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SEÇÃO: ARTIGOS

PERCEPTION OF DENTAL STUDENTS REGARDING PERIODONTOLOGY EDUCATION ENVIRONMENT AFTER CURRICULAR CHANGES

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ABSTRACT

The perception of Periodontology learning environment was measured before and after curricular restructuring by the Dundee Ready Education Environment Measure (DREEM). Undergraduate students (2nd, 3rd, 4th years; n = 266) were divided into two main groups: former curriculum (n = 131) and current one (n = 131). Total DREEM score, its five dimensions, Periodontology grades and their weighted average were compared. Student's t test and ANOVA were used for analysis ($p < 0.05$). There was a statistically significant difference between the second (teachers) and fifth (social relations) dimensions and between Periodontology grades and the weighted average in both curricula. For each year, higher scores in the second dimension, Periodontology grades and the weighted average were obtained for current curriculum. Both curricula presented a significant correlation between Periodontology grades and their weighted average. Total DREEM scores for 2nd, 3rd and 4th years of current curriculum presented no differences ($p > 0.05$). The implementation of a new curriculum had an important impact on the students' positive perceptions, which reflected in their academic performance

Keywords: Teaching Perception. Educational measurement. Dental students. Periodontics.

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PERCEPCIÓN DE ESTUDIANTES DENTALES SOBRE EL AMBIENTE DE EDUCACIÓN EN PERIODONCIA DESPUÉS DE CAMBIOS CURRICULARES

RESUMEN

El ambiente de aprendizaje de Periodoncia fue analizado antes y después de la reestructuración curricular a través del Dunde Ready Education Environment Measure (DREEM). Estudiantes (2º, 3º, 4º años, n = 266) fueron divididos entre los currículos (n = 131). El total del DREEM, sus dimensiones, notas de Periodoncia y medias ponderadas fueron comparadas. Para el análisis se utilizó la prueba t de Student y ANOVA ($p < 0,05$). Se observaron diferencias estativas en las dimensiones dos (percepción sobre los profesores) y cinco (relaciones sociales), notas de la disciplina de Periodoncia y medias ponderadas entre ambos currículos. Para cada año, se obtuvieron mayores puntuaciones en la dimensión dos, en las notas de Periodoncia y las medias ponderadas en el currículo actual. Ambos currículos presentaron una correlación significativa entre las notas de Periodoncia y la media ponderada. El total del DREEM no presentó diferencia significativa ($p > 0,05$). La implementación de un nuevo currículo tuvo un impacto positivo importante en la percepción de los alumnos, lo que reflejó el desempeño académico.

Palabras clave: Percepción de enseñanza. Evaluación educacional. Estudiantes de odontología. Periodoncia.

PERCEPÇÃO DOS ESTUDANTES DE ODONTOLOGIA RELACIONADO AO AMBIENTE DE ENSINO DA PERIODONTIA APÓS REESTRUTURAÇÃO CURRICULAR

RESUMO

O ambiente de aprendizagem de Periodontia foi analizado antes e após a reestruturação curricular através do Dundee Ready Education Environment Measure (DREEM). Graduandos (2º, 3º, 4º anos; n = 266) foram divididos entre os currículos (n = 131). O total do DREEM, suas dimensões, notas de Periodontia e médias ponderadas foram comparadas. Para análise utilizou-se o teste t de Student e ANOVA ($p < 0,05$). Houve diferenças estatistícas nas dimensões dois (percepção sobre os professores) e cinco (relações sociais), nas notas da disciplina de periodontia e nas médias ponderadas entre ambos os currículos. Para cada ano, maiores pontuações foram obtidas na dimensão dois, nas notas de Periodontia e nas médias ponderadas no currículo atual. Ambos os currículos apresentaram uma correlação significativa entre as notas de Periodontia e a média ponderada. O total do DREEM não apresentou diferença significativa ($p > 0,05$). A implementação de um novo currículo teve impacto positivo importante na percepção dos alunos, o que refletiu no desempenho acadêmico.

