

Perceptions of Students of The Learning Environment Studying An Integrated Medical Curriculum

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ABSTRACT

Objective To assess the learning environment perceived by medical students of a college employing modular, organ-based integrated curriculum.

Study design A cross-sectional descriptive study.

Place & Duration of study The study was conducted in July 2012 among students of first year M.B.,B.S of Shaheed Mohtarma Benazir Bhutto Medical College, Lyari, Karachi.

Methodology Among students of first year M.B.,B.S. the Dundee Ready Education Environment Measure (DREEM) Questionnaire, which has worldwide face validity, was used to assess the learning environment as perceived by students. The English version of the DREEM inventory was administered to all the students. The participation was voluntary and the questionnaire was anonymous. The return of the completed questionnaire was taken as their implied consent.

Results The overall DREEM score was 121.07 (out of 200). The students' perception of educational environment was found to be more positive. They also considered the overall atmosphere of college comfortable and reported better-than-average social lives. Nevertheless, the study also revealed that there was a lot of room for improvement in a newly established medical college.

Conclusions The study showed that the students perceived a positive learning environment at the college. Although the students were experiencing a considerable amount of stress, their social life on the campus was quite satisfactory.

Key words Curriculum, Environment, Perception, Medical student.

INTRODUCTION:

Educational environment is one of the most important determinants of an effective curriculum.¹ The teaching pattern when modified from teacher-centered to student-centered teaching, where the teacher, instead of being an obligatory teacher, plays the role of a facilitator in the learning process, the educational atmosphere and the students' perceptions about the teaching pattern, and their own opinion about their

performance becomes vital so as to make sure and keep up premium educational environment and optimal teaching to the students.^{2,3}

In most of the medical colleges in Pakistan, the traditional educational system and curriculum is employed which has a teacher-centered and hospital-based approach. The curriculum which consists of lectures and practical courses does not involve problem solving and is not particularly student-centered. Learning, perceived by students as a one-way transmission of information, is assessed by annual exams at the end of the year.

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Shaheed Mohtarma Benazir Bhutto medical college, Lyari is a newly established college in Karachi.

Here, modular, organ-based integrated curriculum is employed (rather than a department-based approach). It emphasizes on problem-based learning (PBL) and implementation of the objective structured practical examination (OSPE).

A curricular modification will customarily affect the educational environment. A positive educational environment depends on an effective curriculum.⁴ Hence, we anticipated a positive change in the learning environment of our institution due to a shift to a more student-centered curriculum.

The recent introduction of the Dundee Ready Education Environment Measure (DREEM) has fulfilled a long-felt need for a test instrument specifically meant to evaluate health professions education institutions. The DREEM Questionnaire, which has worldwide face validity,⁵ was used to assess the learning environment as perceived by students.

METHODOLOGY:

This cross-sectional descriptive study was conducted among the first year M.B.,B.S students at the SMBBMC, Lyari, Karachi. Internationally validated English version of the DREEM questionnaire was used for data collection. Before administering the questionnaire, the students were made aware of the purpose of the study. The participation was voluntary and the questionnaire was anonymous. The return of the completed questionnaire was taken as their implied consent. Some terms, such as “ridicule”, and “authoritarian”, were explained before the students began to fill the questionnaire. The entire process for data collection took about 15 minutes. The study was approved by the ethical review board of the institution.

The DREEM questionnaire comprises 50 items, each scores 0-4 on a 5-point scale.

It has a maximum score of 200, indicating the ideal

educational environment. Items are scored as follows: 4 for strongly agree, 3 for agree, 2 for uncertain, 1 for disagree and 0 for strongly disagree. However, there are 9 negative items (Items 4, 8, 9, 17, 25, 35, 39, 48, and 50) that are scored in a reverse manner; high scores on these items indicate disagreement.

