

Health Sciences Students Educational Environment Measured Using Dandee Ready Educational Environment Measure- A Systematic Review of Studies

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ABSTRACT

Background: Traditionally the health sciences students go through a structured curriculum spread over 5 years. The curriculum is heavy with factual information and also involves interaction with patients. The interaction with actual patients is restricted due to ethical considerations.

There are 120 studies done during year 2000 to 2019 to know the perceptions of health sciences students concerning their educational environment using different tools like DREEM, MEEM, PHEEM, STEEM. We have collected the study details using PubMed, Google Scholar databases and done systematic review focusing on DREEM Tool, Overall Score.

The participants are from medical schools across the globe. The total participants 35,679. The highest DREEM Score is 170 and Lowest 90 giving an Average of 119, The common student perceptions are Teachers are authoritarians, Over emphasis on Factual Learning, Limited Scope to put Fact into Practice.

Conclusion: In all these studies one common finding is global score 121 ± 15.33 and over emphasis on factual learning Perhaps opportunities to be given for experiential learning as in 70:20:10 Personal Development Model. The patient care activities can be from “R (reception).....to.....RxR dash (prescription)”.

Key words: DREEM Tool, Overall Score, Over emphasis, Patient care

INTRODUCTION

The educational environment (EE) is huge consisting of physical, mental, social,

spiritual, technological, cultural, geographical domains. It can take the shape in infinite variety imaginable. It is arranged, administered and controlled by the institution. The people who run the institution, their vision, mission, experience decides the scale and extent it is positioned with others in the context of contemporary ethos, competition. The EE satisfies physiological needs, safety needs, and social esteem and allow self-actualization of student's skills. Hence the EE has huge diversity across the globe. The EE is a place or platform for students to pursue their academic goals. The EE for students of health sciences is still unique, different, complex and challenging in view of patients. Hence there are strict stipulations to establish, run institutions to maintain certain desirable standards. [1]

There are 29 Low Income countries, 98 Middle Income countries and 68 High Income countries in our world. All of them need doctors, dentists, nurses, physiotherapists, paramedics to serve the health needs of their communities and accordingly designed their institutions to train the healthcare personnel. The EE may just consist of bare minimum set up like class rooms, facilities, faculty, patients, and hospital in some settings while there are others having highly advanced, fully equipped, technology driven multidisciplinary design skill labs. The EE rolls out the student product at the end of

the course, now this product is it industry fit? Industry fit anywhere/everywhere?? [2-3]

In the EE the students are a core component occupying Centre stage. The students are expected to actualize certain level of knowledge, attitude and skills during their study. They just obey their teachers and do not voice their concern! The students in general are gifted with wonderful god given eyes and ears watching all that happens around them. That is how they naturally learn, gain knowledge, become skillful. This fact is true to health sciences students too. At the end of the course students feel they are new, fresh to face real work challenge!!! Then in the hospital are the Consultants happy with “House Officer/ Junior Professional”, no not all!!! [4,5] These students pass through rigorous selection process, based on merit. Then medical education regulators often think of conducting “Common Exit Exam” to make students “Industry Fit”. Suppose the EE is structured with emphasis on “Patient Care Activities” from

Reception.....to..... **Rx** Prescribing remedy spread over from year one to final year of the study, the EE may be fantastic spring board for professional development. [6]

The institutional managers compete with one another to renew their EE, [7] the medical council regulators certify the EE with iron fists for compliance, in this situation how do students perceive their EE is the object of our study.

We have done literature review of studies concerning student’s perceptions from 1997 to 2018 using PubMed, Google Scholar databases. Equally good number of tools like- DREEM, MEEM,PHEEM, STEEM are available to collect student perceptions. For our review we have included only those studies:- that used DREEM tool, [8] that follow DREEM Guidelines for scoring, that worked out overall DREEM Score. When we applied these criteria, we got 86 studies.

Table1. List of Studies using DREEM Tool to collect health sciences studentsperceptions.

