

Perceptions about Learning Environment by Undergraduate Medical students of Northern Border University measured by the Dundee Ready Education Environment Measure (DREEM) tool

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ABSTRACT

Background: The learning environment in a University is a significant factor in ascertaining the success of the student achievements in any University. The DREEM inventory is an authenticated instrument for determining the environment for the learning of students in a University.

Aim: To compare the insight about the scholastic environment by medical students studying in different academic years in a Medical University and also to analyze the gender-wise and enrolment year-wise differences in their perception s about the learning environment.

Settings and design: It is a cross-sectional descriptive study.

Methods: 199 students volunteered to take part in this research project and these students were given the DREEM questionnaire. Statistical analysis was done.

Results: In our study 199 undergraduate students taking medical courses filled the DREEM inventory. The mean age of all participants was 19.98 ± 1.42 years. The mean scores for student perception about learning (SPL), perception of teachers (SPT), academic self-perception (SASP), perception of the atmosphere (SPA), and social self-perceptions (SSSP) was 24.57, 22.02, 16.9, 21.73, 11.54 respectively.

Conclusions: The student's comprehension regarding their learning environment is affected by many hidden factors. Continuous feedback process can help in the identification of the strengths and limitations of the scholastic environment so that the appropriate corrective steps for improvements can be taken promptly.

Keywords: DREEM inventory, Learning environment, Medical Students, Perception

INTRODUCTION

A scholastic atmosphere of the university is defined as any activity which contributes to students learning that takes place within the lecture theatre, university campus, or classrooms. Evaluation of learning environment enhances student learning and it is mandatory to keep the benchmark high for the quality of education in any University. It is widely established that the scholastic environment has a great influence on students' knowledge, skills, and attitudes and play an important role in making them achievers in their careers. The environment of the University has also been identified as a necessary aspect for the dispensing of high-quality teaching to students. There are three important attributes of the environment for students learning in University: physical attribute, emotional attribute, and intellectual attribute. These, together with teaching and learning activities, are interconnected to foster contentment and to successful learning that takes place in any University. An earlier study authenticates the confirmation of a correlation between students' success in academic life and their career and scholastic environment for learning for students¹. Studying the perceptions of students about scholastic environments betters the University to perfect the strengths and address the visions of the University.² Therefore, the association between students' learning environment, accomplishment, and satisfaction has been an important area of research. The argument in the mean score about the observation of the scholastic atmosphere among students has been reflected better during the earlier years of study³. Earlier studies had also shown that there had not been an exact pattern about the perception of the scholastic environment among students as they went to

higher years in their academic careers⁴⁻⁶. To determine an ideal environment for learning for students; the DREEM questionnaire was initially developed at Scotland at Dundee University and has been authenticated as a world-wide inventory for measuring the excellence of the learning environment of various Universities.

The objective of the study was to evaluate the perceptions of medical students regarding their scholastic environment studying in various academic years in a Medical University and also to analyze the year of enrolment in the course and gender-wise differences in their perceptions.

MATERIAL & METHODS

A cross-sectional descriptive study was done among students studying in a medical University. From the first year to the sixth year, undergraduate students studying in the faculty of medicine were included to participate in the study. DREEM questionnaire has been distributed among the willing students of the medical university to collect the data.

DREEM questionnaire consists of 5 subscales and is a 50 item inventory as shown in Table 1⁷.

To make sure of a high response rate, the DREEM questionnaire was translated in the Arabic language and was distributed among the students. A simple random convenience sampling method was used and all undergraduate students studying in the faculty of medicine at University in different years were involved in the study. A total number of 199 students took part in the study.

Sampling method: Simple random sampling technique

Sample size: 199 medical students

Study population: Northern Border University Female Students

Study setting: Northern Border University

Duration of study: 6 months

Inclusion criteria: all students who volunteered to participate

Exclusion criteria: Students taking repeat courses

Medical students who completed the DREEM inventory were 199. The mean age of all participants was 19.98 ± 1.42 years. DREEM questionnaire 5 domains score interpretation to evaluate the perception of medical students about the scholastic environment of the University is shown in Table 2. Table 3 shows student's responses to DREEM questionnaire items. Chi-Square Value and Kruskal Wallis test value according to the students studying in different years of MBBS (Table 4).

