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Evaluation of the Learning Environment based on the Dundee Ready Education Environment Measure Model from the Perspective of Primary School Students in Roudsar City

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ABSTRACT

Educational environment plays a vital role on effectiveness of learning and educational activity. The DREEM questionnaire is a tool for assessing educational environment. We estimated the dental students' perceptions of their educational environment. This was a descriptive study using a convenience sampling in addition to DREEM questionnaire which was carried out on 23 female students of Roudsar city in 2015. The mean and standard diversion scores of perception. Students in the five areas including: the area of learning $34/2\pm5/66$ of 60 score, teachers area $34/62\pm5/23$ of 55 score, areas of academic ability $25/94\pm4/36$ of 40 score, educational environment $33/33\pm5/05$ of 50 score and the perception of students in the social condition $24\pm1/40$ of 35 score. Total score was 168 of 200 score. Educational environment of learning is important, so improving this situation should be responsible priority.

Keywords: Students, Educational Environment, DREEM, Evaluation

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Corresponding author: Mohammadkhah F e-mail mohamadkhahfatemeh@yahoo.com Received: 22/10/2017 Accepted: 10/01/2018 INTRODUCTION	(12 items), students' perceptions of teachers (11 items), one: students' academic self-perceptions (8 items), two: students' perceptions of atmosphere (12 items) and three: students' social self-perceptions (7 items).
Educational climate is an important factor for effective learning to occur. Indeed, that has been highlighted as a key to the delivery of a high- quality medical education [1, 2]. The Dundee Ready Education Environment Measure has been developed in Dundee [3] to measure the undergraduate educational climate of the Schools. [4]. It consists of 50 statements in five subscales	The DREEM evaluate the educational environment in undergraduate medical education institutions which has been recommended as the most suitable tool for this purpose. It has been translated into eight languages and used in at least 20 countries. It is widely used as an evaluation measure to diagnose problems in the current educational environment as well as to compare the educational environment experiences among

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different groups. The DREEM has been used to examine the relationship between the educational environment and other measures.

Methods of reporting and analysis of DREEM data emerge inconsistent. Greater perspicuity and monotony of approach in data reporting and analysis would enable meaningful comparisons across institutions and guide good practice [5]. evidence that the educational There is environment envisage by students has an effect on consent with the course of study, perceived wellbeing, breathing and academic success [6-10]. One of the most important concepts of the DREEM is that it provides a standardized way for international comparisons between medical schools as well as allowing them to benchmark their educational climate [11]. The DREEM has most commonly been used among medical students in undergraduate medical schools (n¹/₄31 papers); but it has also been used by other groups including graduates (interns/residents) [12-15], dental [16] and chiropractic [17, 18] students, and teaching staff [19]. Training managers are supposed to individuals. The human relations will be more effective. In addition, many factors have influence on the educational process including the teacher as the human factor in the educational environment who substantial play and considerable roles. Teacher by teaching inclusive He had to deal with major influences on him, May Behavioral change in him. In addition, a comprehensive understanding of the environment motivates the students to learn [20]. Educational atmosphere influences in training, student behavior and future so know the students in this area can be Authorities and meet the needs of teachers.

The goal of current survey, conducted in 2015, was to examine Roudsar students and assess learning environment based on (by) DREEM.

MATERIALS AND METHODS

The DREEM questionnaire was distributed to all the 10 old students (23 students). The questionnaires were administered by students at the end of lecttuer courses, after explaining the purpose of the study. Papers were completed anonymously and collected at the same time. Five students were asked to fill the questionnaires as a pretest in order to make sure that the questions are clear. DREEM consists 50- questions that each of them is scored on a 5-point scale (4 = Strongly agree, 3 = Agree, 2 =Unsure, 1 =Disagree and 0 =Strongly disagree). Reverse scoring is necessary for items 4, 8, 9, 17, 25, 35, 39, 48 and 50. Thus, higher scores indicate a more positive evaluation. Depending on DREEM questionnaire, student's perception on educational environment items subdivided into 5 subscales. This subscale gives opportunity to researcher to identify weaknesses or strengths of course. Also it indicates, individual items with a mean score of 3 and above, reflect a positive educational climate and are considered strength of school, while items with a mean score below 2 are considered weaknesses of medical faculty. Items with a mean score between 2 and 3 reflect areas that are neither strengths nor weaknesses but areas that could be improved. of separate elements the DREEM Five questionnaire and their maximum scores are:

• Students' Perceptions of Learning: 12 items (items 1, 7, 13, 16, 20, 22, 24, 25, 38, 44, 47 and 48) (maximum score 48)

