

Mentoring process: analysis of students' perception of the discipline of Management and Planning in Dentistry at FOUSP

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ABSTRACT

This study aimed to analyze the perception of graduate students in the last year of the Dentistry Course at the University of São Paulo School of Dentistry (FOUSP) of the mentoring process implemented in the discipline of Management and Planning. The sample comprised 122 students enrolled in the Management and Planning discipline at FOUSP. During mentoring, students were divided into groups of eight members, and tutoring meetings were held by post-graduate students to discuss personal and professional issues. At the end of the semester, students answered a questionnaire about the mentoring process and the positive and negative aspects of the discipline. Tutors were trained in the previous semester alongside a pilot study with 20 graduate students. A correspondence analysis was conducted to evaluate the discipline, and a quantitative textual analysis using the Iramuteq software was used to assess the responses to the open questions. Approximately 97% of the students participated in the survey. The majority rated the discipline as good (55.1%) and excellent (33.9%). Regarding the mentoring process, 62.7% considered the activities excellent and 32.2% good. When asked about the strengths of the discipline, 48.3% of students highlighted tutoring. When verifying the co-occurrence and connectivity of the words, a strong relationship was found between the terms “meeting,” “group,” “student,” and “future.” Thus, graduate students' perception of the mentoring process is positive, which in addition to being an instructional process, also serves as support for the final year at the university.

Descriptors: Tutoring. Education. Education, Dental. Students, Dental.

1 INTRODUCTION

Graduate students face several challenges during a course, especially in the field of health sciences. In addition to having an extensive workload, these students need to adjust to a new routine and deal with inexperience, insecurities, stress, and suffering^{1,2}.

In this context, when an arduous routine is added to the last year of the course, students become more prone to mental health disorders such as stress, memory lapses, and lack of motivation^{3,4}. This reinforces the fact that educational institutions must plan and implement measures to help students' mental health and well-being².

The process of mentoring constitutes a non-hierarchical relationship in which individuals have different roles. The participants interact to help the professional career of the less experienced person through an informal relationship⁵. Its main goal is to offer student support through communication and dialogue with a more experienced person, who is called a mentor⁶.

The mentor, through guidance and counseling, helps the less experienced person's personal, educational, and professional development. More experience can also contribute to addressing problems by facilitating the decision-making process when facing new challenges⁷.

Mentoring programs started to appear in the United States (US) in the 20th century and were implemented in health education in the 1990s, mainly in nursing schools⁸.

In Germany, the use of this process with medical students has been reported. There, those in the pre-clinical phase are mentored by students already in the clinical phase, who in turn, are mentored by residents or professors⁹. Similarly, in the US, the mentoring process has been

applied to teaching through the formation of groups with mentors and mentees and to guide issues related to their training¹⁰.

In Brazil, mentoring has been growing gradually, mainly to promote a more humanized approach to health education¹¹. This process has considerably assisted students in their self-knowledge; emotional maturity; evolution of their academic life; and in their ability to deal with their problems in an ethical, critical, and reflective way¹².

According to the theoretical framework developed by Launer (2010)¹³, mentoring, when offered within the structure of a health discipline or course, can cover practical and clinical aspects as well as issues related to professional relationships and career plans. It is common for personal issues and even family events to emerge as important themes in this process.

Since dentistry is a health course and it is known that students face great professional and personal difficulties, it is important to study and report how the mentoring process impacts their lives. Thus, the objective of this research is to analyze students' perceptions in the last year of the dentistry course at FOUSP in relation to the mentoring process.

2 METHODS

An exploratory quantitative study was conducted. The project was approved by the Ethics Committee of the University of São Paulo School of Dentistry, FOUSP (CAAE n° 35560314.1.0000.0075). An explanation was given to the students regarding the research and its objectives. Afterward, they were invited to participate and asked to sign an informed consent form.

Post-graduate students were trained to carry out the mentoring meetings in the previous semester when they were able to follow meetings

held by more experienced mentors. During the same period, a pilot study was conducted with 20 graduate students who remarked on the clarity of the questions in the questionnaire.

In total, 122 students in the daytime and nighttime classes were enrolled in the discipline of Management and Planning at FOUSP in 2018. Initially, the students were divided into smaller groups, and during the semester, tutoring meetings were held guided by post-graduate students. Eight students and two tutors participated in each meeting. The mentoring process was carried out after theoretical classes. The students sat in a circle, and each participant was encouraged to talk about their professional plans and ask questions about future professional challenges. Life plans, fears, and anxieties were discussed in a friendly and motivational environment.

