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Research Article

**MEASURING MEDICAL STUDENTS' PERCEPTIONS ABOUT  
LEARNING ENVIRONMENT USING A LEARNING  
ENVIRONMENT SCALE**<sup>1</sup>Dr. Hira Sundus, <sup>2</sup>Husnat Ahmed Tabassam, <sup>3</sup>Kainat Akram Chishti<sup>1</sup>WMO, RHC, Shah Jewana, Jhang<sup>2</sup>Senior Lecturer, Riphah International University, Lahore<sup>3</sup>Mayo Hospital Lahore**Abstract:**

*Students' perceptions of their learning environment are a useful basis for modifying and improving the quality of learning environment. The quality of learning environment has been identified to be crucial for effective learning. Identifying the weaknesses of learning environment and understanding how students perceive the environment will help the institutes facilitate learning and achieve better learning outcomes.*

**Objective:** *Measure medical students' perception regarding learning environment using a learning environment scale*

**Material and Methods: Study Design:** *A cross-sectional descriptive study*

**Study setting:** *Study was conducted at Allama Iqbal Medical College, affiliated with University of Health Sciences and associated with Jinnah Hospital Lahore*

**Duration of Study:** *3 months*

**Inclusion Criteria:** *Medical students 1st year-5th year and either gender.*

**Data collection and analysis:** *Dundee Ready Education Environment Measure (DREEM) inventory was administered to 300 medical students of all years in AIMC adopting purposive sampling.*

**Data Analysis:** *Data will be entered and analyzed in SPSS Ver: 21.*

**Results:** *The students' perception of learning environment was found to be more positive. They also considered the overall atmosphere of college comfortable. Nevertheless, study also revealed a lot of room for improvement in subclass of students' perception of atmosphere for pre-clinical students.*

**Conclusions:** *Remedial measures should be required in the subclasses of students' perception of atmosphere for pre-clinical students for further improvement. Findings from this study may give guidelines to curricular planners and faculties/administrators of medical college for further improvement of learning environment.*

**Key works:** *Perception, Learning environment, medical college*

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**INTRODUCTION:**

Medical students seem to have high level of engagement in their studies than students of other fields which may be due to strict selection procedures in medical schools and the highly complex nature of the field(1). On the other hand, as a learning environment, medical education seems to be a demanding experience for many students. Compared to the general population, medical students experience higher level of psychological distress (2). However, as long as student is deeply interested in medicine and learning environment, this appeal may keep him or her motivated, despite the experienced distressful, competitive and authoritarian ineffective learning environments (3).

Studies conducted in other parts of the world have shown that there is a proven connection between learning environment and students' achievements, happiness, motivation and success (4, 7). Learning environment, synonymous with climate and atmosphere is multifaceted and can be described as an educational institution, personality, spirit and culture (5). When a student walks into a medical institution, he or she has his or her own expectations (6). A good institution tries its best to fulfill these expectations and hence it is necessary to study how much the medical learning environment is living up to the students' perception (7). The world over, medical educators are attempting to reform the learning environment so as to make it student friendly without compromising the standards and quality of learning (8,9). A positive learning and learning environment appear to go together (10). A positive learning environment depends on an effective curriculum (11). Successful management of curriculum is only possible with systemic feedback and assessment (12).

For higher quality of learning it is required to enrich learning environment by identifying the weaknesses of environment by obtaining regular feedback and evaluation, so more importance should be given to the perception of students to improve the learning environment (13). The recent introduction of the Dundee Ready Educational Environment Measure (DREEM) has fulfilled a long felt need for a test instrument specifically meant to evaluate health professions education institutions (14).

Major domains that comprise the learning environment of health are self perceptions of learning, self perceptions of teachers, academic self perceptions, self perceptions of atmosphere, and social self perceptions (15).

In medical institutions, two instructional formats are commonly used namely traditional lecture based instruction or problem based learning (PBL)(16). PBL is characterized by small groups working on open ended problems which stimulate real-life clinical cases. PBL effects on students knowledge and skills seem positive when compared to conventional lecture based instruction (17).

The aim of the present study is to identify medical students' perception of learning environment in Allama Iqbal Medical College (AIMC). Results from this study will assist the institution to identify areas of concern and to foster learning environments that enhance academic achievement.