• Students' Perceptions of Teachers: 11 items (items 2, 6, 8, 9, 18, 29, 32, 37, 39, 40 and 50) (maximum score 44)

• Students' Perceptions of their Academic Skills: 8 items (items 5, 10, 21, 26, 27, 31, 41 and 45) (maximum score 32)

• Students' Perceptions of the Learning Atmosphere: 12 items (items 11, 12, 17, 23, 30, 33, 34, 35, 36, 42, 43 and 49) (maximum score 48)

• Students' Perceptions of the Social Environment: 7 items (items 3, 4, 14, 15, 19, 28 and 46) (maximum score 28) [21].

The questionnaire had been translated, validated and administered particularly in Medical Schools in many countries such as Saudi Arabia and Republic of Yemen [22], Trinidad [23], India [24], Australia [25], Sri Lanka [26], Chile [27], Nigeria and in Nepal [28], Leeds (UK) [29] and Greece [30,31]. Descriptive statistics were used to calculate means, minimum and maximum values and standard deviations. The data were statistically analyzed using SPSS 11. ? was 0.93 and did not increased 'if item deleted' for any of the 50 items, i.e. there is no need to remove any of the questions. The mean and standard diversion scores of student's perception in the five areas are listed in Table 1. Total score was 168 of 200.

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Table1: DREEM subscale scores

Score	Mean ± SD
Perceptions of Learning	34/2 ± 5/66
Perceptions of Teachers	34/62 ± 5/23
Perceptions of their Academic Skills	25/94 ± 4/36
Perceptions of the Learning Atmosphere	33/33 ± 5/05
Perceptions of the Social Environment	$24 \pm 1/40$
Overall	168

Among the five areas, perceptions of the Social Environment earned the highest rating while Perceptions of Learning has earned the least rating. The average was calculated for each individual item: questions with average of 3.5 or more (Questions: 2,10,12,13,19,27,33,40) represent real strengths educational atmosphere, average of between 2-3 (Questions: 3,4,8,9,11,18,34,35,39,42) describes cases that should be on the agenda of administrators and teachers, average of 2.5 or less (Questions: 3,4,8,9,14,17,25,28,39,42,48,50) where they have weaknesses were true. Item of "My social life is good" has earned highest rating and item of "the students irritate the course organizers" earned the least rating (Table 2).

DISCUSSION

The present survey was conducted to investigate the students on the evaluation of the learning environment. In recent years, experts to review the educational environment and more important to show interest [32]. Educational environments are also students' perceptual field. The DREEM questionnaire has been helpful in identifying the strengths and weaknesses of the educational climate. There is no accepted agreement on what is an acceptable DREEM inventory score from published literature [33]. Nevertheless, our DREEM score of 168 was similar to many other reports.

The general interpretation of the questionnaire scores based educational environment DREEM (with a score of 168) was excellent. Students had to learn positive perception greatly. The perception of students of instructor training course was just a model. Students were sure of his scientific ability. The students had a very positive attitude to learning atmosphere and perception of social conditions were very good students.

Among the five areas, perceptions of the social environment earned the highest rating while

Perceptions of Learning has earned the least rating. In this case the role of teachers in creating an effective and appropriate learning environment by analyzing the physical environment, want to learn better prepare its students [34]. To achieve this goal, teachers ought to involve students in issues related to their learning, because the educational environment has a direct impact on learning. Therefore conditions should be a priority of the authorities [35, 36]. In addition, training courses for promotion of learning skills in consultation with the student and proper managing of problems can help to improve the condition of students [32, 37].

The results of this study showed that students are interested in the feedback of their professors. In general, professors must be in a position to provide training so that learners share their educational activities. In such a situation continues Current thinking is possible and they feel they have merit [38-40]. The context of the training, the determining factor to motivate Learning because learning behaviors leading to progress strengthen education and is important in the vocational training process [41]. Between the educational climate Students mean and demographic information (age, birth and etc.), the difference was not statistically significant (P<0/001) Perhaps one of the reasons was low sample volume and uniformity groups of variables of group.

CONCLUSION

The DREEM inventory may be a useful tool for course/program organizers to ensure and maintain high quality educational environments and recheck students' standpoint.