The DREEM items are grouped into 5 subscales covering different aspects of the educational environment:

1. Students’ Perception of Learning (SPoL) with a maximum score of 48.
2. Students’ Perception of Teaching (SPoT) with a maximum score of 44.
3. Students’ Academic Self-perception (SASP) with a maximum score of 32.
4. Students’ Perception of Atmosphere (SPoA) with a maximum score of 48.
5. Students’ Social Self-perception (SSSP) with a maximum score of 28.

The responses to individual items in the DREEM questionnaire can be employed to assess particular strengths and weaknesses of the educational climate. Items with a mean score of 3.5 or above are taken as 'real positive points'. Items with a mean of two or less point towards problem areas and should be addressed. Items with a mean between two and three are those aspects of the environment that could be improved further.

RESULTS:

Table I shows the DREEM global and subscale mean scores for the medical college. The overall score for students' perceptions of the educational environment was 121.01 (out of 200).

Table II shows the individual item analysis of DREEM according to the 5 different subscales. For the SPoL subscale items, only 1 item i.e item 38 (I am clear about the learning objectives of the course) scored below 2.00. Item 16 (The teaching helps to develop

Table I: Mean (SD) DREEM Domain Scores for Participants

Domain	Mean	SD
Students' Perceptions of Learning (Max = 48)	32.36	4.49
Students' Perceptions of Teachers (Max = 44)	28.12	4.51
Students' Academic Self-perceptions (Max = 32)	19.78	3.39
Students' Perceptions of Atmosphere (Max = 48)	25.89	5.83
Students' Social Self-perceptions (Max = 28)	14.86	3.31
Total DREEM score (Max = 200)	121.01	14.89

Table II: Mean (SD) DREEM Item Scores for Students (Max = 4)		
Item	Mean	SD
Students' Perceptions of Learning		
1. I am encouraged to participate in class	3.22	0.8
7. The teaching is often stimulating	2.72	0.75
13. The teaching is student centered	2.42	1.09
16. The teaching helps to develop my competence	3.01	0.77
20. The teaching is well focused	2.9	0.78
22. The teaching helps to develop my confidence	2.95	1.03
24. The teaching time is put to good use	2.87	0.74
25. The teaching over-emphasizes factual learning	2.56	0.83
38. I am clear about the learning objectives of the course	1.98	0.99
44. The teaching encourages me to be an active learner	2.75	0.95
47. Long term learning is emphasized over short term learning	2.65	0.97
48. The teaching is too teacher-centered	2.41	0.91
Students' Perceptions of Teachers		
2. The teachers are knowledgeable	3.38	0.61
6. The teachers are patient with patients	2.81	0.78
8. The teachers ridicule the students	2.04	1.22
9. The teachers are authoritarian	2.66	0.94
18. The teachers have good communication skills with patients	2.98	0.69
29. The teachers are good at providing feedback to students	3.05	0.81
32. The teachers provide constructive criticism here	2.09	1.19
37. The teachers give clear examples	2.9	0.93
39. The teachers get angry in class	2.19	1.33
40. The teachers are well prepared for their classes	2.86	0.99
50. The students irritate the teachers	1.52	1.41
Students' Academic Self-perceptions		
5. Learning strategies which worked for me before continue to work for me now	2.25	0.83
10. I am confident about my passing this year	2.61	0.92
21. I feel I am being well prepared for my profession	3.01	0.82
26. Last year's work has been a good preparation for this year's work	2.09	1.03
27. I am able to memorize all I need	2.16	1.13
31. I have learned a lot about empathy in my profession	3.01	0.66
41. My problem solving skills are being well developed here	2.15	1.06
45. Much of what I have to learn seems relevant to a career in healthcare	2.69	0.82
Students' Perceptions of Atmosphere		
11. The atmosphere is relaxed during the ward teaching	2.47	1.15
12. This school is well timetabled	2.01	1.35

