

## FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY

Giuliana Martina Bordin<sup>1</sup>, Fernanda Harumi Oku Prochnow<sup>2</sup>  
Stéffany dos Anjos Francisco<sup>3</sup>, Fabiana Roberti Coneglian Machado<sup>4</sup>  
Carla Castiglia Gonzaga<sup>5</sup>, Marilisa Carneiro Leão Gabardo<sup>6</sup>  
Pablo Guilherme Caldarelli<sup>7</sup>

**Highlights:** (1) Emergency remote teaching had a significant impact on the training of undergraduate dental students. (2) The new teaching-learning model profoundly challenged Higher Education Institutions (HEIs). (3) Information and Communication Technologies (ICTs) fostered a new perspective on education/teaching.

PRE-PROOF

(as accepted)

This is a preliminary, unedited version of a manuscript that was accepted for publication in *Revista Contexto & Saúde*. As a service to our readers, we are making this initial version of the manuscript available, as accepted. The article will still be reviewed, formatted and approved by the authors before being published in its final form.

<http://dx.doi.org/10.21527/2176-7114.2026.51.16314>

How to cite:

Bordin GM, Prochnow FHO, Francisco S dos A, Machado FRC, Gonzaga CC, Gabardo MCL. et al. Faculty perceptions of the impact of emergency remote teaching on dental education: a qualitative study. *Rev. Contexto & Saúde*. 2026;26(51):e16314

---

<sup>1</sup> Universidade Positivo. Curitiba/PR, Brazil. <https://orcid.org/0000-0002-7746-1601>

<sup>2</sup> Universidade Positivo. Curitiba/PR, Brazil. <https://orcid.org/0000-0003-1496-4495>

<sup>3</sup> Universidade Positivo. Curitiba/PR, Brazil. <https://orcid.org/0009-0009-6663-2944>

<sup>4</sup> Universidade Positivo. Curitiba/PR, Brazil. <https://orcid.org/0009-0007-6281-6151>

<sup>5</sup> Universidade Positivo. Curitiba/PR, Brazil. <https://orcid.org/0000-0001-6374-1605>

<sup>6</sup> Universidade Positivo. Curitiba/PR, Brazil. <https://orcid.org/0000-0001-6832-8158>

<sup>7</sup> Universidade Positivo. Londrina/PR, Brazil. <https://orcid.org/0000-0002-4589-9713>

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

**ABSTRACT**

This study aimed to evaluate the perception of faculty regarding the influence of Emergency Remote Teaching (ERT) on the training of undergraduate dental students, with emphasis on theoretical learning, clinical skills development, and faculty-student interaction. This was a cross-sectional study conducted with faculty members teaching the final year of the Dentistry course at a private university in Curitiba, Brazil, using the focus group methodology. Five faculty members participated, with an age range between 34 and 52 years, a mean time since graduation of  $19.2 \pm 5.3$  years, and a minimum of five years of teaching experience at the university. Qualitative analysis of the discourses led to the extraction of meaning units, and the convergence of interpretations established three main categories of analysis: a) the teaching-learning process in the context of ERT in Dentistry, b) the student and ERT in Dentistry, and c) the faculty member and ERT in Dentistry. It was observed that the academic performance of dental students was associated with the difficulty of adapting to ERT and the psychosocial issues involved in the pandemic scenario. The sudden incorporation of new technologies into the teaching-learning process imposed significant challenges on the adaptation of both faculty and students across higher education institutions (HEIs).

**Keywords:** pandemic, online learning, dentistry.

**INTRODUCTION**

The SARS-CoV-2 virus was responsible for the pandemic that spread around the world from 2019 to 2021, affecting millions of people. Given this scenario, the World Health Organization (WHO) adopted social distancing as one of the various forms of containment of virus transmission, which influenced several sectors of society, including education<sup>1</sup>.

Higher Education Institutions (HEIs) suspended their activities, affecting over 90% of the student population; according to the United Nations Educational, Scientific and Cultural Organization (UNESCO)<sup>2</sup>. Approximately 190 countries halted in-person teaching. Consequently, implementing Emergency Remote Teaching (ERT) tools became necessary to ensure the continuity of the teaching-learning process<sup>3</sup>. In Brazil, the Ministry of Education (MEC) issued guiding documents and regulations to establish flexible criteria for in-person teaching by HEIs. This regulation established the substitution of in-person academic activities with synchronous and/or asynchronous remote classes. MEC Ordinance No. 343<sup>4</sup> permitted

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

the use of Information and Communication Technologies (ICTs) and other available resources to enable the teaching-learning process across different times, spaces, and contexts during the social isolation period.

