

Teaching performance in higher education: facilities, difficulties, and perspectives in face of covid-19

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ABSTRACT

This study aimed to investigate the implications of the covid-19 pandemic in the performance of professors in a strict sense graduate program at a public university in the state of Santa Catarina. Nine teachers participated in this study, with whom we conducted online interviews. It is characterized as a field study, descriptive and exploratory, with a qualitative approach to the data. The data were analyzed from elements of the content analysis technique. The results present the resources and strategies used by these teachers during the pandemic period, as well as positive and negative aspects of remote teaching. It was identified that resources and tools have changed, but the format of classes has not, except for subjects that have practical components. In addition, it was found that the training and training opportunities in this period were insufficient or unsatisfactory, which culminated in an overload of teachers. Despite this, a positive perspective was detected for teaching performance in a post-pandemic period.

KEYWORDS

teaching performance; higher education; covid-19.

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ATUAÇÃO DOCENTE NO ENSINO SUPERIOR: FACILIDADES, DIFICULDADES E PERSPECTIVAS FRENTE À COVID-19

RESUMO

Este estudo objetivou investigar as implicações da pandemia da covid-19 na atuação dos professores de um programa de pós-graduação *stricto sensu* de uma universidade pública do estado de Santa Catarina. Participaram do estudo nove professores, com os quais realizamos entrevistas *online*. Caracteriza-se como um estudo de campo, descritivo e exploratório, com abordagem qualitativa dos dados. Os dados foram analisados a partir de elementos da técnica de análise de conteúdo. Os resultados apresentam os recursos e as estratégias utilizadas por esses professores durante o período pandêmico, bem como aspectos positivos e negativos do ensino remoto. Foi identificado que os recursos e as ferramentas mudaram, mas o formato das aulas não, com exceção das disciplinas que têm componentes práticos. Além disso, constatou-se que as capacitações e oportunidades de formação nesse período foram insuficientes ou insatisfatórias, o que culminou em uma sobrecarga dos docentes. Apesar disso, detectou-se uma perspectiva positiva para a atuação docente em um período pós-pandemia.

PALAVRAS-CHAVE

atuação docente; ensino superior; covid-19.

DESEMPEÑO DOCENTE EN LA EDUCACIÓN SUPERIOR: FACILIDAD, DIFICULTADES Y PERSPECTIVAS ANTE EL COVID-19

RESUMEN

Este estudio tuvo como objetivo investigar las implicaciones de la pandemia de covid-19 en el desempeño de los profesores en un Programa de Posgrado *stricto-sensu* en una universidad pública del estado de Santa Catarina. Participaron en este estudio nueve docentes, con quienes realizamos entrevistas en línea. Se caracteriza por ser un estudio de campo, descriptivo y exploratorio, con un enfoque cualitativo de los datos. Los datos fueron analizados a partir de elementos de la técnica de análisis de contenido. Los resultados presentan los recursos y estrategias utilizados por estos docentes durante el período de pandemia, así como aspectos positivos y negativos de la enseñanza a distancia. Se identificó que los recursos y herramientas han cambiado, pero no el formato de las clases, con excepción de las materias que tienen componentes prácticos. Además, se constató que la formación y las oportunidades de formación en este período fueron insuficientes o insatisfactorias, lo que culminó en una sobrecarga de docentes. A pesar de ello, se detectó una perspectiva positiva para el desempeño docente en un período postpandemia.

PALABRAS CLAVE

rendimiento docente; enseñanza superior; covid-19.

INTRODUCTION

Between the end of 2019 and the beginning of 2020, the world population was surprised by the covid-19 (caused by the SARS-CoV-2 virus), which, according to data from the World Health Organization (WHO), in November 2020, totaled more than 57.8 million cases and 1.3 million deaths worldwide (WHO, 2020b). Considering that the first cases were reported in China in December 2019, the speed of the spread of covid-19 is striking, leading to an exponential increase in contamination, which quickly led us to the pandemic faced today and which, even though it has not come to an end, represents the greatest health crisis since World War II (Alves, 2020; Joye, Moreira, and Rocha, 2020; Kaup *et al.*, 2020; Mishra, Gupta, and Shree, 2020; WHO, 2020b).

In this sense, at the beginning of 2020, WHO announced some necessary measures for the preservation of life, to minimize contamination based on social isolation and the intensification of cleaning and hygiene habits, bringing many changes to the world population in all spheres of life (Kaup *et al.*, 2020; Mishra, Gupta, and Shree, 2020; WHO, 2020a). Faced with these recommendations, Brazilian states and municipalities started to issue legal measures to address the public health emergency, including the suspension of face-to-face teaching activities (Brasil, 2020b). Then, in March of the same year, the Ministry of Education (MEC) expressed itself on this situation, by Ordinance No. 349, of March 17, 2020 (Brasil, 2020a), which provides, for the replacement of face-to-face classes, classes through digital media while the covid-19 pandemic lasts.

