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WEB PAPER

Students' perceptions regarding educational environment in an Indian dental school

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Abstract

Background: As one of India's premier dental schools, the Manipal College of Dental Sciences, Manipal, has strived to be in the forefront of dental education ever since its inception in 1965. But one of our main drawbacks has been the lack of students' perceptions about the educational atmosphere in our institution.

Aim: (1) To understand the students' perceptions of the educational environment. (2) To compare the results with those of other dental/medical schools.

Methods: Dundee Ready Education Environment Measure (DREEM) was used to gather information about the environment in our institution. The same was administered to first year and final year students (63 each).

Results: The main area of convergence of both groups was that the social atmosphere was not very congenial. But the thought provoking finding was that both groups felt that the teachers were authoritarian.

Conclusion: The lack of congenial atmosphere in our institution seems to be due to the attitude of the course organizers. A need for makeover in attitudes and approach on the part of the teachers to make the learning experience more pleasant for the students was made obvious by this study.

Introduction

The emerging picture of dental education in India is quite fascinating. On one hand we see a mushrooming of dental schools, at the last count 268 in number up from less than a hundred a few years ago, while on the other hand we witness even some of the established schools struggling to attract students and seats go abegging.

The Manipal College of Dental Sciences, the first self-financing dental school in India was established in 1965 and has an intake of 100 students in the undergraduate course, per annum. It attracts students from all over India as well as from 32 other countries. This institution is rated in the 5 star category by the National Assessment and Accreditation Committee and has been awarded the ISO 9001-2000 certification. In our constant endeavour to maintain world class standards, we have adopted best practices from around the world. But one major draw back has always been the lack of students' perceptions about the academic as well as overall educational atmosphere of the institution. To fill this lacuna we decided to conduct a study to ascertain the students' perceptions.

Objectives

- (1) To understand the students' perceptions of the educational and social environment of the institution.
- (2) To evaluate the differences if any, in the perception of the environment between the first and final year students.

Practice points

- Understanding the students' perceptions of the academic environment is a must.
- The DREEM questionnaire did the job admirably.
- The academic atmosphere was not very congenial due to the course organizers' authoritarian attitude, according to the students.
- A make over on the part of the teachers with respect to approach and attitude towards students has been made obvious.

- (3) To compare and contrast the results with those of other dental/medical schools.

Material and methods

Dundee Ready Education Environment Measure (DREEM) was used to gather information about the educational environment in our institution. It was originally developed at Dundee and has been validated as a universal diagnostic inventory for assessing the whole or parts of the educational environment (Roff et al. 1997). The DREEM questionnaire was administered to first year ($n=63$) and final year ($n=63$) dental students towards the end of their academic year.

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The DREEM inventory contains 50 statements relating to various subscales directly relevant to education climate. The subscales are as follows:

- Students' perceptions of Learning (SPL) – containing 12 items with a maximum score of 48.
- Students' perceptions of Teachers (SPT) – containing 11 items with a maximum score of 44.
- Students' Academic Self Perception (SASP) – containing 8 items with a maximum score of 32.
- Students' perceptions of Atmosphere (SPA) – containing 12 items with a maximum score of 48.
- Students' social self-perceptions (SSSP) – containing 7 items with a maximum score of 28.

Scoring the DREEM

Each DREEM item was scored 0 to 4 with scores 4, 3, 2, 1 and 0 assigned for strongly agree, agree, uncertain, disagree and strongly disagree, respectively. Negative items were scored in the reverse manner. The data was collected and the groups were compared using the statistical package SPSS (Students *t*-test).

Results

The data was analysed and the results were as follows. (Table 1 shows the mean domain scores for the first year and final year students.)

Students' perceptions of learning (SPL)

The first year students had a more positive perception of learning (31/48) whereas the final years' viewed teaching negatively (24/48) and the differences were statistically significant.

Students' perception of teachers (SPT)

The perception of the first years' about teachers was more positive (27/44) whereas the final years' felt that teachers needed some retraining (22/44) and here also the difference was statistically significant.

Students' academic self perception (SASP)

Regarding the perception of students about their academics, again the first years' had a more positive attitude (19/32), whereas the final years' viewed academics quite negatively (15/32), leading to a statistically significant result.

Students' perception of atmosphere (SPA)

Here also the first years' had a more positive attitude (31/48) whereas the final years' felt that many issues needed to be changed (23/48). And this was also statistically significant.

Student's social self-perceptions (SSSP)

In our study the only area where the opinions of both the groups of respondents converged was in their perception of the social atmosphere where both the groups felt that the social atmosphere was not very congenial. (First year – 14/28; Final year – 12/28) (Table 3).

When the overall scores were interpreted it showed that both groups had more positive views about the educational environment. The mean total DREEM score was found to be 116/200 for the first year students and 114/200 for the final year students.

In order to pinpoint the specific strengths and weaknesses within the educational climate, we decided to analyse the individual items. The items that have a mean score of 3.5 or above are real positive points. And any item with a mean of 2 or less should be examined more closely as they indicate problem areas. Items with a mean score between 2 and 3 are aspects of the climate that could be enhanced. In our study the statement that scored the least was the one stating that the course organizers are authoritarian. The final years' ranked it first and the first years' ranked it second.

