

"New" medical education: perception of professor of an undergraduate program implemented from Mais Médicos Program

“Nova” formação médica: percepção dos docentes de um curso implementado a partir do Programa Mais Médicos

“Nueva” formación médica: percepción de profesores de un curso de grado implementado desde el Programa Mais Médicos

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Dyelle Hingrid Gonçalves Gontijo

ORCID: <https://orcid.org/0000-0003-4165-4628>

Universidade Federal da Fronteira Sul, Brasil

E-mail: dyelle.gontijo@estudante.uffs.edu.br

Caroline Borba Voigt

ORCID: <https://orcid.org/0000-0001-6886-2924>

Universidade Federal da Fronteira Sul, Brasil

E-mail caroline.voigt@estudante.uffs.edu.br

Graciela Soares Fonsêca

ORCID: <https://orcid.org/0000-0001-9506-0409>

Universidade Federal da Fronteira Sul, Brasil

E-mail: graciela.fonseca@uffs.edu.br

Abstract

Introduction: Medical education is constantly changing in order to train medical professionals capable of intervening in the current needs of Brazilian health. In Brazil, this changing process was driven by Mais Médicos Program and the new National Curriculum Guidelines for medicine undergraduate. **Objective:** This study aimed to describe the perception of professors acting in an undergraduate medical program aligned with the Mais Médicos Program with regard to the "new" medical education in Brazil. **Methods:** This is a qualitative study, in which 18 medical educators of the aforementioned course. Data collection occurred through individual narrative interviews based on a guiding script. Data analysis was conducted by Hermeneutic-Dialectic. The following categories of analysis emerged: the course Pedagogical Course Project (PCP) and learning methodologies. **Results:** Among the difficulties for its curriculum implementation, there are cited the professionalization of the teaching role, the complexity of the activities, the scarceness of literature sources, and insecurity. These characteristics are added to the overcoming of the traditional undergraduate formation, which together diverge with the implementation of active teaching strategies, requiring medical trainers to be open to the changes that have been occurring in medical education. **Conclusion:** With this study, it was possible to identify professors' concerns and perceptions regarding the format of the course and its implementation process.

Keywords: Medical education; Higher education; Education, medical, undergraduate; Faculty, medical.

Resumo

Introdução: A formação médica está em constante transformação a fim de construir um profissional médico capaz de intervir nas necessidades atuais da saúde brasileira. No Brasil, o processo de mudanças foi impulsionado por meio do Programa Mais Médicos e pelas novas Diretrizes Curriculares Nacionais para a graduação em medicina. **Objetivo:** O trabalho teve como objetivo levantar a percepção de docentes vinculados a um curso de graduação em medicina alinhado ao Programa Mais Médicos no que diz respeito à "nova" formação médica no Brasil. **Metodologia:** Trata-se de um estudo qualitativo, em que participaram dezoito (n=18) professores do referido curso. A coleta de dados ocorreu por meio de entrevistas individuais narrativas baseadas em um roteiro orientador. A análise de dados foi realizada pela Hermenêutica-Dialética. **Resultados:** Emergiram as seguintes categorias de análise: Projeto Pedagógico Curricular (PPC) do curso e metodologias de aprendizagem. Dentre as dificuldades para sua implantação, são citadas a profissionalização do papel docente, a complexidade das atividades, a escassa fonte de literatura e a insegurança. Essas características são somadas à superação da formação tradicional que juntas atiram com a implementação de estratégias de ensino ativo, necessitando que os docentes estejam abertos para as mudanças que vêm ocorrendo na formação médica. **Conclusão:** Com esse estudo, foi possível identificar inquietações e percepções no que tange ao formato do curso e ao seu processo de implantação.

Palavras-chave: Formação médica; Educação superior; Educação de graduação em medicina; Docentes de medicina.

