



Students' Perceptions of Teacher Feedback and the Educational Environment as Measured by DREEM in a Medical Faculty in Sri Lanka

Authors

Mudiyanse R.M¹, Pallegama R², Marambe K.³

¹Department of Paediatrics, Faculty of Medicine University of Peradeniya, Sri Lanka

²Department of Basic Sciences, Faculty of Dental Sciences, University of Peradeniya, Sri Lanka

³Medical Education Unit, Faculty of Medicine University of Peradeniya, Sri Lanka

ABSTRACT

Students' perceptions of the educational environment reflect their satisfaction, behaviour, achievements and final outcome. Although the DREEM score at the Medical Faculty in the current study was satisfactory, some items demonstrated low scores. Negatively scored items as a whole suggested the existence of drawbacks in relation to giving student feedback. Therefore a focused evaluation of various facets of students' perception of teacher feedback was planned. A tailor-made pretested questionnaire called 'Students' Perceptions of Teacher Feedback Questionnaire (SPTFQ)' with 12 items was administered along with the DREEM to the final year students. Of the 137 out of 212 final year students available on the day of the study, 113 (75%) responded to the questionnaire. Cronbach alpha of DREEM and SPTFQ were 0.81 and 0.80 respectively. Low scoring DREEM items includes; lack of a support system, students getting tired, authoritarian teachers, the course been boring, presence of cheating, emphasis on factual knowledge, difficulty in memorising and teachers getting angry. The SPTFQ revealed that 14%, 17% and 14% of students perceive that teachers rarely 'appreciate good things', 'support to correct errors' and 'encouraged to study' respectively, while 48%, 37%, 28% of the responses indicated that teachers some time or even more frequently either 'confused', 'humiliated' or 'discriminated' students. SPTFQ score was correlated with SPoL, SPoT and SPoA, (Correlation Coefficient (sig 2 tailed)-0.279(0.003), - 0.242, (0.01) - 0.229 (0.015) but not with SASP and SSSP. Student's perceptions of Teacher feedback highlighted significant deficiencies that need early correction even though the overall DREEM score was satisfactory.

Key words – Education environment, teacher's feedback, student's perceptions DREEM

INTRODUCTION

Educational environment has a significant impact on realising intended learning outcomes. On the other hand, students' perceptions of their learning environment have an impact on their behaviour, satisfaction, achievements, and success. ^[1,2] Students' perception of the educational environment

would also be a fundamental indicator of a successful curriculum. At present undergraduate medical curricula are expanding and a trend of incorporation of innovative teaching methods is commonly seen. Such changes may become an additional stress on medical students. In addition, clinical teaching creates a challenging stressful environment unless students have been prepared for

the task in advance.^[3] Dundee Ready Education Environment Measure (DREEM) was developed as a universal inventory to identify problems in the educational environment.^[4]

It is also highlighted that quality of teachers' feedback plays a major role in students' perception about the educational environment.^[1] This study investigated students' perception of teacher feedback and its relationship with DREEM score in a medical school in Sri Lanka.

METHOD

Entire batch of students of the 2007/2008 who participated at a conveniently selected lecture were invited for the study. The DREEM and Students' Perception of Teachers Feedback Questionnaire (SPTFQ) were administered simultaneously at the end of the lecture to all participating students. Participation was voluntary and anonymous.

SPTFQ is a tailor made questionnaire developed based on written and verbal information obtained from students through several focus group discussions aimed at identifying factors contributing to increased level of psychological stress. The research team initially designed a 20-item questionnaire. Subsequent, content analysis by experts and pretesting resulted in a shorter version with 12 items. The response key of the SPTFQ is a Likert scale ranging from 1 to 5, in which 1 denoted always and 5 denoted never. Item numbers 4, 5, 8, 11, and 12 were reverse scored. Maximum average score for the SPTFQ was 60 (100%) and minimum score was 12 (20%). Minimum score in the SPTFQ indicates the least stress. SPTFQ was designed to focus on individual discipline separately enabling students to express their perception considering strengths and weaknesses of each clinical program.