Item	Mean	SD
17. Cheating is a problem in this school	2.02	1.03
23. The atmosphere is relaxed during lectures	2.27	1.15
30. There are opportunities for me to develop interpersonal skills	2.36	1.27
33. I feel comfortable in class socially	2.24	1.19
34. The atmosphere is relaxed during seminars/tutorials	2.39	1.02
35. I find the experience disappointing	1.37	1.07
36. I am able to concentrate well	2.71	0.73
42. The enjoyment outweighs the stress of the course	1.73	1.39
43. The atmosphere motivates me as a learner	2.46	1.1
49. I feel able to ask the questions I want	2.3	1.24
Students' Social Self-perceptions		
3. There is a good support system for students who get stressed	3.22	0.8
4. I am too tired to enjoy the course	1.87	1.14
14. I am rarely bored on this course	1.84	1.24
15. I have good friends in this school	3.43	0.95
19. My social life is good	2.86	1.15
28. I seldom feel lonely	1.52	1.3
46. My accommodation is pleasant	2.22	1.14

my competence) scored 3.01 (SD 0.77), and item 1 (I am encouraged to participate in class) scored 3.22 (SD 0.80), meaning that students agreed with the statement

In the analysis of individual item of SPoT subscale, Item 50 (The students irritate the teachers), a negative item, scored 1.52 (SD 1.41). The negative-item scoring scheme indicated that students agreed with this item. The other items scored between 2.00 and 3.00 or above 3, indicating aspects of this domain that could be enhanced.

All 8 items in the SASP subscale scored between 2.00 and 3.00, indicating areas in this domain that could be improved.

Item 35 (I find the experience disappointing) a negative item, in the SPoA subscale scored 1.37 (SD 1.07). The score suggests that students did agree with the statement. Item 42 (The enjoyment outweighs the stress of the course) scored 1.73 (SD 1.39). All other items scored between 2.00 and 3.00 and could be improved.

The analysis of individual SSSP subscale, three items scored below 2. Item 4 (I am too tired to enjoy the course) with a mean score of 1.87 (SD 1.14),

Item 14 (I am rarely bored in this course), which had a mean score of 1.84 (SD 1.24), item 28 (I seldom feel lonely) with a mean score of 1.52 (SD 1.30). On the other hand, item 15 (I have good friends in this course) had mean score of 3.43 (SD 0.95), indicates a fairly good social life for the students.

DISCUSSION:

The overall DREEM mean score and for all 5 subscales showed more positive students' perceptions of their educational environment. In comparison, the global DREEM scores reported for different medical schools were 133/200, and 125/200 in Malaysia,^{6,7} 119/200, 114/200, and 107/200 in India,^{8,9} 108/200 in Sri Lanka,¹⁰ 130/200 in Nepal,¹¹ 118/200 in Nigeria,¹¹ 109/200 in Trinidad,¹² 139/200 in the United Kingdom,¹³ and 99.6/200 in Iran.¹⁴ The mean score was 116.53±20.940 (58.3%) for students in year 1 in Turkey.¹⁵ The College of Medicine at King Saud University, Saudi Arabia reported a score of 89/200 which is the lowest published DREEM score.¹⁶ Perceptual differences highlighted by this study gave insights into the differences between the intended curriculum and that which is actually implemented. More emphasis on clearing the learning objectives should be employed.

Item 14 (I am rarely bored in this course) scored 1.84. It was consistent with other study findings and needs to be explored further to identify what causes such boredom and whether the courses can be made more engaging.^{2,10,12} Students felt their teachers were knowledgeable, well-prepared for their teaching and stimulated them to participate in teaching sessions. They also felt that the teachers were good at communicating with them, and that their teaching helped the students to develop professional competence. This was in agreement with the findings of another study.² They also considered the overall atmosphere of college is comfortable and reported better-than-average social lives in Item 19 (2.86). However, not a single item scored 3.50 or higher, which means that we have a lot of room for improvement and improvisation in the school educational environment as it is a newly established medical college.

CONCLUSIONS:

The SMBBMC has a reasonably positive educational environment with ample room for improvement. Although the students are experiencing a considerable amount of stress, their social life on the campus is quite satisfactory. The study might contribute in planning improved curricular strategies so that the learning of future physicians could be enhanced that would in turn improve the quality of healthcare which they will subsequently deliver.

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