RESULTS

Table 1: Guiding principle for inferring the DREEM score(5 subscales and 50 items inventory)

DREEM inventory 5 domains ^[8] and its interpretation is as follows- There is a total global score of 200 for 50 items. Each item is scored from 0–4 (4 - strongly agree, 3 = agree, 2 = unsure, 1 = disagree, and 0 = strongly disagree) on a 5–point scale. It includes nine negative items (Items no. 4, 8, 9, 17, 25, 35, 39, 48, and 50) which are scored in a opposite manner; the higher scores of these items will reveal disagreement. Overall Score Interpretation:		
<ul style="list-style-type: none"> • 0–50, very poor; • 51–100, many problems; • 101–150, more positive than negative; and • 151–200, excellent. 		
Scores of 5 subscales of DREEM questionnaire consisting of 50 item inventory⁸ :		
1.	a) Students' Perceptions of Learning (SPL)-12 items; highest score is 48;	0-12 –Very poor 13-24-Teaching is regarded pessimistically 25-36-A more optimistic approach 37-48-Teaching approvingly thought of
2.	b) Students' Perceptions of Faculty (SPT)-11 items; highest score is 44;	0-11 -Awful The 12-22-In need of some retraining 23-33-Moving in the right direction 34-44-Model teachers
3.	c) Students' Academic Self-Perceptions (SASP)-8 items; highest score is 32;	0-8- Instinct of total disappointment 9-16-Many denial attributes 17-24-Instinct more on the optimistic side 25-32-Self-confident
4.	d) Students' Perceptions of Atmosphere (SPA)-12 items; highest score is 48;	0-12-An awful atomoshere 13-24-There are several conerns that demand amending 25-36-A more optimistic enviurnment 37-48-A pleasant feel overall
5.	e) Students' Social Self-Perceptions (SSSP)-7 items; highest score is 28.	0-12-Woeful 13-24-not a pleasant place 25-36-not too prejudicial 37-38-Very good communally

Table 2:- DREEM questionnaire 5 domains score interpretation to evaluate the perception of medical students about the scholastic environment of the University.

DREEM questionnaire 5 domains	No of students	Mean	Standard Deviation
SPL- Students' Perceptions of Learning	199	24.57	5.661
SPT- Students' Perceptions of Teachers	199	22.02	7.022
SASP- Students' Academic Self-Perceptions	199	16.9	5.428
SPA- Students' Perceptions of Atmosphere	199	21.73	7.374
SSSP- Students' Social Self-Perceptions	199	11.54	4.621
Total	199	96.76	23.98

Table 3 :Students response to DREEM questionnaire items

Items mentioned in the DREEM questionnaire	No of students	Mean	Standard Deviation
1. I am inspired to partake in teaching and learning endeavors.	199	2.36	1.039
2. The course coordinators are well-informed	199	2.18	1.171
3. There is a suitable support system for students who get anxious	199	0.95	1.014
4. I am too drained to appreciate the course	199	1.41	1.303
5. Learning approach endure to work for me now	199	1.89	1.046
6.The course coordinators adopt a patient centered approach	199	2.02	1.005
7. The teaching activities are mostly inspiring.	199	1.81	1.041
8. The course coordinators tease the students.	199	2.11	1.234
9. The course coordinators are strict.	199	1.6	1.132
10. I am self-assured about my excelling this year.	199	2.78	1.111
11. The environment is calm during teaching - learning activities	199	1.36	1.172
12. This course is well scheduled	199	1.59	1.172
13. The learning-teaching activities are faculty centered	199	2.06	1.28

14. I am seldom uninterested in this course	199	1.18	1.117
15. I have skillful colleagues taking this course together	199	2.69	1.155
16. The teaching facilitates to expand my learning ability	199	2.14	1.198
17. Dishonesty is troublesome in this course	199	2.31	1.394
18. The coordinators have effective communication skills	199	2.1	1.076
19. My societal life is appropriate	199	1.94	1.447
20. The teaching is the well directive	199	2.16	1.112
21. I am being well equipped for my carrier	199	1.99	1.233
22. The teaching-learning activities aids to improve my confidence	199	2.21	1.217
23. The learning environment is unperturbed during teaching	199	1.47	1.192
24. The teaching time is satisfactorily utilized	199	2.07	1.196
25. The teaching highlights factual learning	199	2.09	1.149
26. Last year's work has been a good groundwork for the present year's work	199	1.84	1.195
27. I can remember all which is essential	199	1.83	1.14
28. I rarely feel lonesome	199	1.84	1.342
29. The faculty provides feedback to students	199	1.47	1.222
30. There are prospects for me to cultivate team-based skills	199	2.04	1.21
31. I have learned quite a bit regarding compassion in my studies	199	2.33	1.132
32. The faculty provide constructive appreciation.	199	1.71	1.212
33. I feel contented in teaching-learning sessions	199	2.04	1.134
34. The learning environment is lenient during lectures / PBL	199	1.77	1.274
35. I find the course unsatisfactory.	199	2.3	1.294
36. I can focus well	199	1.83	1.109
37. The faculty gives flawless examples	199	1.93	1.117
38. I was made clear about the learning objectives of the course	199	2.21	0.991
39. The faculty got annoyed in teaching-learning activities	199	2.23	1.245
40. The course coordinator is well equipped for their teaching-learning activities	199	2.14	1.146
41. My problem-solving skills are improved in class	199	1.91	1.058
42. The satisfaction overshadows the hassle of the course.	199	1.32	1.266
43. The learning environment inspires me as a student	199	1.44	1.144
44. The teaching motivates me to be an energetic student	199	1.84	1.172
45. What I have to learn appears related to my career	199	2.32	1.072
46. My accommodation is amiable	199	1.52	0.931
47. Long term learning is highlighted over short term learning	199	1.87	1.059
48. The teaching-learning activities are too faculty centered	199	1.75	1.174
49. I was able to ask the questions about confusing points	199	2.26	1.206
50. The students annoy the faculty	199	2.53	1.127

