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# Dental Students' Perceptions of Learning Environment in Guilan University of Medical Sciences

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**ABSTRACT**

**Background and aim:** This study aimed to assess dentistry students' understanding of the educational environment of Guilan University of Medical Sciences in two Basic and clinical fields.

**Materials and methods:** This cross-sectional descriptive study was conducted in the academic year of 2016-17 at the Faculty of Dentistry, Guilan University of Medical Sciences. For this purpose, a sample of 190 students was selected in both the primary and clinical fields. Assess the learning environment, DREEM's Assessment Questionnaire (DREEM) questionnaire consisted of 50 questions in 5 areas of learning, professors, student perception of their ability, educational background, and student perception of their social status. Data were analyzed using descriptive statistics and the Mann-Whitney test in SPSS Ver 16 software.

**Results:** The findings showed that the average total score of educational and learning environments in the Basic Section was 108.22 in the maximum of 200, and the Clinical Section was 111.03, which means a favorable threshold. In Basic Section, the lowest average score was 15.28 for self-social understanding, and the highest score was 26.09 for the educational atmosphere, while in the Clinical Section, the lowest and the highest mean scores were 15.81and 26.56 related to the same field of Basic Section.

**Conclusion:** The results showed that the perception of students at two different levels of Basic Science and Clinical Section from the educational environment is favorable, but more attention of the faculty members to reducing the stress of the environment and creating an appropriate environment is essential.

## 1. Introduction

One of the most critical missions of the health system in each community is the training of the committed forces. In dentistry, due to its importance in providing the health of the community, attention is paid to improving the level of education of students at this stage, as it is essential. The high quality of the educational environment can increase the quality of services and promote the community's general health. Miles, Leinster argue that the learning environment means the faculty and students' perception and experience from the environment.[1] The prevailing field of education can also have different effects on learning and teaching to move to or out of the standard of education. And learning motivation is sufficient.[2] Since the learning environment is one of the determinants of learning, evaluating students 'assessment of learning environments and identifying students' perceptions of the educational environment can be the basis for implementing changes to optimize the educational environment.[3] Today, reform has a critical process of medical education and education. Educational each level and section try to approach the desirable and defined standards for every teaching and learning activity. the recent ranking of universities and accreditation of the program of learning environments will be beneficial, which can result in the development and improvement of the quality of educational environments as a result of training and modifications.[4] One model that evaluates the environment and the environment governing education was developed by Roff S at the University of Dundee in Scotland in 1997, which it refers to the Dunee Ready Dundeetion Environment Measure-DREEM.[5] This template is used as a diagnostic tool for curriculum problems as well as the effectiveness of change in education that can provide valuable information to educational managers whose main characteristics are: feasibility, awareness, sociality and proportionality, and desirability, which has been used as a pseudonym in many faculties of the world to evaluate the educational environment.[6]

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Given the importance of teaching and improving conditions, if we can identify the operational components in the learning environment and evaluate the attitude professors professors' attitudes, then the basis for refining them to facilitate we have learning experience in relation to our educational goals.[7] Considering the special role of the learning environment in the process of bound medical the impact of the professional behavior uniqueness on the basis of their understanding of learning environments, especially after graduation, this has led the custodian's based onion systems to by understanding the learners of different educational levels from learning environments and making the appropriate changes and modifications,[8] they provide the necessary framework for improving the quality of the mentioned environments and provide favorable conditions for facilitating the educational process and for creating profound learning in learners,[9] which ultimately leads to a more satisfactory achievement of pre-defined training goals will be. Therefore, the present study aims to study and compare students' understanding of the second year (basic science) and the third, fourth, fifth, and sixth (graduation) years of dentistry students of Guilan University of Medical Sciences (Lacan site) to improve the quality of dentistry education at the faculty of dentistry.

## 2. Materials and methods

This research is a kind of cross-sectional one which is done with the DREEM questionnaire. The Dundee Ready Educational Environment Measure (DREEM) was used to collect data on the educational environment (Roff et al. 1997). The DREEM questionnaire consists of 50 items; each DREEM item was scored 0 to 4 with scores of 0, 1, 2, 3 & 4 assigned for strongly agree, agree, uncertain, disagree & strongly disagree, respectively. Reverse scoring was used for harmful items.