The subclass which had most statements in the problem areas range was the SSSP (social self perceptions) subscale for final years', whereas for the first years' it was the SPL (students' perception of learning).

The best score given by final years' was for the statement that the course organizers are knowledgeable but even here it was in the 'climate that could be enhanced' area only. The highest score by the first years was for the statement – I am confident of passing this year which also did not fall in the real positive area (Table 2).

On further analysis, we found that only 6% of the statements of the first years' were in the 'problem areas' and 94% were in the 'climate that could be enhanced' area. In comparison, 28% of the statements of the final years' in the study were in the 'problem areas' and 72% were in the 'climate that could be enhanced' area (Figure 1).

Discussion

In order to get the best out of anyone, whether a student or a teacher, the working environment has to be optimal. If it is congenial, the end result is definitely going to be better than if the environment were to be stressful or not so congenial. The fact that more than a quarter of the statements were scored in the problem areas by students who have spent almost 4 years

Table 1. Mean (SD) DREEM domain scores for first year and final year dental students.

Domain	First year	Final year
Students perception of learning	2.73 (0.38)	2.10 (0.56)
Students perception of teachers	2.66 (0.41)	2.28 (0.56)
Students academic self perception	2.74 (0.50)	2.10 (0.60)
Students perceptions of atmosphere	3.92 (0.47)	2.11 (0.61)
Students social self-perceptions	2.69 (0.39)	2.11 (0.64)
Total DREEM domain score	14.74 (0.54)	10.70 (0.07)
Total DREEM item score for the group	116 (0.91)	114 (1.12)

Table 2. Mean (SD) DREEM item scores in which significant differences were observed between first year and final year dental students.

Domain	Number	Item	First year	Final year	p-value
SPL	1	I am encouraged to participate in teaching sessions	3.03 (0.64)	2.26 (1.11)	0.000
	7	The teaching is often stimulating	2.96 (0.53)	2.01 (1.02)	0.002
	13	The teaching is registrar centered	2.80 (0.87)	2.20 (1.22)	0.001
	16	The teaching helps me to develop my confidence	2.82 (0.92)	2.28 (0.99)	0.01
	20	The teaching is well focused	3.09 (0.66)	2.47 (0.83)	0.000
	21	I feel I am being well prepared for my profession	3.12 (0.83)	1.73 (1.04)	0.000
	25	The teaching overemphasizes factual learning	1.46 (0.96)	1.42 (0.86)	0.01
	38	I am clear about the learning objectives of the course	2.92 (0.82)	2.52 (0.830)	0.001
	44	The teaching encourages me to be an active learner	2.98 (0.77)	2.09 (1.05)	0.000
	47	Long term learning is emphasized over short term learning	2.79 (0.86)	2.25 (1.03)	0.2
SPT	48	The teaching is too centered	1.93 (1.02)	1.5890.94)	0.002
	2	The course organizers are knowledgeable	3.28 (0.58)	2.96 (0.71)	0.07
	6	The course organizers espouse a patient centered approach to consulting	2.46 (0.96)	1.88 (1.01)	0.001
	8	The course organizers ridicule their registrars	2.34 (1.17)	1.71 (1.00)	0.000
	9	The course organizers are authoritarian	1.66 (1.07)	1.09 (0.99)	0.001
	18	The course organizers appear to have effective communication skills with patients	2.92 (0.65)	2.88 (0.78)	0.006
	29	The course organizers are good at providing feed back to registrars	2.84 (0.86)	2.11 (1.06)	0.000
	32	The course organizers provide constructive criticism here	2.61 (0.86)	2.11 (1.16)	0.5
	37	The course organizers give clear examples	3.00 (0.69)	2.52 (0.91)	0.000
	39	The course organizers get angry in teaching sessions	2.41 (0.87)	2.12 (0.02)	0.009
SASP	50	The registrars irritate the course organizers	2.61 (0.95)	2.17 (1.11)	0.04
	5	Learning strategies which worked for me before continue to work for me now	2.57 (0.97)	1.96 (1.07)	0.001
	10	I am confident about passing this year	3.36 (0.84)	2.50 (1.07)	0.002
	22	I feel I am being well prepared for my profession	3.01 (0.75)	2.14 (1.04)	0.000
	31	I have learnt a lot about empathy in my profession	2.59 (0.89)	2.25 (1.06)	0.000
SPA	45	Much of what I have to learn seems relevant to a career in health care	3.04 (0.81)	2.34 (1.01)	0.000
	11	The atmosphere is relaxed during consultation and teaching	2.93 (0.87)	2.31 (1.11)	0.000
	12	The course is well time tabled	3.17 (0.81)	2.52 (1.20)	0.001
	17	Cheating is a problem in this course	2.12 (1.23)	1.49 (1.31)	0.002
	23	The atmosphere is relaxed during lectures	2.90 (0.85)	2.63 (1.00)	0.000
	30	There are opportunities for me to develop interpersonal skills	3.03 (0.76)	2.15 (1.08)	0.000
	33	I feel comfortable in teaching sessions socially	2.88 (0.740)	2.34 (1.00)	0.006
	34	The atmosphere is relaxed during seminars/tutorials	2.77 (0.92)	2.11 (1.07)	0.001
	35	I find the experience disappointing	2.80 (0.96)	1.87 (1.19)	0.000
	36	I am able to concentrate well	2.90 (0.66)	2.17 (1.05)	0.000
SSSP	42	The enjoyment outweighs the stress of studying medicine	2.38 (0.99)	1.46 (1.05)	0.000
	43	The atmosphere motivated me as a learner	2.84 (0.840)	2.01 (1.08)	0.000
	49	I feel able to ask the questions I want	2.46 (1.10)	2.23 (1.07)	0.01
	3	There is a good support system for registrars who get stressed	2.46 (0.99)	1.36 (1.03)	0.001
	4	I am too tired to enjoy this course	2.15 (0.98)	1.96 (1.07)	0.002
	14	I am rarely bored on this course	2.26 (1.01)	1.63 (1.11)	0.001
SASP	15	I have good friends in this course	3.06 (0.94)	2.74 (1.10)	0.000
	28	I seldom feel lonely	2.69 (0.81)	1.98 (1.22)	0.000
SSSP	46	My accommodation is pleasant	2.98 (0.79)	2.60 (1.00)	0.000