Table 4: Chi-Square Value and Kruskal Wallis test value of DREEM subscales scores according to the students studying in different years of MBBS

Class	1-year MBBS students		2-year MBBS students		3 rd -year MBBS students		4 th -year MBBS students		5 th -year MBBS students		6 th year MBBS students		Chi-Square Value	Kruskal Wallis test p-value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
SPL	26.26	6.57	24.70	7.02	23.92	4.99	24.62	5.77	24.45	6.05	24.51	4.96	4.52	0.48(NS)
SPT	24.00	6.01	21.78	8.56	22.12	6.99	22.15	5.56	18.95	5.88	22.49	8.21	6.82	0.23(NS)
SASP	19.39	4.74	15.30	6.15	15.60	6.10	16.97	4.82	16.95	4.35	18.38	4.62	11.36	0.04*
SPA	21.57	6.68	18.83	8.12	20.95	8.08	22.68	5.66	22.32	7.80	23.68	6.95	9.87	0.08(NS)
SSSP	16.22	5.01	11.78	4.07	10.53	4.13	11.68	4.40	10.55	3.66	10.57	4.60	21.26	0.001*
Total	107.43	21.41	92.39	28.55	93.12	25.00	98.09	19.95	93.23	23.29	99.62	23.51	8.07	0.15(NS)

*p<0.05 Statistically Significant,

p>0.05 Non Significant, NS

DISCUSSIONS

A scholastic atmosphere is a distinct platform where students employ and interrelate to learn. Students can learn in an array of settings, therefore cultivating a positive learning environment for students is one of the most novel attributes of teaching. The term learning environment comprises of 1) Students personalities; 2) learning objectives; 3) Teaching activities that facilitate the students learning 4) Extra-curricular events that assist teaching-learning activities; 5) Assessment strategies that support quantify teaching-learning activities; 6) A culture that

influences a learning environment. All these factors involved in the learning environment intensely influence the students learning abilities.

The quality of learning environments for students in any professional University and how they can be changed for their improved learning are of important concern for all who are involved in higher professional education. A learning environment in the University for Student includes all situations including physical, emotional, and societal effects influencing the improvement of a student engaged in an educational institute. In our study, the students responded passionately in completing the DREEM

questionnaire. There are few studies on the students' observation of the scholastic atmosphere in a faculty of medicine. Students in all the years uniformly mentioned that the University learning environment helped them to foster interpersonal skills among each other's and these findings are consistent with studies done earlier¹. The previous study has shown that students become more analytical in the learning environment as they progress to the senior years in the respective course.⁷⁻⁹ Also study has shown that as the students went to senior years in their course their observation of the scholastic environment started to reflect a positive correlation with their academic performance⁹. Our study results support the findings reflected in these earlier studies¹. The results of our study and feedback received from the students may help the concerned authorities to make teaching and learning activities more approachable to need of the students.

Our study also highlighted that the male students appreciate being a part of an impactful scholastic atmosphere that gives them an essence of accomplishment. Many of them agreed that their learning environment gave them the platform to be adaptive and interactive with their classmates and the faculty. The male students also comprehended that they liked teaching to be faculty centered. However, they also felt that the learning environment for them must be directed on self-directed learning also. The female students stated that the total teaching schedule was satisfactory and the faculty were well organized for their lectures and rated their faculty more positively. In former years some female students also felt that faculty promotes in the development of their critical reasoning abilities, these students stated in our study that they feel encouraged by being groomed in such a learning environment.

Our study has also revealed that since student learning styles and learning preferences differ significantly, a specific "one size fits all" teaching and learning methods need to be altered and teaching and learning should be made comprise of a variety of teaching and learning methods.