DREEM is a 50 items inventory, consisting of subscales.

a) Students' Perceptions of Learning (SPL)-12 items; maximum score is 48.
b) Students' Perceptions of Teachers (SPT)-11 items; maximum score is 44.
c) Students' Academic Self-Perception (SASP)-8 items; maximum score is 32.
d) Students' Perceptions of Atmosphere (SPA)-12 items; maximum score is 48.
e) Students' Social Self-Perceptions (SSSP)-7 items; maximum score is 28.

The total score for all subscale is 200.

The sampling method was census-based, and the research sample included dental students at two levels of primary education (second year) and clinical (third, fourth, fifth, and sixth years) students. They will be announced due to ethical considerations. The information will only be used to improve the quality of the college's educational environment. The data were then entered into SPSS.Ver.19 software. To analyze the data, Mann-Whitney's Inference Test, which is, in fact, one of the most powerful non-parametric tests for comparing the two groups, is independent of each other and tests Descriptive statistics will be used as frequency distribution tables and statistical indicators (mean and standard deviation) will be used.

After the design, it was prepared in two colors: yellow (basic science) and blue (clinical), to draw students' attention to filling the questionnaire, and also when the data were easily divided between these two sections, and avoid any mistakes in reviewing this information. Then, these color questionnaires were distributed among the students and studied in our research. They were asked to study all the questions at a specific time and in a quiet environment away from bustle and stress and to single. They respond with the utmost accuracy and honesty, without worrying about any problem or the specificity of their responses to answer their questions correctly. If they have a question in each area, they are comfortable and without concern, the concept The main questions from the author of this project, which were in place, were asked to provide a correct answer to the question. This presence of the author of the draft, along with the respondents, and helping them with the question of the meaning of the questions, prompted the completed questionnaires to be complete. Thus the input data were carefully analyzed and analyzed with confidence to be placed.

The sampling method was census-based. The research sample consisted of dental students in two levels of primary and secondary medical sciences (second year) and clinical (third, fourth, fifth, and sixth years). After taking the questionnaires, the data were accurate entered SPSS Ver 16 software. After SPSS analysis, considering that the test was meaningful, the P-value was less than 0.05, meaning that the distribution was not the standard, and non-parametric tests should be used. So for parsing data analysis by Mann-Whitney Inference Test, one of the most potent non-parametric tests for comparing two groups independent of each other and from descriptive test statistics as frequency distribution tables and statistical indices (mean and standard deviation) were used..

## 3. Results

The tables comprise five tables that compare students of basic sciences and clinics in various cases. Table 1 includes the mean scores for standard and clinical students; Table 2 includes the mean scores (DEGREE) for the DREEM item for undergraduate and clinical students. Table 3 The mean (standard deviation) of DREEM items where differences Significant differences were observed between the primary and clinical students, Table 4 shows the mean (standard deviation) of DREEM items that show significant differences between male and female Clinical students. Table 5 shows the mean (SD) DREEM items that show significant differences between male and female students in Basic students.

Of the 190 students in our sample, 85 were males, and 105 were females. Their minimum age was 19, and the maximum age 32 with mean 22.83 (SD= 1/883). Of the 52 Basic students, 22 were male, and 30 were females, and 138 Clinical students, 63 were males, and 75 were females.

Table 1 shows the DREEM domain scores for Basic and Clinical batch students. For Students Perceptions of Learning, Students' Perceptions of Teachers, Students' Academic Self–Perception, Students Perceptions of Atmosphere and Students' Social Self –Perceptions, the mean domain scores for basic students were 22.94, 23.15, 20.76, 26.09 and 15.28 respectively. The score was found to be 24.16, 24.14, 20.36, 26.56, and 15.81, respectively, for the clinical phase students. The mean total DREEM score was 111.03 for Basic students and 108.22 for the clinical batch students. In general, the total DREEM domain score was found to be higher for Clinical students. Table 2 shows the mean DREEM item scores for Basic and clinical batch students. It was observed that the Basic students scored less than 2 for 17 items (1, 2, 3, 5, 7, 8, 9, 10, 11, 15, 16, 19, 21, 31, 33, 39, 42 and 44) and above 2 for 23 others items. Clinical batch students scored less than 2 for 18 items (1, 2, 3, 5, 7, 8, 9, 10, 11, 18, 19, 23, 33, 36, 39, 42, 44 and 46) and above 2 for 22 others items. Table 3 shows the mean of items, which showed statistically significant differences between the Basic and Clinical batch students out of the ten items. Three items (4, 6, and 12) were from Students Perceptions of Learning, five items (15, 16, 17, 18, and 19 ) from Students Perceptions of Teachers, two items (26 and 31) from Students' Academic Self-Perceptions. Table 4 depicts the items showing significant differences between male and female students in Clinical, and these include items 33, 43, 44, 47, and 49. The mean scores for male students were higher for two items (43 and 44) compared to the female students. Table 5 depicts