Among higher education courses, undergraduate Dentistry was one of the most impacted. According to the Occupational Health and Safety Administration (OSHA), dentists were classified as one of the professionals at high risk of morbidity contamination and dissemination. This classification was due to direct contact with bodily fluids resulting from aerosol production during dental procedures, in addition to the proximity between the professional and the patient<sup>5</sup>.

Consequently, HEIs adopted the cessation of student practical activities in dental laboratories and clinics. This decision significantly impacted the teaching methodology, which became virtual during the critical pandemic period<sup>6</sup>. This shift is believed to be the greatest challenge faced by educational systems in modern times<sup>7</sup>, as it involves changes in content exposure and, consequently, a modification of the educational process. In this regard, ERT classes compelled students to assume the role of agents in their own training. They were required to establish their learning profile, aligning with active methodologies where students play a central role in constructing knowledge, while the teacher acts as a facilitator, assisting the process<sup>8</sup>.

It is known that the use of digital resources in higher education already occurred in a planned manner before the COVID-19 pandemic, aiming to complement and diversify pedagogical practices<sup>9</sup>. However, the abrupt and unstructured adoption of ERT posed significant challenges to institutions. Its effectiveness depends on planning, faculty training, and adequate methodological strategies<sup>10</sup>. In this context, the new model impacted both faculty and students, affecting not only academic performance but also psychological aspects<sup>11</sup>, revealing structural and pedagogical gaps. Furthermore, the pandemic scenario accelerated the need for re-signification of higher education, questioning the traditional model and demanding deep reflections on current formative perspectives<sup>12</sup>.

Given the challenges and conditions imposed by ERT in health education, understanding its impact on the teaching-learning process is essential. Therefore, this study aimed to analyze faculty perceptions regarding the effects of ERT on the training of

## FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY

undergraduate Dentistry students, focusing on theoretical learning, faculty-student interaction, and the development of clinical skills during and after the pandemic period.

### METHODS

This was a cross-sectional study with a qualitative approach, conducted with faculty members teaching the final year of an undergraduate Dentistry course at a private university in Curitiba, Paraná, Brazil.

The inclusion criteria required that participating faculty members must have been teaching at the university for at least five years. Additionally, they must have conducted both theoretical and practical activities (in laboratory and/or clinic settings) with final-year undergraduate students during the pre-, trans-, and post-pandemic periods (2020 to 2023). Faculty members were invited to participate voluntarily through email contacts and/or scheduled in-person meetings during their tenure at the university.

The methodological approach involved a semi-structured interview conducted through a focus group, held on a pre-established day, time, and location with the participants. The focus group is a qualitative research technique derived from group interviews<sup>13,14</sup>. Its objective is to gather detailed information that allows for the understanding of perceptions on a specific theme or topic (suggested by a researcher or moderator) from a pre-established group of participants.

The interview was guided by six questions previously developed by the research group to generate discussion on the theme:

1. Was there a difference between remote and in-person classes?
2. Are remote classes as productive as in-person theoretical classes?
3. How did you perceive the students' dynamic during remote classes?
4. Did you observe student difficulties in the teaching-learning process during emergency remote classes? If so, what were the main difficulties?
5. Did you notice student difficulties in clinical conduct due to the reduction of practical classes? If so, what were the main difficulties?
6. Was there any harm to the students' professional training? If so, what were the main issues?

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

The entire dialogue was recorded using a non-internet-connected device. Following transcription, the resulting file was password-protected, with access strictly restricted to the researchers. To ensure participant (faculty) anonymity, they were assigned random alphanumeric codes, using the letter "D" in a sequence from D1 to D5.

The qualitative data analysis was based on the principles of Discourse Analysis<sup>15</sup>, which address the conception of knowledge itself, possible approaches to the studied phenomenon, and ways of understanding and treating truth. First, an individual or idiographic analysis was performed, which involved a floating reading of the transcripts to generally capture the speech content of each subject. The next step was an analytical reading aimed at extracting the units of meaning (UMs). Subsequently, the units of meaning (UMs) were interpreted to translate the interviewees' speech into a more formal language. Finally, in the UMs convergence stage, units with the same interpretation within the interviewee's discourse were identified.

Subsequently, a general or nomothetic analysis was performed. In this stage, the UMs were organized into tables for each interviewee and then compiled. The interpretation convergence among the interviewees was carried out at this moment, resulting in a single final table containing all collected UMs and their respective interpretations. Thus, the categories of analysis were constructed based on these general categories.

