

Remote Pedagogical practices in higher education during the COVID-19 pandemic

Práticas pedagógicas no ensino superior remoto durante a pandemia da COVID-19

Práticas Pedagógicas en la Enseñanza a distancia durante la pandemia del COVID-19

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ABSTRACT: The COVID-19 pandemic has triggered many changes, including the need for physical distancing to reduce the spread of the new coronavirus, known as SARS-CoV-2. As a result, Brazilian educational institutions, both public and private, had to resort to a special regime to continue their classes. Considering this context, this research aims to identify applications and programs, in addition to their relevance, used in remote teaching. The technical processes used were bibliographic, documentary, and ethnographic research. For this purpose, we developed a questionnaire via Google Forms and the data were subjected to descriptive and qualitative analysis. It was possible to conclude that education professionals and students were not prepared to change the way of teaching and learning. Thus, continuing education, including technologies and institutional resources, is of particular relevance for education.

KEYWORDS: Remote teaching; COVID-19; Technologies.

RESUMO: A pandemia da COVID-19 gerou muitas mudanças, entre elas a necessidade de distanciamento físico para diminuir a contaminação do novo coronavírus, denominado SARS-CoV-2. Devido a isso, as instituições de ensino brasileiras, públicas e privadas, tiveram que recorrer a um regime especial para dar andamento às aulas. Considerando tal contexto, esta pesquisa tem o objetivo de levantar os aplicativos e os programas utilizados para a manutenção das atividades pedagógicas no ensino remoto, além de observar as impressões dos estudantes sobre o uso desses recursos nas aulas. Os processos técnicos utilizados foram pesquisa bibliográfica, documental e etnográfica. Para tanto, foi elaborado um questionário via *Google Formulário*, cujos dados foram analisados descritiva e qualitativamente. Foi possível concluir que profissionais da educação e discentes não estavam preparados para mudar a forma de ensinar e aprender. Assim, a formação,

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continuada incluindo tecnologias e recursos institucionais, é de extrema importância ao ensino.

PALAVRAS-CHAVE: Ensino remoto; COVID-19; Tecnologias.

RESUMEN: La pandemia de COVID-19 ha generado muchos cambios, incluyendo la necesidad de distanciamiento físico para reducir la contaminación por el nuevo coronavirus, llamado SARS-CoV-2. Debido a esto, las instituciones educativas brasileñas, tanto públicas como privadas, tuvieron que recurrir a un régimen especial para continuar con las clases. Teniendo en cuenta este contexto, esta investigación tiene como objetivo identificar las aplicaciones y programas utilizados para el mantenimiento de las actividades pedagógicas en la educación a distancia, además de observar las opiniones de los estudiantes sobre el uso de estos recursos en las clases. Los procesos técnicos utilizados incluyeron investigación bibliográfica, documental y etnográfica. Para ello, se elaboró un cuestionario a través de Google Formulario, cuyos datos se analizaron de forma descriptiva y cualitativa. Se pudo concluir que los profesionales de la educación y los estudiantes no estaban preparados para cambiar la forma de enseñar y aprender. Por lo tanto, la formación continua, que incluye tecnologías y recursos institucionales, es de suma importancia para la educación.

PALABRAS CLAVE: Educación a distancia; COVID-19; Tecnologías.

Initial Considerations

The world did not expect such drastic changes and losses due to a new virus. Brazil was celebrating 2020's *Carnival* when, a few days later, in a quick and abrupt way, the pandemic started in the country. Measures were taken in an attempt to reduce contamination by the new coronavirus; among them was physical distance.

As in other areas, education turned to the remote environment to continue its activities. Teachers did not know how to work, because the use of technology in teaching was not part of their training. For the students it was not much different, since it was something totally new and, therefore, difficult, even because of the inequality in access to the internet and technological resources.

At first, all this was thought of in the short term as a way to minimize the effects of physical isolation (BARROS; LAZARII, 2020). Learning was not the focus at that moment. From March to August 2020, was a period of non-acceptance of remote learning (SANTOS; RIBEIRO; FERNANDES, 2021), and of hope for a brief return of face-to-face activities and the end of the pandemic.

The uncertainty of the future caused a lot of anxiety, fear, and worries, including uneasiness about the lives and health of family members and friends. In

addition, cases of several other diseases besides COVID-19 itself have increased, such as depression (GAMEIRO, 2021). Emotional exhaustion due to the increased workload, generated by adaptation to the remote environment, and the lack of skill in using technologies by teachers and students made frustration and discouragement a part of everyday life.

In the realization that the pandemic would last longer, it was necessary to reinvent themselves, both teachers and students. There was a change of roles. The student stopped being just a receiver of knowledge and became a collaborative producer of learning. The teacher ceased to be the one who owns the practice, and became a learner as well.

Considering this context, we aimed to survey applications and programs used in remote teaching, during the pandemic, by professors and students at a Brazilian university located in the state of Paraná, to seek characteristics of the work and the relevance of these tools in higher education, as well as to point out the conditions of use indicated by the participants. To this end, we conducted bibliographic, documental and ethnographic research. We designed a questionnaire via Google Form for students and professors at the university, whose data were analyzed descriptively and qualitatively.