At the end of the semester, a questionnaire was administered at the same time as the final assessment of the discipline. All students officially enrolled in the discipline who were present that day were included.

The questionnaire included two closed-ended questions and one open-ended question. In the closed-ended questions, students were asked to evaluate the mentoring process by marking on a scale the option best describing their level of satisfaction (poor, satisfactory, good, and excellent). The same question was asked regarding the discipline. In the open question, students were asked to describe the strengths and weaknesses of the discipline.

The questionnaires were self-administered and delivered by the same researcher. Data were tabulated in an Excel spreadsheet (Microsoft, Redmond, WA, USA). The dependent variable was students' assessment of the discipline and mentoring process. Data were stratified by participants' gender (male/female).

The answers to the open question were

evaluated, and only those referring to the mentoring process were included in the analysis. Subsequently, the answers were transcribed manually into a digital text file. A quantitative textual analysis was performed using the Iramuteq 0.7 alpha 2 software (Toulouse, France). This approach classifies the grammatical class of words, quantifies the occurrence of words in speech, calculates the co-occurrence between the most frequent terms, and identifies word communities, as recommended by Ratinaud et al. (2012)¹⁴, Souza et al. (2018)¹⁵, and Bienemann et al. (2020)¹⁶.

Stata® software version 12.0 (StataCorp., College Station, TX, USA) was used for the statistical analysis. First, a descriptive analysis of the sample was performed. Next, a correspondence analysis was used to assess the discipline with mentoring, and a chi-square test was performed to correlate mentoring with gender. The level of significance was 5%.

3 RESULTS

Of the 122 students enrolled, 118 (96.7%) attended the day of the final assessment and none refused to answer the questionnaire. Of these, 91 (77.1%) were women and 27 (22.9%) were men. As for the assessment of the discipline, 55.1% of students considered it good and 33.9% excellent. Regarding the mentoring process, 62.7% considered it excellent and 32.2% considered it good. None of the students rated discipline or mentoring as poor (table 1).

When evaluating the degree of satisfaction with the mentoring process, the most common options for both genders were "great" and "good" (figure 1). Furthermore, 64.8% of the females and 55.6% of the males rated the mentoring process as "great." However, when the association of gender with the evaluation of the mentoring process was performed, no difference was found in the statistical association ($p=0.247$) (table 2).

The correspondence analysis showed that the students who positively evaluated the discipline also positively evaluated the mentoring process (figure 2).

No negative points related to tutoring were noted. However, 48.3% of students highlighted tutoring as a positive aspect of the discipline. When analyzing the frequency of words in the speeches, the most reported were meeting (30 times), group

(27 times), future (7 times), students (6 times), thinking (5 times), and discipline (4 times).

Based on a lexical similarity analysis generated by the Iramuteq software, it was possible to see the co-occurrence of the words providing information about the connectivity between them. Four word communities were formed with a strong relationship between the terms “meeting, group, student, and future,” as Figure 3 shows.

Table 1. Numerical and percentage distribution of students according to the assessment of the discipline and mentoring

Variable	n	%
Discipline		
Excellent	40	33.9
Good	65	55.1
Satisfactory	10	8.5
Poor	-	-
Mentoring		
Excellent	74	62.7
Good	38	32.2
Satisfactory	6	5.1
Poor	-	-

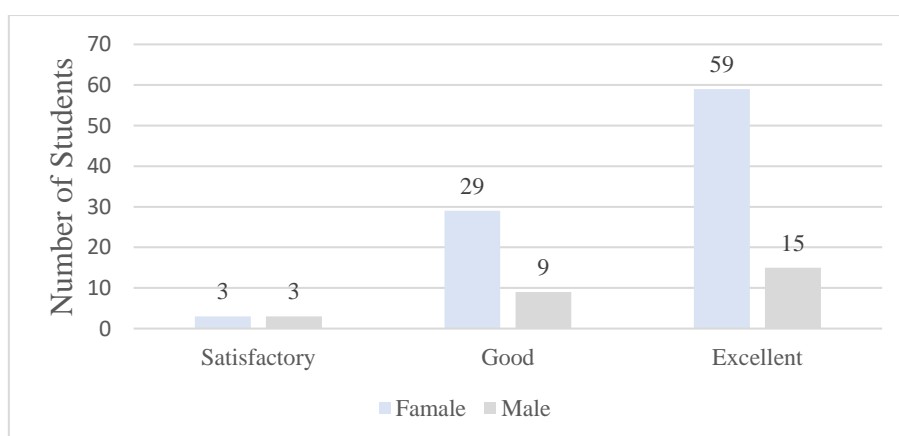


Figure 1. Distribution of students according to the assessment of the mentoring process and gender