This study was approved by the Institutional Review Board under registration CAAE 67540823.2.0000.0093, and approval number protocol 6.004.689. Consent and agreement to participate were obtained through the signing of the Free and Informed Consent Form.

## **RESULTS**

The focus group included five faculty members (two male and three female). Their age ranged between 34 and 52 years. The mean time since graduation was  $19.2 \pm 5.3$  years, and all participants had at least one specialization degree. Regarding the length of teaching experience at the HEI, four participants reported having 10 years or more. Based on the analysis of the discourses obtained from the focus group, three categories were established through the classification of concepts: a) the teaching-learning process in the context of ERT in Dentistry, b) the student and ERT in Dentistry, and c) the faculty member and ERT in Dentistry, as detailed in Table 1.

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

| Categorization   | Units of Meaning (UM)  | Interpretation   | Participants |
|--|--|--|--------------|
| The teaching-learning process in the context of ERT in Dentistry | "...in fact, there was even the issue of motivation."  | Lack of motivation regarding the teaching-learning process in the remote format.   | D3           |
|  | "We were not trained to teach online..."   | Lack of professional training/qualification to conduct classes in a remote format. | D2, D4       |
|  | "What works is recording the class so people can watch it later whenever they want..."<br>"...those who had the insight and discovered these platforms are millionaires today—dentists who sell online courses." | Alternative teaching-learning methodologies in the remote format.                  | D2, D4, D5   |
|  | "...I would offer half a point on the average for those who turned on their cameras; they would open them, but I wouldn't give the point later. I also used to arrange 'coffee classes' with some groups."       | Alternative means of motivation for classes in the remote format.                  | D2, D3       |

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

|                                  |   |  |                |
|----------------------------------|---|--|----------------|
|                                  | "...reduction in credit hours and practice, and this had a significant impact."   | Implications of credit hour reduction for practical training in Dentistry.                 | D1, D2, D4, D5 |
|                                  |   |  |                |
| The student and ERT in Dentistry | "...in the beginning, we didn't quite know how things were happening; with cameras off, only five or six students would join, so there was no interaction..." | Lack of student interaction and participation in activities proposed in the remote format. | D1, D3, D4, D5 |
|                                  | "...I think the main difficulty was being present in class—accessing the internet and having the will to be there and pay attention..."                       |  |                |
|                                  | "The most difficult part for me was not knowing if the student was understanding what we were saying..."  | Lack of student feedback in the remote format.   | D5             |
|                                  | "...a good student is a good student both in-person and remotely."  | Student commitment and performance regardless of the teaching format.                      | D1, D2, D3     |
|                                  | "I think it is their lack of studying—study motivation. Organization and motivation..."   | Lack of student motivation for ERE activities.   | D2, D3, D5     |
|                                  | "They don't know the basics."   | Student performance in ERE and the   | D1, D2, D3,    |

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

|                                    |  |   |                    |
|------------------------------------|--|---|--------------------|
|                                    | <p>"...students are reaching us very underprepared in every aspect..."</p> <p>"...lack of comprehension, reasoning, and logic in what they see; a lack of focus."</p> <p>"...they lack the proactivity to seek out information..."</p> | implications for Dentistry training.  | D4, D5             |
|                                    |  |   |                    |
| The professor and ERT in Dentistry | "What I notice is that I can't keep students' attention for more than 15 to 25 minutes at most."   | Difficulties in mediating the teaching-learning process in the remote format. | D2, D3, D4         |
|                                    | "We need to find ways to use this technology to our and the students' advantage..."  | Lack of preparation in the use of technology by professors in the ERE format. | D1, D2, D3, D4, D5 |
|                                    | "The issue is the teaching methodology... we just transferred it from in-person to online, and we must take some responsibility for that..."   |   |                    |
|                                    | "...you communicate one thing, and the person understands another because it's a   |   |                    |

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

|  |   |   |        |
|--|---|---|--------|
|  | digital medium and we didn't have digital training."  |   |        |
|  | "...I prefer to think about what I could do to accept this generation as they are, and what I would need to innovate or improve to be more assertive..."<br><br>"We can't say 'my professor did it this way' anymore. There is no way for us to grow like we did 20 years ago." | Need for professional training/qualification. | D4, D5 |
|  | "...but I have difficulty interacting with this generation."  | Generational conflict.                        | D1, D2 |

Table 1 - Categorization of discourse analysis obtained through the classification concepts.