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Questions	Meam±SD	Interpretation of results
1. I am encouraged to participate during teaching sessions	3/04±1/09	good
2. The program organizers are knowledgeable	3/60±0/65	good
3. There is a good support system for students who get stressed	2/36±1/36	The need to improve
4. I am too tired to enjoy the course	2/68±1/52	The need to improve
5. Learning strategies which worked for me before continue to work for me now	2/68±1/39	The need to improve
6. The course organizers espouse a patient centred approach to consulting	3/34±1/30	good
7. The teaching is often stimulating	3/04±1/10	good
8. The teachers ridicule the registrars	2/45±1/63	The need to improve
9. The teachers are authoritarian	2/38±1/49	The need to improve
10. I am confident about my passing this year	3/72±0/63	good
11. The atmosphere is relaxed during consultation/clinic teaching	2/66±1/46	The need to improve
12. This program is well timetabled	3/45±0/67	good
13. The teaching is student centred	3/56±0/73	good
14. I am rarely bored on this program	1/68±1/39	bad
15. I have good friends on this program	3/09±1/54	good
16. The teaching helps to develop my competence	3/17±1/07	good
17. Cheating is a problem on this program	1/30±1/32	bad
18. The teachers have good communication skills with patients	2/77±1/26	The need to improve
19. My social life is good	7/45±1/16	good
20. The teaching is well focused	3/13±1/21	good
21. I feel I am being well prepared for my profession	3/09±1/10	good
22. The teaching helps to develop my confidence	3/19±1/07	good
23. The atmosphere is relaxed during lectures	3/04±1/17	good
24. The teaching time is put to good use	3/26±1/09	good
25. The teaching over emphasizes factual learning	0/63±1/09	bad
26. Last year's work has been a good preparation for this year's work	3/31±0/89	good
27. I am able to memorize all I need 1.83	3/52±0/94	good
28. I seldom feel lonely	1/72±1/60	bad
29. The teachers are good at providing feedback to students	3/40±0/79	good
30. There are opportunities for me to develop interpersonal skills	3/36±1/00	good
31. I have learnt a lot about empathy in my profession 2.33 2.31 2.32 0.873	3/08±1/12	good
32. The teachers provide constructive criticism here 1.95 2.35 2.06 0.042*	3/13±0/96	good
33. I feel comfortable in class socially 2.19 2.51 2.27 0.033*	3/52±0/79	good
34. The atmosphere is relaxed during seminars / tutorials 1.70 2.35 1.87 0.000*	2/80±1/36	The need to improve
35. I find the experience disappointing 2.23 2.24 2. 24 0.947	$2/50\pm1/50$ 2/52±1/59	The need to improve
36. I am able to concentrate well 1.79 2.04 1.86 0.114*	3/22±1/06	good
		good
37. The teachers give clear examples 2.03 2.51 2.16 0.003*	3/39±0/89	0
38. I am clear about the learning objectives of the program 1.71 2.16 1.83 0.004*	3/31±1/12	good
39. The teachers get angry in teaching sessions 2.06 2.25 2.11 0.297	2/22±1/60	The need to improve
40. The teachers are well prepared for their teaching sessions 1.62 2.38 1.82 0.000*	3/50±0/82	good
41. My problem solving skills are being well developed here 2.09 2.29 2.15 0.248	3/22±1/26	good
42. The enjoyment outweighs the stress of the program 1.71 1.76 1.73 0.752	2/73±1/35	The need to improve
43. The atmosphere motivates me as a learner 1.66 1.91 1.73 0.189	3/39±0/89	good
44. The teaching encourages me to be an active learner 2.00 1.91 1.98 0.448	3/36±0/84	good
45. Much of what I have to learn seems relevant to a career in healthcare 1.91 2.15 1.98 0.186	3/22±1/26	good
46. My accommodation is pleasant 3.06 3.05 3.06 0.663	3/45±0/67	good
47. Long term learning is emphasized over short term learning 2.03 2.49 2.16 0.005*	3/20±1/10	good
48. The teaching is too teacher centered 2.44 1.62 2.22 0.000*	0/91±1/04	bad
49. I feel able to ask the questions I want 2.23 2.73 2.37 0.002*	3/45±0/73	good
50. The students irritate the course organizers	0/56±0/94	bad
Total Questions	1/54±1/79	bad

Table 2: Mean dreem score for peer item

REFERENCES

- 1. Dent J, Harden RM, Hunt D. A practical guide for medical teachers. Elsevier Health Sciences, 2009:64-83.
- 2. Newbie D, Cannon RA, Kapelis ZA, A Handbook for Medical Teachers. Kluwer Academic, 2001:67-98.
- 3. Roff S, McAleer S, Harden RM, Al-Qahtani M, Ahmed AU, Deza H, Groenen G, Primparyon P. Development and validation of the Dundee

Journal of Research in Medical and Dental Science | Vol. 6 | Issue 1 | February 2018

ready education environment measure (DREEM). Medical Teacher. 1997; 19(4):295-99.