The DREEM has 50 closed ended self administered questions; each of the questions classified to one of the five subscales: Students' perception of learning (SPoL-12 items); Students' perceptions of teachers (SPoT-11 items); Students' academic self-perceptions (SASP- 8 items); Students' perceptions of atmosphere (SPoA- 12 items) and Students' social self-perceptions (SSSP-7 items). Students are

expected to respond to each of the questions on a scale of "Strongly agree", "Agree", "Unsure or uncertain", "Disagree" or "Strongly disagree" that is scored as 4, 3, 2, 1 or 0 respectively. However item numbers 4, 8, 9, 17, 25, 35, 39, 48 and 50 are reversed scored. The maximum score of DREEM is 200. The results of the DREEM are interpreted as individual items, subscales or the overall score. Total scores above 150(75%) will be considered as excellent performance while scores between 100-150 (50-75%) will be considered good. Scores below 100 are reason for concern and remedial actions. Regarding individual items average scores less than 2 indicate need for attention while above 3.5 indicate excellence in performance.^[4,5]

Responses to DREEM and SPTFQ were analysed using SPSS. Responses for the SPTFQ were pooled for the final analysis in this study. Results of SPTFQ were correlated with all the subscales of the DREEM questionnaire.

RESULTS

Out of 212 students 137 students were present for the study, 113 have responded to the questionnaire. Response rate was 75%. The response pattern of students to the SPTFQ is depicted in table 1, while mean scores of SPTFQ items are given in table 2. Average total score for SPTFQ was 46%. Cronbach alpha of DREEM and SPTFQ were 0.81 and 0.80 respectively. It was observed that 14%, 17% and 14% of the responses indicated that teachers 'rarely or never' appreciate good things, how to correct errors and encouraged to study respectively while 48%, 37%, 28% of the responses indicated that teachers 'always', "most of the time" or "some time" either 'confused', or 'humiliated' 'discriminated' students (table 1). The scores for individual items according to subscales are given in table 3-7. Total DREEM score was 62.8 % and SPoT, SPoL, ASP and SSP scale scores were 66.6%, 63.9%, 64.4%, 59.7% and 59.3 % respectively (table 2). Total SPTFQ correlated with SPoL, SPoT and SPoA, (Correlation Coefficient (sig 2 tailed) -0.279(0.003), - 0.242, (0.01) - 0.229 (0.015) but FPQ scores did not correlate with SASP and SSSP.

Table 1 Student's responses (%) and total number of responses to each item in the Students Perception Feedback Questionnaire (SPTFQ) and average score for each item (% out of the maximum possible score of 5)

	Number of responses marked as (% of total responses)					Total number of responses	Average score (% of maximum)
	Always	Most of the time	Some time	Rarely	Never		
1. Good things about my performance were told	53 (11%)	203 (43%)	150 (32%)	42 (9%)	24 (5%)	472 (100%)	2.40 (51%)
2. Missing points in my performance were corrected	74 (16%)	211 (45%)	125 (27%)	38 (8%)	23 (5%)	471 (100%)	2.29 (48%)
3. Errors in my performance were told	87 (19%)	199 (44%)	120 (26%)	35 (8%)	13 (3%)	454 (100%)	2.15 (46%)
4. I was confused about what is expected from me	11 (2%)	50 (10%)	177 (36%)	178 (36%)	75 (15%)	491 (100%)	2.44 (50%)
5. I felt humiliated (ashamed)	4 (1%)	18 (4%)	142 (32%)	155 (35%)	128 (29%)	447 (100%)	2.13 (43%)
6. I was told how to correct my deficiencies	19 (4%)	256 (55%)	111 (24%)	54 (12%)	28 (6%)	468 (100%)	2.38 (52%)
7. The feedback encouraged me to study	76 (17%)	206 (45%)	112 (24%)	39 (8%)	26 (6%)	459 (100%)	2.11 (48%)
8. I wished if I didn't have that feed back	7 (2%)	37 (8%)	52 (11%)	142 (31%)	219 (48%)	457 (100%)	1.78 (37%)
9. I realized my capabilities	45 (10%)	298 (64%)	85 (18%)	22 (5%)	13 (3%)	463 (100%)	2.10 (45%)
10. My performance was appreciated	39 (8%)	205 (44%)	158 (34%)	41 (9%)	21 (5%)	464 (100%)	2.43 (51%)
11. I felt that I was discriminated	7 (2%)	14 (3%)	96 (23%)	165 (40%)	131 (32%)	413 (100%)	1.87 (41%)
12. I felt I might fail my final examination	4 (1%)	30 (6%)	173 (37%)	139 (30%)	123 (26%)	469 (100%)	2.22 (45%)

