Perception of Dental students with regard to Progress Tests

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ABSTRACT

This study aimed to analyze the perception of students of the Dentistry of Progress Test (TP) 2014. Therefore, after completion of the TP, 284 students received a questionnaire, which addressed the perception of the degree of difficulty of the test in the basic and specific areas; the extent of the test; clarity and objectivity of statements; adequacy of the information / instructions provided to resolve the issues; confirmation of the content approach during the course; study of the contents by the students and evaluation of the time offered and used by the students to solve the questions. Spearman's correlation coefficient and correspondence analysis (SPSS-15 ©) were used. Thus, it was observed that the degree of difficulty of the test in the basic area and in the specific area was higher for the students of the first periods. With regard to the students' perception of extent of the test, the majority considered this, as well as the clarity and objectivity of the test to be adequate. Regarding the difficulty in performing the test, the students in the first periods reported ignorance of all content; and for the last periods, they reported a lack of motivation. Based on the results obtained, it could be concluded that the students' perception of the test demonstrated that it was being performed properly. Moreover, students in the initial periods were observed to report a lack of knowledge about the content, thus corroborating the objective of the test, which is to evaluate the cognitive gain of students as they progressed in the course.

Descriptors: Evaluation. Taxonomy. Professional Qualification. Education, Dental.

1 INTRODUCTION

The Progress Test (PT) is a longitudinal test, originally developed by the Universities of Maastricht and Missouri, in the 1970s, with the intention of evaluating the development of cognitive performance of undergraduate students during the course, and the course itself in a formative manner[1,2]. Therefore, the students have the opportunity of verifying their performance in the different areas of the course and curriculum, in addition to identifying their strengths and weaknesses. Moreover, through a process of feedback this would enable them to trace their study plans and seek professional education[3].

In Brazil, the PT became increasingly popular in medical schools, after application of the first test at the State University of Londrina (UEL). At present, this test has been applied in various schools, such as the State University of Campinas (Unicamp), Federal University of Santa Catarina (UFSC), São Paulo State University (Unesp), Federal University of São Paulo (Unifesp), University of São Paulo (FMUSP and FMRP–USP), Regional University of Blumenau (Furb) and School of Medicine of Marília (Famema)[4].

However, in spite of the TP being well established in the medical schools, in Dentistry it is still in the stage of adaptation, because in spite of the similarities in basic knowledge, the early initiation of clinical practice in the Dentistry course makes learning sharply focused on gaining practical skills. This may directly interfere in the manner in which the test is constructed[4]. Therefore, longitudinal evaluations have not been extensively tried out in undergraduate students in Dentistry, and there have been few Brazilian examples, such as in the Dental School of the University of São Paulo (USP) and International schools such as the College of Medicine and Dentistry, in the United Kingdom[6]. As may be perceived, the implementation of the PT is not a simple matter, because it involves a change in thinking and in the academic culture of how assessments are made.

In this scenario, it is important to consider evaluation of the students, with the purpose of improving the manner of assessment, as has been done at the University of Porto in Portugal and University of Rio de Janeiro (UFRJ)[7,8].

The purpose of evaluating the perception of students is to enhance, recapitulate or exemplify the process of assessment. Over the last few years this topic has constantly been remembered in the area of formative evaluation, due to the need for evaluators to improve their work, based on new concepts and instruments[9]. Although concern has been expressed in different programs of self-assessment of higher learning institutions, there is a gap with regard to the dissemination of reports and theoretical-methodological reference about how to conduct them[9].

The School of Medical and Health Sciences of Juiz de Fora (FCMS/JF) has implemented the PT since 2009 as an instrument of evaluation in the course of Dentistry. Therefore, the aim of the present study was to analyze the perception of students in relation to the PT of the Dentistry Course, performed in 2014.

2 METHODOLOGY

The study was approved by the Research Ethics Committee of FCMS/JF that issued the Approval Protocol No. 697,155).