the items showing significant differences between male and female students in Basic. Three items were found: in all these items (4, 13, and 20), male students were found to be higher than the female students.

**Table 1. Mean (SD) DREEM domain scores for Basic & clinical students.**

| Domain | Basic | Clinical |
|---|---|---|
| Students' Perceptions of Learning (SPL) | 22.94 (6.80085) | 24.16 (6.44035) |
| Students' Perceptions of Teachers (SPT) | 23.15 (3.71211) | 24.14 (3.96251) |
| Students' Academic Self-Perception (SASP) | 20.76 (4.15029) | 20.36 (4.35810) |
| Students' Perceptions of Atmosphere (SPA) | 26.09 (5.39884) | 26.56 (5.82965) |
| Students' Social Self-Perceptions (SSSP) | 15.28 (2.9528) | 15.81 (4.14030) |
| Total DREEM Item Score for the Group | 108.22 (23.0149) | 111.03 (24.76091) |

**Table 2. Mean (SD) DREEM item scores for Basic & Clinical students.**

| Domain | Items | Basic | Clinical |
|---|---|---|---|
| SPL | 1. I am encouraged to participate in a class | 1.92(0.967) | 1.97(1.094) |
| | 2. The teaching is often stimulating | 1.83(1.024) | 1.97(1.046) |
| | 3. The teaching is student-centered | 1.31(0.897) | 1.37(0.990) |
| | 4. The teaching helps to develop my competence | 2.02(1.000) | 2.53(0.898) |
| | 5. The teaching is well focused | 1.83(0.985) | 1.96(1.007) |
| | 6. The teaching helps to develop my confidence | 2.15(1.055) | 2.60(1.043) |
| | 7. The teaching time is put to good use | 1.92(0.987) | 1.65(1.016) |
| | 8. The teaching over-emphasizes factual learning | 1.87(0.991) | 1.72(1.016) |
| | 9. I am clear about the learning objectives of the course | 1.75(0.947) | 1.75(0.911) |
| | 10. The teaching encourages me to be an active learner | 1.69(1.020) | 1.88(0.960) |
| | 11. Long term learning is emphasized over short term learning | 1.88(1.199) | 1.72(1.189) |
| | 12. The teaching is too teacher-centered | 2.77(0.877) | 3.01(0.879) |
| SPT | 13. The teachers are knowledgeable | 2.33(1.150) | 2.43(0.911) |
| | 14. The teachers are patient with patients | 2.19(0.687) | 2.20(0.803) |
| | 15. The teachers are ridicule the students | 1.50(0.780) | 2.43(1.120) |
| | 16. The teachers are authoritarian | 1.90(0.823) | 2.63(0.997) |
| | 17. The teachers have excellent communication skills with patients | 2.31(0.612) | 2.49(0.898) |
| | 18. The teachers are good at providing feedback to students | 2.44(0.777) | 1.94(0.942) |
| | 19. The teachers provide constructive criticism here | 1.73(0.819) | 1.25(1.059) |
| | 20. The teachers give clear examples | 2.54(0.753) | 2.47(0.821) |
| | 21. The teachers get angry in class | 1.77(0.942) | 2.08(0.967) |
| | 22. The teachers are well prepared for their classes | 2.37(0.841) | 2.42(0.861) |
| | 23. The students irritate the teachers | 2.08(1.045) | 2.80(0.927) |
| SASP | 24. Learning strategies which worked for me before continue to work for me now | 2.96(0.766) | 2.98(0.740) |
| | 25. I am confident about passing this year | 2.92(0.837) | 2.82(0.830) |
| | 26. I feel I am well prepared for my profession | 2.75(0.833) | 2.15(1.087) |
| | 27. Last year's work has been proper preparation for this year's work | 2.15(1.073) | 2.12(1.011) |
| | 28. I can memorize all I need | 2.62(0.844) | 2.36(0.818) |
| | 29. I have learned a lot about empathy in my profession | 2.60(0.799) | 2.78(0.771) |
| | 30. My problem-solving skills are being well developed here | 2.92(0.763) | 2.68(0.810) |
| | 31. Much of what I have to learn seems relevant to a career in healthcare | 1.85(0.978) | 2.49(0.890) |
| | 32. The atmosphere is relaxed during the ward teaching | 2.58(0.750) | 2.44(0.944) |

