in medical collages which is known for their stressful nature<sup>(27)</sup>. Students feeling too tired which is seen in many ways such as task performance decrement, cognitive impairment, and emotional disturbance. High teachers' authority level reflect positively on students ranking<sup>(28)</sup>. The management of the time on the course as it ensures that students are well organized and to manage their daily lives and complete academic assignments on time. This should encourage the organisers to put more efforts

into the timetabling of the course whether is management of lectures time or exams dates and times, boredom on the course as highly bored learners, they are not well self-regulated, avoid schoolwork, reduce their efforts in their work, have reduced motivation<sup>(29)</sup>.

Cheating that leads to loss of Learning: Cheaters loss their chance to receive adequate knowledge and skills which are vital for future profession. Students find cheating irritating, demotivating and creates a socially stressed environment<sup>(30)</sup>.

**Conclusions:** The overall score of learning environment perception was 110.7/200 (more positive than negative) and highlighted some problems that include insufficient support system, students' tiredness and boredom, time management of the course, cheating, teachers' authority and anger, plus some recommendations for enhancements for those areas of weakness.

**Recommendations:** The study strongly recommend conducting a periodic study and measurement of the learning environment to monitor enhancements and improvements.

## References

- [1] Greenhill, J., Richards, J., Mahoney, S., Campbell, N., & Walters, L.v Transformative learning in medical education. *Journal of Transformative Education*. (2017):31.
- [2] Delva MD, Kelby J, Schultz K, Godwin M. Assessing the relationship of learning approaches to workplace climate in clerkship and residency. 2004:3.
- [3] Soliman MM, Sattar K, Alnassar S, et al. medical students' perception of the learning environment at King Saud University medical college. *Adv Med Educ Practice*. 2012; 8:225.
- [4] Sulea C, van Beek I, Sarbescu P, Virga D, Schaufeli WB. Engagement, boredom, and burnout among students: Basic need satisfaction matters more than personality traits. *Learn Individual Difference*. 2015; 42:132–8.
- [5] Abdulghani HM, Al-Drees AA, Khalil MS, Ahmad F, Ponnampuruma GG, Amin Z. What factors determine academic achievement in high achieving undergraduate medical students? A qualitative study. *Med Teach*. 2014;36(SUPPL1).
- [6] Genn JM. AMEE Medical Education Guide No. 23 (Part 1): curriculum, environment, climate, quality and change in medical education-a unifying perspective, 2001:24.
- [7] American Medical Association. Med students' perceptions of learning environment matter. (2016, April 21):59.
- [8] Genn, J. M. AMEE Medical Education Guide No. 23 (Part 2): Curriculum, environment, climate, quality and change in medical education – a unifying perspective. *Medical Teacher*, 2001:43.
- [9] General Medical Council. Promoting Excellence: Standards for Medical Education and Training. GMC. 2016:8.
- [10] Miles, S., Swift, L., & Leinster, S. The Dundee Ready Education Environment Measure (DREEM): A review of its adoption and use. *Medical Teacher*. 2012:154.
- [11] Kember D, Leung DYP. Development of a questionnaire for assessing students' perceptions of the teaching and learning environment and its use in quality assurance. *Learn Environ Res*. 2009; 12:15– 29.
- [12] Lizzio A, Wilson K, Simons R. University Students' Perceptions of the Learning Environment and Academic Outcomes: Implications for theory and practice. *Stud High Educ*. 2002; 27:27–52.
- [13] Skochelak, S. E., Stansfield, R. B., Dunham, L., Dekhtyar, M., Gruppen, L. D., Christianson, C. E., Filstead, W. J., & Quirk, M. E. Medical Student Perceptions of the learning environment at the end of the first year: A 28-Medical School collaborative. *Academic Medicine*, 2016.91(9), 1257–1262.

- [14] Genn JM, Harden RM. What is medical education here really like? Suggestions for action research studies of climates of medical education environments. *Medical Teacher*, 1986;8(20):111–24.
- [15] A. Al-Hazimi, A. Al-Hyiani, and S. Roff, "Perceptions of the educational environment of the medical school in king Abdul Aziz university, Saudi Arabia," *Medical Teacher*, 2004. 26(6): 570–573.
- [16] M. Bouhaimed, L. Thalib, and S. A. R. Doi, "Perception of the educational environment by medical students undergoing a curricular transition in Kuwait," *Medical Principles and Practice*, 2009. 18(3): 204–208.
- [17] T. Aghamolaei and I. Fazel, "Medical students' perceptions of the educational environment at an Iranian Medical Sciences University," *BMC Medical Education*, 2010. 10(1): 87.
- [18] V. Kohli and U. Dhaliwal, "Medical students' perception of the educational environment in a medical college in India: a cross-sectional study using the Dundee Ready Education Environment questionnaire," *Journal of educational evaluation for health professions*, 2013. 10(5):9..
- [19] M. T. M. Jiffry, S. McAleer, S. Fernando, and R. B. Marasinghe, "Using the DREEM questionnaire to gather baseline information on an evolving medical school in Sri Lanka," *Medical Teacher*, 2005. 27(4): 348–352.
- [20] T. Rotthoff, M. S. Ostapczuk, J. De Bruin, U. Decking, M. Schneider, and S. Ritz-Timme, "Assessing the learning environment of a faculty: psychometric validation of the German version of the Dundee Ready education environment measure with students and teachers," *Medical Teacher*, 2011. 33(11): e624–e636.
- [21] M. Demiroren, O. Palaoglu, S. Kemahli, F. Ozyurda, and I. H. Ayhan, "Perceptions of students in different phases of medical education of educational environment: Ankara University faculty of medicine," *Medical Education Online*, 2008. 13:8.
- [22] K. Salih, M. Idris, O. Elfaki et al., "Measurement of the educational environment in MBBS teaching program, according to DREEM in college of medicine, University of Bahri, Khartoum, Sudan,". *Advances in Medical Education and Practice*, 2018. 9: 617–622.
- [23] McKendree, "Can we create an equivalent educational experience on a two-campus medical school?" *Medical Teacher*, 2009. 31(5): e205
- [24] Portillo M. and Fernandez B. Social Self-perception in Adolescents: Accuracy and Bias in their Perceptions of Acceptance/Rejection. *Psicologia Educativa*, 2020: 26(1):1-6.
- [25] Selby. The Importance of Teaching Social Perception in Elementary Education: A Comprehensive Overview. *Everyday Speech*. 2023. <https://everydaysspeech.com>.
- [26] Developing your support system. University at Buffalo School of Social Work - University at Buffalo. 2023 February 21:21.
- [27] Esmaeili, Z., Mohamadrezai, H., & Mohamadrezai, A. The role of teacher's authority in students' learning. *Journal of education and practice*, 2015. 6(19):4. <http://www.researchgate.net/publication/327689159>
- [28] Schwartze M. M., Frenzel A. C., Goetz T., Marx A. K., Reck C., Pekrun R. and et al. Excessive boredom among adolescents: a comparison between low and high achievers. *PubMed Central*, 2020:11. doi:10.1371/journal.pone.0241671.
- [29] Wang, H., Chiu, M. M., & Hall, N. C. Teacher anger as a double-edged sword: Contrasting trait and emotional labor effects. *Motivation and Emotion*, 2023. 47(4), 650–668.