Palavras-chave: Percepção do ensino. Avaliação educacional. Estudantes de Odontologia. Periodontia.

INTRODUCTION

The educational system must constantly improve in order to follow changes in the students' social context. To successfully implement these changes, assessments are necessary. Students' perception, considering their teaching environment, is a valid resource to modify or to improve the quality of education. The teaching environment consists of three factors: the physical learning environment, the context on which it sits, and the culture of the environment (VICTOROFF; HOGAN, 2006). Several methods have been used to explore teaching environment in qualitative resources (SEABROOK, 2004), quantitative resources (ROFF, 2005; SOBRAL, 2004) or both (DENZ-PENHEY; MURDOCH, 2009; WHITTLE; WHELAN; MURDOCH-EATON, 2007). Considering that education is a dynamic process, researches about this topic are important to improve strategies and teaching methods. One way of evaluating the teaching environment is through Dundee Ready Education Enviroment Measure (DREEM) (APPENDIX), a self-reporting questionnaire, which is an international instrument nonspecific for any culture (KHAN *et al*., 2011).

Dundee Ready Education Enviroment Measure (DREEM) questionnaire was developed and validated by Roff *et al*. (1997) to access partially or entirely the educational environment. It consists of a combination of quantitative and qualitative methods and is used as a standard instrument (ROFF *et al*., 1997). DREEM can be divided in five dimensions: 1) students' perception of learning, 2) students' perception of teachers, 3) students' academic self-perceptions, 4) students' perceptions of atmosphere, 5) students' social self-perception. This questionnaire has been translated and used in several studies around the world (DE OLIVEIRA FILHO; STURM; SARTORATO, 2005; AHMAD *et al*., 2015; AL-ANSARI; EL TANTAWI, 2015; CHANDRAN; RANJAN, 2015; KANG *et al*., 2015; MYINT *et al*., 2016; FARAJPOUR *et al*., 2017), allowing the generation of a university profile, and signalizing strengths and weaknesses of the educational environment.

In Brazil, studies were performed in medical schools (DE OLIVEIRA FILHO; STURM; SARTORATO, 2005; DE OLIVEIRA FILHO; VIEIRA; SCHONHORST, 2005; SOBRAL, 2004) with only one evaluation in Dentistry, which was on Periodontology post-graduation course at University of São Paulo (USP) (PLACA *et al*., 2015).

Bassaw *at al*. (2003) showed that learning environment, as perceived by the students, is one of the most important components that influences the achievement of a successful curriculum (BASSAW *et al*., 2003). Recently, the Dentistry's undergraduate course at Faculdade de Odontologia de Bauru – University of São Paulo (FOB-USP), has undergone a curricular restructuring. The former curriculum presented separated disciplines without prioritizing the

general view about patients care. After the curricular restructuring in 2013, disciplines were ministered in an integrated curriculum for Dentistry teaching, from the basic disciplines to the practical clinical activities. Periodontology is a theoretical, laboratory and clinical discipline that aim to form habilities and skills for diagnosis, treatment and control of periodontal (structure around teeth) diseases and conditions.

Therefore, the aim of this study was to compare the perception of dental students regarding the educational environment of the discipline of Periodontology (FOB-USP) before and after the process of curricular restructuring.

MATERIAL AND METHODS

This study was approved by the Ethics Committee on Human Research of the Bauru School of Dentistry (USP) (#162.782 – former curriculum students/#1.235.603 – current curriculum students).

Students were asked to answer the fifty DREEM questions using a five-point Likert scale. Each question was scored from zero to four. Nine of the sentences were negative, to which symmetrical scores were assigned.

