

Measuring student's perceptions about educational environment and strength of implemented curriculum at Foundation University College of Dentistry by DREEM's inventory

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Abstract

Introduction: Environment is the essence of learning in any institute. It is directly linked to the student's achievements, satisfaction and success. Curriculum plays an integral role in the outcome of teaching and ensures that the vision of the institute is in line with that of all the stake holders. Hence the main objective of this research was to measure the student perceptions regarding the environment of Foundation University College of dentistry (FUCD) through DREEM inventory.

Material and Methods: A cross sectional descriptive study was conducted in Foundation University College of dentistry (FUCD), for a duration of three months. The DREEM questionnaires were distributed among the students of 1st year, 2nd year and 3rd year BDS, to a total of 150 students. The questionnaires were collected from the students after 30 minutes by the co-investigators. The DREEM inventory comprised of 50 items, subdivided into five groups. The Likert scale 4-0 were used to measure questions in each group where 0 stood for strongly disagree, 1 for disagree, 2 for unsure, 3 for agree and 4 for strongly agree.

Results: The total mean score of DREEM inventory was 128/200 and overall mean was 2.64. The highest mean score was 2.75 for Student's Self-Perceptions followed by 2.72 of Student's Perception of Atmosphere, 2.64 for Student's Academic Self-Perception, 2.56 for Students Perception of Learning and the lowest one is 2.54 for Students Perception of Teachers.

Conclusions: The educational environment of Foundation University College of Dentistry was found to be more positive than negative. There are areas which require further development and improvement in currently implemented educational environment to enhance students learning.

Keywords: Curriculum; teaching and learning; assessment

Introduction

Environment is the essence of learning in any institute. It is directly linked to the student's achievements, satisfaction and

success. It is one of important factors in supporting students' development of professional values, attitudes and behaviors.¹ The role of environment in an educational setting is the key element in adult learning theories, teaching is as much about a conducive learning atmosphere as about imparting knowledge or sharing expertise.² Positive institutional profile, improved student performance, higher staff morale and cooperation, motivation among students with a perception of relevancy and task, quality teaching along with cordial and comfortable atmosphere are viewed as some indicators of healthy educational environment. Positive learning environment and content quality

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serve as indispensable factors in student's achievements.³

The curriculum plays an important role in the perception of learners and also has vital effect on the progress of students.⁴ In order to understand the educational environment of any institute and to make improvements with in the curriculum to enhance students learning, a useful tool was developed at Dundee University UK, "Dundee Ready Education Environment Measure (DREEM).⁵ The DREEM inventory helped to identify and evaluate the various areas which were deficient as well as the strengths of any educational environment. It highlights the learners approach towards the innovative methods and also describes the correlation between teachers and students. The student's perception about the implemented curriculum and its significance in the educational environment can also define the strength of an institutional environment.⁶

The main objective of this research was to measure the student perceptions regarding the environment of Foundation University College of dentistry (FUCD) through DREEM inventory.

Material and Methods

A cross sectional descriptive study was conducted at Foundation University College of Dentistry (FUCD), for a duration of three months i.e. from May to July, 2018. All the students studying at FUCD were included in the study. Consent was taken from all students and students who were not willing to participate in the study or filled incomplete questionnaires were excluded from the sample. The students of 1st, 2nd and 3rd year BDS were asked to fill the questionnaires. The DREEM was selected as the data collection tool to evaluate the educational environment of FUCD. Students were explained regarding the main aim of this research and clear instructions were given about the data collection process. The DREEM questionnaires were distributed to a total of

150 students. The questionnaires were collected from the students after 30 minutes by the co-investigators.

The DREEM inventory comprised of 50 items, subdivided into five groups i.e. student's perceptions of learning (SPL), student perceptions of teachers (SPT), student's academic self-preparation (SAP), student's perception of atmosphere (SPA), and student's self-perception (SSP) to analyze the educational environment. The Likert scale 4-0 were used to measure questions in each group where 0 stood for strongly disagree, 1 for disagree, 2 for unsure, 3 for agree and 4 for strongly agree. From a total of 50 questions, 9 items ("4: 8: 9: 17: 25: 35: 39: 48 and 50") were negative questions and scored 0 to 4 from strongly agree, strongly disagree. The guide was available for interpretation of scores that was; "0-50= Very Poor, 51-100= Plenty of Problems, 101-150=More Positive than Negative and 151-200 = Excellent". The Mean criteria: 3.5 to 4= Real Positive points, 2-3= Climate that could be enhanced and Below 2= Problems areas. The DREEM inventory measures the five main areas; perception of learning, teachers, academic, atmosphere and social perceptions. After data collection process, a descriptive analysis was performed on SPSS 17.