Resumen

Introducción: La formación médica está en constante cambio para formar un profesional médico capaz de intervenir en las necesidades actuales de la salud brasilera. En Brasil, el proceso de cambio fue impulsado por el Programa Mais Médicos y las nuevas Directrices Curriculares Nacionales para la carrera de medicina. **Objetivo:** El objetivo de este estudio fue encuestar la percepción de los profesores vinculados a un curso de grado en medicina alineado con el Programa Mais Médicos con respecto a la "nueva" formación médica en Brasil. **Metodología:** Se trata de un estudio cualitativo, en el que participaron dieciocho (n=18) profesores de la mencionada carrera. La recolección de datos ocurrió a través de entrevistas narrativas individuales basadas en un guión. El análisis de datos fue realizado por Hermenéutica-Dialéctica. **Resultados:** Surgieron las siguientes categorías de análisis: Proyecto Pedagógico Curricular (PPC) del curso y metodologías de aprendizaje. Entre las dificultades para su implementación se mencionan la profesionalización del rol docente, la complejidad de las actividades, la escasa fuente de literatura y la inseguridad. Estas características se suman a la superación de la formación tradicional, que en su conjunto se oponen a la implementación de estrategias de enseñanza activa, exigiendo que los profesores estén abiertos a los cambios que se vienen produciendo en la formación médica. **Conclusión:** Con este estudio, fue posible identificar preocupaciones y percepciones sobre el formato del curso y su proceso de implementación.

Palabras clave: Educación de pregrado en medicina; Educación superior; Educación de pregrado en medicina; Docentes médicos.

1. Introduction

Since the 1970s, medical training has come under question. As the criticisms to the Flexnerian model have increased, emerged the need to modify the hospital-centered, biologicist, specialized, and unicausal view of health. With the changes in the epidemiological profile of the population, there is an attempt to replace this model by an expanded medical training, which is focused on the biopsychosocial dimensions of individuals and communities (Custódio et al., 2019).

In 2001, the Brazilian Ministry of Education published the National Curriculum Guidelines (DCN) for the different health professions intending to guide professional training for work in the public health system - Unified Health System (SUS) - and to respond to social demands. Brazil faces specific difficulties in medical training when it comes to a health policy program, with significant influence on the formulation and implementation of curricular adaptations for teaching, in addition to stimulating the teaching-service integration, interiorization and distribution of professionals (Dias et al., 2020).

Implemented in 2013, the Mais Médicos Program represents a milestone for reducing the unequal concentration of doctors by region and correcting inadequacies in medical training, one it advocates increasing the number of undergraduate medical vacancies and proposes changes to the length and format of medical undergraduate courses, proposing changes to the DCN, which were reissued in 2014 (Brasil, 2013). Some of *Mais Médicos* Program measures involve: stimulation and improvement of medical education devices through teaching-service integration experiences; strengthening of Primary Health Care and continuing education in care; and incentive to research related to SUS (Silveira et al., 2020).

The 2014 DCN has as purpose to presenting the skills expected when medical students end their undergraduate program (Brasil, 2014). Thus, they are guidelines for the construction of Higher Education Institutions curricula that focus on essential skills for medical training, resulting in three areas: Health Care, Health Management, and Health Education (Santos et al., 2020).

To guarantee the development of the required skills for future doctors, medical trainers are expected to know how to instigate students to actively participate in the construction of knowledge, in addition to knowing the content to be taught. It is also expected from these professors to involve learners in the whole teaching-learning process. As an offshoot, there is a greater responsibility attributed to teachers, who are responsible for medical training, critical, and human development of students (Nunes et al., 2020).

The medical education literature reveals that medical trainers are poorly prepared for didactic-pedagogical activities. Some of those professionals divide their working hours between medical work and teaching career, while others favor academic research. There is still resistance to the new training model in both professional profiles. As a consequence, these

characteristics reflect on the graduate profile. Even though the difficulties of medical trainers for the transformation of medical education in the country are well known, few studies address this issue (Leite et al., 2020).

In this context, the following research question arose: what is the perception of the professors of a medical course aligned with the *Mais Médicos* Program in relation to the new medical training in Brazil? It is believed that this audience has a singular view that the pedagogical processes they experience can reveal important aspects to deepen their understanding, enhance the positive characteristics of the course, and identify the weaknesses that might be reversed throughout the process, whether in the local or in wider contexts.

Thus, this study aims to raise the perception of professors who work in an undergraduate medical course structured under the guidelines of the *Mais Médicos* Program concerning a “new” medical training in Brazil.

2. Methodology

In this exploratory study with a qualitative approach, 18 professors were interviewed. Those lecturers are bound to a Bachelor of Medicine Program aligned with the *Mais Médicos* Program in Brazil. All the 52 professors of the course were invited to participate in the research through an e-mail, for that reason, the sample was defined by convenience, according to the acceptance of the invitation.