Questions were grouped into five dimensions: D1- students' perception of learning; D2- students' perception of teaching; D3- students' academic self-perceptions; D4- students' perception of education atmosphere, and D5- students' social self-perception, with a score for each sub-scale. A social questionnaire, associated to DREEM, contained questions related to the age and gender (KANG *et al*., 2015; PLACA *et al*., 2015). Interpretation of educational environment categories was based on the study by Lai *et al*. (2009). Answers were analyzed according to McAleer and Roff (2001). For DREEM total score the maximum value is 200. Its interpretation is based on: 0-50: "more negative than positive"; 51-100: "with various problems"; 101-150: "more positive than negative" and 151-200: "excellent". Discipline of Periodontology average grade and the undergraduate course average grades (weighted average of grades, collected from students' educational background, from all disciplines since first year of the course) of each year in which they were evaluated, were also recorded. All students were informed about the voluntary nature of participation in the research, as well as the confidentiality of the data. Questionnaires were applied and collected on the same day.

A descriptive analysis of the data obtained from social questionnaire was performed. Total DREEM score and its five dimensions were compared between former and current curricula. In addition, they were compared to each other for second, third and fourth-year classes.

Statistical tests as ANOVA, complemented by Tukey; Kruskal-Wallis, complemented by Dunn; and Student's t tests ($p < 0.05$) were applied for these analyses. The correlation between total DREEM score, its five dimensions and Periodontology grades was done through the Spearman's Correlation at a 5% significance level ($p < 0.05$). The correlations between Periodontology grades and average undergraduate grades were evaluated by Pearson's Coefficient of Correlation, considering each year of the former and current curricula.

RESULTS

The population of this study included second, third and fourth-year undergraduate students, who were enrolled in the discipline of Periodontology (n = 266). Among these, 135 students coursed former curriculum, and 131 coursed the current curriculum. The most relevant demographic data are described in Table 1. The majority of students were women (66%) and the average age of students was 21 years old.

	Year	Number of students	Men	Women	Mean age
Former curriculum	Second	56	19	37	21.1
	Third	33	12	21	
	Fourth	46	12	34	
Current curriculum	Second	43	17	26	21.5
	Third	44	15	29	
	Fourth	44	15	29	
TOTAL	-	266	90	176	-

Table 1 – Demographic data
Source: Produced by the authors.

Total DREEM score for former and current curricula – considering second, third and fourth-year students – showed a statistically significant difference for second (D2 – Students' perception of teaching) and fifth (D5 – Students' social self-perception) dimensions, both for Periodontology grades and average undergraduate grades. D2 had a higher score for current curriculum, but both scores were at the same range of interpretation: "moving in the right direction". D5 scored higher on the former curriculum than the current curriculum, but both also were at the same interpretation range: "it is not a good place".

Periodontology and average undergraduate grades were higher for current curriculum when compared to the former one (Table 2).

Variables	Former curriculum		Current curriculum		
	Mean	Standard deviation	Mean	Standard deviation	
Age	21.1	1.7	21.5	1.5	
D1	31.3	5.7	32.0	5.3	
D2	32.0	4.7	33.8	4.9	p < 0.05
D3	21.7	3.7	21.9	3.7	
D4	32.1	5.2	31.1	5.6	
D5	18.1	3.3	16.9	3.9	p < 0.05
Total DREEM	135.5	18.3	135.3	17.6	
Periodontology grade	6.8	0.7	7.4	0.7	p < 0.05
Undergraduation mean grade	7.2	0.5	7.6	0.5	p < 0.05

Table 2 – Total DREEM and its five dimensions, Periodontology and average undergraduate grades, for both curricula average, standard deviation and p values
Source: Produced by the authors.

When analyzing each year class separately, the results were similar. Comparison between current and former curricula for second year only demonstrated significant statistical differences for Periodontology grades and average undergraduate grades, with higher values for current curriculum students ($p < 0.05$). For third year, regarding D2, Periodontology grades and average undergraduate grades also showed notable statistical differences, with higher values for current curriculum students ($p < 0.05$). For fourth year, comparison between current and former curricula demonstrated important statistical differences only in D2, with higher value for current curriculum students ($p < 0.05$) (Table 3).