Table 3. Mean DREEM item scores in which significant differences were not observed between first year and final year dental students.

Domain	Item no.	Item	Final year	First year	p-value
SSP	19	My social life is good	3.22 (0.60)	2.41 (1.14)	0.806
SPL	24	The teaching time is put to good use	2.82 (0.94)	2.34 (1.10)	0.107
SASP	26	Last years work has been a good preparation for this years work	2.25 (0.96)	2.14 (1.09)	0.859
SASP	27	I am able to memorize all I need	2.47 (1.06)	1.47 (1.01)	0.546
SPT	40	The course organizers are well prepared for their teaching sessions	3.09 (0.73)	2.84 (0.78)	0.094
SASP	41	My problem solving skills are being well developed here.	2.57 (0.96)	1.93 (0.93)	0.063

in the institution is certainly a cause for concern. As mentioned earlier the statement that scored the least and the second least in this study by the final years' and first years' respectively was that 'the teachers were authoritarian'.

The DREEM score of our institution when compared with the other studies conducted in Canada (Hettie 2004), Saudi Arabia (Al-Qahtani) and West Indies (Bassaw et al. 2003) was better, showing an overall score of 115/200, but showed

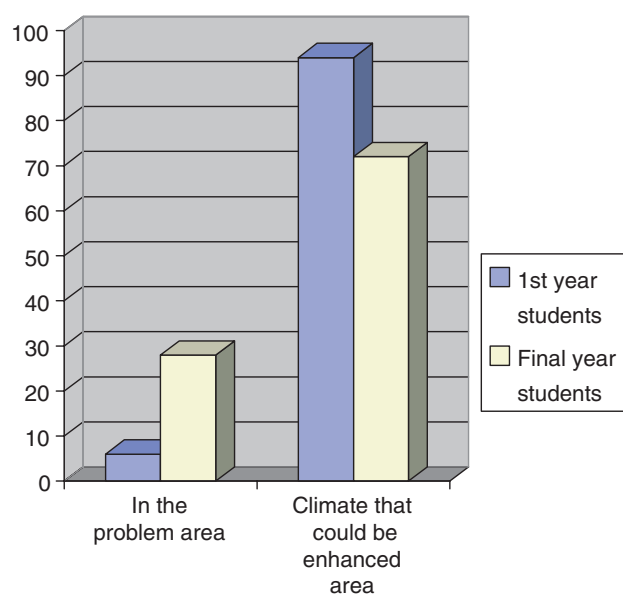


Figure 1. Item mean score for the first and final year students.

a lesser score when compared to a study conducted in a Nepal medical school (Roff et al. 2001).

Stress is unanimously accepted as a major contributing factor which was responsible for the poor performance of students. And this could be due to various reasons. Limited leisure time was the cause in Jordan (Rajab 2001) and Canada (Bradley et al. 1989). Studies done in Australia (Sanders & Lushington 1999) and Europe attributed stress to exam anxiety whereas finance was again a major contributing factor in Canada and Europe. But in our study the teacher related problems seemed to be the main factors. The studies in Saudi Arabia, West Indies, Canada, Nigeria and Nepal were also done using the DREEM questionnaire.

Conclusions

Even though our total DREEM score was in the more positive than negative category we have been made aware of our greatest drawback in providing a congenial environment by this study. And that draw back is undoubtedly we the teachers. We have understood that a makeover in attitudes and

approach is needed on our part to make the learning experience worthwhile for our students and to mould their future. The education environment is of utmost importance because the aim of education, to paraphrase Debois, is 'not to make human beings professionals, so much as to make professionals more humane'.

Declaration of interest: None of the authors have any conflict of interest.

Notes on contributors

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