Measures aimed at the safe return to teaching activities try to minimize the impacts of the pandemic on education, which, according to data from the United Nations Educational, Scientific and Cultural Organization (UNESCO), reached 70% of the world's student population and affect, in December 2020, more than 52 million students in Brazil, with at least 8 million in higher education (UNESCO, 2020). Thus, in April 2020, MEC published a proposal for an opinion on the reorganization of school calendars and the realization of non-face-to-face pedagogical activities, mentioning possibilities for Distance Learning (DL) and Remote Teaching (RT) (Brasil, 2020b).

In this context, according to Alves (2020) and Joye, Moreira, and Rocha (2020), what has happened is a great conceptual confusion between DL and RT, which, for the authors, have different concepts and applications. DL, as the name suggests, foresees the physical or temporal distance between student and teacher, having its own organization that thinks about its specificities, and it may or may not use technological means and offer support to the teachers and students involved. RT, in turn, grows during the pandemic and consists of the use of digital platforms, used in asynchronous and synchronous ways, to enable face-to-face classes in an exception or emergency situation (Alves, 2020; Joye, Moreira, and Rocha, 2020). Therefore, the transposition of pedagogical practices from face-to-face teaching to online during the pandemic has been called Emergency Remote Teaching (ERT) by the literature (Moreira, Henriques, and Barros, 2020; Valente *et al.*, 2020).

In Brazil, the general guidelines for higher education are established by the Law of Guidelines and Bases for National Education (LDB — Brasil, 1996), according to which higher education (undergraduate and graduate courses) can be offered in public or private institutions, in person or not, provided that all the specific legal requirements for each situation are met. Thus, DL is understood as an educational modality, in which the pedagogical act of teaching and learning can be conducted with the use of information and communication technologies, enabling the necessary interaction between professors and students even in different places and times (Brasil, 2017).

The use of emerging communication and computer technologies has been creating broad debates in the educational field since they began to be applied in this area (Mishra, Gupta, and Shree, 2020). According to Amarilla Filho (2011), one must understand that, to establish a pedagogical teaching relationship, it is not enough to transfer a set of knowledge to virtual environments, a methodological and pedagogical organization of the teachers involved is required.

For Bolzan and Isaia (2010), in higher education, university pedagogy can be understood as a disciplinary field under construction, based on the professors' learning, in which they would be receptive to new training possibilities. Thus, teaching in higher education should be considered in its complexity, which is linked to a certain responsibility for the production and dissemination of knowledge; at the same time, it is a context in which the ways of teaching and learning are problematized from a pedagogical practice experienced in the daily life of the university (Almeida, 2020). In this sense, it is important to understand the construction of being a professor as a cyclical and collaborative process that is created in the teaching practice and in the daily life of the university, as well as in issues faced by professors, which can significantly influence the quality of teaching (Nascimento, 2006).

Among the issues faced in initial education, specifically in the context of physical education, Nascimento (2006) mentions dilemmas — situations with at least two action plans, in which the choice of one path makes it unfeasible or harms the benefits that the other path provides. Thus, these are teachers' choices that directly impact education, since they define the paths that the discipline will follow and, consequently, which benefits they privilege over others (*ibidem*).

The conception of what it is to be a teacher, as well as its role in society, are issues that gain different meanings, depending on the context and the historical moment we are talking about. Therefore, we must consider the non-generalizable aspect of teaching, recognizing the subjectivity of each teacher, expressed in their contexts and training trajectories. That is, the trajectories are individual and, although they are similar, they have particularities that give each one specific contours that must be considered (Huberman, 1995; Bolzan and Isaia, 2010; Resende *et al.*, 2014).

Moreover, the current global characteristics of dynamism, with social changes happening all the time, make it difficult to structure the ideal profile of what would be a good teacher. However, we must recognize the pedagogical aspects inherent to the teaching performance as a determining factor in the per-

formance of professors in higher education, with social and professional relevance (Almeida, 2020). In this sense, the construction of the teacher identity, being a teacher, constitutes processes that are established throughout life. These, according to Resende *et al.* (2014), begin even before the initial training and continue after it, covering the entire teaching career. Therefore, the professional identity is constituted in the choices of the subjects throughout life and in the deepening and reconstruction of several knowledge. The interaction and formative development of learning how to teach are valued as constituents of these processes (Huberman, 1995; Bolzan and Isaia, 2010).