Table 2. Distribution of students and association between the assessment of the mentoring process and gender

		Gender		p-value*	
		Female	Male		
Mentoring	Excellent	Score	59	15	p=0.247
		% in Gender	64.8%	55.6%	
	Good	Score	29	9	
		% in Gender	31.9%	33.3%	
	Satisfactory	Score	3	3	
		% in Gender	3.3%	11.1%	

* Chi-square test at a significance level of 5%

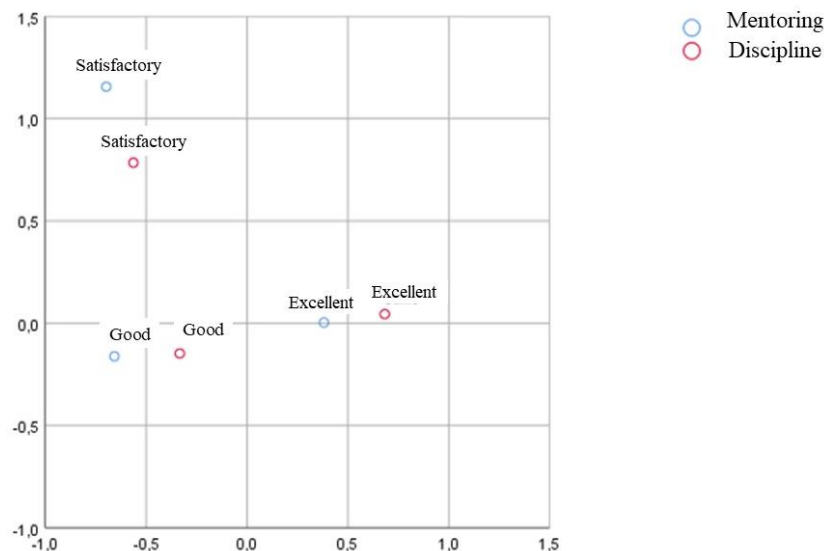


Figure 2. Biplot according to an evaluation of the discipline and of the mentoring process

4 DISCUSSION

Mentoring is defined as the process in which a mentor (more experienced) helps mentees in their professional development¹⁷. However, to obtain a satisfactory result, a direct and trusting relationship must be developed between both parties¹⁸. This connection provides a mutual benefit, as it generates an environment of encouragement, reflection, and two-way learning in which the tutor

also learns from the person tutored¹⁹⁻²¹.

The importance and effectiveness of mentoring have been reported, as in the study by Sattar et al. (2017)²², in which 86.8% of students indicated realizing the value of having a mentor. Likewise, the experience reports by Franzoi et al. (2020)²³, Lopes et al. (2021)²⁴, and Lemos et al. (2020)¹² showed that mentoring programs had a transforming power in the lives of students, as they

allowed them to develop reflective and human skills in both their professional and personal lives. Based on these factors, the students in our study

may have also identified advantageous points in the activity and therefore, positively evaluated the mentoring process.