Sl.No.	Year of study	Author and study	DREEM Overall score
1	2004	Al-Hazimi A ¹ , Zaini R, Al-Hyiani A, Hassan N, Gunaid A, Ponnampereuma G, Karunathilake I, Roff S, McAleer S, Davis M. Educational environment in traditional and innovative medical schools: a study in four undergraduate medical schools. Educ Health (Abingdon). 2004 Jul;17(2):192-203.	100
2	2004	Al-Hazimi A ¹ , Al-Hyiani A, Roff S. Perceptions of the educational environment of the medical school in King Abdul Aziz University,saudi Arabia. Med Teach. 2004 Sep;26(6):570-3.	102
3	2005	Jiffry MT ¹ , McAleer S, Fernando S, Marasinghe RB. Using the DREEM questionnaire to gather baseline information on an evolving medical school in Sri Lanka. Med Teach. 2005 Jun;27(4):348-52.	108
4	2005	Varma R ¹ , Tiyagi E, Gupta JK. Determining the quality of educational climate across multiple undergraduate teaching sites using the DREEM inventory. BMC Med Educ. 2005 Feb 21;5(1):8.	139
5	2007	Avalos G ¹ , Freeman C, Dunne F. Determining the quality of the medical educational environment at an Irish medical school using the DREEM inventory. Ir Med J. 2007 Jul-Aug;100(7):522-5	130
6	2008	Al-Ayed IH ¹ , Sheik SA. Assessment of the educational environment at the College of Medicine of King Saud University, Riyadh. East Mediterr Health J. 2008 Jul-Aug;14(4):953-9.	90
7	2009	Miles S ¹ , Leinster SJ. Comparing staff and student perceptions of the student experience at a new medical school. Med Teach. 2009 Jun;31(6):539-46.	141
8	2009	Bouhaimed M ¹ , Thalib L, Doi SA. Perception of the educational environment by medical students undergoing a curricular transition in Kuwait. Med PrincPract. 2009;18(3):204-8.	106
9	2009	Mohd Said N ¹ , Rogayah J, Hafizah A.	120