One of the researchers conducted the individual semi-structured interviews and narratives at the times scheduled with each of the 18 participants. The interview tool was developed in the format of a guiding script composed of questions related to the experience of teachers in the course. The interviews were recorded and lasted an average of 20 minutes.

Prior to conducting the interviews, the three researchers involved - two undergraduate students and a professor - underwent training for calibration, qualification and understanding of the script.

Data collection took place between November 2019 and June 2020. The recorded audio material was transcribed, organized, coded, and categorized for further analysis based on Hermeneutic-Dialectic (Minayo, 2013).

Hermeneutics is related to the understanding and meaning of communication, while dialectics involves criticism and contradiction of the analyzed material. The combination of these two theories is not only a tool for the treatment of data, once it allows the researcher to develop a comprehensive and critical analysis process, understanding the context and exploring the author's context. Thence, this method has been used to analyze the construction of rationality in social processes (Minayo, 2013).

The research project was approved by a Research Ethics Committee (CEP), under the number 3,291,611 of April 29, 2019. All participants signed the Free and Informed Consent Form (TCLE) in two copies in advance of the interviews.

3. Results and Discussion

Profile of study participants

Eighteen professors aged between 30 and 55 years participated in the study, the majority (12) being women. Eight participants are doctors and the others have various backgrounds in undergraduate health courses. Five of the professors work in the basic areas, five act in public health, and eight work in the clinical areas (Table 1).

Regarding the teaching model adopted by the training institution, sixteen (16) professors answered that the method used was the traditional, one (1) participant pointed out that graduated with a mixed teaching method and one (1) graduated in a *Problem Based Learning* (PBL) method. When asked about previous experiences with teaching, four (04) professors stated that they had not worked in other educational institution(s) before. Concerning the year of entry into the current educational institution, eleven (11) professionals started work in 2016, two (02) in 2017, three (03) in 2018 and two (02) in 2019 (Table 1).

All the doctors interviewed attended medical residency, two (02) hold a master's and doctorate, and three (03) completed only the master's degree. The other professors who are majored in other fields hold both masters and doctoral degrees. When compared with the other participants who work 40 hours a week in an exclusive regime. Except for one interviewee, whose job is 40 hours, the regime adopted by medical professors is 20 hours a week with professional practice in other places (Table 1).

The coding was done from the junction of the acronym of the area (AB, SC, and AC) and the number that indicates the order in which the participant was interviewed (01, 02, 03, etc.). From the interviews, the following categories of analysis were identified: Pedagogical Course Project (PCP) and learning methodologies.

Perception on the “new” medical education based on the analysis of the PCP of a course aligned with the Mais Médicos Program

The debate on the construction of a curriculum for medical schools goes back to the year 1910, with the publication of the Flexner report, which foresaw the creation of specific subjects, the predominance of expository classes, the teaching-learning process centered on the teacher/lecturer, and the practice preferably in the hospital. The emphasis of undergraduate medicine was oriented to traditional clinic practice and practice in the private (Rezende et al., 2019).

Medical education, which was geared towards a hospital-centered model for centuries, changed the DCN, especially the version published in 2014. This document, which is a reference for the elaboration of the Pedagogical Course Projects (PCP) of medical schools in Brazil, set that the medical courses must adapt their curricula to contemplate those guidelines (Sordi et al., 2020).

In that regard, the PCP of the undergraduate medical course to which the study participants are bound was structured in order to contemplate the DCN, aiming at the formation of a generalist and resolving physician, able to work in different spheres of SUS.

For higher education teaching, beyond technical knowledge about the area of training, it is essential to master the pedagogical foundations of teaching and learning (Junges et al., 2016). Although the PCP is an important guiding document for teaching practice, many lecturers reported not knowing about it at the time they joined the Federal University of Fronteira Sul (UFFS):

“Zero” (AB-01).

“I knew absolutely nothing” (SC-01).

“I think I can say I knew nothing” (AC-05).

Regarding the DCN, some professors claimed to know the document before entering the higher educational institution:

“I knew it because of another educational institution I worked at, also because of the recognition of the course there. What caught my attention is that the PCP follows the DCN” (AC-02).

“The DCN I knew well because I work at another institution” (AC-08).