The PT in Dentistry, carried out in the first semester of 2014, contemplated 100 closed questions with 5 alternatives each (represented by the letters a, b, c, d e e) and approached the following contents in the basic area: Linguistic Instrumentalization, Anatomy, Immunology, Microbiology, Biosafety, Histology /

Odontogenesis / Embryology, Pharmacology, Bioethics and Health, and Methodology. In the specific area, the contents were as follows: Collective health / Epidemiology, Pathology, Radiology, Periodontology, Endodontics, Pediatric Dentistry, Orthodontics, Occlusion, Temporomandibular Dysfunction, Anesthesiology, Surgery, Dentistry, Cariology, Dental Materials and Prosthesis. This Test was applied to 284 students of the course, of whom the sample of this study was composed. At the institution, students' participation in the PT is compulsory.

After conclusion of the PT, the student receives a Term of Free and Informed Consent, informing about the aims of the evaluation, the risks and benefits of the study, and as soon as the student has signed it, he/she will receive a questionnaire on perception of the PT, with eight questions that each have 5 alternatives. The questionnaire applied was based on the questionnaire of perception of the test of the Brazilian National Exam on Students´ Performance (Enade) of the Dentistry Course.

The student was only required only to identify in which period of the course he/she was, and subsequently answered the questions anonymously. The content evaluation approached the following aspects: degree of difficulty of the test in the basic area (Question 1), perception of the degree of difficulty of the test in the specific area (Question 2), extent of the test (Question 3), clarity and objectivity of the statements (Question 4), suitability of the information/instructions provided for resolving the questions (Question 5), confirmation of the approach to the contents during the course (Question 6), study of the contents (Question 7) and evaluation of the time offered and used by the students for resolving the questions (Question 8).

In order to describe the variables, frequencies and percentages were used. To correlate the ordinal variables among them, the Spearman correlation coefficient was used, and for correlating the ordinal variables with the categorical variables (Question 6), the multivariate technique, analysis of correspondence was used. The level of significance considered was $p<0.05$ and the statistical software use was SPSS-15®.

3 RESULTS

All of the 285 students enrolled in the 1st semester of 2014 at the Dental School of FCMS/JF participated in the PT2014 and answered the perception questionnaire. Of these, 215 (75.7%) were of the female, and 69 (24.3%) of the male gender.

There was significant correlation between the degree of difficulty of the test with the periods; with the beginner students having the greatest difficulty and the students in the last periods, the least difficulty. In Question 1 (Basic Area Contents) a higher percentage of the choice of option "c - Average" was observed, the more advanced the periods were (1stp: 31.0%, 2ndp: 50.0%, 3rdp: 46.4%, 4thp: 64.5% 5thp: 79.5%, 6thp: 59.1%, 7thp: 75.8% and 8thp: 90.0%) and reduction in the choice of option "d- Difficult" (1stp: 42.9%, 2ndp: 34.0%, 3rdp: 33.9%, 4thp: 25.8% 5thp: 15.4%, 6thp: 27.3%, 7thp: 9.1% and 8thp: 0%) (figure 1, *Spearman* Correlation = -0.262; $p = 0.000$).

In Question 2 (specific component) the same could be observed (letter "c - Average" - 1stp: 19.0%, 2ndp: 56.0%, 3rdp: 57.1%, 4thp: 67.7% 5thp: 61.5%, 6thp: 77.3%, 7thp: 66.7% and 8thp: 100.0% and letter "d - Difficult" - 1stp: 57.1%, 2ndp: 34.0%, 3rdp: 33.9%, 4thp: 25.8% 5thp: 38.5%, 6thp: 18.2%, 7thp: 15.2% and 8thp: 0.0%) (figure 2, *Spearman* Correlation = -0.259; p = 0.000). The options "Very difficult" were seldom marked, with a mean of 5 to 15% for the

two questions.

Relative to the student's perception about the extent of the test in relation to the periods, it was observed that 177 (62.5%) considered it adequate, 67 (23.7%) long, 36 (12.7%) very long, 2 (0.7%) short, 1 (0.3%) very short and 1 (0.3%) did not answer this question (table 1). In spite of observing the trend towards adequate perception of the extent of the test, there was no significant correlation of this variable with the periods (*Spearman* Correlation= -0.104; *p* = 0.08).

