



Original Research Article

Perception of 1st MBBS students about educational environment through 'DREEM' questionnaireAtul R Rukadikar^{1,*}, Charushila Rukadikar², Nitesh Jaiswal³¹Dept. of Microbiology, All India Institute of Medical Sciences, Gorakhpur, Uttar Pradesh, India²Dept. of Physiology, All India Institute of Medical Sciences, Gorakhpur, Uttar Pradesh, India³Dept. of Microbiology, Zydus Medical College and Hospital, Dahod, Gujarat, India

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ABSTRACT

Background: In an undergraduate (UG) medical education program, the educational environment is a critical factor of effective outcomes. Because it is a proven approach for this assessment in medical schools, the Dundee Ready Education Environment Measure (DREEM) was employed in this study.

Aim and Objectives: 1. To assess the student's perception of the educational environment using the Dundee Ready Educational Environment Measure (DREEM) questionnaire among 1st-year undergraduate medical students. 2. To identify the strengths and weaknesses in student's educational environment.

Materials and Methods: A cross-sectional study was carried out among first-year medical students. To obtain student perceptions of the educational environment, a widely accepted DREEM questionnaire was employed. The DREEM questionnaire is divided into five sections, each of which has 50 statements that are rated on a five-point Likert scale (0–4). The questionnaire was distributed to consented individuals (n=150) after receiving ethical approval. The filled questions were collected and statistically evaluated. The data were presented as mean and standard deviation, frequency, and percentages. The responses were analyzed and interpreted using McAleer and Roff's practical recommendations.

Results: There was a 100% response rate. The average DREEM score was 124.9 ± 50 (62.46%). Among the five DREEM dimensions, students' perceptions of learning received the highest score (65.63%), while students' perceptions of the environment received the lowest (59.31 %). Statements "I have good friends in this college", "My social life is good" and "I am confident about passing this year" scored ≥ 3 of 4 points.

Conclusion: "A more positive than negative perception," according to the total mean DREEM score. Student confidence, social life, instructor knowledge, encouragement to participate in a teaching session, teacher preparedness, and having excellent friends on campus received the most positive answers. However, there is space for development in areas where there is a lack of expertise, such as student ennui and creative teaching.

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1. Introduction

The "educational environment," which encompasses everything that takes place in the classroom, department, faculty, or university, is crucial to the success of undergraduate medical education.^{1,2} The educational

environment has an impact on medical students' motivation, satisfaction, and ability to study well. The learning experience at a medical institute has the potential to impact students' knowledge, attitudes, and practices for the rest of their lives.

The focus of medical education is changing from the teacher to the student, with the teacher's role being to facilitate learning by providing content and a pleasant

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learning environment. It is vital to first understand students' perceptions of the educational environment before developing and implementing a comprehensive curriculum. It will also help stakeholders and teaching faculty reflect on their activities and take corrective action so that a high-quality educational environment can be maintained.

Students' perceptions of the educational environment in medical schools have been examined and analyzed using a number of ways by medical educators. The Dundee Ready Education Environment Measure (DREEM) is a widely used and internationally validated study tool for assessing students' perceptions of their learning environment.³ As medical educators, we are continuously considering how to improve medical education or curriculum by adding or changing instructional approaches.

Medical students participate in a variety of learning activities in the medical college's surroundings.⁴ Students' achievement, happiness, motivation, and success are all influenced by their educational environment, according to studies conducted around the world.^{5–7}

In India also, various agencies like the National Assessment and Accreditation Council have emphasized the educational environment as one of the important criteria in improving the quality system of an institution.⁸

World-wide medical educators are making an effort to reform the educational environment to make it student-friendly without compromising the standards and the quality of learning.⁹

The Dundee Ready Educational Environment Measure (DREEM) is a highly generic and internationally validated study tool used to assess student perception about their educational environment.¹⁰

Zydus Medical College being a rural medical college from Dahod, Gujarat strives to provide outstanding competent facilitators and supportive infrastructure. So far, a review of the literature has revealed that very few researches have been conducted in this portion of the state. Our institute hasn't even conducted a study using DREEM surveys.

However, we have relatively little information about student views on these issues. This motivated us to assemble baseline data on students' perceptions of our medical institute's educational environment in order to identify areas of strength and weakness, as well as chances for improvement.

Hence, we planned a study aimed to assess the Perception of 1st MBBS Students about the Educational Environment at a single medical college, using the 'DREEM' Questionnaire and also to identify the strengths and weaknesses in student's educational environment.

2. Material and Methods

A cross-sectional questionnaire-based study was done among 1st-year medical undergraduate students at Zydus

Medical College and Hospital, Dahod, from June to September 2019 to analyze their perceptions on the institute's educational environment.

The study was conducted using a straightforward sample methodology, and all 150 students were invited to participate. The Institutional Ethical Committee gave their approval to the project.

Students were given an explanation of the study and were told that all data collected would be de-identified so that their participation would remain anonymous.

A prevalidated globally accepted DREEM questionnaire¹⁰ was used as a survey tool to gather information on student's perception of educational environment offered by the institution. The completion of the questionnaire implied the students' consent.