Table 2 DREEM scores (total and subsets) of the final year medical students in the Faculty of Medicine Peradeniya

	MEAN of the TOTAL
1. Student perception of learning (SPoL) maximum score 48	31.96(66.59%)
2. Student perception of teachers (SPoT) maximum score 44	28.11 (63.88%)
3. Students academic self perception (SASP) maximum score 32	20.62 (64.44%)
4. Students perception of atmosphere (SPA) maximum score 48	28.65 (59.68%)
5. Students Social Self Perception (SSSP) maximum score 28	16.60 (59.28%)
Total DREEM score (percentage of the maximum score of 200)	125.94(62.97%)

Table 3 DREEM score according to subsets and items in each subsets

	Item of the DREEM	Average	%
Students Perception of Learning (SPoL) 12 items	1. I am encouraged to participate during teaching sessions	3.18	80%
	7. The teaching is often stimulating	2.97	74%
	13. The teaching is student centered (fulfil the learning need of students)	2.7	68%
	16. The teaching helps to develop my competence	3.11	78%
	20. The teaching is well focused	2.79	70%
	22. The teaching helps to develop my confidence	2.98	75%
	24. The teaching time is put to good use	2.76	69%
	25. The teaching over emphasizes factual learning over other skills *	1.76	44%
	38. I am clear about the learning objectives of the course	2.18	55%
	44. The teaching encourages me to be an active learner	2.7	68%
	47. Long term learning is emphasized over short term learning	2.7	68%
	48. The teaching is too teacher centered (teacher does not look in to students needs) *	2.16	54%
	Average and % score for students perception of learning (SPoL)	2.67	67%
Student perception of teachers (SPoT) 11 items	2. The teachers in this faculty are knowledgeable	3.62	91%
	6. The teachers demonstrate respect towards patients opinion	2.97	74%
	8. The teachers ridicule the students*	2.09	52%
	9. The teachers are authoritarian (strict) *	1.67	42%
	18. The teachers have good communication skills with patients	2.99	75%
	29. The teachers are good at providing feedback to students	2.67	67%
	32. The teachers provide constructive criticism here	2.66	67%
	37. The teachers give clear examples	2.76	69%
	39. The teachers get angry in teaching sessions*	1.97	49%
	40. The teachers are well prepared for their teaching sessions	2.75	69%
	50. The students irritate their teachers *	1.97	49%
	Average score and % for students perception of teachers (SPoT)	2.56	64%
Students academic self perception (SASP) 8 items	5. Learning strategies which worked for me before continue to work for me now	2.43	61%
	10. I am confident about my passing this year	2.85	71%
	21. I feel I am being well prepared for my profession	2.84	71%
	26. Last year's work has been a good preparation for this year's work	2.65	66%
	27. I am able to memorize all I need	1.33	33%
	31. I have learnt a lot about empathy in my profession	2.94	74%
	41. My problem solving skills are being well developed here	2.63	66%
	45. Much of what I have to learn seems relevant to a career in healthcare	2.95	74%
	Average score and % for students academic self perception (SASP)	2.58	64%
Students perception of atmosphere (SPOA) 12 items	11. The atmosphere is relaxed during consultation/clinic teaching	2.16	54%
	12. This program is well timetabled	2.33	58%
	17. Cheating is a problem in this faculty *	1.61	40%
	23. The atmosphere is relaxed during lectures	2.62	66%
	30. There are opportunities for me to develop interpersonal skills	2.74	69%
	33. I feel comfortable in class socially	2.83	71%
	34. The atmosphere is relaxed during seminars / tutorials	2.64	66%
	35. I find the experience disappointing *	2.16	54%
	36. I am able to concentrate well	2.51	63%
	42. The enjoyment outweighs the stress of the course	1.99	50%
	43. The atmosphere motivates me as a learner	2.53	63%
	49. I feel able to ask the questions I want	2.52	63%
	Average score and % for students perception of atmosphere (SPOA)	2.39	60%
Students social self perception (SSSP) 7 items	3. There is a good support system for students who get stressed	1.92	48%
	4. I am too tired to enjoy the education program in the faculty*	1.8	45%
	14. I am rarely bored during this course	1.85	46%
	15. I have good friends in this faculty	3.21	80%
	19. My social life is good (the course did not interfere with my social life)	3.01	75%
	28. I seldom feel lonely	2.08	52%
	46. My accommodation is pleasant	2.73	68%
	Average score and % for students social self perception (SSSP)	2.37	59%