Other participants affirm that, after the beginning of teaching at the institution, they have developed their knowledge about the PCP and the DCN, as can be seen in the following statements:

“It is possible to evaluate from zero to ten. Today, I already evaluate it as nine. I know the PCP well, and I know the curriculum guidelines” (AB-01).

“Now, due to the fact that I had to study a lot about the guidelines, I’m more aware” (AC-01).

“I think the PCP ends up providing the student to leave university well prepared to work in the basic areas and I think that this has to be the real role of the university” (AC-07).

“The potential of training human doctors is different, I see it as a very great potential [...]” (AB-03).

“The student has a very consistent training, really focused on the main point of the Curriculum Guidelines, which is training for SUS, training for general practitioners” (AB-05).

Aiming to train professionals to work in SUS, the following commitments to develop are established: the ability to identify problems; the search for joint solutions with the individual and the community; interprofessional work in multi-professional teams; the construction of knowledge through integral and humanized practices; and the expansion of this technical vision with the training of conscious and critical doctors (Oliveira et al., 2019). The students are offered protagonism in their academic journey, in addition to discussions of ethical and bioethical nature, which strengthens the reflection and the training to achieve expected skills in the future egress (Maués et al., 2018).

Public Health is characterized as a field of multidisciplinary and interprofessional study, which aims to improve the quality of life of the population through the reduction of health-related vulnerabilities, whether they have a socio-economic, political, cultural, or environmental origin (Farias et al., 2020). Concerning medical training in Brazil, Public Health seeks to promote the development of skills that will enable future doctors to act as recommended by the DCN (Garcia et al., 2007). The following excerpts reveal that the professors who were interviewed see the teaching of Public Health as one of the great potentialities of the medical course:

“The fact that we have Public Health throughout the training process is an advantage of our course. I think it's very positive” (AB-05).

“Public Health is a pearl in this medical course” (AC-03).

Considering the study developed by Barboza et al. (2018), the PCP is defined as a social object that changes to particular contexts, adapting itself according to who designs it. The document may suffer changes in the real conditions of execution. This idea is reinforced when it comes to the importance of regular curriculum review, every five years, to ensure it reflects changes in society (Olopade et al., 2016). Thus, despite the recognition of being an adequate PCP, many participants perceived divergences between what is written and what is applied in practice, which suggests that adjustments are necessary after the graduation of the first class of students to adjust it to the reality of the institution:

“The PCP, as soon as we have the class graduated, may change” (AB-04).

“I really think the project is very good, on paper it is very clear and very good, maybe it needs some adjustments even in practice” (AC-01).

Among the difficulties for the implementation of the PCP for the medical course at **UFFS**, *Chapecó Campus*, it was pointed out the lack of training of the lecturers to put into practice what is written, corroborating with Rezende et al. (2019), whose study discuss the insufficient knowledge of the higher education lecturers as a challenge for a significant curricular change. Garcia and Silva (2011), also studied the impacts of non-professionalization of the teaching role, complexity of activities, and insecurity as difficulties to adhere to curricular reforms (Garcia & Silva, 2011).

These aspects are noticeable in the following statements:

“We, lecturers, are not prepared to train these doctors” (AB-01).

“[...] It is difficult for you to adopt, in a short time, a whole different methodology of teaching and learning, when your lecturers are not prepared for this, because it was not mandatory to have this type of training to apply to the civil service exam” (AB-05).

“We are at a junction nowadays which is: how many medical professionals understand, know the aim, and defend this PCP?” (AC-03).

As argued by Custódio et al. (2019), and pointed out by the interviewees of this research, another incompatibility with the practice is the scarce source of academic literature that supports the teaching process in this new model of the medical course, which causes insecurity and a feeling of helplessness:

“[...] nobody is prepared and there is still a lack of training, I don't know who to run to, and every day I have a different problem” (AB-01).

“[...] it is a very big challenge for those who implement such a course because it is something new, it is a new process which often has no references to affirm if it will work or not” (SC-04).

Perim et al. (2009), address the importance of the faculty receiving institutional support for its development on a permanent basis, training for didactic-pedagogical activities, carrying out technical updates and providing a reference to be followed.

Although conflicts are listed for acting in the course, some professors reinforce the need for adaptation to provide quality to medical training:

“I try to experience students rather than trying to bring PCP to them. So, it is much more a demand from students that I try to make it more flexible, than a demand from the PPC that I try to impose” (AB-03).