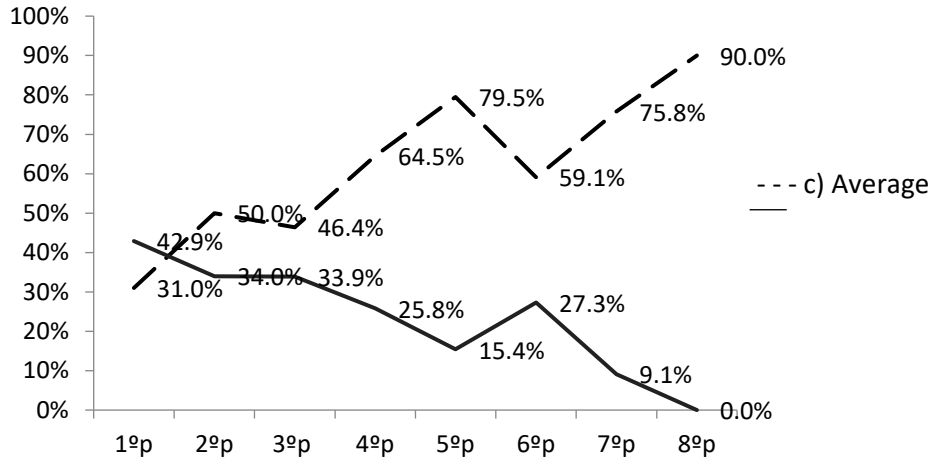

Figure 1. Correlation between the degree of difficulty of TP2014 in the basic area with the periods. A trend was observed towards decrease in option "d – difficult" and increase in the option "c - average" the more advanced in the course the students were (*Spearman* Correlation = -0.262; *p = 0.000).*

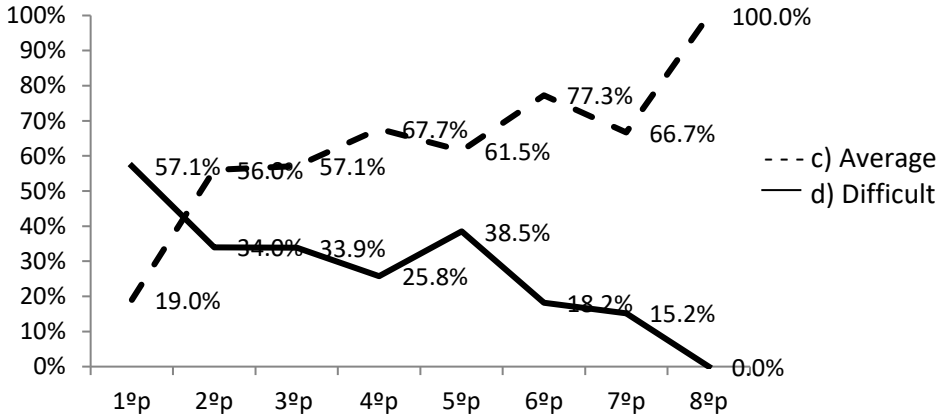

Figure 2. Correlation between the degree of difficulty of TP2014 in the basic area with the periods. A trend was observed towards decrease in option "d – difficult" and increase in the option "c - average" the more advanced in the course the students were (Spearman Correlation = -0.259; *p = 0.000)*

Table 1. Relationship of extent of test with periods (Spearman Correlation = -0.104; p = 0.08)

Period	Extent of test					
	a) Very long	b) Long	c) adequate	d) short	e) very short	Total
1st	2 (4.8%)	8 (19.0%)	32 (76.2%)	0	0	42
2nd	5 (10.0%)	12 (24.0%)	33 (66.0%)	0	0	50
3rd	7 (12.5%)	17 (30.4%)	31 (55.45%)	0	1 (1.8%)	56
4th	3 (9.7%)	7 (22.6%)	20 (64.5%)	1 (3.2%)	0	31
5th	8 (20.5%)	7 (17.9%)	24 (61.5%)	0	0	39
6th	4 (18.2%)	3 (13.6%)	15 (68.2%)	0	0	22
7th	6 (18.2%)	11 (33.3%)	15 (45.5%)	1 (3.0%)	0	33
8th	1 (10.0%)	2 (20.0%)	7 (70.0%)	0	0	10
Total	36 (12.7%)	67 (23.7%)	177 (62.5%)	2 (7.0%)	1 (4%)	283