Variables	Second year		Third year		Fourth year	
	Former curriculum	Current curriculum	Former curriculum	Current curriculum	Former curriculum	Current curriculum
Age	20.33±1.90	20.81±1.53	21.09±1.68	21.52±1.30	22.08±1.05	22.18±1.41
D1	33.19±4.82	34.11±3.71	30.66±4.79	31.11±5.85	29.47±6.74	31.00±5.72
D2	32.55±4.50	33.00±4.92	32.21±3.78*	34.38±4.67*	31.19±5.54*	34.00±5.16*
D3	22.53±3.81	23.04±3.27	21.57±3.57	21.00±3.56	20.91±3.60	21.68±4.16
D4	32.67±5.07	31.25±5.62	32.12±5.12	31.06±5.81	31.50±5.66	31.25±5.71
D5	18.55±3.26	17.74±3.78	17.24±3.26	15.93±3.56	19.36±3.54	17.22±4.19
Total DREEM	139.94±16.92	138.41±15.41	133.81±16.19	133.27±17.68	131.45±20.48	134.34±19.68
Periodontology score	6.80±0.58*	7.18±0.94*	6.03±0.58*	7.52±0.54*	7.41±0.52	7.59±0.52
Weighted average	6.91±0.57*	7.57±0.49*	7.23±0.47*	7.63±0.52*	7.56±0.45	7.69±0.49

Table 3 – Total DREEM and its five dimensions, Periodontology and average undergraduate grades, for both curricula. Comparison between former and current curricula divided by undergraduation years average ± standard deviation. * Statistically significant difference for values of $p < 0.05$.
Source: Produced by the authors.

In both former and current curricula (all undergraduate years), the correlation between grades was statistically significant. However, this correlation was stronger for former curriculum (second, third and fourth year) (Table 4).

Curriculum	Undergraduation year	Correlation	p
Former	Second	0.9894	0.000
	Third	0.6935	0.000
	Fourth	0.8425	0.000
Current	Second	0.4199	0.005
	Third	0.6267	0.000
	Fourth	0.6344	0.000

Table 4 – Correlation between Periodontology and mean undergraduation grades for second, third and fourth years

Total DREEM scores for second, third and fourth year did not present statistically significant differences, with highest value in the second year. D2, D4, D5, Periodontology grades and average undergraduate grades did not show statistically remarkable differences between each year. However, grades increased from second until fourth year. D1 scores were different between second vs. fourth year and second vs. third year, with the highest score on the second year ($p < 0.05$). D3 scores were different between second vs. third year, with highest score on the second year ($p < 0.05$) (Table 5).

Current Curriculum	Total DREEM	D1 *	D2	D3 *	D4	D5	Periodontology grade	Mean undergraduation grade
Second year (n = 43)	138.0	33.0 (p<0.05)	33.0	23.0 (p<0.05)	31.2	17.7	7.3	7.5
Third year (n = 44)	132.5	31.0 (p<0.05)	34.3	21.0 (p<0.05)	31.0	15.9	7.4	7.7
Fourth year (n = 44)	135.5	32.0 (p<0.05)	34.0	21.6 (p<0.05)	31.2	17.2	7.6	7.7

Table 5 – Current curriculum (mean scores) between the second, third and fourth years

An analysis of the highest and lowest scored questions is presented as a “top five” ranking and is represented in Table 6.

Top 5	The best scored	The worst scored
1	Teachers master the knowledge they need	There is a good support system for students with stress problems
2	I have good friends in this university	Teaching overemphasizes learning facts
3	The place where I live is pleasant	I am able to memorize everything I need
4	My social life is good	Cheating is a problem in this course
5	Teachers have good communication skills with patients	I am too tired to enjoy class activities

Table 6 – Best and worst scored questions ranking

DISCUSSION

This study demonstrated positive perception of the students about the learnig environment, superior perception of professors and overall increase in mean grades, after implementation of the new curriculum.