In the questionnaire, no names were requested, only average age, gender and course to which teachers and students were linked. We reached a total of 100 responses from different courses, such as Languages and Literatures, Biological Sciences, Agronomy, Nursing, Dentistry, Veterinary Medicine, Geography, Physiotherapy, Information Systems, Pedagogy, Economic Sciences, Physical Education (bachelor and undergraduate), Degree in Computer Science, and students of the Professional Master in Teaching. Of these 100 responses, 90% were from students and most were between 21 and 25 years old; 73% were female.

Remote Learning

First, it is necessary to clarify the definition of remote teaching that we take into consideration in this article. We understand remote teaching as a

non-face-to-face educational practice, using technologies to reach those involved in the teaching/learning process. In it, there are synchronous (interaction WITH simultaneous time, e.g. meetings via Google Meet) and asynchronous (interaction WITHOUT simultaneous time, e.g. meetings via Google Classroom) moments that allow geographically distant people to meet. Technology is no longer just a tool, but the main means for conducting classes and maintaining the teaching/learning process. However, there are several definitions of remote learning that add meaning and will be presented below.

Cunha, Silva, and Silva (2020) consider this remote teaching existing as a result of the pandemic is an emergency measure and may or may not use digital technologies. Due to lack of equipment and internet access, many students could not follow online, so many educational institutions provided printed materials, and this way of enabling content was incorporated into "remote teaching", because it was the solution found in a moment of emergency to continue the work, and no other designation term was determined.

According to Junior *et al.* (2020), remote teaching is an extension of Distance Education (DE) with some differences: DE has more resources and preparations, but less interaction. Remote teaching, on the other hand, tries to get closer to face-to-face classes, with more virtual (synchronous) interaction time. Joye, Moreira and Rocha (2020, p.13) state that this educational model is not equal to DE, precisely because it uses the same methodologies as face-to-face teaching, including the same workload, curriculum and students per class..

There are different concepts for DE around the world. According to Joye, Moreira and Rocha (2020), this educational modality is in the Law on Brazilian Education Guidelines and Bases, in article 80, since 1996. The authors emphasize the concept in force in the *Decree-Law 9.057/2017*, that serves as legal support for public and private educational institutions. There are different ways to perform DE: virtual education, home education, education mediated by digital information and communication technologies, remote teaching and others (JOYE; MOREIRA; ROCHA, 2020). "In DE, teaching is shared with other specialists, such as the educational designer, content teachers, multimedia producers, illustrators, managers

of Virtual Learning Environments (VLEs), among others" (JOYE; MOREIRA; ROCHA, 2020, p.14).

In remote teaching, on the other hand, the teacher of the class is responsible for doing everything themselves, such as feeding the platforms, creating content and ways to apply it, and having as "studio" any space in their own home, where they prepare and record classes and meet the students. Another distinction between these types of education is that DE has a history and, consequently, has had more time to structure itself. The role and profile of the student also changes. The interactions between student and teacher, student and peers are different. The content and assessment methods are distinct, as are the focus and effectiveness. Thus, remote teaching impacts multiliteracies (ROJO, 2012) and continuous teacher education.

Technologies and continuous teacher education

The use of technology was not well regarded as a form of "pedagogical mediation" (MASETTO, 2006, p.133), before it became the only means to continue the school year. So many setbacks experienced from the physical distance caused by the pandemic, highlight the growing need for a teaching connected to the student's life, with credibility and with competent professionals.

The need for digital literacy, for the inclusion of multiliteracies (ROJO, 2012) at schools, has arisen. Behrens (2006) states that in addition to orality and writing, which have long been present in the historical process of education, we need to consider digital language, which provides access to global information and is indispensable for life and for the development of the contemporary citizen. With emotional intelligence (which consists of the ability to solve problems creatively, communicate, and collaborate), these aspects are considered very relevant for the near future.

According to Moran (2006), with the internet, we receive answers all the time, we are exposed to a flood of information every second. However, this speed leads us to superficial conclusions; and the information aggregates in large amounts, but with

low quality, i.e., it does not become effective knowledge. The role of education and of digital literacy is to guide the development of the types of processing, so that students know what requires more research and what requires only immediate answers. The educator must offer help to those who cannot navigate the web, help them select meaningful information and understand it deeply, and must also teach them how to do research to supplement their learning.

It is possible to do a lot of dynamic video analysis and creation or to produce texts belonging to different discursive genres, in groups, collaboratively through Google Docs. Doing these activities and posting them (with permission) on web pages can generate much more motivation and engagement, it can be more attractive and meaningful, as it will be taken beyond the classroom and therefore impact other people and other environments.

Technology enables the development of multimodal writing, with images, sounds, hyperlinks, multilingual and connected. It's like linking techniques, for example: after a teleconference with a specialist in a certain area, open a chat for students to discuss their experiences and learnings to encourage them further in the theme. YouTube facilitates this dynamic, since, in live broadcasts, it is possible to participate in the chat sending comments, questions and suggestions. Another way to use applications for teaching is to open discussion lists in groups after a brief introduction on a theme, to reach conclusions that can be shared over the Internet, and through it, one can find even more information, content, books, etc. The teacher, during classes or in asynchronous activities, can use PowerPoint, Google Slide or even Canva to help in the understanding and dynamics of some content.