When asked about the clarity and objectivity of the statements, the majority of students were found to have checked mostly letters "a - Yes, all of them" (36.7%) (1stp: 45.2%, 2ndp: 50.0%, 3rdp: 35.7%, 4thp: 45.2% 5thp: 25.6%, 6thp: 27.3%, 7thp: 24.2% and 8thp: 20.0%) and "b - Yes, the majority" (50.5%) (1stp: 50.0%, 2ndp: 40.0%, 3rdp: 48.0%, 4thp: 41.9% 5thp: 61.5%, 6thp: 45.0%, 7thp: 63.6% and 8thp: 70.0%)

However, in the analysis of correspondence of the alternatives per period, significantly lower perception of clarity and objectivity by the students of the last periods was observed, because in these periods the student less frequently marked alternative "a - Yes, all of them" and they increased choice of alternative "c - Only about half of them" (1stp: 2.4%, 2ndp: 8.0%, 3rdp: 10.7%, 4thp: 12.9% 5thp: 12.8%, 6thp: 22.7%, 7thp: 9.1% and 8thp: 10.0%) and of the alternative "d - Few" (1stp: 0.0%, 2ndp: 2.0%, 3rdp: 5.4%, 4thp: 0.0%, 5thp: 0.0%, 6thp: 4.5%, 7thp: 3.0% and 8thp: 0.0%) (figure 3, Spearman Correlation = 0.179; p = 0.002). Therefore, it was understood that the students of the first periods perceived the test to be clearer and more objective in comparison with those of the last periods.

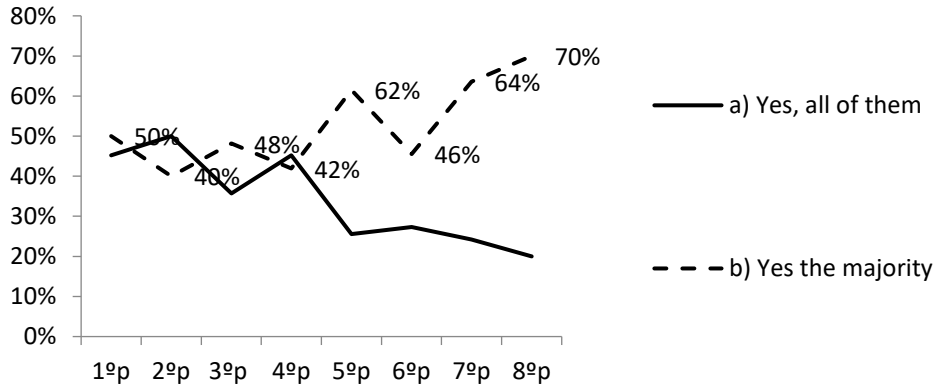

Figure 3. Correlation between clarity and objectivity of the questions of the test and periods. From the 1st to 4th periods the alternative "b - yes the majority", was observed to obtain 40 and 50%, while in the last periods this rose to 70%.

With reference to the correlation of Question 5 (suitability of the information /instructions provided for resolving the questions) with the periods, in spite of the majority of students having answered letter "b - Yes, in all of them"; in 41% of all the alternatives (1stp: 42.9%, 2ndp: 46.0%, 3rdp: 35.7%, 4thp: 48.4%, 5thp: 35.9%, 6thp: 50.0%, 7thp: 33.3% and 8thp: 40.0%) and letter "c - Yes, in the majority of them", with 43% of all the alternatives (1stp: 35.7%, 2ndp: 40.0%, 3rdp: 44.6%, 4thp: 29.0%, 5thp: 53.8%, 6thp: 45.5%, 7thp: 54.5% and 8thp: 50,0%); there was no statistically significant correlation of the alternatives with the periods, as illustrated in Figure 4 (*Spearman* Correlation = 0.018; $p = 0.761$).