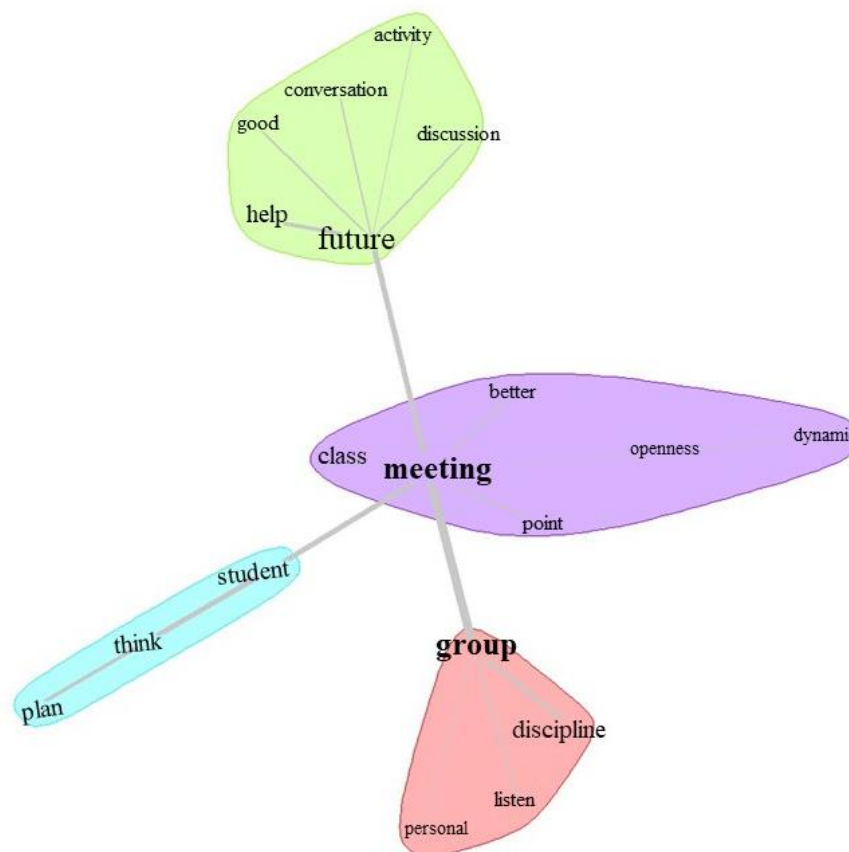


Figure 3. Lexical similarity analysis

Analyzing students from Bahria, Pakistan, Ali et al. (2015)²⁵ found that the greatest advantage of mentoring activity was personal support and sensitivity to the problems faced, regardless of when it is performed during an undergraduate course.

The Management and Planning discipline is a mandatory component of the curriculum structure of the FOUSP dentistry course, and offered to students completing the full (10th semester) and evening (12th semester) courses. The course is guided by the principles of student-centered learning with the support of teachers

and tutors as facilitators of the teaching-learning process. From this perspective, learning is understood as a social, collaborative process developed through active methodologies that encourage students to build their own meaning regarding new knowledge and encouraging teaching strategies such as debates, challenges, group work, experiences, and self-reflection²⁶.

The last year of the undergraduate course generates greater anxiety, doubts, and anxieties, as the student needs to deal with future issues and think about their entry into the job market^{2,3}. Thus, the fact that this research was applied to

final-year students may have contributed to the positive perception of mentoring and discipline, as the mentoring process helps address both professional and personal matters.

In addition, the discipline of Management and Planning is articulated with the National Curriculum Guidelines (DCN) of the undergraduate course in dentistry by promoting the training of professionals with a critical and reflective profile who are proactive, entrepreneurial, communicative, and have a leadership attitude and the ability to manage health services and teams²⁷. For Feuerwerker (2003)²⁸, the changes in the training of the workforce proposed by the DCN are a response to profound social, scientific, and institutional changes, as well as those in the field of health and dentistry. In this context, the adoption of active teaching methodologies becomes essential, as it allows the integration of theoretical and practical knowledge, construction of knowledge based on the experimentation of reality, and production of knowledge associated with teaching.

Students of both genders had a favorable opinion on tutoring. Furthermore, no statistical difference was found between them, contrasting that reported in Bettis et al. (2019)²⁹ and Sattar et al. (2017)²², who found that women reported greater benefit from this activity. The authors considered that women are more receptive to conversations and express their feelings. However, the final moment of the graduation course generates great anxiety and many questions, which may have contributed to both genders demonstrating good performance in and a positive perception of the mentoring process. Furthermore, the fact that the meetings were conducted by graduate students may have generated greater identification on the part of the students, which made them more comfortable in sharing their emotions.

Mentoring programs aim to encourage the

participation of all, including giving voice to those who are shy or with a more challenging problem¹². However, a limitation of this method is that not all students are able to perform equally in this activity, because of their different personalities and difficulty in creating bonds in the same proportion³⁰.

Peer tutoring is defined as a formal relationship in which a more qualified student guides the less qualified in meetings. This horizontal relationship between mentors and mentees enables greater connections and more effective bonds. Although still little reported, it is considered enriching for higher education³¹, which corroborates the results of the present study, since the meetings were conducted by graduate students. This may have generated greater identification on the part of students, making them more comfortable in sharing their emotions. This may have contributed to 48.3% of the participants in this study highlighting mentoring as the main positive point of the discipline.