Thus, the construction of a teacher identity includes movements of learning that depend on a significant personal investment, but also on a deep commitment to the profession (Resende *et al.*, 2014). One also emphasizes the interaction between personal and institutional environment, expanding the teachers' look to the different realities they can find, as well as ways of acting before them (Bolzan and Isaia, 2010). Therefore, professional identity and professional knowledge are interdependently related in these different moments of teacher education (Resende *et al.*, 2014). Thus, being a teacher is constructed in a procedural and continuous way throughout life, receiving influences from different factors.

Based on the aforementioned aspects, considering the context of the covid-19 pandemic and the complexities that involve the teacher training and trajectory, it becomes substantial that we have a broader look at being a teacher during this period and the possible implications of changing the organization from face-to-face to remote. In this sense, this study aims to investigate the implications of the covid-19 pandemic on the performance of professors in a graduate program at a public university in the state of Santa Catarina.

METHODOLOGICAL PATH

This research is characterized as a field study, descriptive and exploratory (Gil, 2010), with a qualitative approach to the data, since this type of investigation is related to the universe of meanings, motives, attitudes, and values (Minayo, 2012). In addition, this type of approach seeks to deepen the meanings of human relationships, allowing a greater approximation of the researcher with the context of the research, as well as a greater affinity with the problem in question (Gil, 2010; Minayo, 2012).

This study was approved by the Committee of Ethics and Research with Human Beings (CEPSH), under Opinion No. 4,349,940, on October 20, 2020. After approval, a survey of the teaching staff linked to the graduate program chosen for this research was carried out, and a total of 28 professors were found. This context was chosen for the ease of access to teachers, since the researchers are involved in the university in which it is located. Moreover, it is worth mentioning that the program in question studies the Sciences of Human Movement. As an inclusion factor in this research, professors needed to have taught their subjects in at least one of the semesters affected by covid-19 (remembering that, during the data collection period, the university was in its second academic semester). There-

fore, of these 28 professors mentioned, 18 met the inclusion criteria; however, one of them had a conflict of interest with this study, totaling 17 professors who would be able to participate.

Nine professors from a graduate program from a public university in the state of Santa Catarina agreed to take part voluntarily in this study. To this end, semi-structured interviews were conducted online, using the Google Meet virtual platform. This procedure has a contribution in the literature (James and Busher, 2006; Salmons, 2012; O’connor and Madge, 2017) and has been widely used in recent years, especially in social research data collection.

The interviews were scheduled on the day and time, according to the availability of the participating professors. An Informed Consent Form (ICF) was sent by email to the professors, which was duly signed and forwarded again to the researchers. Each interview had an average duration of one hour, totaling 9h01min53sec of interviews. These were divided into four generative themes (teaching, guidance, research, and extension), which sought to encompass aspects inherent to teaching in higher education in the face of the covid-19 pandemic. The questions addressed issues related to the strategies and resources used, positive and negative aspects of remote teaching, and perspectives for post-pandemic teaching.

The interviews were then transcribed and organized with the help of software N-Vivo 12, a computer program that assists in the storage and organization of qualitative data. During the transcription process, the interviews were edited to remove language defects, without altering the content. This action is important for the design defined for this study, since it allows a better visualization and understanding of the data (Duarte, 2004).

The transcripts of the interviews lasted about 30 hours, in which the identity of the participants was preserved by replacing their names with fictitious ones, using names of the beaches of Florianópolis, Santa Catarina. Other characteristics of these professors can be seen in Chart 1.

Chart 1 – Characteristics of the participating professors.

Fictitious name	Gender	Years of teaching
Açores	Feminine	23
Ingleses	Feminine	10
Jurerê	Feminine	10
Barra	Feminine	10
Mole	Feminine	28
Campeche	Masculine	17
Lagoinha	Masculine	35
Naufragados	Masculine	24
Moçambique	Masculine	19

Source: Elaborated by the authors.

The transcribed data were analyzed from elements of the content analysis proposal, which is subdivided into three chronological stages: pre-analysis; exploration of the material; and data treatment, inference, and interpretation (Bardin, 2009). The first stage consists of the organization of the material, to systematize the initial ideas; in turn, the second stage is formed by codifications and enumerations (registration units, context and enumeration units); finally, we have the stage that addresses the categories of analysis, which are related to the objectives of the research and the expectations of the researchers (*ibidem*; Benites *et al.*, 2016). Therefore, the three categories of analysis, a priori, that aim to achieve the objectives of this study are: strategies and resources used by teachers, positive and negative aspects of remote teaching, and perspectives for post-pandemic teaching.

In addition to these categories, based on the analysis of the content of the interviews and the context units, the need to establish a new category of analysis arose, a posteriori, which refers to the implications of covid-19 in the personal life of the professors. These aspects stood out transversely in their speech, even though they were not one of the objectives initially proposed.