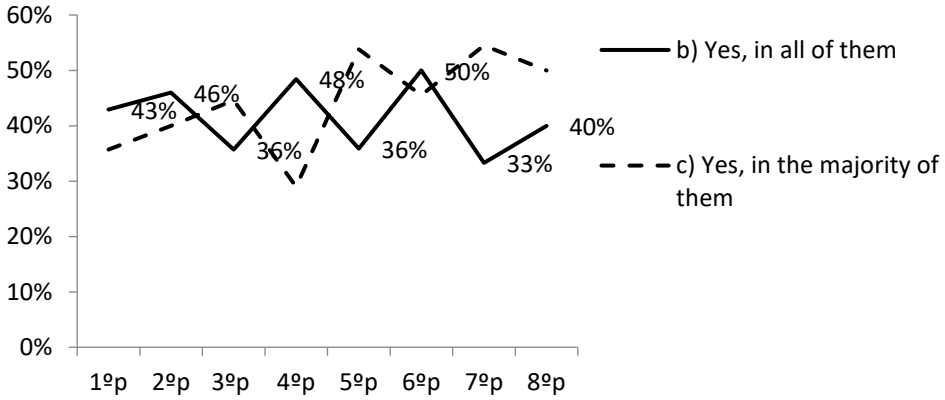

Figure 4. Correlation between the perception of the information/instructions provided for resolving the questions of TP2014 with the periods The majority of students were observed to answer "b - Yes, in all of them" or "c - Yes, in the majority of them", with fluctuations between 30 and 55% (*Spearman* Correlation= 0.018; $p = 0.761$)

When the students were asked about the greatest difficulty found when answering the test (Question 6), after applying the multivariate technique for analysis of correspondence, the first periods (first to fifth) were perceived to come significantly closer to "a - I have not yet studied the majority of these contents"; those in the sixth and seventh periods came closer to letters "b - a different form of approaching the content" and "d - lack of motivation to do the test", while those in the eighth period were shown to have an atypical behavior, as illustrated in Figure 5 and Table 2 (*Spearman* Correlation= 0.069, $p = 0.000$).

About the correlation of the study of contents with periods, the perception of Dental students was that there was a significant perception of cognitive gain during the course of the periods, expressed by the trend towards the increase in checking letter "d"- I studied and learned a great deal from these contents (1stp): 4.8%, 2ndp: 4.0%, 3rdp: 16.1%, 4thp: 38.7% 5thp: 33.3%, 6thp: 72.7%, 7thp: 60.6% and 8thp: 70.0%) and diminished option for letter "a" I

have not yet studied the majority of these contents (1stp: 95.2%, 2ndp: 88.0%, 3rdp: 57.1%, 4thp: 29.0% 5thp: 25.6%, 6thp: 13.6%, 7thp: 6.1% and 8thp: 0.0%), as illustrated in Figure 6 (*Spearman* Correlation= 0.651; p = 0.000).

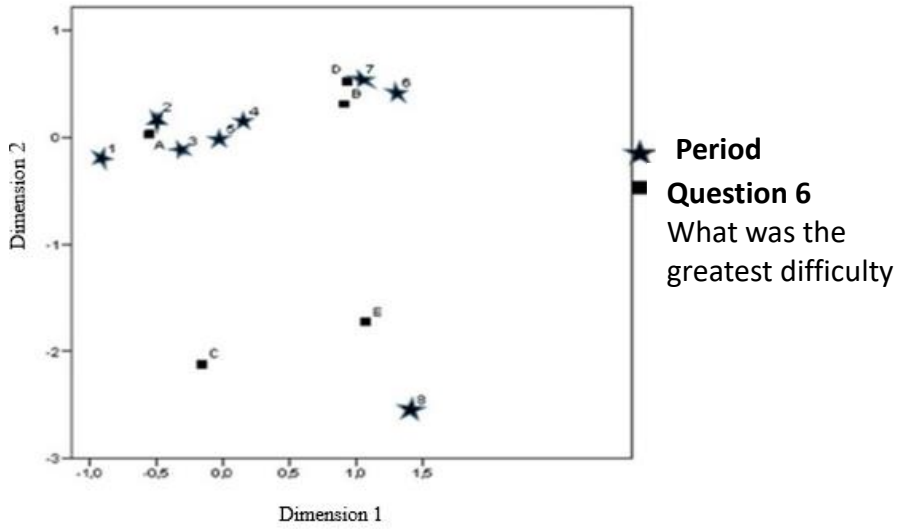

Figure 5. Correlation between the alternatives of Question 6 and the periods. From the first to the third periods, a closer approximation to option "a" was perceived "a - I have not yet studied the majority of these contents"; those in the sixth and seventh periods came closer to option "d -lack of motivation to do the test" and those of the eighth period were shown to have an atypical behavior (*Spearman* Correlation= 0.069, p = 0.000)

Table 2. Answers to question 6 relative to the greatest difficulty found in answering the test among period (*Spearman* Correlation = 0.069, p = 0.000)