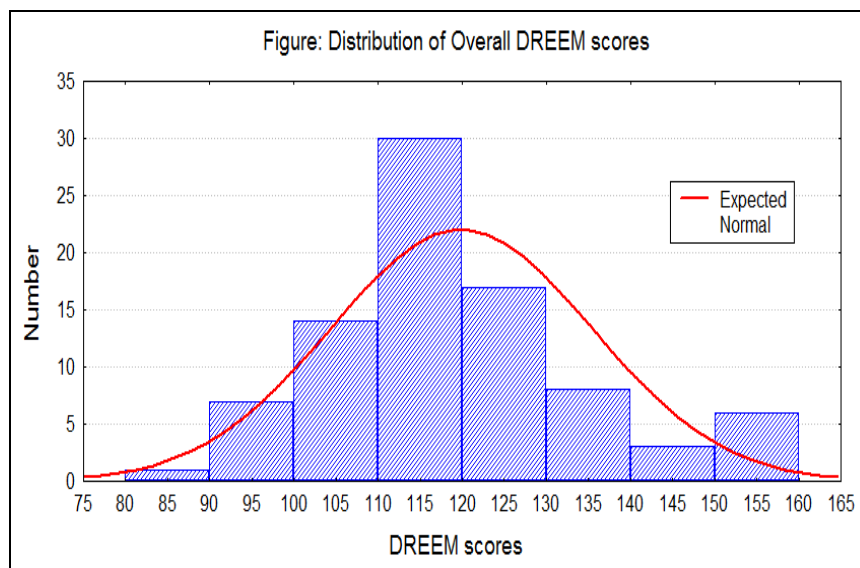
		A study of learning environments in the kulliyyah (faculty) of nursing, international islamic university malaysia. Malays J Med Sci. 2009 Oct;16(4):15-24	
10	2009	Thomas BS ¹ , Abraham RR, Alexander M, Ramnarayan K. Students' perceptions regarding educational environment in an Indian dental school. Med Teach. 2009 May;31(5):e185-6.	100
11	2009	Betsy Sara Thomas,Reem Rachel Abraham,Mohan Alexander Students' perceptions regarding educational environment in an Indian dental schoolenvironment in an Indian dental school Journal Medical Teacher Volume 31, 2009 - Issue 5	116
12	2009	A Riquelme ¹ , M Oporto ² , J Oporto ² , JI Méndez ² , P Viviani ³ , F Salech ² , J Chianale ¹ , R Moreno ² , I Sánchez; Measuring Students' Perceptions of the Educational Climate of the New Curriculum at the Pontificia Universidad Católica de Chile: Performance of the Spanish Translation of the Dundee Ready Education Environment Measure (DREEM);Educ Health 2009;22:112	128
13	2010	Menaka DS Lokuhetty ¹ , Sachini P Warnakulasuriya ¹ , Ranawakaarachchige IR Perera ¹ , Heethaka TR De Silva ¹ , Harshima D Wijesinghe ¹ Students' perception of the educational environment in a Medical Faculty with an innovative curriculum in Sri Lanka; South-East Asian Journal of Medical Education 9 Vol. 4 no. 1,	106
14	2010	Pierre RB ¹ , Branday JM, Pottinger A, Wierenga A. Students' perception of the 'educational climate' at the Faculty of Medical Sciences, The University of the West Indies, Jamaica. West Indian Med J. 2010 Jan;59(1):45-9.	103
15	2010	Foster PL ¹ , Kang I ² , Anderson VR ³ , Thomson WM ⁴ , Meldrum AM ⁴ , Moffat SM ⁴ . Changes in Bachelor of Oral Health students' perceptions of their dental education environment. N Z Dent J. 2013 Dec;109(4):134-40.	110
16	2010	Arzuman H ¹ , Yusoff MS, Chit SP. Big Sib Students' Perceptions of the Educational Environment at the School of Medical Sciences, Universiti Sains Malaysia, using Dundee Ready Educational Environment Measure (DREEM) Inventory. Malays J Med Sci. 2010 Jul;17(3):40-7.	118
17	2011	Palmgren PJ ¹ , Chandratilake M. Perception of educational environment among undergraduate students in a chiropractic training institution. J Chiropr Educ. 2011 Fall;25(2):151-63.	156
18	2011	SYED ILYAS SHEHNAZ & JAYADEVAN SREEDHARAN; Students' perceptions of educational environment in a medical school experiencing curricular transition in United Arab Emirates;Medical Teacher 2011; 33: e37-e42	116