STRATEGIES AND RESOURCES USED BY PROFESSORS

With the health crisis installed by the covid-19 pandemic, universities were forced to adopt the ERT. In this context, the study of Valente *et al.* (2020) points out that professors accustomed to traditional teaching practices, by expository lectures (with the help of blackboard and chalk or slide projector), found a great challenge to teach using other resources. Although some professors needed to reinvent themselves in their classes (as can be seen in the next category of analysis), others seem not to feel so affected, concerning their teaching strategies, with this drastic change to RT. As an example, professor Ingleses comments on methodological strategies:

Most strategies were unaffected, because in graduate programs [...] students already have a greater maturity and their participation and involvement have not changed much, at least in my opinion, from the face-to-face system to the remote system. [...] the assignments we had planned, and the dynamics we developed, we managed to maintain virtually [...] they were only adapted to the digital format. That is why I believe that, in graduate school, I did not feel much difference, because we managed to keep many of the strategies that we already used in face-to-face teaching, we only included some new ones.

In contrast, professor Moçambique says his strategies have been affected: “Yes, I can say that it has affected a lot, because 100% of my classes, whether undergraduate or graduate, are conducted by seminars [...]”. Therefore, professors were divided between those who consider themselves to have been affected by the pandemic (in teaching and research) and those who do not. In this sense, Almeida (2020) highlights the sociohistorically situated aspect of the teaching professional performance, that is, being the determining context of the contours that the professors’ performance

will receive. Thus, the most mentioned teaching strategies used during the ERT were exposition–dialogue classes, elaboration of seminars, discussion of articles, pedagogical practices, elaboration of tasks, and film resources; that is, a mostly traditional format. It should be noted that these strategies were already used even before this pandemic moment. However, it is noticed that, despite maintaining the teaching strategies, what has changed are the resources and tools for these strategies to be put into practice.

Valente *et al.* (2020) state that teachers need to learn to use technologies in this new way of teaching. Thus, the technological resources that are being used the most by the professors surveyed were the digital platforms: Moodle, Microsoft Teams, Youtube, BigBlueButton (in Moodle), Kahoot, Mentimeter, and Jamboard. Most professors did not know, or knew little, about the functionalities of these platforms. Thus, they had to deepen their knowledge about the use of these platforms, with emphasis on *Moodle*, an official platform for institutional use at the investigated university.

The study by Moreira, Henriques, and Barros (2020) shows that the emergency transition from face-to-face pedagogical practices to the online format (virtualization of the education system) forced teachers to deal with what they were not used to. In this aspect, it is worth highlighting the ability to acquire and update knowledge as an important trait of teaching performance and source of professional legitimacy (Almeida, 2020), with insertion in the digital environment being a necessity for the effectiveness of teaching practice today. As an example of this, one can note the deepening of the aforementioned platforms, the different forms of communication, as well as the class time. These are evident aspects in the speech of professor Açores:

I had to adapt, for example, my PowerPoint to the platform, I had to understand how to share a screen, how to work the chat with students, the use of the camera, the use of audio. I had to understand how to work with students at a seminar, a presentation, watch a report, a film. All the strategies that I used in face-to-face teaching I had to adapt to remote teaching and we realized that it takes much longer. What we organized for a class that worked very well, I don't know, around two hours, in remote teaching it takes around three hours.

When considering this pedagogical transition from face-to-face teaching to online (Moreira, Henriques, and Barros, 2020) and the necessary adaptations pointed out by the investigated professors, it becomes necessary to think about the preparation that teachers had for this emergency moment. However, in this study, the teachers were divided between those who believe they had sufficient preparation and those who did not, as professor Açores portrays: “*When they said we were going to work with remote teaching, [...] I was very worried because at no time were we trained for it. We were forced to search for ourselves and learn how we would work.*”.

It is possible to say that there was a general perception of professors that the training offers were few and insufficient, either for technical (according to the

previous speech) or pedagogical guidance, as pointed out by professor Barra: “*I’ve never been trained in what methodological choices we make. During the pandemic, we had a lot of technical and operational training, but pedagogical moments were rare [...]. In this process, I still feel unprepared for these choices with this pedagogical foundation.*”.

Therefore, educational institutions must promote training courses for the use of digital platforms (Moreira, Henriques, and Barros, 2020; Valente *et al.*, 2020), as well as digital education (Moreira, Henriques, and Barros, 2020), since most professors did not know, or knew little, about their functionalities. That is, in addition to improving the platforms, professors must have access to information that helps them understand what are the best pedagogical strategies to be used in this period. By doing so, educational institutions will ensure a more appropriate transition from ERT to networked digital education (*ibidem*), given that, at the time of writing this text, it was not known for sure until when we will need to maintain ERT, that is, when it will be safe to return to face-to-face classes at universities. For Almeida (2020), the offer of training possibilities to professors by institutions is a generator of processes that value the individual development of professionals and, thus, the development of educational institutions themselves.

