

## EDUCATIONAL ENVIRONMENT MEASURE

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Educational Environment (EE) of undergraduate medical students not only has an impact on the students during the academic years but has its reflections throughout their medical carrier<sup>1</sup>. Medical students experience a variety of learning activities in the environment of medical college. The environment is usually complex and unique; its most important determinants is the curriculum. EE affects students achievements, happiness, motivation and success. The world over medical educator's are attempting to reform the educational environment so as to make it student friendly without compromising the standard & quality of learning<sup>2</sup>. So, student's perception about EE is very important to identify both strength & weakness for further improvement in the required field. Educational environment influences how, why and what students learn. It has a personality. Studying this unique personality enables faculty, administrators and students to answer the question, "what is medical education here really like?" (Genn and Harden, 1987)<sup>1</sup>.

Genn (2001) in AMEE Guide No.23 clearly established the importance of educational climate: "Considerations of climate in the medical school, along the lines of continuous quality improvement and innovation, are likely to further the medical school as a learning organization with the attendant benefits"<sup>3</sup>.

In traditional Medical Colleges, generally, students see learning as something done to them by the teacher, and they view the curriculum as an aggregate of separate subjects. In contrast, the curriculum in Dundee University Medical School, UK- as outlined in Tomorrow's Doctors as mandated by the General Medical Council of the UK in 1993. It claims to be outcome-based. Teaching and learning occur in three interlocking phases. There is a core curriculum with student selected components<sup>1</sup>.

A good learning environment is vital for the delivery of quality training. Curriculum is considered to be the most holistic, inclusive and comprehensive entity and notion in education. Curriculums most significant manifestation and conceptualization is the environment (Educational and organizational) which embraces everything that is happening in the medical college. Any curriculum generate and establishes environments and changes in curriculum are thus essentially changes in environment. Positive environment and positive learning outcome appears to go together. For higher quality of learning it is required to enrich learning environment by identifying the weakness of environment. So more importance should be given to the perception of students to improve the educational environment as perceptions are associated positively with learning outcomes, learning approach and attitude toward studying.

The undergraduate MBBS curriculum in our country is still almost in the traditional mode. Generally it is teacher centered, discipline based, information gathering and hospital based with no options or elective modules. The main part of the curriculum consists of lecture, tutorial, practical and ward teaching classes with a limited number of problem based session. The learning task is to reproduce the subject matter in the final examination. In 2002, a new comprehensive curriculum was introduced for undergraduate medical education ,thereafter another new comprehensive curriculum has been introduced in 2012. Educational innovation, such as a new curriculum was about introducing and implementing changes but unfortunately it is also a fact that both students and faculty, they found curriculum stressful to implement. However a few study has been yet done to assess student's perception of educational environment. In order to manage changes successfully it is thus necessary to obtain regular evaluation and feedback, as it is only through information obtained in this way alteration can be made, mistakes corrected and momentum maintained<sup>4</sup>.

Dundee Ready Educational Environment Measure- DREEM- is an internationally accepted useful

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tool to analyze undergraduate educational environments among the health professionals (Roff et al 1997). It can produce global readings and diagnostic analyses of undergraduate educational environments in medical schools and other health professions institutes. It is non-culturally specific and allows quality assurance comparisons between courses as well as within components of a course.

The DREEM contains 50 statements relating to a range of topics directly relevant to educational environment (5 domains -Registrars’ perceptions of learning, registrars’ perceptions of course organisers, registrars’ academic self perceptions, registrars’ perceptions of atmosphere, registrars’ social self perception).

The 50-item DREEM has a maximum score of 200. Items should be scored: 4 for Strongly Agree (SA) 3 for Agree (A) 2 for Uncertain (U) 1 for Disagree (D) and 0 for Strongly Disagree (SD).

The interpretation of the overall score: 0-50 Very Poor, 51-100 Plenty of Problems, 101-150 More Positive than Negative, 151-200 Excellent. Interpret a score of 100 as an environment which is viewed with considerable ambivalence by the students and as such needs to be improved<sup>3</sup>.

As DREEM is a unique inventory to measure educational environment, to assess student’s perceptions of the- Educational Environment in the Chittagong Medical College, using the DREEM a small survey was done to find out perceptions of educational environment and also attempt was made to identify problem areas in educational environment in this medical college.

It was a Cross sectional survey, by using DREEM. 200 final Year Students included randomly in this survey, (100 : Old Curriculum-2002 & 100: New Curriculum-2012). Students are asked to read each statement carefully and to respond using a 5 point Likert-type scale ranging from strongly agree to strongly disagree.

The interpretation of the overall score-indicating ideal educational environment was used for data collection in five domains. Data were analyzed manually.

Average scores of 50 items and 5 Domains of DREEM from 200 students of Chittagong Medical College, Bangladesh (2017) are shown in table I, II & III.