19	2012	Kossioni AE ¹ , Varela R, Ekonomu I, Lyrakos G, Dimoliatis ID. Students' perceptions of the educational environment in a Greek Dental School, as measured by DREEM. Eur J Dent Educ. 2012 Feb;16(1):e73-8.	112
20	2012	Ali K ¹ , Raja M, Watson G, Coombes L, Heffernan E. The dental school learning milieu: students' perceptions at five academic dental institutions in Pakistan. J Dent Educ. 2012 Apr;76(4):487-94.	115
21	2012	Kavukcu E ¹ , Burgazli KM, Akdeniz M, Bilgili P, Öner M, Koparan S, Yörümez A. Family medicine and sports medicine students' perceptions of their educational environment at a primary health care center in Germany: using the DREEM questionnaire. Postgrad Med. 2012 Sep;124(5):143-50.	139
22	2012	Ostapczuk MS ¹ , Hugger A, de Bruin J, Ritz-Timme S, Rotthoff T. DREEM on, dentists! Students' perceptions of the educational environment in a German dental school as measured by the Dundee Ready Education Environment Measure. Eur J Dent Educ. 2012 May;16(2):67-77.	123
23	2012	Kelly M ¹ , Bennett D, O'Flynn S. General practice: the DREEM attachment? Comparing the educational environment of hospital and general practice placements. Educ Prim Care. 2012 Jan;23(1):34-40	152
24	2012	Foster Page LA ¹ , Kang M, Anderson V, Thomson WM. Appraisal of the Dundee Ready Educational Environment Measure in the New Zealand dental educational environment. Eur J Dent Educ. 2012 May;16(2):78-85.	111
25	2013	Aneela Umer ¹ , Sadia Khan ² , Naila Khawar ³ Medical Student's Perception of Learning Environment in Different Phases of Medical Course ANNALS VOL 19, ISSUE 3, JUL. – SEP. 2013	112
26	2013	Hamid B ¹ , Faroukh A, Mohammadhosein B. Nursing Students' Perceptions of their Educational Environment Based on DREEM Model in an Iranian University. Malays J Med Sci. 2013 Jul;20(4):56-63.	114
27	2013	Al-Mohaimed A ¹ . Perceptions of the educational environment of a new medical school, Saudi Arabia. Int J Health Sci (Qassim). 2013 Jun;7(2):150-9.	112
28	2013	Mojaddidi MA ¹ , Khoshhal KI, Habib F, Shalaby S, El-Bab ME, Al-Zalabani AH. Reassessment of the undergraduate educational environment in College of Medicine, Taibah University, AlmadinahAlmunawwarah, Saudi Arabia. Med Teach. 2013;35Suppl 1:S39-46.	115
29	2013	Jawaid M ¹ , Raheel S, Ahmed F, Aijaz H. Students' perception of educational environment at Public Sector Medical University of Pakistan. J Res Med Sci. 2013 May;18(5):417-21.	114
30	2013	Kiran HS ¹ , Gowdappa BH ² "DREEM" comes true - Students' perceptions of educational environment in an	121