The goal of the study and the requirement for confidentiality were explained to the students. Students (n = 150) were given the DREEM questionnaire. The entire questionnaire was collected after half an hour. The filled questions were gathered and analyzed statistically. Continuous variables were described as mean and SD, categorical variables were presented as frequency and percentage. McAleer and Roff's practical guidelines¹⁰ were used to analyze and interpret the responses.

The DREEM questionnaire is divided into five categories, each of which has 50 statements that are rated on a five-point Likert scale ranging from strongly agree (4) to strongly disagree (0). Negative remarks, on the other hand, were assessed in reverse order. The maximum score for these 50 criteria was 200, indicating an ideal condition. The five domains of DREEM inventory were as follows: (Table 1)

1. Student's perceptions of learning (SPoL - 12 items/48 marks)
2. Student's perceptions of teachers (SPoT - 11 items/44 marks)
3. Student's academic self-perception (SASP - 8 items/32 marks)
4. Students perception of atmosphere (SPoA - 12 items/48 marks)
5. Student's social self-perceptions (SSSP - 7 items/28 marks)

A Microsoft Office Excel spreadsheet was used to compile the data. The means and standard deviations of the data were computed. All students' total and domain scores were computed. The statistical software SPSS version 20.0 was used to analyze the data (IBM Corp., Armonk, USA).

3. Observations and Results

A total of 150 students agreed to take part in the study and filled out the questionnaire (response rate was 100 percent).

The global DREEM mean score was 124.9 ± 50 (62.46%). Among the five domains of DREEM, student's

Table 1: McAleer and Roff practical guidelines to interpret DREEM scores

Domain	Score	Interpretation
SPoL	0–12	Very poor
	13–24	Teaching is viewed negatively
	25–36	A more positive approach
	37–48	Teaching highly thought of
SPoT	0–11	Abysmal
	12–22	In need of some retraining
	23–33	Moving in the right direction
	34–44	Model teachers
SASP	0–8	Feeling of total failure
	9–16	Many negative aspects
	17–24	Feeling more on the positive side
	25–32	Confident
SPoA	0–12	A terrible environment
	13–24	There are numerous issues that must be solved.
	25–36	A more positive atmosphere
	37–48	A good feeling overall
SSSP	0–7	Miserable
	8–14	Not a nice place
	15–21	Not too bad
	22–28	Very good socially
Overall	0–50	Very poor
	51–100	Plenty of problems
	101–150	More positive than negative
	151–200	Excellent

SPoL: Students' perceptions of learning

SPoT: Students' perceptions of teaching

SASP: Students' academic self-perceptions

SPoA: Students' perceptions of atmosphere

SSSP: Students' social self-perceptions

Table 2: Mean scores and result interpretation using DREEM inventory

DREEM subscale	Max Score	Mean± SD	Percentage of Perception	Interpretation of DREEM subscale scores
SPoL	48	31.5±11.477	65.63	A more positive approach
SPoT	44	26.72±11.163	60.73	Moving in right direction
SASP	32	20.74±7.749	64.81	Feeling more on positive side
SpA	48	28.47±12.808	59.31	A more positive atmosphere
SSSP	28	17.49±7.194	62.46	Not too bad
Global DREEM score	200	124.92±50.391	62.46	As more positive than negative

SPoL: Students perception of learning;