In a constructive learning educational atmosphere, the overall interests of the students need to be taken into concern. Also, a balance needs to be achieved between times spent at the University in teaching-learning activities by the students and the time spent by them in their leisure time. It is also necessary that the students are prepared to take liability for their learning. A study conducted earlier to analyze students' scholastic environment indicated that it does not have vast control over the attitude of students.⁹ Studies done earlier have shown that the students with greater scholastic achievements had more optimistic insights concerning their learning environment.¹ These observations are harmonious with the outcomes of our study. Our results of the study reflected that those students who had positive views about their learning environment had higher adaptability to it, had higher achievements in their career, and had also scored high in overall assessments which are similar to a previous study⁹.

The studies done earlier have also indicated that the observation of learners who have newly started professional teaching is persuasively affected by their outlook on the learning environment of University and how

they acclimatize to their new role as a University student¹⁰. It can be presumed that the observation of learning the scholastic atmosphere by students is due not completely to the educational approach in the University but is also to student own factors such as learning styles, time management capabilities, and emotional intelligence¹¹⁻¹². Our study showed that the University learning environment alone was not wholly responsible for the overall well-being of student but it was also swayed by the students' emotional intelligence, stress management capabilities, year of the course, learning style, and gender. Studies have emphasized an active learning process that might provide students with motivating prospects for fruitful learning.¹³ Teaching-learning activities of students need to be carefully planned and implemented with well-defined objectives with provision for feedback to give to students, especially to those who need extra assistance and try to keep a check on them. An earlier study has also shown that the perception of students regarding the present scholastic atmosphere is even a persuasive forecaster of scholastic outcomes at a university than their earlier accomplishments at school¹⁴. DREEM score findings similar to our study are seen in studies conducted earlier¹⁵. A study carried out among students of medicine and nursing sections had shown similar results about the learning environment like our study. Similar studies had been conducted in different Universities of Pakistan¹⁶, Malaysia¹⁷, Saudi Arabia¹⁸, Iran¹⁹, Egypt²⁰, Brazil²¹, and the result from their studies were in concurrence with that of the present study. There had also been several attempts internationally²²⁻²⁵ to investigate classroom learning environments,.

In our study, we analyzed that a great number of issues ranging from how many numbers of students were in the class, students' leisure time, assessment methodology, students' relationships with faculty and peers, extracurricular prospects change the way the students comprehend their scholastic environment.

Our study findings suggest overall, that the learner's perception of the scholastic environment at University is on the optimistic side. Concerning the education attributes, the learners were utmostly contented concerning the scholastic environment. The students' gender and the year of the study showed noteworthy disparities regarding their perception of the scholastic environment.

CONCLUSIONS

The students are motivated to be involved in the individual and group activities comfortably and students are made responsible for their learning in a positive learning environment.

When the policymakers foster a positive learning environment, the students are likely to be more motivated, and thus more motivation will lead to better and more encouraging learning outcomes.

DREEM is used as an investigative instrument to evaluate the scholastic atmosphere, solve scholastic complications, and improve the effectiveness of teaching in an academic institute. The analysis of the DREEM questionnaire disclosed that the scholastic atmosphere of University for the students had opportunities to develop their team-based

learning skills and the faculty helped to develop student's aptitude and self-confidence. Our study also reflected positive relationships across all the five domains for the high-quality learning atmosphere in our University and its beneficial outcomes on students' achievements, satisfaction, and success.

Recommendations: After analyzing the perception, attitude, and practices about the learning environment of the students, we recommend to concerned authorities and policy makers and the educationist

1. To include more novel teaching strategies and learning approach to assist students in moving out of the negative spiral.
2. Strengthening of a proper support or mentorship system to provide the required assistance to students whenever needed.
3. Designing and organizing the forms for online discussion where students can acquire useful information and debate and talk about their issues.
4. To offer online education and training in certain important areas like computer technology, research methodology, linguistic courses, IELTS and TOFEL exam training course, etc
5. To provide them with easily accessible learning resources which they use in their own free time.
6. Providing frequent feedback to the students as it will assist them in assessing their progress and help them to improve their skills.
7. Establish ways for celebrating the students' success by recognizing their achievements like by giving them awards, as it encouragement increases the efficiency and it would further facilitate the learning process.
8. Offering a safe platform for students both mentally and physically. The students must feel supported, appreciated, and respected.
9. Nurturing a healthy culture and having effective communication with the student regarding the code of conduct.
10. Provide a platform to establish strong interactions which can be done by encouraging group activities during the classroom sessions.
11. Conflicting Interest (If present, give more details): None

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