Several studies (AHMAD *et al*., 2015; AL-ANSARI, EL TANTAWI, 2015; CHANDRAN; RANJAN, 2015; DE OLIVEIRA FILHO; STURM; SARTORATO, 2005; FARAJPOUR *et al*., 2017; KANG *et al*., 2015; MYINT *et al*., 2016) applied DREEM questionnaire to evaluate teaching environment in different universities, mostly Dentistry or Medicine undergraduate courses. This evaluation allowed the generation of a profile and highlighted the strengths and weaknesses regarding the educational environment. However, in none of these studies a single undergraduate discipline was evaluated, as it was in the present study, which evaluated the discipline of Periodontology after a curriculum restructuring. Similar to our research there is a paper by Placa *et al*. (2015), evaluating a post-graduate course in Periodontology. In this study, 21 graduate students (average age 27.4 years old) from masters and doctorate courses answered DREEM questionnaire. This sample's age was higher than student's average age from the present study (21.1 to 21.5 years old). Total DREEM score for graduate (146.81) was similar to the present study (135.5 former curriculum and 135.3 current curriculum) and it was ranked as "more positive than negative" teaching environment. From all graduate students, 82% considered teachers' perception (D2) as "model course organizers" (PLACA *et al*., 2015). The worst results were in social perception (D5), with 55% of students classifying it as "poor social environment/not a good place". These findings are similar to those of the present study, where there was a significant statistical difference in D2 and D5. D2 was higher for current curriculum, but both scores were in the same interpretation range "moving in the right direction". D5 presented a higher value in former curriculum compared to current curriculum, but both also fall into the same interpretation range "it is not a good place". Although the interpretation about D2 is positive for undergraduates, especially those who are enrolled in the current curriculum, graduate students better scored this question (PLACA *et al*., 2015).

Such result was expected, once graduate students elect a specific discipline within a *stricto sensu* graduation course in order to learn to be teachers and researchers.

The poor evaluation of social relations (D5) is due to the fact that undergraduate study requires intensive dedication. In this way, the student may feel exhausted, pressured and stressed, which reflects negatively on their interpersonal relationships and social environment. Conversely, in the new curriculum, the integration of theoretical contents, eliminating repetition of topics, enabled the creation of a free period. These free hours can be enjoyed for extra study or even leisure. This may also be a factor associated with higher student performance promoted by the new curriculum. The old curriculum was over 5000 h of class, while the current curriculum presents 4320 h of compulsory subjects. Free optional subjects were also offered, allowing the student to form a differentiated curriculum, with a workload of 645 h, totalizing 4965 h.

In general, the results found in our work showed that the new curriculum overall improved teaching environment, especially when we refer to Periodontology student grades, average undergraduate grades and students' perception of teaching. This is because the new curriculum aimed at eliminating content repetition and integrating the various dental specialties. In this way, it enabled the students to understand the same subject in the vision of each dentistry specialty. Also, there was an improvement of their understanding, academic performance and even their vision about teachers, which became more enlightening in respect to the integrated knowledge. Despite the focal changes on the curriculum, throughout the undergraduate years (AHMAD *et al*., 2015; AL-ANSARI; EL TANTAWI, 2015; DOSHI *et al*., 2014; EDGREN *et al*., 2010; KANG *et al*., 2015), no other study compared former curriculum with a new one after a whole restructuring.

Kang *et al*. (2015) evaluated the change in the students' perception of teaching environment, over the years, on Dentristry undergraduate. They analyzed students' expectations about the course and what they actually experienced. A modified DREEM questionnaire was applied to first-year students and, year after year, these students were re-evaluated. Results allowed a thorough interpretation of strengths and weaknesses related to learning environment; however, more negative than positive changes were reported between what was expected and what they actually experienced (KANG *et al*., 2015). Other longitudinal study showed that students of the second year had a better perception of the teaching environment than students of the sixth year for D1 (students' perception of learning), D2 (students' perception of teaching) and D5 (students' social self-perception) (AL-ANSARI; EL TANTAWI, 2015). Similarly, in the study by Kang *et al*. (2015), total DREEM score between second, third and