Results

150 questionnaires were filled, 50 from each class of 1st, 2nd and 3rd year BDS. The total mean score of DREEM inventory was 128/200 and overall mean was 2.64. The highest mean score was 2.75 for Student's Self-Perceptions followed by 2.72 of Student's Perception of Atmosphere, 2.64 for Student's Academic Self-Perception, 2.56 for Students Perception of Learning and the lowest one is 2.54 for Students Perception of Teachers. Table I shows the mean score of different Sub-scales of DREEM inventory. Table II shows the mean score as well as the criteria of measurement. The criteria of Mean were 3.5 -

4 = Real Positive points, 2-3= Climate that could be enhanced, below 2= Problems areas.

Table I: Mean Score of different sub scales

Scales	Mean	Criteria
SPL (Student's Perception of Learning)	2.56	2-3= climate that could be enhanced
SPT (Student's Perception of Teacher)	2.54	2-3
SAP (Student's Academic Self-Perception)	2.64	2-3
SPA (Student's Perception of Atmosphere)	2.72	2-3
SSP (students Self-Perception)	2.75	2-3
Total mean of DREEM inventory	2.64	2-3

Table II: Average Score of different sub scales and their interpretations

Scales	Score	Status
SPL (Student's Perception of Learning)	28.16	25-36= A more positive perception
SPT (Student's Perception of Teacher)	28.05	23-33= Moving in the right direction
SAP (Student's Academic Self-Perception)	20.52	17-24= Feelings more on the positive side
SPA (Student's Perception of Atmosphere)	32.65	25-36= A more positive attitude
SSP (students self-perception)	19.26	15-21=Not too bad
Total DREEM score	128.64	More positive than negative

Discussion

The total DREEM inventory score was 128.64 out of 200 which shows that student's perception regarding the curriculum in FUCD was more positive than negative. The

students response in the first sub category of 'Students Perceptions of Learning' were 30.66 out of a total score of 48 signifying a more positive acuity of the learning environment achieved within FUCD. It indicates that in learner's opinion, the teaching practices in this institute were stimulating, dedicated and motivates students to become active and lifelong learners.

In the second sub category, the answers regarding the 'student's perception of teachers' was 27.99 out of 44, reflecting the students perception that teachers are using the right techniques and methods. Items such as 'The teachers ridicule the students' (Table III, question 8) have a mean score of 3.01 which is a very positive finding. Questions like 'The teachers have good communications skills with patients' (Table III question 18), have high mean value of 2.75, ' The teachers are good at providing feedback to students (Table III, question 29), also have high mean value of 2.78, which shows the students perception about the teachers is that they have good communication skills with students and patients and secondly teachers provide constructive feedback to students. All of these factors contributes effectively in correct diagnosis and treatment planning of patients and enhances the patient care.

The mean score of academic self-preparation was 21.10 out of 32 which explains the positivity of student's ideas and opinions regarding the implemented curriculum of FUCD. In the fourth and fifth subcategories, the mean scores were high in student's perception to atmosphere and self-perception i.e. 32.62 out of 48 and 19.24 out of 28 respectively. The key positive findings were present in questions like 'the environment outweighs the stress of studying medicine', 'the atmosphere motivates me as a learner', and 'there is a good support system for students who get stressed', with high mean scores of 3.22, 2.92 and 33.80 respectively. These results clearly indicates the presence of positive learning environment in the institute.

The questions with low mean scores identified the problem areas which need to be corrected like 'the teaching is too teacher centered' (Table III, question 48) has a low mean score of 2.29; 'the teachers are authoritarian' (Table III, question 9) having mean value of 2.26; 'this school is well time tabled' (Table III, question 12) with 2.13. All these factors hinder the student's learning and therefore should be rectified with the help of faculty development programs,¹¹ shifting of teaching methodology from teacher centered to learner centered ^{12,13}, incorporate and implement blue printing of curriculum.⁽¹⁴⁾ Restructuring of mentoring program is required to improve the social perception of students.¹⁵

Table III: Mean Item Scores of DREEM inventory with sub-categories.