Source: Prepared by the authors

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

## **DISCUSSION**

The Emergency Remote Teaching (ERT), imposed by the COVID-19 pandemic, instigated an important discussion regarding the impact of incorporating Information and Communication Technologies (ICTs) into higher education<sup>16</sup>. Furthermore, it challenged the established forms of integration and interaction between faculty and students, which constitute fundamental pillars in the teaching-learning process<sup>17</sup>.

The sudden changes in academic activities directly interfered with student development. This interference stemmed from difficulties adapting to the new methodology, concerns about the quality of education<sup>18</sup>, and the disruption of the academic routine<sup>19</sup>. This was corroborated by the faculty, who highlighted issues related to students' lack of motivation for remote activities in their discourses, as evidenced by the following excerpts:

“[...] the main difficulty was being in class, was, right, accessing the internet, having the will to be there and pay attention [...]” (D5)

“[...] I think their lack of study, like, motivation to study, organization, and motivation.” (D3)

“[...] they don't have the proactivity to go after the information [...]” (D3)

Corroborating these findings, studies by Marinho<sup>19</sup> and Silva<sup>20</sup>, which included student reports, mentioned that the academic halt affected learning, leading to a lack of productivity, procrastination, and organizational difficulty. The major obstacles in the teaching-learning process included ease of distraction, difficulty in organization, lack of adaptation, and insecurity in performing procedures in dental clinics<sup>21, 22</sup>. This perception of poor focus and concentration during long classes, along with the misuse of technologies, was also mentioned by the faculty:

“Nobody wants to memorize anymore [...]” (D2)

“[...] what I notice in the students is that I can't keep their attention for more than 15 to 20 minutes; 25 minutes is the maximum.” (D4)

“The biggest difficulty I felt was the issue of us not knowing if the student was understanding what we were saying [...]” (D5)

“[...] lack of comprehension, of reasoning, lack of logic in what they are seeing... lack of focus.” (D1)

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

As previously reported, students were required to develop autonomy and, consequently, needed to work with discipline, planning, and organization<sup>23</sup>. However, given a tumultuous psychosocial scenario, deficiencies in study management were observed. Furthermore, the Dentistry academic was highly affected due to the loss of clinical and laboratory practical activities, in addition to the loss of student-patient contact, which are educational pillars of this course<sup>24</sup>. This was indicated by the faculty members in the focus group, stating that the:

“[...] reduction of practical workload and, and this impacted a lot.” (D2)

In the pandemic scenario, resorting to ICTs was necessary to ensure the continuity of undergraduate activities. These technologies suddenly challenged faculty members to rethink new teaching strategies that might minimize the resulting impacts<sup>25, 26</sup>. However, the lack of preparedness of both the faculty and the universities for ERT, coupled with the overload of activities often arising from poor time management, made exhaustion common among professionals and students<sup>17, 18</sup>. A previous study reported that challenges related to faculty during ERT included the organization and planning of classes in this new system, also highlighting the resistance to using technological tools that permeated and are still present in the academic environment<sup>27</sup>.

The variability in digital knowledge levels and experience with virtual teaching, alongside the digital pedagogical competencies of the faculty, represented one of the main barriers faced by educators<sup>12, 18</sup>. This was clearly evidenced in the focus group reports, where faculty members expressed awareness of their lack of qualification in methodologies for ERT during the period, stating that:

“[...] we were not trained to give classes online...” (D2)

“[...] the issue is the teaching methodology that... we just brought from the in-person to the online...” (D2)

This lack of preparedness may have significantly impacted the teaching-learning process. These difficulties pointed out by the faculty were also related to the implications for the teaching-learning process, with one participant highlighting that in many cases,

“[...] you communicate one thing, and the person understands another. Because the medium is the digital medium, and we didn't have this digital training.” (D4)

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

A previous study also reported that 67% of faculty members acknowledged being unprepared for the use of ICTs, and more than half (54%) reported never having participated in professional development courses on digital tools<sup>25</sup>. Another study revealed a variability of 59.8% to 82.9% of faculty who reported no previous experience with online teaching before the pandemic, and only about 44% used ICTs as support for class preparation<sup>12</sup>.