fourth years had no significant statistically differences, yet we noticed a higher score for second year students. As the discipline of Periodontology begins in the second year of graduation, students are more anxious and with high expectations, mainly when considering that Periodontology is a practical clinical discipline among basic disciplines taught at the beginning of the undergraduate course. This observation reflects on students' grades, once they become more interested in practical knowledge and make more effort on their study. Corroborating this finding, it can be observed that Periodontology and average undergraduate grades increased from the second to the fourth year. Similarly, D1 presented a highest score for the second year when compared to third and fourth years. D3 presented a higher score for the second year when compared to the third year.

The greatest benefit in assessing the evolution of the new curriculum, along years, occurred early in the second year. The integrated view of Periodontology with an early beginning in the second year brought better grades and better insights into the dimensions of learning and academic outcomes. On the fourth year of the new curriculum, this difference may not have been so significant, because an integrated vision of disciplines was already implemented since the former curriculum.

The question that received the worst score was "There is a good support system for students with stress problems." This issue is also mentioned in other studies in India (THOMAS *et al*., 2009), Germany (OSTAPCZUK *et al*., 2012), Greece (KOSSIONI *et al*., 2012) and New Zealand (FOSTER PAGE *et al*., 2012), in contrast to a study of Ali *et al.* (2012a), in which this question did not have great repercussion. At a university in Pakistan, individual half-hour meetings are held every six weeks to monitor student progress in the course and provide academic support, and there is also support for students who feel stressed (ALI *et al*., 2012a). Unfortunately, in our university there is no psychological assistance support to the students. It belongs to D5 (social self-perception), and strongly contributed to the worst scores of this entire dimension. Even so, second, third and fourth positions in top five best scored rank ("I have good friends in this faculty", "The place where I live is pleasant" and "My social life is good") belong to this dimension. This was also pointed out in a previous study (MYINT *et al*., 2016).

Other poorly scored question was "Cheating is a problem in this course". Only one study, by Ali *et al*. (2012b), has made considerations on this topic. The authors suggested that cheating practice in higher education may be related to cultural aspects, and it is not possible to determine precisely the nature, incidence, causes and severity of this act only from the data collected by DREEM (ALI *et al*., 2012b).

Considering the top five ranking, one of the D2 questions was the most positively scored: "Teachers dominate knowledge required". This indicates that despite some negative points punctuated, like “Teaching overemphasizes fact-learning", students rely on teachers’ potential. This fact can be related to the increased student’s grades.

A positive correlation between Periodontology and average undergraduate grades was observed for both curricula. This may be explained by the fact that Periodontology is a discipline that strongly integrates with all others in the curriculum.

CONCLUSION

Implementation of a more integrated new curriculum had an important impact on the students’ positive perceptions about the university and the discipline of Periodontology, which reflected in their academic performance. The perception of the students about the professors as well as the overall increase in average grades were the main factors behind the positive outcomes related to the new curriculum. Regarding the challenges to improve the educational environment, two points were highlighted, being both correlated. Students rated social relationships as poor and also stressed the lack of student support for psychological problems. Therefore, the implementation of a psychological student support program may be necesary.

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APPENDIX

Questionnaire – Dundee Ready Education Enviroment Measure (DREEM)