**Table I : Students Perception of Learning**

Serial No	Domain items	Average Score	Percentage of subtotal
1	I am encouraged to participate in class	3.05	
7	The teaching is often stimulating	2.69	
13	The teaching is student centered	2.38	
16	The teaching is sufficiently concerned to develop my competence	2.85	
20	The teaching is well focused	3.08	
22	The teaching is sufficiently concerned to develop my confidence	2.87	
24	The teaching time is put to good use	2.59	
25	The teaching overemphasizes factual learning	1.45	
38	I am clear about learning objectives of the course	2.80	
44	The teaching encourages me to be an active learner	2.69	
47	Long-term learning is emphasized over short term	2.53	
48	The teaching is too teachers-centered	1.66	
Subtotal Score 12 items / max score 48 for this subscale		30.64 (63.83%)	

Table I : Though average score is more positive, there is lack of opportunities for confidence building or for active learning. Many institutions Globally report similar concerns(1,2,5, 6, 7) The Medical Education unit of the institution may give more effort to train faculty on appropriate teaching & assessment methods.

**Table II : Students Perception of Teachers**

Serial No	Domain items	Average Score	Percentage of subtotal
2	The teachers are knowledgeable	3.31	
6	The teachers are patient with patients	3.15	
8	The teachers ridicule the students	1.85	
9	The teachers are authoritarian	1.59	
18	The teachers have good communications skills with patients	3.45	
19	The teachers are good at providing feedback to students	2.80	
32	The teachers provide constructive criticism here	2.51	
37	The teachers give clear examples	2.85	
39	<b>The teachers get angry in teaching sessions</b>	2.20	
40	The teachers are well prepared for their teaching sessions	2.62	
49	The students irritate the teachers	2.50	
Subtotal Score 11 items / max score 44 for this subscale		28.83	(65.2%)

Table II : In this domain a few items scored below 2 points. Though similar scores were found in other studies(2,6); it is important to remind teachers that respect for the student is critical to the learning process (2).

**Table III : Students Academic Self-Perception**

Serial no	Domain items	Average score	Percentage of subtotal
5	Learning strategies which worked for me before continue to work for me now	2.36	
10	I am confident about passing this year	2.86	
21	I feel I am being well prepared for my profession	2.74	
26	<b>Last year’s work has been a good preparation for this years work</b>	2.70	
27	<b>I am able to memorize all I need</b>	2.11	
31	<b>I have learned a lot about empathy in my profession</b>	2.99	
41	My problem solving skills are being well developed here	2.60	
45	Much of what I have to learn seems relevant to a career in healthcare	2.81	
Subtotal Score 8 items / max score 32 for this subscale		21.17	(66.15%)

Table III : Average score in all item is below 3 point. Most studies have reported low score in this domain(2,6,7) .Curriculum overload is an universal problem.

**Table IV : Students Perceptions of Atmosphere**

Serial No.	Domain Items	Average Score	Percentage of subtotal
11	The atmosphere is relaxed during consultation teaching	2.44	
12	The course is well timetabled	2.25	
17	<b>Cheating is a problem in this course</b>	1.97	
23	The atmosphere is relaxed during lectures	2.47	
30	There are opportunities for me to develop interpersonal skills	3.13	
33	<b>I feel comfortable in teaching sessions socially</b>	2.74	
34	The atmosphere is relaxed during seminars/tutorials	2.81	
35	<b>I find the experience disappointing</b>	2.25	
36	I am able to concentrate well	2.83	
42	The enjoyment outweighs the stress of studying medicine	2.24	
43	The atmosphere motivates me as a learner	2.66	
50	I feel able to ask the questions I want	2.48	
Total	12 times / max score 48 for this subscale	30.27	(63.06%)

Table IV : Here also average score is below 3,similar to findings of other studies(2,6, 7).A critical review of the current practice of clinical teaching in our institution is necessary.

**Table V : Students Social Self Perceptions**

Serial No	Domain Items	Average Score	Percentage of subtotal
3	There is a good support system for registrars who get stressed	2.25	
4	I am too tired to enjoy this course	1.99	
14	I am rarely bored on this course	1.90	
15	I have good friends in this course	2.98	
19	My social life is good	3.08	
28	I seldom feel lonely	2.42	
46	My accommodation is pleasant	2.55	
Subtotal Score	7 items / max score 28 for this subscale	17.17	(61.32%)

Table V : Items in this domain scored in and around 2, indicating unsatisfactory support system for students. Curriculum planners could consider ways to make the curriculum less bulky and more innovative, engaging and meaningful so as to avoid students boredom & tiredness.

This survey originated from a desire to know how students perceive the educational environment in Chittagong Medical College (CMC) while I was going to talk on Educational environment in regular CME session of CMCTA.

Chittagong Medical College is a reputed Medical College in Bangladesh with students representing from all backgrounds. DREEM was used, as it is reported to be culturally nonspecific & reliable for health professions.

The students rated the overall environment in Chittagong Medical College as more positive than negative (128.08/200) with a global score of around 101/200<sup>1,2</sup>.

An item that scores 3.5 or more is considered to represent a positive aspect of the curriculum(8). In this survey in all domains most of the students scores between 2 and 3,so the average score in almost all items is below 3.

The mean scores reported here providing useful diagnostic information about the strengths and weaknesses of the educational environments

Specific curriculum changes that can be made to enhance the perceived educational environment in such a way as to conform with the educational recommendations of the UK General Medical Council if it is considered to be in the national interest to do so.

In conclusion, students assessed the educational environment at Chittagong Medical College as more positive than negative; however, improvements are required across all five domains.

This should enable the faculty to create an appropriate educational environment and reduce the deficits in order to provide a better learning environment

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