**Variables:****Independent variable:**

Age, gender  
Years of MBBS

**Dependent Variable**

Students' perception of learning  
Students' perception of atmosphere

**METHODOLOGY:****DATA COLLECTION PROCEDURE:**

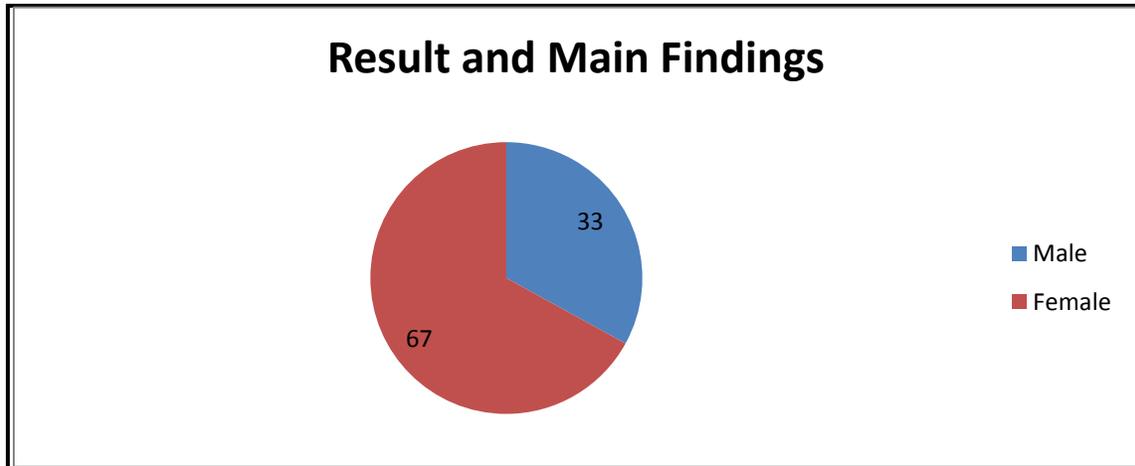
300 medical students fulfilling the inclusion criteria will be included in our study. After an informed consent, a demographic profile of each student will be collected. Each student will be given the Dreem (Dundee Ready education environment measure) inventory that is a validated inventory with proven high reliability. The inventory consist of 50 items and each item scored on a five point likert scale with 4=strongly agree, 3=agree, 2=unsure, 1=disagree, 0=strongly disagree. All information will be entered in a structured questionnaire.

**Data Analysis Procedure:**

Data will be entered and analyzed in SPSS Ver: 21.0. Mean and standard deviation will be calculated for numerical variable like age, dreem inventory score. Frequency tabulation will be done for nominal variables like gender, and dreem inventory results from poor to excellent. Cross tabulation will be done for variables of interest like gender and class with learning environment.

**Questionnaire based study.** The medical curriculum in Allama Iqbal Medical College is traditional and disciplined-based. Preclinical subjects are taught in the first two years. Students in 3-5 years are exposed to all clinical subjects.

Studies using Dreem have shown a variable student response rate (36.0% to 82.8%). Based on these figures, we plan to recruit 300 students from all years.

**RESULTS:****Table No 1: Students perception of Learning (SPoL) and Students Perception of Atmosphere (SPoA):**

	Students perception of learning (SPoL)	Students Perception of Atmosphere (SPoA)
Mean	36.3300	36.6000
Median	37.5000	37.0000
Mode	42.00	38.00a
Std. Deviation	8.93348	7.13838
Minimum	12.00	16.00
Maximum	60.00	60.00

a. Multiple modes exist. The smallest value is shown.

**Table no 2: Frequency Distribution Table of Scores of Variable Students Perception of Learning (SPoL):**

Student's perception of learning (SPoL).	Frequency	Percent
Very poor (Score 0-12)	3	1.0
Teaching is viewed negatively (Score 13-24)	33	11.0
A more positive approach (Score 25 – 36)	106	35.3
Teaching Highly Thought of (Score 36-48)	158	52.7
Total	300	100.0

**Table No 3: Frequency Distribution Table of Scores of Variable Students Perception of Atmosphere (SPOA):**

Student's Perception of Atmosphere (SPOA).	Frequency	Percent
There are many issues that need changing (Score 13-24)	18	6.0
A more positive atmosphere (Score 25-36)	117	39.0
A good feeling overall (Score 36-48)	165	55.0
Total	300	100.0

**Table No 4: Gender Cross Tabulation of Scores of Variable Students Perception of Learning (SPoL):**

		Gender		Total
		Male	Female	
Students perception of learning (SPoL)	Very poor (Score 0-12)	2 2.0%	1 .5%	3 1.0%
	Teaching is viewed negatively (Score 13-24)	12 12.1%	21 10.4%	33 11.0%
	A more positive approach (Score 25-36)	29 29.3%	77 38.3%	106 35.3%
	Teaching Highly Thought of (Score 36-48)	56 56.6%	102 50.7%	158 52.7%
Total		99	201	300

	100.0%	100.0%	100.0%
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Chi-Square Tests			
	Value	df	asymp.sig. (2-sided)
Pearson Chi-Square	3.659	3	.301

**Table No 5: Gender Cross Tabulation of Scores of Variable Students Perception of Atmosphere (SPOA):**

		Gender		Total
		Male	Female	
Students perception of atmosphere (SPOA)	There are many issues that need changing (Score 13-24)	6 6.1%	12 6.0%	15 6.0%
	A more positive atmosphere (Score 25-36)	33 33.3%	84 41.8%	117 39.0%
	A good feeling overall (Score 36-48)	60 60.6%	105 52.2%	165 65.0%
Total		99 100.0%	201 100.0%	300 100.0%

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.062	2	.357

**Table No 6: Pre-clinical and clinical respondents cross tabulation of scores of variable students' perception of atmosphere (SPOL):**

