Original Research Article

Perception of 1st MBBS students about educational environment through ‘DREEM’ questionnaire

Atul R Rukadikar¹,*, Charushila Rukadikar², Nitesh Jaiswal³

¹Dept. of Microbiology, All India Institute of Medical Sciences, Gorakhpur, Uttar Pradesh, India
²Dept. of Physiology, All India Institute of Medical Sciences, Gorakhpur, Uttar Pradesh, India
³Dept. of Microbiology, Zydus Medical College and Hospital, Dahod, Gujarat, India

A R T I C L E I N F O

Article history:
Received 14-06-2021
Accepted 21-12-2021
Available online 13-01-2022

Keywords:
DREEM questionnaire
Educational environment
Students perception

A B S T R A C T

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
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. 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. Students’ achievement, happiness, motivation, and success are all influenced by their educational environment, according to studies conducted around the world.

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. 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.

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. 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 questionnaire 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 guidelines 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          |
| SPoA           | 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. | Students Perception of Learning | Mean ± SD |
|--------|--------------------------------|-----------|
| 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 |

| S. No. | Students Perception of Teachers | Mean ± SD |
|--------|--------------------------------|-----------|
| 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 |

| S. No. | Students' Academic Self-Perception | Mean ± SD |
|--------|-----------------------------------|-----------|
| 24     | Learning practices that worked for me prior to medical school are still effective now. | 2.15±1.69 |
| 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 |

| S. No. | Students Perception of atmosphere | Mean ± SD |
|--------|----------------------------------|-----------|
| 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 |

| S. No. | Students Social Self-Perception | Mean ± SD |
|--------|---------------------------------|-----------|
| 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 reticule 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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**Author biography**

Atul R Rukadikar, Associate Professor
Charushila Rukadikar, Assistant Professor
Nitesh Jaiswal, Assistant Professor

**Cite this article:** Rukadikar AR, Rukadikar C, Jaiswal N. Perception of 1st MBBS students about educational environment through ‘DREEM’ questionnaire. *J Educ Technol Health Sci* 2021;8(3):111-116.