Another challenge faced in ERT was the lack of learning equity, as not all students possessed the same socioeconomic conditions regarding the quality of internet access, smartphones, or computers, alongside external distractions and demands<sup>17,28</sup>. Digital marginalization, a term used to refer to differences related to the access and use of ICTs<sup>29</sup>, was evident during this period. When comparing internet use across continents, studies showed disparities: while a high percentage of the European population had quality internet access<sup>30</sup>, and most students in a study in the United States reported no technical issues, South America reported a lower percentage of the population having access, with a significant proportion of students in Brazil reporting both access and connectivity problems<sup>28,31</sup>.

It has been reported that ERT is a temporary strategy, as this method cannot replace important, necessary connections among the distinct actors in the health teaching-learning process<sup>3</sup>. This limitation hinders the development of essential competencies, skills, and attitudes for the professionals' comprehensive training. It is further highlighted that the loss of social bonds, physical contact, and interaction exchanges in formal educational settings may have impacted the learning process, potentially leading to dropout and school evasion<sup>32</sup>. This situation may also be related to mental health issues, which were negatively affected by the aforementioned factors during the pandemic, especially for students<sup>33</sup>, also considering the sociocultural context and social determinants in which they were immersed.

New pedagogical approaches, driven by digital cultures and technologies, especially during the pandemic, have promoted structural and curricular changes. This scenario demands investments from HEIs in infrastructure and the technological qualification of faculty for the effective inclusion and use of these tools in higher education<sup>26,34</sup>. The focus group indicated this direction, emphasizing the necessity for faculty to find ways to utilize technology for the benefit of both the instructor and the student.

Consequently, online education is not merely limited to the use of the internet and electronic devices<sup>35</sup>. It encompasses the need for interactivity, collaboration, co-authorship,

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

meaningful learning, and faculty mediation, which is even more critical in health courses, where qualitative exchanges lead to the joint construction of future professionals. The faculty's perception of ERT revealed fragilities in the health training system, associated with limitations of the involved actors themselves. The analysis of the data obtained in the present study allows for the identification of critical points in integrating technologies into higher education without compromising academic development and interpersonal relationships, which are essential in the field. This issue, therefore, demands continuous investigation, considering evidence<sup>36</sup> that online teaching can be as effective as in-person instruction in developing knowledge and clinical skills.

The focus group differs from the individual interview by relying on interaction among participants to obtain the necessary research data. Its formation adheres to criteria predetermined by the moderator according to the investigation's objectives. The moderator is responsible for creating a favorable discussion environment that encourages participants to express their perceptions and viewpoints. Focus groups are preferentially adopted in exploratory or evaluative research—potentially serving as the primary data source—or as a complementary technique in quantitative or qualitative research, associated with in-depth interview and participant observation techniques<sup>37</sup>.

One of the limitations presented in this study is the reduced number of participating faculty members due to the adopted inclusion and exclusion criteria. Although the literature suggests that focus groups ideally have between six and ten participants<sup>38</sup>, the flexibility of qualitative research allowed for a homogeneous group, sufficient to reach data saturation. This allowed for a homogeneous group, sufficient to reach data saturation, which qualitative research suggests can often occur with a smaller number, such as five or six participants<sup>39</sup>. Furthermore, as this involved only a single focus group, the results cannot be generalized.

Finally, considering the different methodologies adopted by HEIs, the varying levels of training, and the difficulties faced by faculty in the transition from in-person to remote teaching, future studies comparing ERT and hybrid teaching are pertinent. This comparison should especially focus on clinical applicability in professional training, both in Dentistry and other health areas. Furthermore, it is fundamental to include the student's perspective, contemplating aspects such as participation, interest, intellectual autonomy, cooperation, and interaction through virtual tools.

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

## **CONCLUSION**

Faculty perception of ERT revealed fragilities in the formative process, especially concerning the development of clinical skills and faculty-student interaction. Adaptation to technologies was hampered by structural limitations and psychosocial factors, underscoring the need for more effective strategies to integrate remote and hybrid teaching into health education.