		Count % within year of MBBS	Year of MBBS		Total
			Per-clinical (first and second professionals)	Clinical (third and fourth professional)	
Students perception of learning (SPOL)	Very poor (Score 0-12)	2 1.1%	1 .8%	3 1.0%	
	Teaching is viewed negatively (Score 13-24)	16 8.9%	17 14.2%	33 11.0%	
	A more positive approach (Score 25-36)	50 27.8%	56 46.7%	106 35.3%	
	Teaching Highly thought of (Score 36-48)	112 62.2%	46 38.3%	158 52.7%	
		180 100.0%	120 100.0%	300 100.0%	

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.951	3	.001

Chi-Square tests			
	Value	df	Asymp. Sig. (2 sided)
Pearson chi-square	6.351	2	.042

300 subjects were interviewed; 67.00% (201) were female and 33.00% (99) were males. Table 1 shows that Mean value i.e. 36.33, median 37.500, mode 42.00, S.D. 8.93 of variable (Students perception of learning) and mean 36.60, median 37.00, mode 38.00, S.D 7.13 of variable (Students perception of atmosphere) of 300 respondents, table 2 shows the scoring of DREEM questionnaire domain (SPOL). Out of 300 students, 3 students' (1%) perception of learning is very poor i.e. they are not satisfied with teaching, learning environment of AIMC, 33 students (11%) are unsatisfied with the teaching methodology i.e. they don't find teaching as source of stimulation, motivation, active learning of these, 106 students (35.%) have positive approach towards teaching and learning environment. Maximum students (158 out of 300) respondents 52.7% are much satisfied and take teaching methodology of AIMC stimulating, helping and encouraging. Table 3 shows the scoring of DREEM questionnaire domain (SPOA). Out of 300 students, 18 (6%) students perception of atmosphere is very unsatisfactory i.e. they are not satisfied with learning atmosphere of AIMC i.e discipline during pre-clinical and clinical classes. 117 (39%) students are satisfied with the learning atmosphere i.e. they find college well time tabled, relaxing environment where one is absolutely comfortable for learning clinical skills, problems and confusions can be clearly asked and solved easily. Maximum students (165 out of 300 respondents (55%) are much satisfied. Table 4 shows the males and females respondents scoring of DREEM questionnaire domain (SPOL). Out of 300 students, 3 {2(2%) males and 1(0.5%) female} students perception of learning is very poor. 33 {12 (12.1%) males and 21 (10.4%) females} students are unsatisfied with the teaching methodology i.e. they don't find teaching as source of stimulation, motivation, active learning, of these 106 { 29(29.3% males and 77 (38.3%) females} students have positive approach towards teaching and learning environment. Maximum students are 158 out of 300 respondents i.e. 56 (56.6%) males and 102 (50.7%) females are much satisfied. Chi square table shows the comparison of results between gender (males and females respondents) proportion, chi-square value is 3.659 shows a non significant association between gender and score, P 0.5). Table 5 shows the males and females respondents scoring of DREEM questionnaire domain (SPOA). Chi-square value is 2.062 shows a non significant association between gender and score (P>.05). Table 6 shows the pre-clinical and clinical respondents scoring of Dreem questionnaire domain (SPOL). Chi-square value is 16.951, shows a non-significant association between pre-clinical and score (P>.05).

### DISCUSSION:

This study originated from a desire to learn how students perceive the learning environment in this institution. Students were interested in completing the inventory as evidenced by good response rate. The mean DREEM score of two subclasses (SPOL, SPOA) of our study was found to be 36.33 and 36.6000 respectively indicating those students' perceptions were more positive.

On analysis of score for two subclasses of Dreem questionnaire, it was observed that in these two domains (SPOL, SPOA) perception of pre-clinical, clinical, female, male respondents converge and in others diverge. In our study, the interpretation of mean score of two subclasses of Dreem inventory (SPOL, SPOA) showed that all students perceived a more positive approach (36.33) for their learning; in the same way a more positive approach (36.6000) for their atmosphere. These results are comparable with the results of (Keissling C. 2004) in which mean score of all students for (SPOL was 37.45/48) and (32.9/48 for SPOA) showed positive approach toward their learning and atmosphere.

In our study no significant difference between stages in two subclasses (SPOL, SPOA) was observed. In addition, it did not show a statistically significant difference between males and females for score of those two domains of Dreem. This is in agreement to that reported by in a study carried out by Holt M. (2004). But in contrary to that reported in a study carried out in Argentina (2010) in which statistically significant differences between sexes was found, with women in general more critical about quality of learning and general climate of college, especially in areas of student participation in class and the authoritarian attitudes of teachers (18).

The results of present study showed that pre-clinical students have a more positive perception of atmosphere than clinical students, although (Roff and Mayya 2005) have found the lowest DSreem score for year 5 students (19). Results of ours are comparable with results of Ostapezuk (2012) from Nepalese students showing highest score for year 3 students (20).

### CONCLUSION:

The study showed that the students of AIMC perceived a positive learning environment at the college. The AIMC has a reasonably positive learning environment with ample room for improvement in domain (SPOA) for preclinical students. The study might contribute in planning improved and guiding strategic planning and

institutional focus of available resources so that the learning of future physicians could be enhanced that would in turn improve the quality of health care which they will subsequently deliver.

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