Period	a) I have not yet studied the majority of these contents	b) different form of the approach of the content	c) Insufficient space to answer the questions	d) Lack of motivation to do the test	e) I had no difficulty whatever to answer the test	Total
1st	39 (22.9%)	1 (1.7%)	1 (20%)	0 (0%)	1 (6.3%)	42
2nd	40 (23.0%)	6 (10.3%)	0 (0%)	3 (10.3%)	1 (6.3%)	50
3rd	38 (21.8%)	9 (15.5%)	3 (60.0%)	4 (13.8%)	1 (6.3%)	55
4th	18 (10.3%)	7 (12.1%)	0 (0%)	4 (13.8%)	2 (12.5%)	31
5th	25 (14.4%)	7 (12.1%)	0 (0%)	4 (13.8%)	3 (18.8%)	39
6th	4 (2.3%)	11 (19.0%)	0 (0%)	5 (17.2%)	2 (12.5%)	22
7th	9 (5.2%)	14 (24.1%)	0 (0%)	8 (27.6%)	2 (12.5%)	33
8th	1 (6%)	3 (5.2%)	1 (20%)	1 (3.4%)	4 (25%)	10
Total	178	58	5	29	16	282

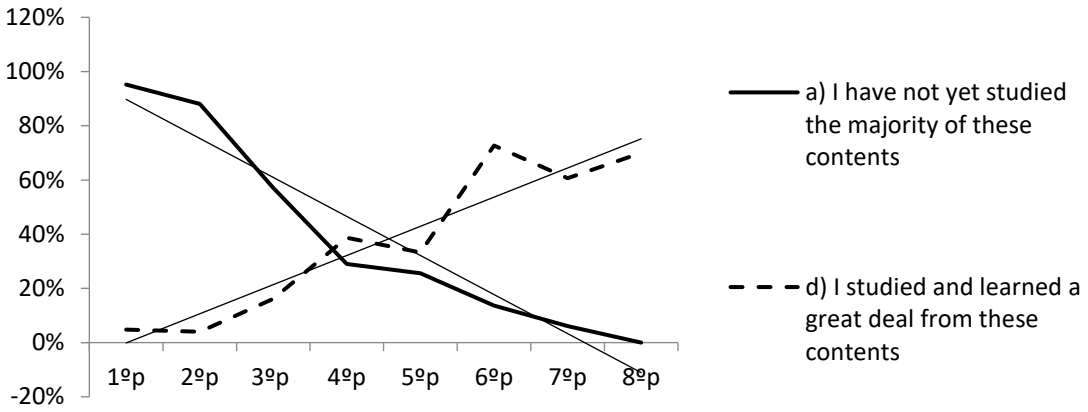

Figure 6. Correlation between the alternatives of Question 7 and the periods. A trend was perceived towards more frequently checking option "d - I studied and learned a great deal from these contents" and less frequently the option "a - I have not yet studied the majority of these contents" as the student advanced in the course *(Spearman* Correlation = 0.651; *p=0.000)*

Whereas in relation to the time offered and used by the student to conclude PT 2014, 67.4% of the students checked the option of between one and two hours, 25.8% checked between two and three hours, 4% did not manage to finish the test, 3.9% did the test in under one hour and 2.5% took between three and four hours to do the test; there was no significant correlation with the periods, as demonstrated in Table 3 (*Spearman* Correlation = 0.054; *p* = 0.371).

Table 3. Evaluation of the time offered and used by the students for resolving the questions, according to the periods (*Spearman* Correlation = 0.054; *p* = 0.371)

Period	a) Under one hour	b) Between one and two hours	c) Between two and three hours	d) Between three and four hours	e) Four hours and I did not manage to finish the test	Total
1st	3 (7.3%)	32 (78.0%)	5 (12.02%)	0	1 (2.4%)	41
2nd	4 (8.0%)	30 (60.0%)	15 (30.0%)	1 (2.0%)	0 (0%)	50
3rd	3 (5.5%)	30 (54.5%)	20 (36.4%)	2 (3.6%)	0 (0%)	55
4th	0	21 (67.7%)	9 (29.0%)	1 (3.2%)	0 (0%)	31
5th	0	27 (71.1%)	10 (26.3%)	1 (2.6%)	0 (0%)	38
6th	0	17 (77.3%)	5 (22.7%)	0	0 (0%)	22
7th	1 (3.0%)	25 (75.8%)	6 (18.2%)	1 (3.0%)	0 (0%)	33
8th	0	6 (66.7%)	2 (22.2%)	1 (11.1%)	0 (0%)	9
Total	11 (3.9%)	188 (67.4%)	72 (25.8%)	7 (2.5%)	1 (4%)	279