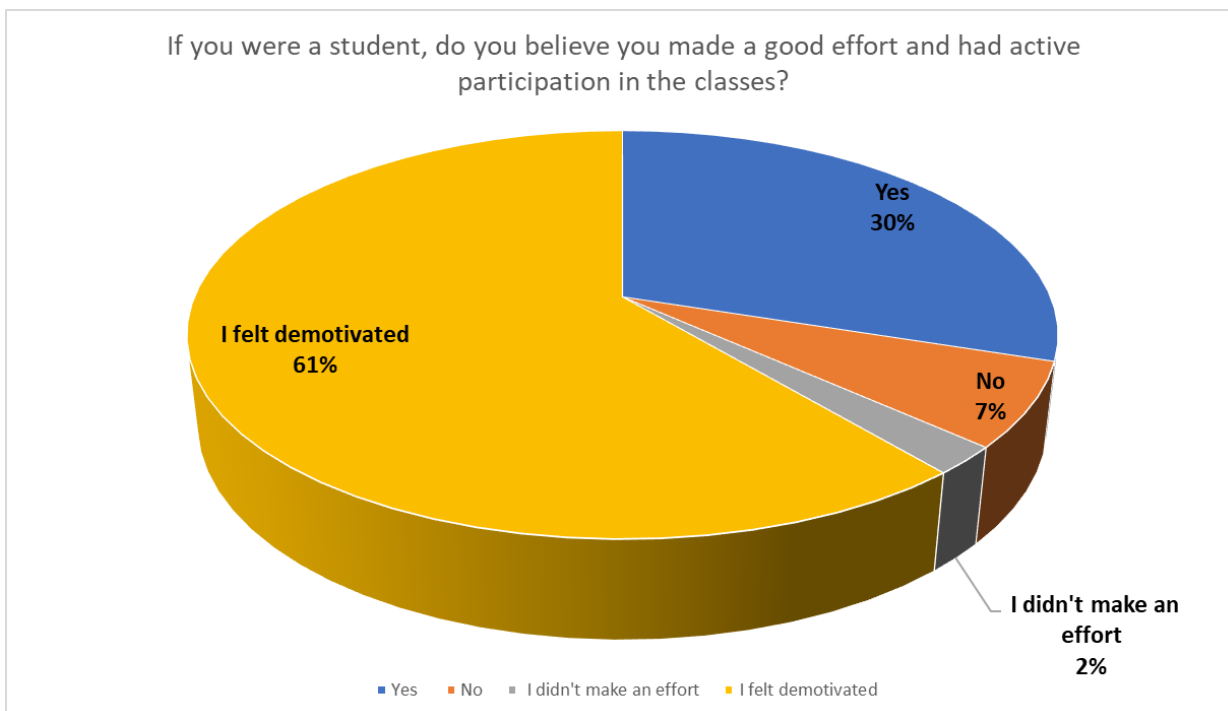
All techniques need the teacher's mediation, no doubt, with tutorials or simple, accessible, clear and coherent scripts to help students to participate and produce on these platforms. Ribeiro Junior *et al.* (2020) reinforce the need for continuing education for education professionals, to innovate and seek new knowledge, to bring reflective competence so that they do not repeat techniques over and over again, as if they all worked for any student at any time.

Another example of activity through the use of technology, cited by Kersch and Dornelles (2021), are fanfics. Fanfics are stories created by fans and may have

original or created characters, mixed with other characters and may or may not be within their original stories. There are several categories: one fanfic can have ten chapters and the other only one page (one-shot fanfics), there are no rules. The authors point out that through the fanfics studied in class and published in digital media, there was a lot of dedication and development from the students; they could meet new people, get to know other stories, and give meaning to their own writing. To publish texts belonging to this genre, there are websites such as Spirit Fanfics or Wattpad.

It is essential to understand the new languages to make the school environment be seen with more expectations and new postures. Only slide presentations in classroom lectures do not explore the full potential of using technology. Even more with pandemic and remote teaching, using methodologies including technologies is much more than necessary. In one of our survey questions, an alarming number (61%) of participants state that they felt demotivated by remote classes (Graphic 1). In a free space for comments, through the answers, it is possible to see that this demotivation comes from the lack of appropriate methodology for teaching, in addition to other issues.

Graphic 1: Effort and participation



Source: Developed by the authors.

Technology, when one has training and study about it, can be used for the efficiency of education both in person and remotely, synchronously or asynchronously, from anywhere as an exchange with the whole world. However, even if there were prepared professionals, in this period it was seen that only technological knowledge is not able to solve all the educational problems in Brazil, since poverty, family income, age, gender, and other factors interfere significantly in learning. Many improvements were necessary and many more are still necessary if we want a better future.

Among the changes that have occurred because of the pandemic is the role of students and teachers that has been reconstituted with the use of Digital Information and Communication Technologies (ICT). The teacher is no longer the all-knowing, the knowledge-holder, and it also becomes both a learner and a knowledge producer. According to Behrens (2006), conservative, uncritical and repetitive teaching no longer fits contemporary society, nor does remote teaching.