## **REFERENCES**

- <sup>1</sup> World Health Organization. Modes of transmission of virus causing COVID-19: implications for IPC precaution recommendations: scientific brief, 29 March 2020. World Health Organization; 2020.
- <sup>2</sup> UNESCO. COVID-19 Educational Disruption and Response. (2020). [Citado em 26 de julho 2024]. Disponível online em: <https://en.unesco.org/covid19/educationresponse>.
- <sup>3</sup> Caldarelli PG, Gabardo MCL. Formação em saúde no contexto da pandemia da COVID-19: desafios e perspectivas. *Revista Família, Ciclos de Vida e Saúde no Contexto Social*, 2021;1:188-9.
- <sup>4</sup> BRASIL, Ministério da Educação e Cultura. Portaria nº 343 de 17 de março de 2020. Dispõe sobre a substituição das aulas presenciais por aulas em meios digitais enquanto durar a situação de pandemia do Novo Coronavírus - COVID-19 [internet]. *Diário Oficial da União*, Brasília, DF, 18 mar. 2020. [citado em 19 de junho 2024]. Disponível em: [https://www.planalto.gov.br/ccivil\\_03/Portaria/PRT/Portaria%20n%C2%BA%20343-20-mec.htm](https://www.planalto.gov.br/ccivil_03/Portaria/PRT/Portaria%20n%C2%BA%20343-20-mec.htm)
- <sup>5</sup> Iyer P, Aziz K, Ojcius DM. Impact of COVID-19 on dental education in the United States. *Journal of dental education*. 2020; 84(6):718-22. DOI: <https://doi.org/10.1002/jdd.12163>
- <sup>6</sup> Barabari P, Moharamzadeh K. Novel coronavirus (COVID-19) and dentistry—A comprehensive review of literature. *Dentistry journal*. 2020 May 21;8(2):53. DOI: <https://doi.org/10.3390/dj8020053>
- <sup>7</sup> Seymour-Walsh AE, Bell A, Weber A, Smith T. Adapting to a new reality: COVID-19 coronavirus and online education in the health professions. *Rural and remote health*. 2020;20(2):97-102. DOI: <https://doi.org/10.22605/RRH6000>
- <sup>8</sup> Kumar N, Kanchan T, Unnikrishnan B, Thapar R, Mithra P, Kulkarni V, Holla R, Bhagwan D, Radhakrishnan Y. Incorporando aprendizagem baseada em problemas no currículo

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

médico: Uma experiência de uma faculdade de medicina em Mangalore. *Indian journal of pharmacology*. 2017;49(5):344-7. DOI:[https://doi.org/10.4103/ijp.IJP\\_492\\_16](https://doi.org/10.4103/ijp.IJP_492_16)

<sup>9</sup> Silveira LR. Análise da educação remota emergencial durante a pandemia da Covid-19: o caso do Instituto Federal de Mato Grosso do Sul (Master's thesis, Instituto Politecnico do Porto (Portugal)), 2021.

<sup>10</sup> Miranda GD. Emergency remote learning and TDIC's during the COVID-19 pandemic: Impulses and obstacles. Seven Editora. 2023 Apr 28. Disponível em: <https://sevenpublicacoes.com.br/editora/article/view/1179>. Acesso em: 26 jul. 2024.

<sup>11</sup> Reis ME, Matumoto PA, Rosa TA, de Rezende AA, Calábria LK. Saúde mental, uso de álcool e qualidade do sono em estudantes de uma universidade pública. *Estudos e Pesquisas em Psicologia*. 2022;22(1):50-66. DOI:<https://doi.org/10.12957/epp.2022.66452>

<sup>12</sup> da Silva Lima JV, dos Anjos Soares B, Maran BM, de Souza LA, Hyppolito MÂ, Reis AC. COVID-19 e a adaptação ao ensino remoto emergencial: revisão de escopo. *Medicina (Ribeirão Preto)*. 2022; 27;55(4). DOI: <https://doi.org/10.11606/issn.2176-7262.rmrp.2022.196129>

<sup>13</sup> Morgan DL, Krueger RA, King JA. *The focus group guidebook*. Sage; 1998.

<sup>14</sup> Kitzinger J. Focus groups with users and providers of health care accessed [www. bmjpg.com](http://www.bmjpg.com) 31 July 2004. *Qualitative research in health care*. 2002.

<sup>15</sup> Martins J, Bicudo MAV. *A pesquisa qualitativa em psicologia: fundamentos e recursos básicos*. 5. ed. São Paulo: Centauro; 2005.