| | | | |
|---|---|---|---|
| SPA | 33. The course is well timetabled | 1.44(1.018) | 1.20(1.093) |
| | 34. Cheating is a problem in this course | 2.02(1.229) | 2.05(1.204) |
| | 35. The atmosphere is relaxed during lectures | 2.50(0.728) | 2.60(0.740) |
| | 36. There are opportunities for me to develop my interpersonal skills | 2.31(1.001) | 1.99(0.951) |
| | 37. I feel comfortable in class socially | 2.58(1.016) | 2.52(0.983) |
| | 38. The atmosphere is relaxed during seminars/tutorials | 2.27(0.952) | 2.20(0.935) |
| | 39. I find the experience disappointing | 1.75(1.007) | 1.88(0.811) |
| | 40. I can concentrate well | 2.19(0.951) | 2.32(0.974) |
| | 41. The enjoyment outweighs the stress of studying medicine | 2.27(1.105) | 2.17(1.214) |
| | 42. The atmosphere motivates me as a learner | 1.98(1.180) | 1.96(1.083) |
| | 43. I feel able to ask the question I want | 2.21(0.957) | 2.23(1.020) |
| SSSP | 44. There is a sound support system for students who get stressed | 1.25(0.947) | 1.06(1.016) |
| | 45. I am too tired to enjoy the course | 2.02(0.874) | 2.17(0.971) |
| | 46. I am rarely bored on this course | 2.38(0.889) | 1.35(1.085) |
| | 47. I have good friends in this course | 2.98(0.828) | 2.93(0.979) |
| | 48. My social life is good | 2.88(0.878) | 3.06(0.752) |
| | 49. I seldom feel lonely | 2.38(1.013) | 2.53(1.027) |
| | 50. My accommodation is pleasant | 2.38(0.932) | 2.73(2.587) |

**Table 3. Mean (SD) DREEM Inventory items where significant differences were observed between students are studying different phases.**

| Items | Basic | Clinical | P-value |
|---|---|---|---|
| 4. The teaching helps to develop my competence | 2.02(1.000) | 2.53(0.898) | 0.001 |
| 6. The teaching helps to develop my confidence | 2.15(1.055) | 2.60(1.043) | 0.005 |
| 12. The teaching is too teacher-centered | 2.77(0.877) | 3.01(0.879) | 0.050 |
| 15. The teachers ridicule the students | 1.50(0.780) | 2.43(1.120) | 0.000 |
| 16. The teachers are authoritarian | 1.90(0.823) | 2.63(0.997) | 0.000 |
| 17. The teachers have excellent communication skills with patients | 2.31(0.612) | 2.49(0.898) | 0.044 |
| 18. The teachers are good at providing feedback to students | 2.44(0.777) | 1.94(0.942) | 0.001 |
| 19. The teachers provide constructive criticism here | 1.73(0.883) | 1.25(1.059) | 0.001 |
| 26. I feel I am well prepared for my profession | 2.75(0.883) | 2.15(1.087) | 0.001 |
| 31. Much of what I have to learn seems relevant to a career in healthcare | 1.85(0.978) | 2.49(0.890) | 0.000 |