In addition to the aforementioned spheres, the professors felt that, in this format, they needed to take more responsibility for the class to facilitate the student’s life during ERT. As we can see in the speech of professor Jurerê: “*Even in the very organization of Moodle, I ended up worrying to leave everything as organized as possible for the students [...], as a matter of necessity, I also had to adapt so that the student did not suffer or felt lost when seeking for information.*”.

It should be noted that, almost always, professors are responsible for everything (from the selection of content to the implementation of classes), greatly increasing the demand for work and requiring new skills, and they must present quick educational solutions without the ideal conditions (Joye, Moreira, and Rocha, 2020). According to Moreira, Henriques, and Barros (2020, p. 354, our translation), this pandemic moment attributed to the professor the “[...] roles of motivator, creator of digital resources, evaluator of learning, and dynamizer of online groups and interactions.”. Thinking about professors as guides of the teaching-learning process of ERT, we will now analyze the positive and negative aspects brought by them during the interviews.

POSITIVE AND NEGATIVE ASPECTS OF REMOTE TEACHING

Among the aspects most cited as positive of RT, there is the possibility of bringing external guests, experts in the area, to debate on a certain topic in the discipline. Moreover, being able to have contact with someone far away, either with a guidance counselor or with an expert professor to compose a board, was also mentioned. In this sense, according to the interviewed professors, the RT format facilitated the invitation, as well as the acceptance by professors to participate in the actions. Professor Campeche exemplifies this scenario: “[...] *this situation allowed us to call people from very distant places, facilitating external guests who could really accept the invitation and put it on the agenda [...]*”.

In addition, one professor believes that this type of participation was not so thought out before the pandemic. Another interesting point raised was that the current moment caused them to have to reinvent themselves looking for new teaching strategies, as mentioned by professor Açoires: “[...] *we had to reinvent ourselves, we had to learn new skills, new tools, new teaching possibilities, it took us, in a way, out of our comfort zone and that’s very good too [...] we had the possibility to understand other tools that we did not know before.*”

This aspect is raised in the study by Valente *et al.* (2020, p. 7, our translation), who point out that professors, when facing ERT, face the “[...] challenge of preparing, presenting, and dialoguing on different topics, using other resources, other languages, and a more compressed time.”. The effort of teachers to search for new technologies and learning strategies to make the class more enjoyable and closer to what it would be in the classroom, especially regarding the practical parts of the subjects, has had positive feedback from students, as pointed out by professor Barra:

[...] the positive aspect is that this format stimulated me, as a professor, to seek more complementary content available on the networks [...] one thing that I found really cool was the recognition, on the part of the students, of my effort and my colleague’s effort to try to bring the best to them.

The professors also pointed out as positive aspects during this remote period: the advancement of technology, since they are enabling RT; students who keep the cameras on, especially during discussions (many professors pointed out that in undergraduate students do not usually open the cameras and this is one of the main differences between undergraduate and graduate students); savings on travel time, due to heavy traffic in the city; increase in scientific production, because, according to them, this period at home allowed more time to finalize scientific articles and forward projects. Some questions concerning the students were also reported in professor Barra’s speech: “[...] *the positive points would be the engagement of the class, punctuality, attendance, participation, and understanding, solicitous students, understanding, thanking, and valuing our efforts [...]*”.

On the other hand, among the negative aspects most pointed out by professors is the fact that they cannot perceive whether the student is focused on the class or not. This is especially true when students do not open the cameras or, even when they do, appear to be doing other things (since it is not possible to be sure which screens are, in fact, open on their computers). Although they admit that this happens more with undergraduate students, this is also a conflicting factor in graduate school. To illustrate this scenario, professor Jurerê states:

[...] in graduate school, they still interact more, but even so... I, as a professor, sometimes feel more distant from them, because they do not open the camera, and, when they open, I am very happy, because then I am looking at someone, I am interacting with someone, not just thinking that I am simply interacting with a screen.

In this same sense, the lack of face-to-face interpersonal relationships was also a strongly pointed aspect, both in teaching and in the orientation process.

In the context of teaching, in the classroom, these aspects are related to the process of awakening confidence in the student and the exchange of glances. “[...] *the question of captivating the student, which we have in the face-to-face classroom, which establishes this direct relationship, eye to eye, with the students, we lose this with distance and with the use of technology [...]*” (Mole); as well as moments of exchanges between students at the end of classes “[...] *we had then a moment of interpersonal relationships, which you don't have in online class. In fact, there was this greater contact with people [...]*” (Naufragados).