- Roff S. The Dundee Ready Educational Environment Measure (DREEM)—a generic instrument for measuring students' perceptions of undergraduate health professions curricula. Medical Teacher. 2005; 27(4):322-25.
- Miles S, Swift L, Leinster SJ. The Dundee Ready Education Environment Measure (DREEM): A review of its adoption and use. Medical Teacher. 2012; 34(9):e620-34.
- Pimparyon, S. M Caleer, S. Pemba, S. Roff P. Educational environment, student approaches to learning and academic achievement in a Thai nursing school. Medical Teacher. 2000; 22(4):359-64.
- Plucker JA. The relationship between school climate conditions and student aspirations. The Journal of Educational Research. 1998; 91(4):240-46.
- 8. Roff S, McAleer S, What is educational climate? In: JM Genn (Editor), Curriculum, environment, climate, quality and change in medical education: A unifying perspective. AMEE Education Guide, 2001; 23: 3–4.
- 9. Lizzio A, Wilson K, Simons R. University students' perceptions of the learning environment and academic outcomes: implications for theory and practice. Studies in Higher Education. 2002; 27(1):27-52.
- Mayya S, Roff S. Students' perceptions of educational environment: a comparison of academic achievers and under-achievers at Kasturba Medical College, India. Education for Health-Abingdon-Carfax Publishing Limited-. 2004; 17(3):280–91.
- 11. Hammond SM, O'Rourke M, Kelly M, Bennett D, O'Flynn S. A psychometric appraisal of the DREEM. BMC Medical Education. 2012; 12(1):2.
- 12. Bassaw B, Roff S, McAleer S, Roopnarinesingh S, De Lisle J, Teelucksingh S, Gopaul S. Students' perspectives on the educational environment, Faculty of Medical Sciences, Trinidad. Medical Teacher. 2003; 25(5):522-26.
- 13. de Oliveira Filho GR, Sturm EJ, Sartorato AE. Compliance with common program requirements in Brazil: its effects on resident's perceptions about quality of life and the educational environment. Academic Medicine. 2005; 80(1):98-102.

- de Oliveira Filho G.R., Vieira J.E., Schonhorst L, Psychometric properties of the Dundee Ready Educational Environment Measure(DREEM) applied to medical residents. Med Teach j. 2005; 27(4):343–47.
- 15. Tokuda Y, Goto E, Otaki J, Jacobs J, Omata F, Obara H, Shapiro M, Soejima K, Ishida Y, Ohde S, Takahashi O. Undergraduate educational environment, perceived preparedness for postgraduate clinical training, and pass rate on the National Medical Licensure Examination in Japan. BMC Medical Education. 2010; 10(1):35.
- Thomas BS, Abraham RR, Alexander M, Ramnarayan K. Students' perceptions regarding educational environment in an Indian dental school. Medical teacher. 2009; 31(5):e185-88.
- 17. Till H. Identifying the perceived weaknesses of a new curriculum by means of the Dundee Ready Education Environment Measure (DREEM) Inventory. Medical Teacher. 2004; 26(1):39-45.
- Till H. Climate studies: can students' perceptions of the ideal educational environment be of use for institutional planning and resource utilization?. Medical Teacher. 2005; 27(4):332-37.
- 19. Miles S, Leinster SJ. Comparing staff and student perceptions of the student experience at a new medical school. Medical teacher. 2009; 31(6):539-46.
- 20. Michael F, Educational research and innovation center for educational research and innovation. Available from: http://www.oecd.org/edu/ceri/brochure_CE RI-final-all-web%20Aug%202013-size.pdf. [Accessed in: 2011 Aug 20].
- Tontuş HÖ. DREEM; dreams of the educational environment as its effect on education result of 11 Medical Faculties of Turkey. Journal of Experimental and Clinical Medicine. 2010; 27(3):104-08.
- 22. Al-Hazimi A, Zaini R, Al-Hyiani A, Hassan N, Gunaid A, Ponnamperuma G, Karunathilake I, Roff S, McAleer S, Davis M. Educational environment in traditional and innovative medical schools: a study in four undergraduate medical schools. Education for health-abingdon-carfax publishing limited. 2004; 17(2):192-203.
- 23. Bassaw B, Roff S, McAleer S, Roopnarinesingh S, De Lisle J, Teelucksingh S, Gopaul S. Students' perspectives on the educational

Journal of Research in Medical and Dental Science | Vol. 6 | Issue 1 | February 2018

environment, Faculty of Medical Sciences, Trinidad. Medical Teacher. 2003; 25(5):522-26.