**Table 4. Mean (SD) DREEM items showing significant differences between male & female students in Clinical students.**

| Items | Male | Female | P-value |
|---|---|---|---|
| 33. The course is well timetabled. | 1.41(0.908) | 2.47(1.106) | 0.029 |
| 43. I feel able to ask the question I want. | 2.45(0.912) | 2.03(0.964) | 0.000 |
| 44. There is a sound support system for students who get stressed. | 1.45(0.963) | 1.10(0.923) | 0.010 |
| 47. I have good friends in this course. | 2.86(0.889) | 3.07(0.785) | 0.045 |
| 49. I seldom feel lonely. | 2.36(0.953) | 2.40(1.070) | 0.007 |

**Table 5. Mean (SD) DREEM items showing significant differences between male & female students in Basic students.**

| Items | Male | Female | P-value |
|---|---|---|---|
| 4. The teaching helps to develop my competence | 2.62(0.792) | 2.45(0.977) | 0.045 |
| 13. The teachers are knowledgeable | 2.60(0.752) | 2.28(1.008) | 0.035 |
| 20. The teachers give clear examples | 2.48(0.820) | 2.47(0.827) | 0.005 |

## 4. Discussion

This cross-sectional descriptive study was conducted to evaluate the understanding of 190 dental students from the educational environment of Rasht Dental School. This result was consistent with the study by Kyaiman Mynit et al.[10] who studied stress in the educational environment. Because in this study, in the self-understanding domain, question 44 (a good support system for high school students) has the lowest score, and minor corrective actions must be implemented, such as the presence of a medical-faculty advisor in the faculty environment.

The study by Asmita Ashok Pati et al.[11] was also consistent with the study. In both of these studies, students appreciated the educational environment because of good friends in this period, well-known faculty members, and so on. In Rehana Rehman et al.[12] as in our study, the perception of the educational environment was the highest score. The student's perception of the social self-received the lowest score, and the environmental strengths were more than negative points. These scores obtained in this study can be used for future strategic decisions.

In a paper by Black and et al.,[13], the study of Gonabad's educational environment concluded that students' satisfaction from the learning environment in the theoretical period was higher than the duration of the internship. In contrast, in our study, this percentage of satisfaction in the clinical section was higher than that of the sciences. One of the reasons for this can be that in sections, such as lessons learned in a more practical and specialized way, it satisfies the sense of satisfaction among students. In a study concurred with our study, Bernardo E and et al.[14] at the Philippine Lyceum School have a pleasant quality learning environment, and male students also have a higher understanding of social relationships than female students. In the Preethi G Pai study and et al.[15] in India, exactly as our study, students were often stressed, and it seemed that curriculum developers did not care much about the importance of this subject, so be sure to pay attention to issues, counseling sessions and Student counseling and stress-management seminars are needed to learn from the college environment to address this issue.

In a study by Fatehi and et al.[16] at the Rafsanjan Nursing Faculty, the results indicated that the educational environment was acceptable and that, as our study, faculty members and educators needed more effort to design the training principles in creating a suitable environment with minimal defects. Aghili and et al.[17] at Shahid Sadoughi University of Yazd, have proposed a new method for early intervention of students with clinical units to reduce stress in the environment and its effects. We can use this proposal in our research study, in which It did not find an excellent support system for high-level students and did not cope with stress.

The results of Abdulaziz's and et al.[18] at the University of Saudi Arabia were opposed to our theory. They stated that there is not enough satisfaction anywhere in the educational environment, requiring modification and re-examination of the environment. In another study by Morteza Rahbar et al.[19] in Iran University of Medical Sciences, contrary to our research, there was no difference in the percentage of satisfaction between boys and girls, and in general, students were relatively satisfied with the sections. Finally, in a study by Jabari Fard et al.[20] at the University of Isfahan, the results were the opposite of our research at Guilan University of Medical Sciences. In that research, all parts with ideal distance, and there is a need to improve the educational environment.

## 5. Conclusion

The overall results of this research indicate that the average total score for the level of the basic science is 108.22 and for the clinical course 111.03. Based on this number, the percentage of students' satisfaction from the educational environment was evaluated to a favorable level. Among the domains, the highest score belonged to the educational atmosphere.

## Conflict of Interest

The authors declared that there is no conflict of interest.

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