4 DISCUSSION

Elaboration of the Progress Test is a challenging task [10,11.] To do this the professional elaborating the test must have a clear objective, with the purpose of producing information such as: the average level of knowledge for a group of students and individually, both at a specific point of the course, and during the progress of the course; the possibility of comparing institutions that conduct the same test and institutional self-evaluation, allowing analysis of the relationship between the content and curricular structure of undergraduate courses[4,11].

This study enabled an evaluation of the perception of students with regard to the degree of difficulty of the test, its extent, clarity and objectivity of the statements, suitability of the information/instructions provided for resolution of the questions, confirmation of the approach to the contents during the course, study of the contents by the students and evaluation of the time offered and used for resolving the questions. Therefore, the course was observed to be considered more difficult, both in the basic and specific areas, the less advanced the students were in the course. With the passage of time, in the more advanced periods, this difficulty diminished in both areas. This result has been observed in other institutions that have used the progress test in a formative manner in their curricular matrices. Therefore, when the percentage of correct answer of the students of UEL was analyzed, an increase in cognitive gain was perceived as the course advanced. [4] Other studies, such as that conducted at the *King Saud bin Abdulaziz University for Health Sciences* (KSAU-HS)[12] and at the School of Medicine of the University of São Paulo (USP)[13], corroborated the affirmation that the students perceived improvement in the acquisition of knowledge by means of the progress test.

When analyzing the extent of the test in this study, some students considered it long or very long, however, the majority considered it adequate. Many universities conduct the test with 100 or more questions, such as the English and American universities that use between 100 and 125 questions; the Dutch with 200 and even in Brazil there is a range from 120 to 150 questions[2,4,10,14,15]. The quality of questions must be considered to define the number to be approached in the test. When the quality is high, this does not justify increasing the number of questions, because an excessive number of question may result in tiring the students and harming their performance[4].

Relative to clarity and objectivity of the test statements, it was observed that in spite of the difference in knowledge of each period, the majority of the students considered the test objective and clear, however, this perception diminished significantly in the last periods. As regards the suitability of the information/ instructions provided for resolving the questions, approximately 84% of the students (adding together options b and c) perceived that the information and instructions provided were adequate for resolving the questions, without statistical significance being observed between the periods. Taking into consideration that each institution has its own methods of formulating the test, some differences, such as true or false questions, or discursive questions may interfere in the students' interpretation, so that it is extremely important for any system of evaluation to include reliable and precise measurements of acquisition of knowledge[4,16].

As far as the approach to contents during the course is concerned, in the initial periods, not having knowledge of the content was the alternative most frequently checked. This was expected when formulating the hypotheses for this study, since the aim of the progress test was to enable the student to obtain cognitive gain as the course advanced. This result has been corroborated by different studies that have

reinforced the aim of the progress test, which is to gain longitudinal progress in the teaching-learning process [1-3,6,17]. A study conducted at the *Ludwig-Maximilians-Universität* (LUM) in Munich sought to evaluate not only the cognitive growth of students, but the acquisition of permanent knowledge as well, and concluded that the introduction of the progress test could contribute to the permanence of knowledge. The study results demonstrated the increase in knowledge occurs continually, and depends on the students' experiences in both the clinical and theoretical parts of their studies [18]. Yet students in the final periods reported lack of motivation to do the test. Studies have demonstrated that one of the factors that influence the results of the PT was exactly the lack of motivation of students to do the test, and that mere immersion in practice is insufficient for developing competences and resolving a specific problem[4,19]. It is necessary to organize the teaching-learning process by encouraging the development of professional competence with emphasis on the psychomotor and cognitive skills; This is why it is relevant to establish formative evaluations in which the focus is not merely classificational/ classificatory; but rather of the type that promote continual learning.