	Discordo fortemente	**Discordo**	**Concordo**	**Concordo fortemente**	**Não tenho a certeza**
1 – Sou encorajado a participar nas aulas	☐	☐	☐	☐	☐
2 – Os professores dominam os conhecimentos necessários	☐	☐	☐	☐	☐
3 – Existe um bom sistema de apoio para alunos com problemas de estresse	☐	☐	☐	☐	☐
4 – Estou demasiado cansado para desfrutar das atividades letivas	☐	☐	☐	☐	☐
5 – As estratégias de aprendizagem que utilizei com sucesso no passado continuam a dar bons resultados	☐	☐	☐	☐	☐
6 – Os professores são pacientes com os pacientes	☐	☐	☐	☐	☐
7 – O ensino é frequentemente estimulante	☐	☐	☐	☐	☐
8 – Os professores ridicularizam os alunos	☐	☐	☐	☐	☐
9 – Os professores são autoritários	☐	☐	☐	☐	☐
10 – Estou confiante quanto à minha aprovação este ano	☐	☐	☐	☐	☐
11 – O ambiente é descontraído durante as atividades clínicas	☐	☐	☐	☐	☐
12 – A organização do tempo é adequada	☐	☐	☐	☐	☐
13 – O ensino é centrado nos estudantes	☐	☐	☐	☐	☐
14 – Raramente me sinto aborrecido durante as atividades letivas	☐	☐	☐	☐	☐
15 – Tenho bons amigos nesta faculdade	☐	☐	☐	☐	☐
16 – O ensino é suficientemente dirigido no sentido de desenvolver a minha competência	☐	☐	☐	☐	☐
17 – A prática de cola é um problema nesta faculdade	☐	☐	☐	☐	☐
18 – Os professores têm boas competências de comunicação com os pacientes	☐	☐	☐	☐	☐
19 – A minha vida social é boa	☐	☐	☐	☐	☐
20 – O ensino está bem focalizado	☐	☐	☐	☐	☐
21 – Sinto que estou sendo bem preparado para a minha profissão	☐	☐	☐	☐	☐
22 – O ensino é suficientemente dirigido no sentido de desenvolver a minha confiança	☐	☐	☐	☐	☐
23 – Durante as aulas teóricas o ambiente é descontraído	☐	☐	☐	☐	☐
24 – O tempo de ensino é bem utilizado	☐	☐	☐	☐	☐
25 – O ensino enfatiza excessivamente a aprendizagem de fatos	☐	☐	☐	☐	☐

26 – O trabalho realizado no ano passado constituiu uma boa preparação para o trabalho deste ano					
27 – Eu sou capaz de memorizar tudo o que preciso					
28 – Eu raramente me sinto só					
29 – Os docentes são bons a dar feedback aos estudantes					
30 – Existem oportunidades para eu desenvolver competências interpessoais					
31 – Temho aprendido muito sobre a empatia na minha profissão					
32 – Os docentes fazem críticas construtivas					
33 – Eu me sinto socialmente confortável nas atividades letivas					
34 – O ambiente é descontraído durante as aulas teórico-práticas ou práticas					
35 – Acho que esta experiência é uma desilusão					
36 – Eu sou capaz de me concentrar bem					
37 – Os docentes dão exemplos claros					
38 – Estou esclarecido/a sobre os objetivos de aprendizagem das atividades letivas					
39 – Os docentes se zangam durante as aulas					
40 – Os docentes estão bem preparados para as aulas					
41 – As minhas competências de resolução de problemas estão bem desenvolvidas					
42 – O prazer que retiro deste curso de Odontologia supera o estresse					
43 – O ambiente me motiva a aprender					
44 – O ensino me incentiva a desenvolver uma aprendizagem ativa					
45 – Muito do que eu tenho que aprender parece relevante para uma carreira em Odontologia					
46 – O lugar onde moro é agradável					
47 – Há uma ênfase maior na aprendizagem a longo prazo do que na aprendizagem a curto prazo					
48 – O ensino é demasiado centrado no docente					
49 – Sinto que posso colocar as questões que quero					
50 – Os estudantes irritam os docentes					

Perception (score) of questionnaire items:

Itens	**1-3, 5-7, 10-16, 18-24, 26-34, 36-38, 40-47, 49**	**4, 8-9, 17, 25, 35, 39, 48, 50**
Discordo Fortemente	0	4
Discordo	1	3
Não Tenho a Certeza	2	2
Concordo	3	1
Concordo Fortemente	4	0