The challenge imposed on teachers is to change the axis of teaching to choose the paths that lead to learning. In fact, it is essential that teachers and students are in a permanent process of learning how to learn (BEHRENS, 2006, p.73).

The teacher as a mediator is the one who encourages and facilitates learning, interferes less and lets students create their own paths without running away from the objectives (MASETTO, 2006). The author (MASETTO, 2006) comments on some types of mentor/mediator with their own characteristics and that fit well in this new role of the teacher with the use of ICT. For example, the intellectual: the one who helps students choose the most important information and make it meaningful. Another type is the emotional mentor/mediator, the one who encourages students, stimulates and motivates them. The managerial or communicative mentor/mediator tends to organize research activities in groups, balance planning and creativity, and develop interaction. And, finally, the ethical mentor who teaches students to assume and live constructive individual and social values.

The teacher as mediator provides students with more autonomy and responsibility, showing that they are not only receivers of knowledge, but also its producers. Especially in remote teaching, the student's independence when studying becomes crucial for their development.

Teaching with quality, according to Moran (2006), depends on educators who are intellectual, enthusiastic, well paid, motivated, open to innovate, and willing to research and keep themselves updated. It also depends on administrators who understand the pedagogical process, who are also open to changes so that, together with the teachers, they can seek the necessary improvements. Finally, it depends on students who are willing to learn and ready for certain levels of education, because knowledge is interconnected.

Many times we don't have well-equipped institutions with accessible technologies and motivated and prepared teachers and students, so the difficulty of teaching with the Internet increases and generates a negative perception regarding teaching and learning. This lack of equipment occurs mainly in poor communities, which generates great inequalities between students from different regions. Given this, it is essential to understand the role of administrators, teachers, and students in

the context where technology is most present, in this way we can get to the heart of the educational problems and solve them. Understanding the challenges and practices during remote teaching is also important.

Difficulties and practices in remote teaching during the COVID-19 pandemic

Remote education brings advanced issues for the teacher, and one of them is assessment methods. Teachers usually have difficulty in evaluating online students precisely because of the lack of contact. For this to happen, it is necessary to integrate the evaluations into the learning projects and not just see them as a means of obtaining a grade in order to be approved. "The important thing is to see assessment as a process of feedback that brings the learner the necessary information, timely and at the time he needs to develop their learning" (MASETTO, 2006, p.164).

Throughout the study, the teacher can offer this feedback which is very important to the students and so they can see what content they need to take back. Barros and Lazari (2020) advise doing these feedbacks in synchronous interactions. It is also important for the teacher to evaluate the students and the self-evaluation of both, as this qualifies the process as a whole and helps to identify points that need improvement. The teacher can ask for diaries, reports or comments from the students to check if they had any difficulties when performing some activity, and even to check their learning level.

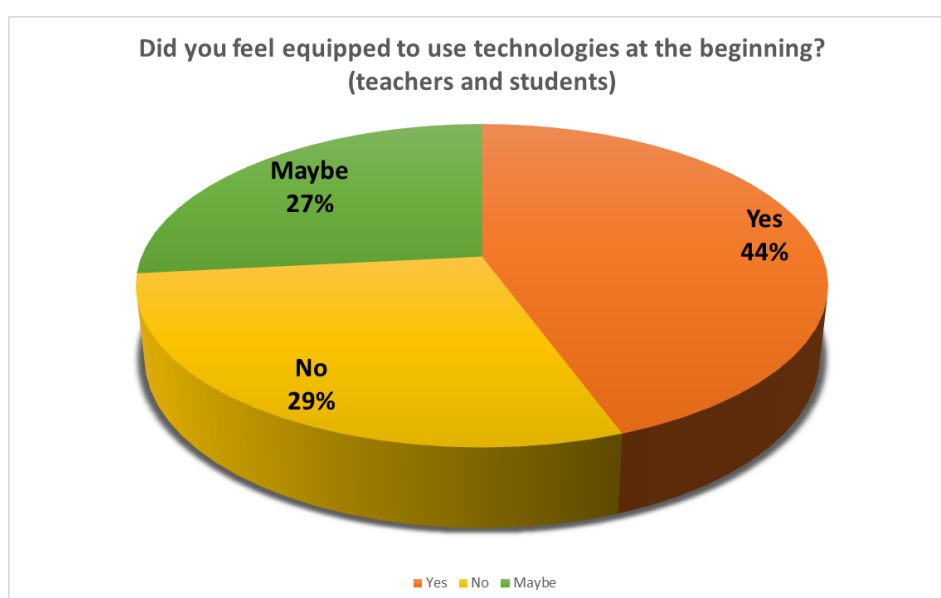
In addition to careful messaging, the lack of both physical and synchronous interaction can affect student participation. Often only one student in the class participates orally, the others just listen. Especially in synchronous interaction, the teacher needs to create dynamics that facilitate and move everyone's participation so that the students' orality is not impaired in remote teaching.

In this focus on the complexities of the teaching work in this new scenario, Ribeiro Junior *et al.* (2020), in research focused on the states of Piauí and Maranhão, state that few teachers said they felt prepared and trained to work remotely. Some

felt it was more difficult to work in different schools with different systems and platforms, because the adaptation work is even greater, not to mention the countless messages they receive on private WhatsApp at times incompatible with class hours and even on weekends.