		Indian medical school. J Postgrad Med. 2013 Oct-Dec;59(4):300-5.	
31	2014	Buhari MA ¹ , Nwannadi IA, Oghagbon EK, Bello JM. Students' perceptions of their learning environment at the College of Medicine, University of Ilorin, Southwest, Nigeria. West Afr J Med. 2014 Apr-Jun;33(2):141-5.	108
32	2014	Al-Naggar RA ¹ , Abdulghani M ² , Osman MT ³ , Al-Kubaisy W ¹ , Daher AM ⁴ , Nor Aripin KN ⁵ , Assabri A ⁶ , Al-Hidabi DA ⁷ , Ibrahim MI ⁸ , Al-Rofaai A ⁹ , Ibrahim HS ¹⁰ , Al-Talib H ¹¹ , Al-Khateeb A ¹² , Othman GQ ⁷ , Abdulaziz QA ⁷ , Chinna K ¹³ , Bobryshev YV ¹⁴ . The Malaysia DREEM: perceptions of medical students about the learning environment in a medical school in Malaysia. Adv Med EducPract. 2014 Jun 9;5:177-84.	120
33	2014	Farahmand S ¹ , Bagheri-Hariri S ² , Moghanloo S ³ , BasirGhafouri H ⁴ , Saeedi M ⁵ , Afzalimoghadam M ⁶ , Gao Y ⁷ . Evaluating the quality of the educational environment for medical interns in an emergency department using the DREEM inventory. Acta Med Iran. 2014;52(8):631-7.	135
34	2014	Ousey K ¹ , Stephenson J ² , Brown T ³ , Garside J ² . Investigating perceptions of the academic educational environment across six undergraduate health care courses in the United Kingdom. Nurse EducPract. 2014 Jan;14(1):24-9.	125
35	2014	Khursheed I, Baig L. Students' perceptions of educational environment of a private medical school in Pakistan. J Pak Med Assoc. 2014 Nov;64(11):1244-9.	117
36	2014	Shankar PR ¹ , Bharti R ² , Ramireddy R ³ , Balasubramaniam R ⁴ , Nuguri V ⁴ . Students' perception of the learning environment at Xavier University School of Medicine, Aruba: a follow-up study. J EducEval Health Prof. 2014 May 7;11:9.	151
37	2014	Doshi D ¹ , Reddy BS ¹ , Karunakar P ² , Deshpande K ³ . Evaluating Student's Perceptions of the Learning Environment in an Indian Dental School. J ClinDiagn Res. 2014 Nov;8(11):ZC39-42.	125
38	2014	AlFaris EA, Naeem N ¹ , Irfan F, Qureshi R, van der Vleuten C. Student centered curricular elements are associated with a healthier educational environment and lower depressive symptoms in medical students. BMC Med Educ. 2014 Sep 17;14:192.	100
39	2014	Per J. Palmgren, ¹ Ingrid Lindquist, ² Tobias Sundberg, ² Gunnar H. Nilsson, ² and Klara B. Laksov ¹ Exploring perceptions of the educational environment among undergraduate physiotherapy students Int J Med Educ. 2014; 5: 135–146. Published online 2014 Jul 19.	150
40	2014	H Bakhshi1 , MH Bakhshialiabad2 , Gh Hassanshahi3 Students' perceptions of the educational environment in an Iranian Medical School, as measured by The Dundee Ready Education Environment Measure Bangladesh Med Res Counc Bull 2014; 40: 36-41	114
41	2014	Mona Hmoud Al Sheikh, PhD Educational environment measurement, how is it affected by educational strategy in a Saudi medical school? A multivariate analysis Journal of Taibah University Medical Sciences (2014) 9(2), 115–122	106
42	2014	Shervin Farahmand1 , Shahram Bagheri-Hariri1 , Samaneh Moghanloo2 , HamedBasir Ghafouri3 , Morteza Saeedi1 , Mohammad Afzalimoghadam1 , and Yun Gao4 Evaluating the Quality of the Educational Environment for Medical Interns in an Emergency Department Using the DREEM Inventory ActaMedicaIranica, Vol. 52, No. 8 (2014)	135
43	2015	Emad Nosair, ZeinMirghani and Randa M. Mostafa Measuring Students' Perceptions of Educational Environment in the PBL Program of Sharjah Medical College Journal of Medical Education and Curricular Development 2015:2	113
44	2015	Asmita Ashok Patil ¹ and VijayaLaxman Chaudhari ² Students' perception of the educational environment in medical college: a study based on DREEM questionnaire Korean J Med Educ. 2016 Sep; 28(3): 281–288. Published online 2016 Jun 30.	123
45	2015	Masoud Mohammad Andalib, ¹ Masoud Mohammad Malekzadeh, ¹ Zahra Agharahimi, ² Maede Daryabeigi, ² Bahareh Yaghmaei, ² Mahmoud-Reza Ashrafi, ² Ali Rabbani, ² and Nima Rezaei ^{1,3,4,*} Evaluation of Educational Environment for Medical Students of a Tertiary Pediatric Hospital in Tehran, Using DREEM Questionnaire Iran J Pediatr. 2015 Oct; 25(5): e2362. Published online 2015 Oct 6.	96
46	2015	Tackett S ^{1,2} , Shochet R ³ , Shilkofski NA ⁴ , Colbert-Getz J ⁵ , Rampal K ⁶ , Abu Bakar H ⁷ , Wright S ⁸ . Learning environment assessments of a single curriculum being taught at two medical schools 10,000 miles apart. BMC Med Educ. 2015 Jun 17;15:105.	138
47	2015	Palmgren PJ, Sundberg T, Laksov KB Reassessing the educational environment among undergraduate students in a chiropractic training institution: A study over time. J Chiropr Educ. 2015 Oct;29(2):110-26.	154
48	2015	Cerón Mackay MC ¹ , GarbariniCrisóstomo A ² , ParroFluxá J ³ , Lavín Venegas C ⁴ . Impact of curricular change on the perception of the educational environment by nursing students. Invest EducEnferm. 2015;33(1):63-72.	129
49	2015	Sunkad MA ¹ , Javali S ² , Shivapur Y ³ , Wantamutte A ¹ .	120