<sup>16</sup> Toassi RF, Olsson TO, Peduzzi M. Aprendizado interprofissional na graduação em Odontologia no contexto pandêmico de ensino remoto. *Interface-Comunicação, Saúde, Educação*. 2023;27:e220696. DOI: <https://doi.org/10.1590/interface.220696>

<sup>17</sup> Máximo ME. Sem desligar as câmeras: experiências de estudantes de ensino superior com o ensino remoto no contexto da Covid-19. *Civitas-Revista de Ciências Sociais*. 2021;21:235-47. DOI: <https://doi.org/10.15448/1984-7289.2021.2.39973>

<sup>18</sup> Matias AB, Falcão MT, Grosseman S, Germani AC, Silva AT. A pandemia da COVID-19 e o trabalho docente: percepções de professores de uma universidade pública no estado de São Paulo, Brasil. *Ciência & Saúde Coletiva*. 2023;28:537-46. DOI: <https://doi.org/10.1590/1413-81232023282.11972022>

<sup>19</sup> Marinho JD, Guazina FM, Zappe JG. Experiências de ser estudante universitário em tempos de pandemia: mudanças, adaptações e perspectivas compartilhadas. *Educação e Pesquisa*. 2023;49:e267797. DOI: <https://doi.org/10.1590/S1678-4634202349267797>

<sup>20</sup> Silva AT, Lefol MS, Terra GM, Xavier MC, de Freitas Miranda Filho AE, Veloso RB, Souza DC. Impacto da pandemia Covid-19 na formação de acadêmicos de odontologia da

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

Universidade Prof. Edson Antônio Velano-Unifenas-Campus Alfenas. *Revista Brasileira de Desenvolvimento*. 2023;9(1):4662-76. DOI: <https://doi.org/10.34117/bjdv9n1-323>

<sup>21</sup> Motta-Passos ID, Martinez ML, Andrade SC, Pinho AC, Martins MD. Percepção do ensino remoto emergencial por discentes em uma escola de ensino superior de saúde. *Revista Brasileira de Educação Médica*. 2023;47(01):e031. DOI: <https://doi.org/10.1590/1981-5271v47.1-20220261>

<sup>22</sup> de Souza FR, Cezário LR, Mialhe FL. Fatores associados à autopercepção de desempenho acadêmico por estudantes de Odontologia durante a pandemia da COVID-19. *Revista da ABENO*. 2023;23(1):2118. DOI: <https://doi.org/10.30979/revabeno.v23i1.2118>

<sup>23</sup> Aguiar CE, de Souza ÉP, Sposito LS, Silva MC, Bisinotto SD. Subjetividade, identidade e saúde mental na educação à distância. *Brazilian Journal of Development*. 2021;7(5):46770-82.

<sup>24</sup> Klein GL, Hartmann CS, Flores CE, Soilo RR, Chaves AD, Campos GD, et al. A pandemia de COVID-19 e a formação de profissionais da Odontologia. *Cadernos ESP*. 2022;16(3):42-51. doi: <https://doi.org/10.54620/cadesp.v16i3.867>

<sup>25</sup> Pimentel A. O Ensino superior durante a pandemia: percepção dos professores sobre a telemática. *Humanidades & Inovação*. 2021;8(40):208-20

<sup>26</sup> Campos HR, Dias LS, Neves PA, Pinho JR. Análise do Ensino Remoto Aplicado no Curso de Odontologia da Universidade Federal do Maranhão. *EaD em Foco*. 2025;15(1):e2300. doi:10.18264/eadf.v15i1.2300.

<sup>27</sup> Campos Filho AS, Ribeiro Sobrinho JM, Romão RF, Silva CH, Alves JC, Rodrigues RL. O ensino remoto no curso de Medicina de uma universidade brasileira em tempos de pandemia. *Revista Brasileira de Educação Médica*. 2022;46(1):1-8. DOI: <https://doi.org/10.1590/1981-5271v46.1-20210243>

<sup>28</sup> Appenzeller S, Menezes FH, Santos GG, Padilha RF, Graça HS, Bragança JF. Novos tempos, novos desafios: estratégias para equidade de acesso ao ensino remoto emergencial. *Revista Brasileira de Educação Médica*. 2020;44:e155. DOI: <https://doi.org/10.1590/1981-5271v44.supl.1-20200420>

<sup>29</sup> Katz VS, Jordan AB, Ognyanova K. Digital inequality, faculty communication, and remote learning experiences during the COVID-19 pandemic: A survey of US undergraduates. *Plos one*. 2021;16(2):e0246641. DOI: <https://doi.org/10.1371/journal.pone.0246641>

<sup>30</sup> Van Kessel R, Wong BL, Rubinić I, O’Nuallain E, Czabanowska K. Is Europe prepared to go digital? making the case for developing digital capacity: An exploratory analysis of Eurostat survey data. *PLOS Digital Health*. 2022;1(2):e0000013. DOI: <https://doi.org/10.1371/journal.pdig.0000013>