“That is it, whoever proposed to work with teaching also has to make an effort. It is not a closed thing that we studied and is done” (AB-04).

This adequacy is again mentioned when it comes to the study load of the medical course, with a consensus among professors that the workload foreseen by the PCP of the analyzed course (8,625 hours) is excessive, which impairs the learning process of students, in addition to interfering in their mental health:

“One of the criticisms that I make is the study load of our course, it is excessive. We could decrease it. Everyone needs some free time” (AB-02).

“This is the greatest challenge of the course, giving up some things, time, giving this free time to them. I think it is useless to spend hours inside the classroom because we know that after two hours talking, we will not go ahead anymore” (AB-03).

Since preparing to enter University, the medical students need to develop physical, mental, and intellectual capacity to deal with high demands and studies. A study with medical students from the 1st to the 8th period at Federal University of Alagoas (UFAL) showed a decrease in the quality of life, which was attributed to the heavy study load of the curriculum (more than eight thousand hours), revealing the need for self-care in the medical curriculum (Mendonça et al., 2019).

In addition, the prevalence rates of depressive disorders, anxiety, and burnout syndrome are higher among medical students when compared to students from other courses (Pacheco et al., 2017). According to Tian-Ci Quek et al. (2019),

anxiety is the most common mental health problem in this population, with a prevalence of 33.8% among medical students worldwide (Tian-Ci Quek et al., 2019).

Factors such as the excessive study load of the course, self-demanding, and exposure to situations of pain and death contribute to the development of mental disorders in medical students (Moreira de Sousa et al., 2018). Therefore, the restructuring of the curriculum of medical schools should be considered, as well as the organization of call centers for students with mental health problems (Rotenstein et al., 2016).

Knowledge and use of active learning methodologies

The roles of teacher and student in education have changed over time, determining new possibilities of teaching and learning (Lima & Marques, 2019). Thus, teaching tends to switch from a teacher-centered environment to a student-centered approach, requiring the commitment of administration, faculty, and students for this transition (Karimi, 2011).

Due to the 2014 DCN, Active Learning Methodologies are increasingly present in medical courses across the country. The main objective of this change is to make the student the main actor in their learning process, overcoming the traditional model of teaching, in which teachers were seen as the only holders of knowledge in the classroom. It was also believed that the teacher transmitted their knowledge to students in expository and passive classes (Franco et al., 2014).

Lopes et al. (2020), compared two medical schools, one with PBL methodology and the other one with a traditional methodology approach. As a result, students who are exposed to active learning methodology hold a greater degree of academic self-efficacy, reflecting on the development of problem solving and decision making during the practice of medicine.

Although active methodologies have more benefits for medical training, once they are built on the principle of autonomy, many university professors still find it difficult to implement them in their classes (Mitre et al., 2008). The challenge of overcoming the traditional training and implementing active teaching strategies was a point brought up by the professors interviewed:

"I come from a formation in the traditional method, and I usually say that no matter the teaching methodology, there are actors who want to participate in the process, both professors and students. I can be an excellent lecturer in the traditional method and lousy in the active methodology or vice versa" (AC-03).

"[...] I notice that the most traditional type of class I had at my college, with the teacher in the front, exposing their knowledge and often not letting the student participate so actively, doesn't work anymore today" (AC-07).

These statements demonstrate that a class format that does not allow the participation of students no longer works for the current moment of medical training. Paulo Freire, reference of Brazilian and world education, addresses that the teaching-learning process should be based on respect for the cultural knowledge that the student possesses, in addition to valuing what is experienced in community practice and regarding a democratic relationship between students and teachers³¹(Barreto et al., 2018). However, the technical training of teachers compromises the understanding and application of the methodologies that value the autonomy of the student:

"[...] because I took a course that is a bachelor's degree, above all technical, I had no contact, no preparation during the graduation period to work with teaching. It was a desire that I had, but that I had no preparation of any kind" (SC-02).

"[...] I don't have the pedagogical training, my training is only technical. I am a physician who teaches, so I have a lot of difficulties. What I know about teaching methodology is what I learned, but I think it is little" (AC-08).