		Health sciences students' perception of the educational environment of KLE University, India as measured with the Dundee Ready Educational Environment Measure (DREEM). J EducEval Health Prof. 2015 Jun 27;12:37.	
50	2015	Palés J ¹ , Gual A ¹ , Escanero J ² , Tomás I ¹ , Rodríguez-de Castro F ¹ , Elorduy M ⁵ , Virumbrales M ⁵ , Rodríguez G ² , Arce V ³ . Educational climate perception by preclinical and clinical medical students in five Spanish medical schools. Int J Med Educ. 2015 Jun 8;6:65-75.	116
51	2015	Dreyer A ¹ , Gibbs A, Smalley S, Mlambo M, Pandya H. Clinical Associate students' perception of the educational environment at the University of the Witwatersrand, Johannesburg. Afr J Prim Health Care Fam Med. 2015 Apr 13;7(1).	130
52	2015	Kang I ¹ , Foster Page LA, Anderson VR, Thomson WM, Broadbent JM. Changes in students' perceptions of their dental education environment. Eur J Dent Educ. 2015 May;19(2):122-30.	120
53	2015	Chandran CR ¹ , Ranjan R ¹ . Students' perceptions of educational climate in a new dental college using the DREEM tool. Adv Med EducPract. 2015 Feb 12;6:83-92.	124
54	2015	Bakhshialiabad H ¹ , Bakhshi M ² , Hassanshahi G ³ . Students' perceptions of the academic learning environment in seven medical sciences courses based on DREEM. Adv Med EducPract. 2015 Mar 23;6:195-203.	113
55	2015	Karim J ¹ , Al-Halabi B ² , Marwan Y ³ , Sadeq H ⁴ , Dawas A ⁵ , Al-Abdulrazzaq D ⁵ The educational environment of the undergraduate medical curriculum at Kuwait University. Adv Med EducPract. 2015 Apr 7;6:297-303.	108
56	2015	Belayachi J ¹ , Razine R ^{1,2} , Boufars A ^{1,2} , Saadi A ^{1,2} , Madani N ¹ , Chaour S ³ , Abouqal R ^{1,2} . Moroccan medical students' perceptions of their educational environment. J EducEval Health Prof. 2015 Oct 28;12:47.	91
57	2015	Imanipour M, Sadooghiasl A ¹ , Ghiyavandian S, Haghani H. Evaluating the Educational Environment of a Nursing School by Using the DREEM Inventory. Glob J Health Sci. 2015 Jan 14;7(4):211-6.	104
58	2015	Imran N, Khalid F, Haider II, Jawaid M, Irfan M, Mahmood A, IjlalHaider M, Sami-ud-din. Abstract Student's perceptions of educational environment across multiple undergraduate medical institutions in Pakistan using DREEM inventory. J Pak Med Assoc. 2015 Jan;65(1):24-8.	105
59	2016	Rehman R ¹ , Ghias K ² , Fatima SS ³ , Hussain M ⁴ , Alam F ⁵ . Students' perception of educational environment at Aga Khan University Medical College, Karachi, Pakistan. Pak J Med Sci. 2016 May-Jun;32(3):720-4.	125
60	2016	Barcelo JM ¹ . Medical laboratory science and nursing students' perception of academic learning environment in a Philippine university using Dundee Ready Educational Environment Measure (DREEM). J EducEval Health Prof. 2016 Sep 22;13:33. eCollection 2016.	120
61	2016	Sarwar S ¹ , Tarique S ¹ . Perception of educational environment: Does it impact academic performance of medical students? J Pak Med Assoc. 2016 Oct;66(10):1210-1214.	116
62	2016	Enns SC ¹ , Perotta B, Paro HB, Gannam S, PeleiasM, Mayer FB, Santos IS, Menezes M, Senger MH, Barelli C, Silveira PS, Martins MA, Zen Tempski P. Medical Students' Perception of Their Educational Environment and Quality of Life: Is There a Positive Association? Acad Med. 2016 Mar;91(3):409-17.	119
63	2016	Imran M ¹ , Shamim MS ² , Baig M ³ , Farouq M ¹ , Gazzaz ZJ ⁵ , Al-Mutairi OM ⁶ Tale of two cities: comparison of educational environment of two colleges (Jeddah and Rabigh) affiliated with one university. J Pak Med Assoc. 2016 Mar;66(3):316-9.	124
64	2016	Díaz-Véliz G ¹ , Mora G S ¹ , Escanero JF ² . [Longitudinal perception of the educational environment in two medical schools with traditional curricula in Chile and Spain]. Rev Med Chil. 2016 Nov;144(11):1479-1485.	138
65	2016	Xu X ¹ , Wu D ² , Zhao X ³ , Chen J ³ , Xia J ¹ , Li M ¹ , Nie X ¹ , Zhong X ¹ . Relation of perceptions of educational environment with mindfulness among Chinese medical students: a longitudinal study. Med Educ Online. 2016 Apr 25;21:30664.	112
66	2016	Kim H ¹ , Jeong H ² , Jeon P ² , Kim S ² , Park YB ¹ , Kang Y ³ . Perception Study of Traditional Korean Medical Students on the Medical Education Using the Dundee Ready Educational Environment Measure. Evid Based Complement Alternat Med. 2016;2016:6042967.	95
67	2016	DilaniPerera The Assessment of Undergraduate Physiotherapy Education in Sri Lanka. International Journal of Scientific and Research Publications, Volume 6, Issue 4, April 2016	141
68	2016	Seema Tanaji Methre1 , TanajiSambhaji Methre2 , Nirmala Gopal Borade3 Educational Environment in First Year BDS and BPT Students International Journal of Contemporary Medical Research ISSN (Online): 2393-915X; (Print): 2454-7379 ICV (2015): 77.83 Volume 3 Issue 11 November 2016	133
69	2016	Sylvia Claassen Enns, PhD, Bruno Perotta, MD, Helena B. Paro, MD, SilmarGannam, MD, MuniquePeleias, Fernanda Brenneisen Mayer, MSc, Itamar Souza Santos, MD, Marta Menezes, MD, Maria Helena Senger, MD, CristianeBarelli, MsC, Paulo S.P. Silveira, MD, Milton A. Martins, MD, and	119