*Item with numbers 25, 48, 8,9 35,50, 17, 35 and 4 are given reversed score

DISCUSSION

DREEM has been used widely in research for many purposes; comparison of deferent educational environments.^[6] evaluation of the newly established institutions,^[7,8] compare deferent stages of a curriculum,^[9] progress of the performance of institutions and at national surveys.^[10] However some of the studies report inconsistency and variability of subscales.^[11,12]

Current study endorsed the view that DREEM alone has little value in identifying remedial measures, thus combine methods to identify remediable problems is advocated.^[5,13,14]

DREEM scores in our study were higher than previous reports from FoMUP as well as from other Sri Lankan medical faculties^[8,15] and some medical faculties in Greece, Dubai and India.^[14] However, DREEM scores of FoMUP were lower than those from Australia, Nepal, UK, and New Zealand^[5] Items related to student support system, cheating in the faculty, stress of the curriculum, students being tired, difficulty in memorising content, course been boring, strictness of teachers, teachers over emphasising factual knowledge, teachers getting angry and students irritating teachers scored less than 50% indicating need for attention. Items related to knowledge of teachers, encouragement to participate in learning, developing competence, having good friends and social life scored over 75% and these are the strengths of the existing final year program. It is interesting to note that students' perception of the social life had been satisfactory in spite of minimal facilities available. These results are similar to those reported by Kaluarachchi and Marambe (2011) and some international studies.^[16]

Evaluation of DREEM scores alone would have contented the faculty, as the score seems to be improving and comparable to those of other faculties in the region. However, Students' perception about cheating is of concern. Therefore, differentiation of actual cheating from students' perception about cheating is an area that warrants investigation.

According to the design SPTFQ score is an indicator of the degree of stress caused by teacher feedback. Therefore higher scores indicate higher level of stress. More than 10% of pooled responses have indicated important omissions by teachers, such as appreciating, correcting errors and encouraging. Nearly half of the students felt that they were confused by teachers' feedback some time or even more frequently. Humiliation and shaming reported by students is also higher than 40%. Therefore it can be interpreted that assessments and feedback seems to have been poorly perceived by students according to SPTFQ. As Veloski (2006) pointed out improper feedback causes stress, embarrassment, suppress students and result in deterioration of relationships and educational impact. Confusions of feedback as a means of finding errors and weakness have curtailed the value of appreciations in education. The final year students' perceptions could well be a reflection of the quality of feedback given by teachers,^[10] that in turn will depend on teachers competencies in mentorship, learner-centeredness and interpersonal and communication skills.^[17] Giving feedback should be a trained and conscious effort to enhance learning. Scientifically developed, contextually feasible methods of giving feedback are accessible in the literature.^[18,19] Thus the results of the current study mandate careful planning of remedial action. It would be desirable to enhance the skills of teachers in relation to giving student feedback in order to make learning a pleasant and constructive experience.

Noteworthy is the fact that the DREEM item in relation to teachers' skills in giving feedback scored a mean of 2.7 (67%) creating an impression of good performance. However, in-depth probing among the same group of students made it obvious that students' perceptions in relation to some aspects of providing feedback by teachers are not satisfactory. Therefore in addition to interpreting DREEM scores, paying attention to specific competencies of teachers and exploring

them further would be a valuable exercise in evaluation of education programmes.

CONCLUSIONS

Students' perception about teachers' feedback highlighted significant deficiencies of commissions as well as omissions that need attention even though the DREEM scores are within the satisfactory range. Therefore education environment seen through DREEM may not reveal all deficiencies or strengths unless focused evaluations are performed.

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