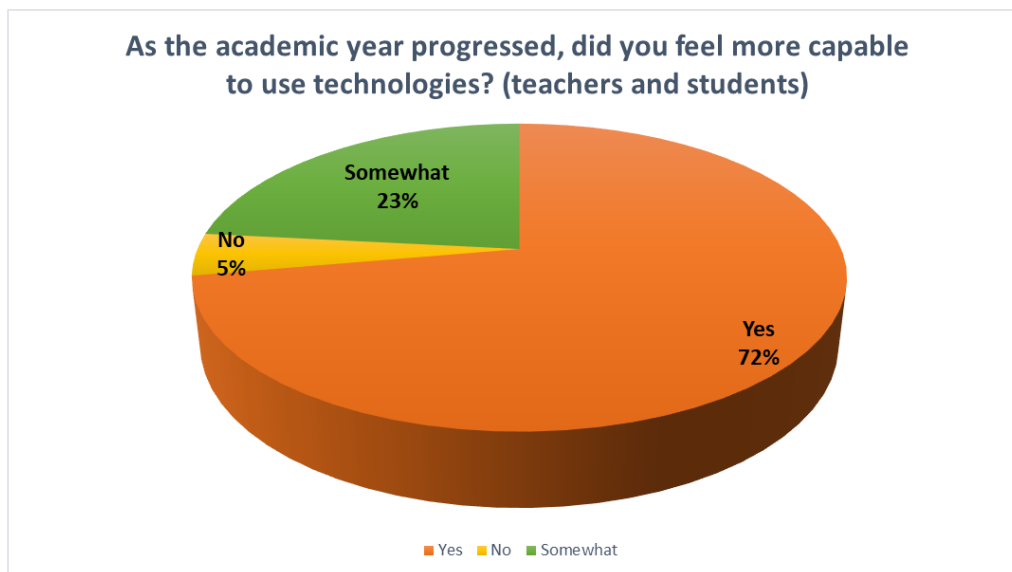
In our survey, data showed that there was a change regarding the training of both teachers and students at the beginning of the pandemic and during the course of the pandemic (Graphic 2 and 3).

Graphic 2: Initial training



Source: Developed by the authors.

Graphic 3: Ongoing training



Source: Developed by the authors.

It can be observed that, at first, 29% of the teachers and students did not feel capable (Graphic 2), but in the period in which the research took place this number dropped to 5% (Graphic 3); 13 (7%) students had difficulties with mastering the technologies.

According to Ribeiro Junior *et al* (2020), 46% of the teachers in their survey said it takes more than five hours (5h) to produce lessons and activities. To reduce this time, it is advisable to look for good materials on the Internet and use applications and games that can contribute to the activities, but require training (that, many times, teachers have not had), and that affected the production of video lessons, for example, Which require attractive elements to capture the students' attention.

In another question from our questionnaire to the teachers, they stated that they had difficulty with Internet access, lack of technology proficiency, lack of electronic devices, time management in transposing content to technologies, and feeling unprepared. Only 2% said they had no difficulties.

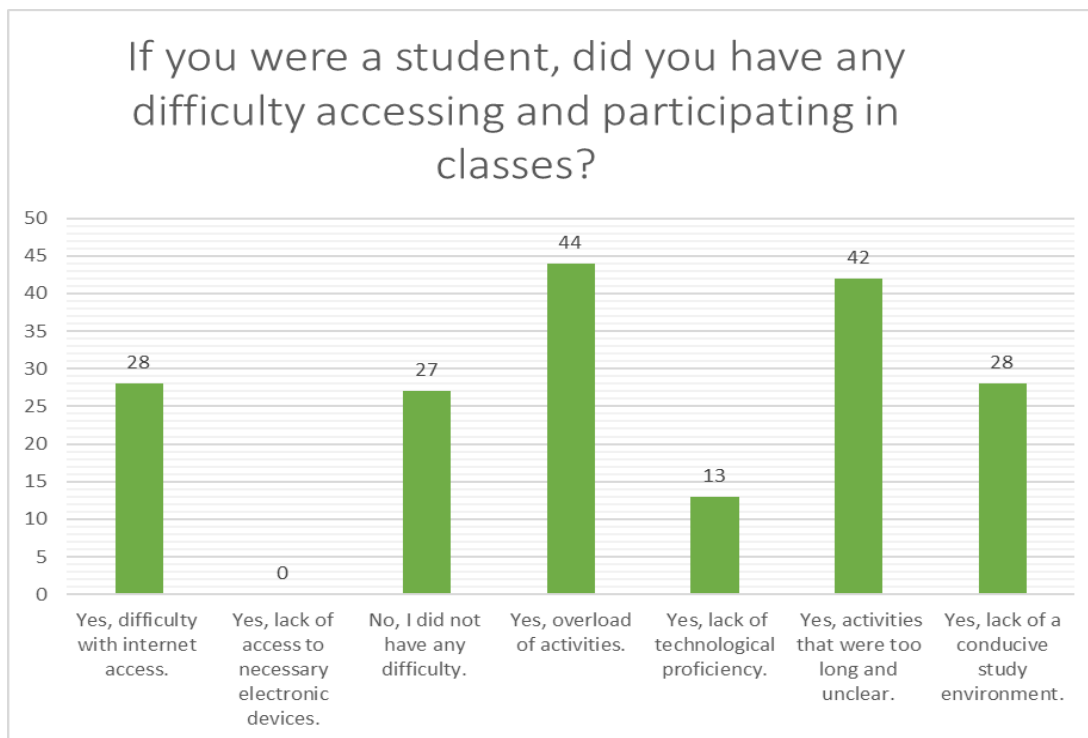
In addition to the teachers, many students struggled with a lack of technological proficiency, not to mention those who didn't have access to a cell phone, computer, or, if they did, lacked internet connection (RIBEIRO JUNIOR *et al.*,