		Patricia Zen Tempski, MD Medical Students' Perception of Their Educational Environment and Quality of Life: Is There a Positive Association? Academic Medicine, Vol. 91, No. 3 / March 2016	
70	2016	Masuda Mohsenal , Smita Debsarma2 , Mainul Haque3* Determining the Quality of Educational Climate in a Private Medical College in Bangladesh via the 'Dundee Ready Education Environment Measure' Instrument J Young Pharm, 2016; 8(3): 266-274 Journal of Young Pharmacists, Vol 8, Issue 3, Jul-Sep, 2016A multifaceted peer reviewed journal in the field of Pharmacy www.jyoungpharm.org www.phcog.net	123
71	2017	Tomás I ¹ , Aneiros A ¹ , Casares-de-Cal MA ¹ , Quintas V ¹ , Prada-López I ¹ , Balsa-Castro C ¹ , Ceballos L ² , Gómez-Moreno G ³ , Llena C ⁴ , López-Jornet P ⁵ , Machuca MC ⁶ , Palés J ⁷ . Comparing student and staff perceptions of the "Educational Climate" in Spanish Dental Schools using the Dundee Ready Education Environment Measure. Eur J Dent Educ. 2017 May 15.	105
72	2017	Tomás I ¹ , Aneiros A ¹ , Casares-de-Cal MA ¹ , Quintas V ¹ , Prada-López I ¹ , Balsa-Castro C ¹ , Ceballos L ² , Gómez-Moreno G ³ , Llena C ⁴ , López-Jornet P ⁵ , Machuca MC ⁶ , Palés J ⁷ . Comparing student and staff perceptions of the "Educational Climate" in Spanish Dental Schools using the Dundee Ready Education Environment Measure. Eur J Dent Educ. 2017 May 15.	123
73	2017	Rehman R ¹ , Ghias K ¹ , Fatima SS ¹ , Hussain M ² , Alam F ¹ . Dream of a conducive learning environment: One DREEM for all medical students! J Pak Med Assoc. 2017 Jan;67(1):7-11.	126
74	2017	Victor G ¹ , Ishtiaq M ¹ , Parveen S ¹ . Nursing students' perceptions of their educational environment in the bachelor's programs of the Shifa College of Nursing, Pakistan. J EducEval Health Prof. 2016 Dec 25;13:43.	119
75	2017	Deepsha James, Susan Mani, Anna Mathew, Saravana Kumar Velusamy Perceptions of the educational environment at entry and exit of medical students to clinical teaching in a rural medical college IJRMS DOI: http://dx.doi.org/10.18203/	160
76	2017	Abdullah H. Altemani ¹ and Tariq H. Merghani ² The quality of the educational environment in a medical college in Saudi Arabia Int J Med Educ. 2017; 8:128-132;	101
77	2018	Gowda P. Prashanth ¹ and Salim K. Ismail;The Dundee Ready Education Environment Measure A prospective comparative study of undergraduate medical students' and interns' perceptions in Oman Sultan QaboosUniv Med J. 2018 May; 18(2): e173-e181. Published online 2018 Sep 9.	131
78	2018	Yasar Ahmed ¹ , Mohamed H. Taha ² , Salma Al-Neel ³ and Abdelrahim M. Gaffar ⁴ Students' perception of the learning environment and its relation to their study year and performance in Sudan Int J Med Educ. 2018; 9:145-150;	122
79	2018	M. S. Ostapczuk A. Hugger J. de Bruin S. Ritz- Timme T. Rothhoff DREEM on, dentists! Students' perceptions of the educational environment in a German dental school as measured by the Dundee Ready Education Environment Measure Nicole Stormon, Pauline J. Ford and Diann S. Eley, DREEM- ing of dentistry: Students' perception of the academic learning environment in Australia, <i>European Journal of Dental Education</i> , 23 , 1, (35-41), (2018).	123
80	2018	SamarAl-Saleh ¹ EbtissamM.Al-Madi ² BalqeemAlMufleh ³ Al-HanoofAl-DegheishemEducational environment as perceived by dental students at King Saud UniversityThe Saudi Dental Journal Volume 30, Issue 3, July 2018, Pages 240-249	108
81	2018	Monica Gupta ^{1*} , Sarabmeet Singh Lehl ¹ , Ram Singh ¹ The Educational Environment of the Indian Undergraduate Medical Students: Is it Good Enough? Journal of The Association of Physicians of India ■ Vol. 66 ■ January 2018	118
82	2018	Safari-Moradabadi A, Kasmaei P, KhalfeNilsaz M, Moradi M, Ahmady F, Mohammadloo A, Mohammadkhah F, Evaluation of the Learning Environment based on the Dundee Ready Education Environment Measure Model from the Perspective of Primary School Students in Roudsar City, J Res Med Dent Sci, 2018, 6 (1): 140-145.	160
83	2019	AvinashJnaneswar, Vinay Suresan, KunalJha, Diptajit Das, GouthamBalaSubramaniam, GunjanKumar;Students' perceptions of the educational environment measured using the Dundee Ready Education Environment Measure inventory in a dental school of Bhubaneswar city, Odisha J Indian Assoc Public Health Dent 2016;14;182-7	119
84	2019	Pablo Quiroga-Maraboli ¹ , Marcela Andrea Antúnez-Riveros ² , Marcela Aguirre-Jerez ³ , Alvaro BesoainSaldaña ⁴ , José Peralta-Camposano ⁵ , María Pilar Ruiz de GaunaBahillo ⁶ Perceptions of the educational environment among undergraduate physical therapy students in a competency-based curriculum at the University of Chile J EducEval Health Prof 2019; 16: 9.	120
85	2019	Sandeep Bavdekar ¹ , Sushma Save ^{2*} , Ashwin Pillai ³ , AM Kasbe ² ; DREEM Study: Students' Perceptions of Learning Environment in a Medical College in Mumbai, India; Journal of The Association of Physicians of India ■ Vol. 67 ■ April 2019	119
86	2010	Baldo, Mohamed Hassan*, Al ObaidSharaf-Eldin, Dadr Ibrahim Abdullah; Medical Education Measuring the medical educational environment at AlzaiemAlazhari University; Khartoum Medical Journal (2010) Vol. 03, No. 03, pp. 500 - 507	92