SPoT: Students perception of teaching,

SASP: Students academic self-perception,

SPoA: Students perception of atmosphere,

SSSP: Students social self-perception

Table 3: The mean of the items' scores in all of the five domains

S. No.	Mean scores of items	Mean ± SD
Students Perception of Learning		
1	I've been encouraged to take part in class discussions.	2.75±0.962
2	The teaching is often stimulating	2.61±0.842
3	The teaching here is student centered.	2.55±0.923
4	The teaching here aids in the development of my abilities.	2.68±0.907
5	The teaching is laser-focused.	2.65±0.983
6	My confidence grows as a result of the teachings.	2.73±1.08
7	The time spent instructing is put to excellent advantage.	2.55±0.966
8	The emphasis in the classroom is on factual learning. *	2.53±0.917
9	I understand the course's learning objectives.	2.77±0.86
10	The instruction here motivates me to be a more active student.	2.54±1.001
11	Short-term learning is prioritized above long-term learning.	2.67±0.939
12	Too much emphasis is placed on the teacher in the classroom. *	2.47±1.097
Students Perception of Teachers		
13	The teachers are knowledgeable	2.88±0.866
14	The teachers adapt patient centered approach during their interaction with patients	2.47±0.849
15	The teachers reticule and dismiss the students*#	1.85±1.132
16	The teachers are authoritarian*	2.4±0.997
17	The teachers have excellent patient communication abilities.	2.62±0.864
18	Teachers are excellent at giving kids feedback.	2.57±1.064
19	Here, the teachers offer helpful comments.	2.49±0.918
20	The teachers provide specific examples.	2.56±1
21	During class, the teachers become angry.*	2.22±1.146
22	For their classes, the teachers are well-prepared.	2.63±0.979
23	Teachers are irritated with the students.*	2.03±1.348
Students' Academic Self-Perception		
24	Learning practices that worked for me prior to medical school are still effective now.	2.15±1.169
25	I am confident that I will pass this year. **	3.17±0.823
26	I believe I am well prepared for my profession.	2.91±0.929
27	Last year's labor served as a nice warm-up for this year's efforts.	2.37±0.938
28	I am capable of memorizing all I require.	2.11±1.118
29	In my profession, I've learnt a lot about empathy.	2.77±0.853
30	My problem-solving abilities are being honed here.	2.45±0.98
31	Much of what I'm learning seem to be relevant to a career in healthcare.	2.81±0.939
Students Perception of atmosphere		
32	During ward teaching, the atmosphere is relaxed.	2.53±0.939
33	The course content is nicely planned in terms of timing. #	1.67±1.208
34	Cheating is an issue at this medical school. *#	1.67±1.283
35	During lectures, the atmosphere is relaxed.	2.65±0.99
36	There are chances for me to improve my interpersonal abilities.	2.74±0.972
37	Socially, I am at comfortable in class.	2.88±0.904
38	During seminars/tutorials, the environment is relaxed.	2.49±1.104
39	I'm disappointed with my experience here. *#	1.85±1.174
40	I am able to concentrate well.	2.51±0.981
41	The pleasure overcomes the stress of the course.	2.43±1.096
42	As a learner, the environment inspires me.	2.55±1.053
43	I have the confidence to ask the questions I want.	2.5±1.104
Students Social Self-Perception		
44	There is an excellent support system in place for students who are stressed.	2.06±1.088
45	I'm too tired to enjoy the course. *	2.22±1.164
46	On this course, I am rarely bored. #	1.88±1.152
47	In this college, I have a lot of good friends. **	3.51±0.792
48	My social life is good**	3.1±0.896
49	I seldom feel lonely#	1.88±1.258
50	My accommodation is pleasant	2.84±0.844

*Negative statements, ** Items with score more than 3, # Items with score < 2

perception of learning was scored highest (65.63%) and student's perception of atmosphere was scored least (59.31%). (Table 2)

Table 3 shows the individual item analysis for each DREEM inventory domain. Highest was scored for the students confidence of passing the exams this year, good friends in the college and good social life and least was scored for teachers ridiculousness, cheating problem and course content.

The more constructive responses were on student's confidence, teacher's knowledge, encouragement to participate in teaching session, teacher's preparedness, and on having good friends in the campus.

4. Discussion

The educational environment is one of the most significant aspects of an effective curriculum, and it also helps with program evaluation.

In this regard present study was conducted to examine the educational environment offered by our institution using a validated DREEM questionnaire.

The current study's total mean DREEM score was 124.92 ± 50.39 , indicating a "more positive than negative perception." This is analogous to a number of studies carried out in India and overseas.^{11–13}

According to the findings, students' perceptions of learning were "more positive," and their perceptions of teachers were "going in the right direction." Academic self-perception and ambient perception were found to be on the "more favorable side," while social perspective was found to be "not too bad."

The overall mean scores for the five domains in this study ranged from 59.31% to 66.63%. This demands immediate corrective action in order to create and sustain a high-quality learning environment for students.

Among the five DREEM dimensions, students' perceptions of learning received the highest score (65.63%), while students' perceptions of the environment received the lowest (59.31%). These results are following other studies.^{14–16}

At this study, three statements obtained more than three scores: "I am confident about passing this year," "I have nice friends in this college," and "My social life is good." This indicates that the institution's learning environment was of high quality. Students said the professors were well-informed and guided them through all areas of the medical program, and that they were well-prepared for the classes. The fact that students were routinely exposed to formative assessments in this school may have contributed to their confidence in passing this year. These findings are based on a few investigations conducted in India.¹⁷

On the other side, the items like "faculty reticulate and dismiss the students", "cheating is the problem in this medical school" and "I find the experience here as

disappointing "had less than 2 scores. In this aspect, it is important to sensitize the faculty that respect for the student is critical to the learning process. Also implementing strict rules and regulations will help the students to overcome the thought of cheating and disappointing experience.

This is the first-ever study of medical students' perception of the educational environment at this institution and thus provides a baseline report to track the effects of a constructive learning environment over some time in the future. The educational environment at our institution was seen positively by the students in general.

5. Limitations

1. Cross-sectional study.
2. Involved only 1st- year students.
3. Student's perception of the educational environment depicts the learning experiences from basic subjects only which was of 11 months duration.
4. A constructive framework of reflection will be more appropriate to assess the learning environment.

6. Conclusion

The educational atmosphere at this institution was rated as more positive than unfavorable by students. The more constructive responses were on student's confidence, teacher's knowledge, encouragement to participate in a teaching session, teacher's preparedness, and on having good friends on the campus. The highlights of our study can be addressed with positive perceptions to improve and strengthen the educational environment in our institute.

7. Source of Funding

None.

8. Conflict of Interest

The authors declare no conflict of interest.

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