2020). Cunha, Silva and Silva (2020) assert that students in the early years need, besides the mediation of the teacher, the assistance of adults to receive the lessons and materials, to learn from them and to develop the expected skills. However, parents who work all day when they come home with household chores to do, often cannot attend to their children, or sometimes do not have the necessary schooling to be able to help them. Final year students, undergraduate and graduate students have more autonomy, especially if they have their own cell phones or computers, but still require a comfortable environment, sufficient internet signal for classes, and guidance.

The demand for activities has increased and students feel very overwhelmed. Some live in cultures where schooling is not important and end up not being interested in studying, especially remotely. The student needs a lot of discipline and focus to be able to accomplish everything that is proposed, but not everyone succeeds.

In our questionnaire (Graphic 4), 44 students participating in the survey claimed to have difficulties with the overload of activities, and 42 pointed out that long and unclear activities took too much time and brought little learning. In addition, 28 said they had difficulty accessing the Internet, and 28 said they did not have a favorable environment for studying. Also, 27 said they had no difficulties. An interesting fact is that the option of difficulty due to lack of an electronic device in this question was not checked by any student, which means that of the 100 answers received in the questionnaire, all had a cell phone or computer. It is worth mentioning that they could choose more than one option for this answer.

Graphic 4: Difficulties faced by students



Source: Developed by the authors.

For large families with little space at home and few resources, the difficulty doubles. Two or more children enrolled in different school grades cannot use just one cell phone, one computer, one television or one radio, because each one has distinct activities. Besides all of this, there are still cases of families with cases of abuse, in these cases (especially in them) the lack of contact with teachers, friends and the school community in general affect a lot in the resolution of conflicts.

Thinking about quality and equality in teaching and learning seems impossible due to the scarcity of resources, training, and, especially, the lack of assured rights. Joye, Moreira, and Rocha (2020) point out that electronic devices in Brazil are very expensive and thus disadvantage lower classes. By law, the government should guarantee equal access for all, but the authorities are not very helpful in these matters. The government of Paraná, however, offered internet through telephone operators, as did the states of São Paulo, Rio de Janeiro, Minas Gerais and Rio Grande do Norte, according to Cunha, Silva and Silva (2020).

Another positive practice that has occurred in the pandemic is that online courses and lives have increased in scale, a fact that has facilitated connection

between various regions of the world, including for assignments and discussions. A considerable factor is that even shy students have seen on the Internet ways to express themselves more.

Survey of Applications and Programs Used

It has been shown so far that in order to use the platforms with all the technology they have, a lot of planning and appropriation of the applications is necessary, thinking about teaching and learning.

Considering this, some Brazilian states have developed their own applications or platforms for classes, in addition to previously created applications. The state of Paraná, for example, created "Aula Paraná", where classes for elementary and high school are made available, also taking advantage of Google Classroom to enable activities and Google Meet for synchronous meetings.

Among the most used applications during the pandemic observed in the research is WhatsApp (Table 1). Simple and easily accessible for most, it is in everyone's daily life and through it there is the possibility of asynchronous and even synchronous interaction through video calls. Besides WhatsApp, other applications such as Google Classroom, Google Meet, Google Forms, Google Docs, YouTube and Email were strongly mentioned.

Table 1: Applications for synchronous interaction

APPLICATIONS	POSSIBILITIES
<i>WhatsApp</i>	Receiving, sending, and sharing instant messages, videos, documents, links, among others, as well as voice and video calling.
<i>Google Meet</i>	Video communication with or without screen sharing, sending messages and links through chat, interaction with participants.
<i>YouTube</i>	Live streaming and open chats. Posting videos and sharing on other platforms.
<i>Skype</i>	Real-time voice and video interaction. Call recording by anyone and possibility of private chats.

<i>Microsoft Teams</i>	Collaboration and communication with chats, video calls, and teams, as well as file storage. Setting status and creating a feed with activities.
<i>Zoom</i>	Videoconferencing with up to 100 participants for 40 minutes free of charge, simultaneous room creation. Call recording.

Source: Developed by the authors.

The synchronous interaction apps mentioned require a good internet connection. Several asynchronous interaction apps were also mentioned (Table 2).