RESULTS



Graph 1. Showing the distribution of Overall DREEM Score

Summary of DREEM	
Valid N	86.00
Minimum	90.00
Maximum	160.00
Mean	119.88
Median	119.00
SD	15.57
SE	1.68
Q1	110.00
Q3	126.00
Quartile range	16.00

Text: There are 120 studies collected through PubMed and Google Scholar and only 86 studies [Table 1.] fit into our inclusion criteria. These studies are listed in their chronological order. Saudi Arabia, Sri Lanka, India, Ireland, Kuwait, Malaysia, Chile, West Indies, UAE, New Zealand, Greece, Pakistan, Germany, Iran, Nigeria, UK, Spain, Africa, Morocco, Philippines, China, Korea, Bangladesh, Sudan, Australia, Sweden

The salient features of these studies are: The average overall DREEM Score is 119 (Range 90-170).[Graph 1]

There is over emphasis on factual learning. The teachers are dominant and knowledgeable.

The overall DREEM Score is good enough to measure the health of EE, a score of 119 is average rating, students have unmet needs to be satisfied. The EE is surely crucial for student's learning but learning too occurs while doing something,

along with peers and not necessarily with teachers. ^[9] How children pass through developmental stages like changing sides, able to sit, stand walk, talk are a testimonial for experiential learning. The DREEM Tool is easy and versatile tool to collect student perceptions suitable and found valid across the globe. In our review the distribution of "Overall DREEM Scores" takes near Normal Bell shape (Graph 1).

CONCLUSION

The EE for health science students is just more positive than negative as per systematic review. The EE can be enriched with graded patient care activities in place of factual learning.

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