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

- <sup>31</sup> Singhi EK, Dupuis MM, Ross JA, Rieber AG, Bhadkamkar NA. Medical hematology/oncology fellows' perceptions of online medical education during the COVID-19 pandemic. *Journal of Cancer Education*. 2020;35:1034-40. DOI: <https://doi.org/10.1007/s13187-020-01863-6>
- <sup>32</sup> Fraga TC, Farah BF, Amorim CC. Experiência docente no ensino remoto emergencial em cursos de graduação em saúde. *Ciência & Trópico*. 2024;48(1):185-208. DOI: [https://doi.org/10.33148/CETROPv48n1\(2024\)2229](https://doi.org/10.33148/CETROPv48n1(2024)2229)
- <sup>33</sup> Patias ND, Von Hohendorff J, Cozzer AJ, Flores PA, Scorsolini-Comin F. Mental health and coping strategies in undergraduate students during COVID-19 pandemic. *Trends in psychology*. 2021;29:414-33. DOI: <https://doi.org/10.1007/s43076-021-00069-z>
- <sup>34</sup> Sousa SD, da Costa GO, de Sousa RP, dos Santos MN, de Oliveira NG, Toussaint LS, Mariano SC, de Sena Rosal VM, Ferreira RD, Senna LV, Furtado ÉZ. Estratégias tecnológicas utilizadas no ensino durante a pandemia. *Research, Society and Development*. 2022;11(1):e20911124762. DOI: <https://doi.org/10.33448/rsd-v11i1.24762>
- <sup>35</sup> Martins V, Almeida J. Educação em Tempos de Pandemia no Brasil: Saberesfazeres escolares em exposição nas redes. *Revista Docência e Cibercultura*. 2020;4(2):215-24. DOI: <https://doi.org/10.12957/redoc.2020.51026>
- <sup>36</sup> Fontaine G, Cossette S, Maheu-Cadotte MA, Mailhot T, Deschênes MF, Mathieu-Dupuis G, Côté J, Gagnon MP, Dubé V. Efficacy of adaptive e-learning for health professionals and students: a systematic review and meta-analysis. *BMJ open*. 2019;9(8):e025252. DOI: <https://doi.org/10.1136/bmjopen-2018-025252>
- <sup>37</sup> Trad LA. Grupos focais: conceitos, procedimentos e reflexões baseadas em experiências com o uso da técnica em pesquisas de saúde. *Physis: revista de saúde coletiva*. 2009;19:777-96.
- <sup>38</sup> Krueger RA. *Focus groups: A practical guide for applied research*. 5th ed. Thousand Oaks: Sage Publications; 2014.p.77-97.
- <sup>39</sup> Guest G, Bunce A, Johnson L. How many interviews are enough? An experiment with data saturation and variability. *Field methods*. 2006;18(1):59-82. DOI: <https://doi.org/10.1177/1525822X05279903>

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

Received: August 20, 2024

Accepted: November 18, 2025

Published: March 10, 2026

**Author Contributions**

Giuliana Martina Bordin: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Supervision; Visualization; Writing – original draft; Writing – review & editing.

Fernanda Harumi Oku Prochnow: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Visualization; Writing – original draft.

Stéffany dos Anjos Francisco: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Visualization; Writing – original draft.

Fabiana Roberti Coneglian Machado: Conceptualization; Investigation; Methodology; Writing – original draft.

Carla Castiglia Gonzaga: Conceptualization; Methodology; Project administration; Validation; Visualization; Writing – review & editing

Marilisa Carneiro Leão Gabardo: Methodology; Validation; Visualization; Writing – review & editing.

Pablo Guilherme Caldarelli: Formal analysis; Methodology; Project administration; Supervision; Validation; Visualization; Writing – original draft; Writing – review & editing.

**All authors approved the final version of the manuscript.**

**Conflict of Interest:** There is no conflict of interest.

**FACULTY PERCEPTIONS OF THE IMPACT OF EMERGENCY REMOTE  
TEACHING ON DENTAL EDUCATION: A QUALITATIVE STUDY**

|  |
|--|
| <b>Funding:</b> This research received no external funding.  |
| <b>Corresponding Author:</b> Giuliana Martina Bordin<br>Universidade Positivo<br>Rua Professor Pedro Viriato Parigot de Souza, 5300.<br>Curitiba/PR, Brazil. Zip code: 81280-330<br><a href="mailto:giulianabordin@gmail.com">giulianabordin@gmail.com</a> |
| <b>Editor:</b> Dra. Zélia Ferreira Caçador Anastácio. PhD  |

This is an open access article distributed under the terms of the Creative Commons license.