In turn, the orientation process is related to exchanges with laboratory colleagues, as well as to teaching the use of some tool, as reported by Açores:

[...] *I feel like students get a little helpless. In the laboratory, when they have a question, students interact to solve; in remote teaching, this was lost, because when they have questions, what are they doing? They send a WhatsApp message or an email, but it's not the same. It's not the same as personal, social relationships, it doesn't have that in the virtual.*

In fact, it is undeniable that the social sphere has been the most affected sphere during this health crisis that we are going through, mainly due to the fact that social distancing is one of the most effective ways to manage to control the spread of the new coronavirus. For this reason, people have been forced to spend more time indoors, where many do RT. Thus, the home environment was also understood by professors as a limiting factor, either due to its inherent unpredictability or the structural conditions necessary for a good progress of RT. Operational problems, such as internet oscillation, were also cited as a negative aspect that impairs the teaching-learning process. In addition, Valente *et al.* (2020) points out that the lack of technological support to students so that they can follow the proposed activities, as well as the training of teachers for the effectiveness of this practice, are evident challenges in RT.

Because it is a graduate program that studies human movement, one of the great difficulties for professors is reconciling the practical component with the new teaching format imposed. Therefore, the lack of practical components is presented as a limitation to the teaching practice, since, for these professors, the union between theory and practice makes students have an integral learning. This can be seen in Mole's comment: “*I feel that the information is very incomplete. Because the student does not have the experience, and, without the experience, the experience disappears and the student does not have the apprehension of learning, because learning does not happen without practice [...]*”.

Last but not least, mental health was mentioned as a worrying factor that needs to be taken into account in graduate school. Some studies, such as those by Carvalho *et al.* (2020), Lima (2020), and Maia and Dias (2020), point out that the current health crisis has crossed the social fabric, causing repercussions on mental health and leading to implications in the psychosocial sphere. In this sense, this pandemic period significantly increased the levels of anxiety, depression, and stress of university students (Maia and Dias, 2020), as well as those of university

professors. This is evidenced in this study, when professor Ingleses comments that she has three master's students who are experiencing emotional problems, such as anxiety and depression, affecting their mental health.

Thus, it is understood that the pandemic period causes harmful effects on mental health (*ibidem*), and the number of people affected may be greater than the virus infection itself (Carvalho *et al.*, 2020; Lima, 2020; Ornell *et al.*, 2020). Therefore, this can be configured as a delicate moment, which needs a lot of empathy, making it indispensable to think about a more humanized educational environment, both for the students and for the professors of the program.

PROSPECTS FOR POST-PANDEMIC EDUCATION

Digital culture has been entering the universe of education since the emergence of the internet, being a constituent of meanings that teachers can add to their pedagogical knowledge (Velooso and Bonilla, 2018), an aspect evidenced in ERT. In this sense, all participants in the study mentioned positive perspectives regarding what awaits us in the post-pandemic period, especially mentioning the teaching context. According to Hodges *et al.* (2020), the implementation of ERT is configured as a situation that will give institutions and teachers the possibility to rethink their practices, find weaknesses, and use these experiences in the future. For Almeida (2020), a pedagogical action that values the teaching experience and reflection is the necessary path for the effectiveness of a meaningful practice in teaching and learning processes. About this, Mole mentions: “[...] *after the pandemic, we will not be the same. If this pandemic had lasted three weeks, as people thought at first, it would be one thing... But we are having a long experience. This, for sure, will influence our post-pandemic life.*”

For Bondía (2002), the knowledge that comes from experience is very related to the personal perceptions of each individual about the things that happen to them, therefore, two people who go through the same situation do not have the same experience. In fact, we can imagine that the experiences lived by teachers in this period will leave, for each person, a legacy in their professional and personal development. This is corroborated by the investigated professors, because “[...] *this process was quite challenging and reflective, to reinvent oneself, to think differently*” (Jurerê). Perhaps the word reflection is an important key to this process of thinking and building the perspectives of the post-pandemic period.

Gilbert and Trudel (2001) argue that we should recognize the importance of experience, but we cannot say that having experience necessarily implies that we learn something from it, with the reflection process being the bridge between experience and the knowledge generated by it. In fact, the process of creation that permeates the field of knowledge is not a mere accident, but something that passes through reflection and the possibility of transformation (Velooso and Bonilla, 2018). This issue is also recognized by Resende, Barbosa, and Gomes (2017), authors who reinforce the importance of reflections for professional development and the influence of individual trajectories on this development. Regarding the reflective processes initiated with the transition to ERT, regarding her practice, Açoires mentions:

Today I think about my subjects in a different way. I even try to add some things from here, some tools, to use in person. It's not that remote teaching is going to be one way and face-to-face is going to be another, I can put the two things together, they are not two completely separate things. Today I think that everything that has been learned can add up and help me later.