Martins et al. (2016)³² found that a mentoring process carried out in groups stimulated reflection on professional training. This justifies the fact that the words “group” and “meeting” are the most often reported by students when responding to questions on the positive aspects developed in the discipline, as they are senior students facing insecurities related to the indefinite future after the end of the undergraduate course.

The choice of mentoring as a practical activity to the student is valid, and the tutor perceives improvement in self-awareness, capacity for reflection, and decision making³². Ghahramani et al. (2019)³³ reported that 53% of the analyzed students believed that tutoring had a positive impact on their future decisions. This substantiates the term “future” appearing in third place when analyzing the frequency of words.

In a study by Sattar et al. (2017)²², most students reported that mentoring activity is challenging and makes them reflect on new skills. Therefore, it is possible that students report the word “thinking” with high frequency, as it is one of the benefits provided by the tutoring activity.

Several authors conducted a quantitative textual analysis, mostly using the Iramuteq software^{16,34-37}. This software was created by Pierre Ratinaud and was initially only available in French; however, it currently has full dictionaries in several languages¹⁴.

Among several functions, in addition to counting the frequency of words, the program performs an analysis of lexical similarity and in a graph illustrates the co-occurrence of words and their connectivity^{34,37}.

In this analysis, interesting is that four-word communities were created. At the center are the terms “meeting,” “class,” and “dynamic,” which refers to the mentoring process itself. The second group included words such as “think,” “plan,” and “student,” indicating the role of the mentee in this activity. Analyzing the third group showed that it highlights the benefits of the activity performed, as it encompasses words such as “future,” “conversation,” “good,” “discussion,” and “help.” The last group joins terms that refer to the space in which the activity took place, including words such as “group” and “discipline.”

In this context, when analyzing the interconnection between words and strength of co-occurrence, the meetings of groups in the discipline enabled students to think about their plans for the future.

In addition to being a cross-sectional study, another limitation of the research is that the students answered a questionnaire alongside the final assessment of the discipline; however, even so, the practice of the process of mentoring was

positively reported on. It is suggested that more research be conducted in this regard, including on tutors' level of satisfaction in view of all this dynamic.

5 CONCLUSION

It is concluded that the perception of undergraduate students is very positive of the mentoring process, which in addition to being an instructional process, also serves as a support for graduate students in dentistry.

RESUMO

Processo de mentoring: análise da percepção do estudante da disciplina de Gestão e Planejamento em Odontologia da FOUSP

O objetivo da presente pesquisa foi analisar a percepção dos estudantes de graduação do último ano do Curso de Odontologia da Faculdade de Odontologia da Universidade de São Paulo (FOUSP) em relação ao processo de *mentoring*. A amostra foi de 122 estudantes que estavam matriculados na disciplina de Gestão e Planejamento da FOUSP, os quais foram divididos em grupos de 8 integrantes e, durante o semestre, as reuniões de tutoria eram realizadas pelos pós-graduandos, para debater questões pessoais e profissionais. Ao final do semestre os estudantes responderam a um questionário sobre o processo de *mentoring* realizado e a respeito de pontos positivos e negativos da disciplina. O treinamento dos tutores foi realizado no semestre anterior, juntamente com um estudo piloto com 20 graduandos. Foi realizada uma análise de correspondência para a avaliação da disciplina com o *mentoring* e uma análise quantitativa textual por meio do *software* Iramuteq para avaliação das respostas da questão aberta. Dos estudantes incluídos, 96,7% participaram da pesquisa. Quanto à avaliação da disciplina, 55,1% dos respondentes a consideraram boa e 33,9% como ótima. Em relação ao processo de *mentoring*, 62,7% consideraram ótimo e 32,2% bom. Quando questionados quais eram os pontos positivos da disciplina, 48,3% dos estudantes destacaram a tutoria. Ao verificar a coocorrência

e conectividade das palavras, foi constatada uma forte relação entre os termos reunião, grupo, aluno e futuro. Diante disso, é possível concluir que a percepção do aluno de graduação é positiva em relação ao processo de *mentoring*, no qual além de ser um processo de instrução, serve também de apoio para o aluno do último ano.

Descritores: Tutoria. Educação. Educação em Odontologia. Estudantes de Odontologia.

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