Table 2: Applications for asynchronous interaction

APPLICATIONS	POSSIBILITIES
<i>Google Forms</i>	Data generation and organization through customized surveys, polls, and questionnaires.
<i>Google Documents</i>	Creation and editing of private or shared documents with people chosen by the owner. It allows formatting, editing, inserting images, tables, links, and more.
<i>Google Presentations</i>	Slide presentations production, editing and collaboration. Customizing templates, videos, audios, recording presentations, and other features.
<i>Microsoft PowerPoint</i>	Slide presentations production with fewer features than Google Presentations, no possibility of simultaneous collaboration.
<i>Canva</i>	Millions of designs for slides, presentations and videos integrated with various templates, elements, texts, and more. There are simultaneous uploads and collaboration possibilities.
<i>Moodle</i> (Learning Environments)	Learning Management. Each university, school or state can create its own environment and develop classes and courses through it.
<i>Loom</i>	Video recording from your screen and your camera.
<i>Flipgrid</i>	Discussion on topics through videos recorded the application.
<i>Padlet</i>	Inserting text, images, and links through a shared panel.
<i>Quizziz</i>	Creating questionnaires in the form of interactive games.
<i>Mentimeter</i>	Interaction with real-time results. There are word clouds, quizzes, and more.
<i>Wordwall</i>	Prepare customized activities in a simple way. Word games, competitions, quizzes, and many other possibilities.

<i>Edpuzzle</i>	Use of <i>YouTube</i> ready-made videos or recording of own videos for student interaction and comprehension assessment.
<i>Anchor</i>	Creating and sharing podcasts.

Source: Developed by the authors.

In one of our Google Forms questions about the apps and programs used by the university for remote learning, 96% of the responses centered on Google Meet and 88% on Google Classroom. In addition to Google's programs, 78% pointed to the SUAP (Unified Public Administration System, in Portuguese *Sistema Unificado de Administração Pública*) used at the institution. However, in another question about the relevance of these applications and programs used, some answers pointed Google Classroom as irrelevant, because the university already has SUAP. The Virtual Learning Environment / Moodle of the university in point was also considered irrelevant since it presented operational and access flaws.

Within these platforms used, 91% of the materials made available were activities and exercises, and 90% were PDF texts. The number for videos and teleclasses drops to 89% and 85%. This change in methodology for reading texts and activities reflects the role of the student with more autonomy and responsibility, because learning can proceed lagging, with superficial conclusions (MORAN, 2020), if readings and studies are done without instruction and monitoring. In this vein, when asking students and teachers about teaching and learning through these technologies, we obtained 52.1% responses in "Learned / Taught a little".

The number of negative responses underscores the primordially of effective actions for improvement. 21.3% have learned/taught almost nothing; 5% have learned/taught nothing; only 10.6% have learned/taught a lot.

All the mentioned apps can be used in face-to-face teaching, together with active methodologies, in which the students are also the protagonists of knowledge. Through these tools, it is possible for the teacher to foster students' creativity and also improve their communication.

Discussion and Results

In the last questions of our questionnaire, we opened discussions with the participants and asked what they thought could have been done to facilitate the teaching/learning process during remote classes. We received few responses such as "I don't know how to answer" or "I don't want to give an opinion". However, most of the research participants pointed out that there could and can be developed more training courses for teachers to adopt "dynamic methodologies" (excerpt from an answer). Some students reported the lack of a detailed schedule and the scarcity of explanations in assignments and activities, as well as the gap in approaches to texts that were proposed for reading. We also obtained statements that more dialogue between teacher and student and more flexibility regarding deadlines are needed. According to the answers in the questionnaire, some teachers did not respect the synchronous class schedule, even less the asynchronous classes, sending activities, videos, and readings that demanded much more time to complete. Several answers pointed out that unification/standardization of platforms and environments to make the classes available would have made the adaptation easier.

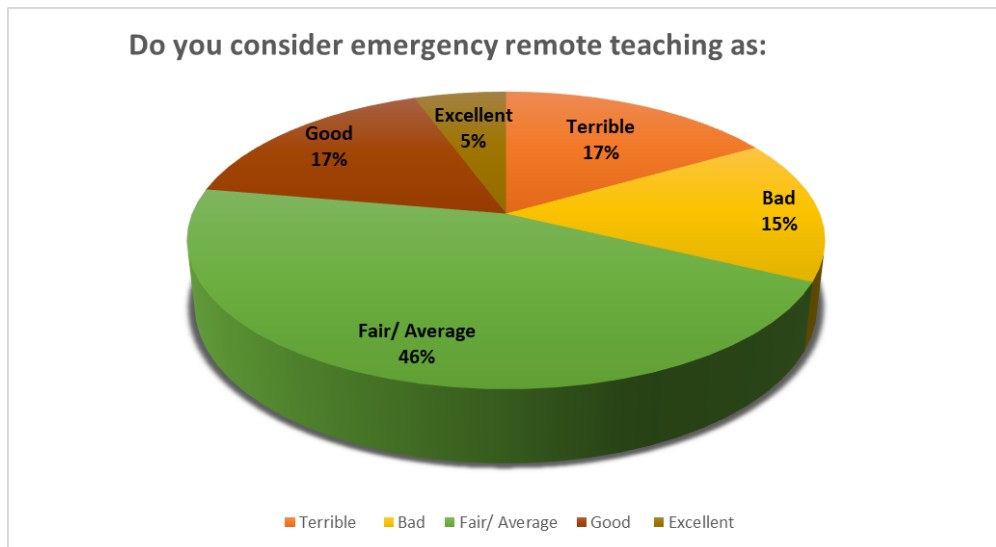
Organizational issues, according to the discussions, also influenced the ineffectiveness of teaching, because some teachers sent classes out of their class day and time (according to the course schedule). They should schedule classes in Google Classroom, for example, which would help both students and teachers..