Thus, an aspect often mentioned by professors in the context investigated is about the possibility of a teaching that, according to their pedagogical objectives and specific needs, can be thought of in a hybrid format (with face-to-face and virtual moments). For the professors, due to demand, the current situation induces the development of technologies used for remote teaching and leads them to expand and improve their knowledge about the use of these technologies. This movement of being led to revisit and reflect on their practices leads professors to discover new ways of doing and acting (Castaman and Rodrigues, 2020). About this, Naufragados states that:

[...] many professors will be able to conduct many classes, both graduate and undergraduate, in this system, because technology has advanced a lot in this direction. Through the problem, several programs have emerged to improve this way of working. Certainly, when returning to the classroom, we will have some lessons like that.

In addition, the diversification of technological tools and strategies used in the classroom or in the orientation process are mentioned by the participants as consequences of the experiences with ERT. According to them, “[...] by using these platforms, in addition to reducing cost, we greatly optimize time [...]” (Jurerê), as well as “[...] it is interesting to make it possible to bring members to the board who have more affinity with a certain subject, but who are often far away or in another country [...]” (Campeche).

Nevertheless, as the knowledge of experience is something personal, fruit of the reflection of what happens to me and what I feel in relation to what happens to me (Bondia, 2002), some professors believe that the repercussions of their practice in a post-pandemic period are more related to their relationships with students and not with the format of their classes, as said by Ingleses:

I think that what changes is not the technical or methodological part of the discipline, but the human part of the relationship with students! I think that's what's going to be modified. Perhaps not the teaching part, but the teacher's awareness part in relation to students [...] for sure, human treatment will be very different! I have already tried to be lighter with them, to give them more time, the way I talk... I think the pandemic came a little for this, for us to rethink our personal behaviors as well.

The professor's report refers us to a feeling, expressed by a portion of the participants, of greater awareness and empathy towards students. Resende, Barbosa, and Gomes (2017) mention that students tend to value teachers who care about them beyond the formal teaching context, as portrayed in the speech of one of the teachers: “I think we are more humane to recognize each one within their routine and

all trying to make it work [...]” (Barra). Possibly, the appreciation of the professor’s action by students will reverberate positively in the educational processes, being a facilitator of the processes.

The investigated professors have a positive perspective of the post-pandemic period, highly motivated by reflections of their experience in which they have the student as a concern. From this perspective, Hodges *et al.* (2020) believes that the abrupt transition from face-to-face teaching to ERT is a stress generator for all those involved in the university environment; therefore, a flexibility is required in the conditions and relationships of the class, to minimize these impacts. This makes us wonder how professors are dealing with this stress, if it exists at all, and who thinks about them in the process.

PERSONAL IMPLICATIONS FOR PROFESSORS

Initially, it was not the objective of this study to portray personal aspects experienced by professors during this pandemic period, which involves working at home with remote teaching, but also involves social distancing, abrupt change of routine, insecurities, and all the implications that may arise from this context. However, these aspects appear in different proportions in the speech of all the professors investigated, passing through all the interviews carried out, expressing a general feeling of anguish and fatigue on their part. For Carvalho *et al.* (2020), the pandemic and its implications on people’s lives can generate psychological effects, such as the emergence or worsening of anxiety, stress, and depression. Given this, Barra emphasizes: “[...] *the word that defines me best is tired, I’m pretty tired, I don’t recognize myself like that normally. I start Monday tired and it’s physical tiredness, mental tiredness, and a feeling of anguish that is taking over a lot of people. How long will we have to live with all this?*”.

In this sense, the personal implications mentioned by the participants include the stress caused by the excessive increase in labor demand, as exposed by Moçambique: “[...] *Mondays when I finish classes, I fall into bed and sleep from two in the afternoon until about four, because I have no conditions, that’s how tired I am [...]*”. In fact, in a short period, teachers had to reorganize their pedagogical practice to a format that demands more time and involvement, in addition to evidencing a teacher-centered education, causing an accumulation of roles (Castaman and Rodrigues, 2020; Valente *et al.*, 2020). About this, Jurerê mentions:

Meetings started popping up basically every day, more than one meeting a day. In this period that could have reduced the working day, I personally did not reduce it. When we learned that classes would return in remote format and, in the face of all the other demands, commissions in which I was placed, it generated a stress. I realized that I was just working, and today it still remains so, even though I policed myself, but I was working from Sunday to Sunday.

An aggravating factor of this situation, experienced by some of the participants, was the establishment of communication via WhatsApp with students.