In various universities the PT has an average number of 100 to 200 questions, and the time allowed for answering them varies from two and a half, to three hours[2,10,14,15]. A total time of four hours was planned for the student to conclude PT2014, consisting of 100 questions. Of the 284 students who did the PT, 177 considered the time adequate, in spite of 62.3% students having done the test in one to two hours, and 23.7% of them, in two to three hours. This result suggested that, as happens in developed countries, the test could in fact be planned with a shorter time of duration.

The strengths of our study refer to the number of students who participated in the research, and the fact that the study provided the teachers with a diagnosis of issues found in their content of the disciplines assessed. Nevertheless, a severe limitation of doing the PT was the lack of motivation of students in the more advanced periods because the test was not a summative assignment at the institution. This fact influenced the study, because it also discourages adequate completion (answering of the questions) of the evaluation. Another limitation was that the study was conducted at one time only. Other studies are being conducted in order to enable longitudinal comparisons to be made between tests performed at different periods of time.

According to the National Curricular Guidelines ("Diretrizes Curriculares Nacionais") (DCN) for undergraduate courses in Dentistry, instituted by Resolution CNE/CES 3, of February 19, 2002, methodologies and criteria must be used to follow-up and evaluate the teaching-learning process and the course itself, in agreement with the system of evaluation and the curricular dynamics defined the higher learning institution to which they belong[20]. Furthermore, the DCN recommend the acquisition of general competences and skills such as health care, decision-making, communication, leadership, administration and management as well as permanent education. In this study, the lack of motivation of the students in the last periods relative to taking the test could be observed. This demonstrated a gap in the development of a critical spirit or lack of understanding of the process, which makes decision-making difficult. However, the perception that there was a cognitive gain of the contents in the PT relationship with the periods, met the requirement of ability to gain permanent education, in which students learn to learn and take responsibility for their education and become committed to it. This will make them future professionals with the ability to administer and manage their professions and then deal with responsibly.

In view of the foregoing, PT could be considered a form of longitudinal evaluation of the cognitive development of students that is applied during the undergraduate course. Its purpose is not only to evaluate the cognitive performance of students, but the aspects of the undergraduate course itself as well, without concern about aspects related to their passing, failing or being classified by the test. Therefore, evaluating the perception of Dentistry students of the PT also contributed to the construction of skills recommended by the DCNs, in addition to providing reliable information for enhancing this evaluation.

5 CONCLUSION

The perception of students in relation to the PT demonstrated that the test is being conducted in an adequate manner. Furthermore, it was observed that in the initial periods the student reported lack of knowledge of the content, data that corroborated the aim of the test, which was to evaluate the cognitive gain of students as they advanced in the course.

RESUMO

Percepção dos acadêmicos de Odontologia em relação ao teste de progresso

Este estudo teve como objetivo analisar a percepção dos acadêmicos de Odontologia em relação ao Teste de Progresso (TP). Após o término do TP, os 284 estudantes do curso receberam um questionário, que abordava a percepção do grau de dificuldade do teste na área básica e específica; a extensão da prova; clareza e objetividade dos enunciados; adequação das informações/instruções fornecidas para a resolução das questões; confirmação da abordagem dos conteúdos durante o curso; estudo dos conteúdos pelos estudantes e avaliação do tempo ofertado e utilizado pelos estudantes na resolução das questões. Empregou-se o coeficiente de correlação de *Spearman* e análise de correspondência. Desta forma, observou-se que o grau de dificuldade da prova na área básica e na área específica foi maior nos primeiros períodos e quanto à percepção do estudante em relação à extensão da prova, a maioria considerou adequada, bem como a clareza e objetividade do teste. Quanto à dificuldade na realização do teste, os primeiros períodos relataram o desconhecimento de todo o conteúdo e para os últimos períodos, houve falta de motivação. A maioria dos estudantes respondeu que utilizou entre uma e duas horas para realizar o teste. Conclui-se que a percepção dos acadêmicos demonstra que o TP está sendo realizado de forma adequada. Observou-se ainda que os períodos iniciais relataram desconhecimento do conteúdo, o que corrobora com o objetivo do teste, que é avaliar o ganho cognitivo dos estudantes à medida que avançam no curso.

Descritores: Avaliação. Taxonomia. Formação Profissional. Educação em Odontologia.

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