One interaction showed that there could be classes that count as internships. Others, however, opined that the calendar should be canceled, even postponing graduation, because DE does not replace face-to-face and the practices are not the same in a virtual way, which will affect the quality of professionals trained during this period. Moreover, the discussion about the overload of activities and the lack of adequate environment to facilitate the teaching/learning process returned. Some answers mentioned that remote teaching weighs on and unbalanced mental health and, therefore, there should not be so many demands and pressures.

Even so, there were positive responses such as "In my course, the classes are being good, so it's good this way" and grateful responses, because, despite

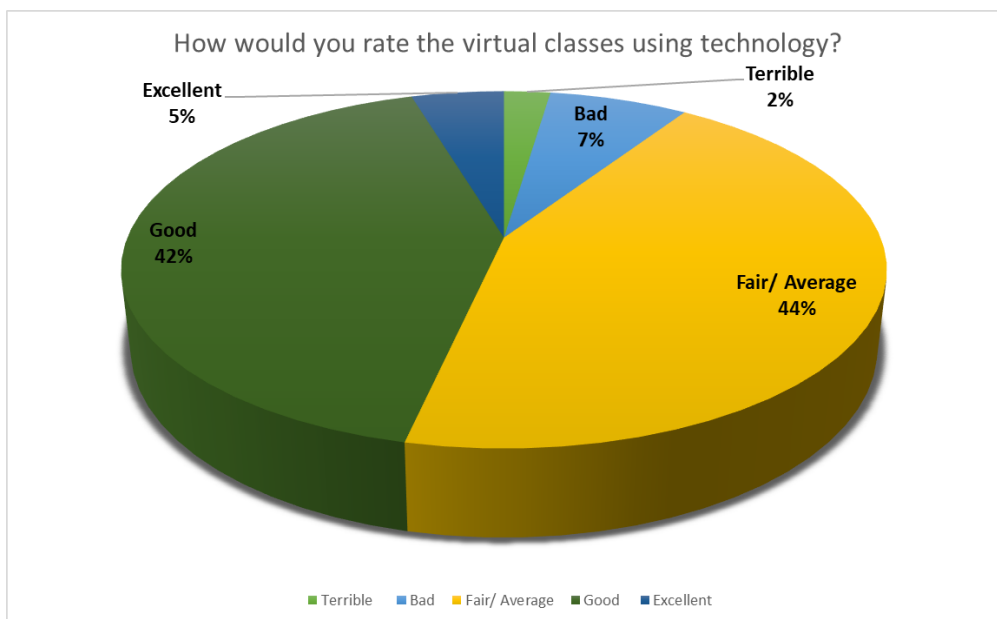
everything, the classes were not interrupted, so that the student could continue studying. We understand that the answers are personal and depend on the student's vision, background and life. In other words, students with more autonomous and disciplined learning processes may stand out compared to students who are more dependent and have some learning deficit.

Graph 5: Quality of Emergency Remote Teaching



Source: Developed by the authors.

Graph 6: Quality of virtual classes



Source: Developed by the authors.

However, 46% of the participants considered the remote teaching to be reasonable (Graph 5), and almost the same percentage considered the virtual classes to be reasonable (Graph 6). On the other hand, 17% of the participants considered the remote teaching to be good (Graph 5), and 42% considered the virtual classes to be good (Graph 6). This shows that, in general, remote teaching and virtual classes were rated well in the survey. Given the difficulties experienced during the COVID-19 pandemic and the need for rapid adaptation, the data is quite positive, as the participating teachers in the research did not have prior training in using technologies, especially those focused on synchronous interactions, such as Google Meet and Teams.

Concluding Remarks

In our research, we aim to verify the quality of remote teaching at a university in Paraná, analyzing working and study conditions of professors and university students, listing applications and programs used in this educational modality, as well as discussing theoretical issues about teaching, technologies, and continuing education.

It is possible to conclude that education professionals and students were not prepared to change the way they teach and learn. There is no way to measure learning inequality. It was evident that online, in these ways, does not favor practical courses and subjects, harms students who do not have access to the Internet, electronic devices or suitable environments for study, interferes with the results of students who work all day, since they need more time to perform the activities since the methodologies were not totally adequate. The detriment is intensified in the case of students who require more guidance or those with learning disorders.

For teachers, the work overload, difficulty with the use of electronic devices, and the lack of preparation were harmful. On the other hand, this change accelerated a technological process that should have taken place years ago and connected even

more people who are territorially distant. We have discovered new ways of encounters and knowledge-sharing to be used to our advantage.

Therefore, the continuous professional development of teachers and digital literacy are of utmost importance, as they would have facilitated the performance of the school and academic community during the emergency remote teaching. Moreover, and with equal relevance, more institutional resources are needed for the whole practice to be possible.

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