Although many professors understand the relevance of active learning methodologies, some of them admit to having little theoretical knowledge about those techniques. The work of Barreto et al. (2018), portrays the difficulty of consolidating curricular changes due to the fact that some professors are more concerned with medical practice and research activities, which represents a loss in terms of teaching. In order to minimize this problem, some of the professors attended the Permanent Education training for teaching qualification offered by the course.

It is in this sense that the participation in courses and lectures on the theme is stimulated, as well as the exchange of experiences with teaching colleagues or even the search for a second degree to better know the learning methodologies, being this also an orientation of the DCNs. The following excerpts exemplify the interviewees' actions regarding their commitment to teaching:

“[...] we have all the opportunities for qualification in terms of methodology, the pedagogical part, and I have tried to participate to overcome this limitation that I know I have, that I bring from my undergraduate training process” (SC-02).

“We have the Permanent Education program and I’m still learning, I don’t think I master the teaching methodologies yet” (AC-01).

“I’ve never had formal training because I’m not graduated in this area, neither postgraduate nor online course. What I did were some courses, whenever they were offered by the university” (AB-05).

University professors need to be open to the changes that are taking place in medical training. Thus, it would be possible to list the best teaching strategies to develop for the construction of knowledge, some examples are: problematization, seminars, small group work, experience reports, and round table discussions (Custódio et al., 2019).

In this sense, some interviewees reported that, despite not having adequate theoretical knowledge of active learning methodologies, they are able to apply them in the teaching practice:

“Sometimes I think I don’t know much of the theory, but I always try to invent something so that my class isn’t just me speaking, or me bringing something as right and ready” (SC-01).

“[...] I don’t have a strong background in active methodology from a theoretical point of view, many things I do in class are active methodologies and I don’t even know that they are” (AC-03).

However, even professors who know active teaching and learning methods face difficulties in the practical implementation of these methodologies:

“The difficulty I have is to put my content within that which has a lot of relation with the practical part. Also, the topics I teach are very theoretical, so this is very difficult for me to do, although I have tried and sometimes it works” (AB-01).

“You can try and propose an extremely different methodology, a methodology that would be considered active, and it doesn’t work” (AB-02).

“We had several workshops to try to implement a more interactive methodology. In my case, I faced a lot of difficulty of how to do this because the content is very complex, but we always are in the attempts [...]” (SC-05).

Taking into account the narrative of a student enrolled in the course, it is possible to perceive heterogeneity among the professors who have any resistance to following a non-traditional curriculum (Fonsêca & Souza, 2019). Despite the difficulties of implementing the active methods in an ideal way, some professors reported that they manage to carry out teaching practices

that are different from the traditional model. The following lines exemplify the strategies that some of the participants use to make their classes more active:

“We also adopt more specific insertions based on active methodology. For example, we have already adopted the *fishbowl* strategy, world cafe method, which are not that active, but anyway, they are based on clinical cases” (AB-05).

“I try to interact with the students, ask questions during class, make room for questions, try to make some relationships with the clinic field. So I try to bring clinical cases to the classes, for example, so they try to reason about them, and I try to make enough analogies with other areas” (AC-05).

4. Conclusion

With this research, it was possible to identify the lecturers' perception of the PCP of the course studied and how they organize and understand the learning strategies within the course.

The document for guiding the pedagogical practices, the PCP, was not known by all lecturers before joining the course faculty. Several positive aspects were highlighted by the respondents concerning this document, but they stressed out the difficulties in applying the guidelines in the daily teaching practices of the course, such as the inadequate qualification of the teaching staff, resistance to the new course format and the presence of feelings such as insecurity and helplessness. Also, the participants pointed out the course study load as excessive, an issue that generates a series of difficulties and contributes to the high prevalence of mental disorders among medical students.

Regarding learning methodologies, the lecturers reported the difficulties in using active strategies that put the student at the center of the educational process. Most respondents were trained in the traditional teaching model during their undergraduate and did not have the opportunity to learn about this subject throughout their graduate education. Thus, even though some teachers value active methodologies, most find it difficult to implement them.

Part of the difficulties presented has been overcome by fostering formative activities within the course, instrumentalizing the professors with strategies and methodologies for teaching in higher education, also, offering the opportunity for discussing and breaking prejudices, as well as the resistance to the "new" medical training. It is understood that, when exploring the professors' perception of the course, other possibilities of coping with the limitations arise and qualify this process.

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