- 24. Abraham R, Ramnarayan K, Vinod P, Torke S. Students' perceptions of learning environment in an Indian medical school. BMC Medical Education. 2008; 8(1):20.
- 25. Denz-Penhey H, Murdoch JC. A comparison between findings from the DREEM questionnaire and that from qualitative interviews. Medical Teacher. 2009; 31(10):e449-53.
- 26. Jiffry MT, McAleer S, Fernando S, Marasinghe RB. Using the DREEM questionnaire to gather baseline information on an evolving medical school in Sri Lanka. Medical Teacher. 2005; 27(4):348-52.
- 27. Riquelme A, Oporto M, Oporto J, Mendez JI, Viviani P, Salech F, Chianale J, Moreno R, Sanchez I. Measuring students' perceptions of the educational climate of the new curriculum at the pontificia universidad catolica de chile: Performance of the spanish translation of the Dundee Ready Education Environment Measure (DREEM). Education for Health. 2009; 22(1):112.
- 28. Roff S, McAleer S, Ifere OS, Bhattacharya S. A global diagnostic tool for measuring educational environment: comparing Nigeria and Nepal. Medical Teacher. 2001; 23(4):378-82.
- 29. Whittle SR, Whelan B, Murdoch-Eaton DG. DREEM and beyond; studies of the educational environment as a means for its enhancement. Education for Health. 2007; 20(1):1-7.
- 30. Dimoliatis ID, Vasilaki E, Anastassopoulos P, Ioannidis JP, Roff S. Validation of the Greek translation of the Dundee ready education environment measure (DREEM). Education for Health. 2010; 23(1):348.
- 31. Dimoliatis ID. The Dundee Ready Education Environment Measure (DREEM) in Greek: how it should be used and preliminary experience in Greek medical educational environment. Arch Hell Med. 2010; 27(3):509-21.
- 32. Faghani M, Jouybari L, Sanagoo A, Mansouriyan A, Views of learners on learning environment based on the model DREEM in Golestan University. J Med Edu Dev. 2013; 6 (12):43-50. [In Persian]
- 33. Varma R, Tiyagi E, Gupta JK. Determining the quality of educational climate across multiple

undergraduate teaching sites using the DREEM inventory. BMC Medical Education. 2005; 5(1):8.

- 34. Lokuhetty MD, Warnakulasuriya SP, Perera RI, De Silva HT, Wijesinghe HD. Students' perception of the educational environment in a Medical Faculty with an innovative curriculum in Sri Lanka. South-East Asian Journal of Medical Education. 2011; 4(1):9-17.
- 35. Arabshahi SK, Zadeh JK. University teachers' point of view about Educational environment in major clinical wards in educational hospitals of Iran University of Medical Sciences, based on modified dreem model. Strides in Development of Medical Education. 2009; 6(1):29-33. [In Persian]
- Feldmann D, Rupert TJ, editors. Advances in Accounting Education: Teaching and Curriculum Innovations. Emerald Group Publishing, 2012: 60-69.
- Kern D, Patricia A, Hughes M, Curriculum Development for Medical Education: A Six-Step Approach. Maryland: The Johns Hopkins University Press, 2009.
- Preble B, Gordon R, Transforming School Climate and Learning Beyond Bullying and Compliance. New England: eBook publishing, 2011: 102-10.
- 39. Mojahed S, Nasiriani K, Salimi T, Lotfi H, Khodayarian M, The viewpoints of students in Yazd University of Medical Sciences on selection of adviser faculties. J Strides Dev. Med Educ. 2012; 8 (2):115-23.[In Persian]
- Avizhgan M, Mirshah Jafari E, Nasr A, Changiz T, How do faculty members see the curriculum leadership role in post graduate? A qualitative research. Strides in Development of Medical Education. 2014; 11(2):153-69. [In Persian]
- 41. Al-Naggar RA, Mahfoudh Abdulghani MT, Al-Kubaisy W, Daher AM, Aripin KN, Assabri A, Al-Hidabi DA, Ibrahim MI, Al-Rofaai A, Ibrahim HS, Al-Talib H. The Malaysia DREEM: perceptions of medical students about the learning environment in a medical school in Malaysia. Advances in Medical Education and Practice. 2014; 5:177–84.

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