The professors reported that, often, having access to their mobile number, students have the impression that they are available 24 hours a day. In this perspective, some of them had to establish agreements with their students, establishing the times of the day when they could send messages, as exemplified by professor Ingleses: *“To preserve my mental health, to be able to distribute my personal and professional activities, I agreed with the students that messages would only be answered at certain times and if I was not in class or something like that. Outside of the agreed hours, I do not answer.”*

In this context, the investigated professors demonstrated to be under strong emotional pressure and stress due to the demands of work, which lead them to worry about their health status in all aspects. For Valente *et al.* (2020), RT represents many difficulties for teachers, since remote work itself requires much more effort and still needs to be carried out simultaneously with family and home daily life. On this relationship between home and work, Jurerê comments:

There is also the burden of working from home. It has the warmth of home, but, on the other hand, your home, which was your moment of rest and leisure, has become your workspace, having all that energy from work that often does not do us good. There came a time when my mental health was really shaken.

Some professors attributed this state of stress to insecurities related to the use of tools for teaching hitherto unknown or little used by them. Such insecurities are understandable, since concerns in the organization of classes and themes, common in face-to-face teaching, are potentialized in RT (Castaman and Rodrigues, 2020). In addition, although we can imagine that students dominate the use of technologies, for teachers, this issue is a barrier that can generate a lot of anxiety and discomfort (Valente *et al.*, 2020). For Mole:

Sometimes it gives you insecurity and discouragement, because you don't know if what you are doing and have worked so hard to do, what you have stressed so much to do and learn, has been effective or has had any results. It's quite frustrating, quite stressful, but it's what we can do, so we try to survive in the midst of this mess.

For professor Barra, “[...] *this is also the result of the scenario, because people are more fragile, more sensitized, each with their own personal issues [...]*”. From this perspective, the pandemic situation itself (social isolation, possible economic issues, explosion of news, among others) is a generator of stress, restlessness, and anxiety (Carvalho *et al.*, 2020). Such aspects are also mentioned by other studies, according to which the lack of quality information about the pandemic and the entire scenario of economic and health instabilities, added to the decrease in face-to-face social relationships, generate insecurities that can lead people to a state of psychological suffering, having repercussions on other problems, such as anxiety and depression (Faro *et al.*, 2020; Schmidt *et al.*, 2020).

In this sense, feelings of tiredness, exhaustion, anxiety, and stress stood out in the professors' speech, raising an alert about their health, as illustrated by Barra's speech:

I lost weight in the beginning because of the emotional situation. It was very difficult for me this first moment of family stress. Even with the sedentary lifestyle and the process of changing food, I lost weight. I sought therapy. I am still in this process that is long and trying to hold on to the things that I believe should be valued.

The problem that involves the changes and disruptions caused by the covid-19 pandemic has caused adverse reactions to the health of teachers in all aspects, meeting the findings of other studies (Carvalho *et al.*, 2020; Faro *et al.*, 2020; Schimidt *et al.*, 2020; Valente *et al.*, 2020). Therefore, this scenario must be viewed more carefully to preserve the health of these professors.

FINAL CONSIDERATIONS

The teaching model presented by the investigated professors corresponds to the concept presented in the literature for ERT (Moreira, Henriques, and Barros, 2020; Valente *et al.*, 2020), in its limitations and potentialities. It was possible to identify that the resources and tools have changed, but, in general, the format of the classes has not, except for subjects that have practical components. Thus, it was evident in the professors' speeches the need to reinvent and rethink their classes during the current health crisis, especially regarding the resources and tools used, given that many of those investigated in this study had little knowledge of the digital platforms they needed to use.

In addition, it was found that the capacities and training opportunities in this process of transition to ERT were insufficient or unsatisfactory, both in terms of technical and pedagogical orientations, which hindered the teaching action and, through a broader look, developed a state of stress and insecurities related to the use of tools for teaching. This led to an overload of professors, who accumulated new roles and responsibilities.

This aspect highlights the need for professors to be offered support aligned with their needs and that can alleviate such overload, such as continuing education aimed at the use of resources and technological tools, as well as exchange opportunities with peers, making it possible to reflect on the experiences obtained during ERT and the perspectives of returning to a way of teaching that will probably be different from what we had before the pandemic.

It was possible to detect in the investigated professors a positive expectation when thinking about a post-pandemic period. The experiences lived by them are presented as a possibility of pedagogical formation, which can contribute to changes in the professors' professional doing and acting (Almeida, 2020). Motivated by the reflections of their experiences, which have as concern the student, the possibility of a hybrid teaching, with online and *in loco* classes, as well as asynchronous and synchronous activities, may prove to be an interesting alternative for the investigated professors, since, according to them, technological resources have advanced a lot over the years.

It is worth mentioning that the results of this study are related to the specific context of the investigation. Therefore, we recognize that the understanding

of these professors cannot be transferred in full to other realities. However, it brings important notes on the teaching performance in higher education during the covid-19 pandemic. We suggest that further studies be done to investigate more carefully the psychological and emotional implications of ERT and the pandemic context in the lives of teachers. We believe there is a need to think about more sensitive and humane educational processes for this scenario of teaching during the pandemic, to preserve the health of teachers and students in all aspects.

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