		Item	Mean
SPL	1	I am encouraged to participate in class	2.37
	7	The teaching is often stimulating	2.48
	13	The teaching is student centered	2.58
	16	The teaching is sufficiently concerned to develop my competence	2.67
	20	The teaching is well focused	2.26
	22	The teaching is sufficiently concerned to develop my confidence	2.54
	24	The teaching time is put to good use	2.61
	25	The teaching over emphasizes factual learning	2.52
	38	I am clear about the learning objectives of the course	2.94
	44	The teaching encourages me to be an active learner	2.75
	47	long-term learning is emphasized over shot-term	2.65
	48	The teaching is too teacher-centered	2.29
	SPT	2	The teachers are knowledgeable
6		The teachers are patient with patients	2.34
8		The teachers ridicule the students	3.01
9		The teachers are authoritarian	2.26
18		The teachers have good communications skill with patients	2.75
29		The teachers are good at providing feedback to students	2.78
32		The teachers provide constructive criticism here	2.77
37		The teachers give clear examples	2.65

	39	The teachers get angry in class	2.55
	40	The teachers are well prepared for their class	2.21
	50	The students irritate the teachers	2.81
SAP	5	Learning strategies which worked for me before continue to work for me now	2.92
	10	I am confident about my passing this year	2.20
	21	I feel I am being well prepared for my profession	2.52
	26	last years work has been a good preparation for this year's work	2.91
	27	I am able to memorize all I need	3.27
	31	I have learned a lot about empathy in my profession	2.21
	41	My problem-solving skills are being well developed here	2.81
45	Much of what I have to learn seems relevant to a career in medicine	2.26	
SPA	11	The atmosphere is relaxed during the ward teaching	2.73
	12	This school is well time-tabled	2.13
	17	Cheating is a problem in this school	2.87
	23	The atmosphere is relaxed during the lectures	2.64
	30	There are opportunities for me to develop inter-personal skills	2.84
	33	I feel comfortable in class socially	2.19
	34	The atmosphere is relaxed during seminars / tutorials	2.42
	35	I find the experience disappointing	2.92
	36	I am able to concentrate well	2.85
	42	The enjoyment outweighs the stress of studying medicine	3.22
	43	The atmosphere motivates me as a learner	2.92
49	I feel able to ask the questions I want	2.89	
SSP	3	There is a good support system for students who get stressed	3.80
	4	I am too tired to enjoy this course	2.42
	14	I am rarely bored on this course	3.30
	15	I have good friends in this school	2.06
	19	My social life is good	2.20
	28	I seldom feel lonely	2.96
46	My accommodation is pleasant	2.50	

SPL (Student's Perception of Learning), SPT (Student's Perception of Teacher), SAP (Student's Academic Self-Perception), SPA (Student's Perception of Atmosphere), SSP (Students self-perception)

It is evident from comparison of our overall DREEM score (128) with international medical and dental colleges such as, in Sri Lanka, Nigeria, Pakistan and India which had scores of 108, 118, 114.4 and 124 respectively, indicating a more positive educational environment in our institute and at par with international standards.⁷⁻¹⁰

The overall mean scores in various sub-categories do not have any score less than 2 which is a positive finding regarding learning environment but there are few items having mean score just above 2 which needs attention on priority. These items includes 'The teachers are well prepared for their class' (2.21), I have learned a lot about empathy in my profession (2.21), I feel comfortable in class socially (2.19) and I have good friends in this school (2.06). A more detailed study is required to find out the factors affecting the preparation of teachers for lectures, how and when to incorporate and monitor the component of empathy in the BDS curriculum and review of the mentoring program to enhance social perception of students.

Conclusions

The educational environment of Foundation University College of Dentistry is more positive than negative. There are areas which require further development and improvement in currently implemented educational environment to enhance students learning. This study helped to identify the factors which requires more attention and importance to develop a more positive learning environment. The results of this study can be used constructively for future strategic designing, planning and implementation of innovations in BDS curriculum to improve the educational environment of an institute.

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