

Emergency Remote Learning in the Context of the Covid-19 Pandemic: Reflections on the Geography Course at the Federal University of Piauí (UFPI), Brazil

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Abstract

Discussing the social reality may be challenging when the object is education because it has presented transformations due to the pandemic in elementary and higher education institutions. In this sense, the general goal of this work is to discuss the perspectives of emergency remote learning at UFPI in the undergrad geography course. The specific objectives were i) to analyze how the students of the geography course deal with such modality and ii) to point out which Digital Information and Communication Technology (ICT) tools endure in online classes. The research counted on literature reviews such as articles, dissertations, and books, as well as the application of an online questionnaire in Google Forms to students of the geography course at UFPI. Therefore, during the pandemic, emergency remote education brought changes to education –teaching practice mediated by technology, synchronous and asynchronous online lessons, and abandonment of classes in a physical space for classes moderated by technological resources.

Keywords: Pandemic; initial training; Geography; Distance education.

1 Introduction

The Covid-19 pandemic in Brazil, triggered by the new coronavirus (SARS-COV-2), and the resulting social isolation in mid-March 2020 required many institutions to adapt to the new reality in the teaching-learning process, especially in higher education. This historical moment revealed how essential technology has become for the continuation of face-to-face classes, but in a new modality, the so-called Emergency Distance Education (EDE). Leal (2020, p.42) states that: In Brazil, suddenly, in March 2020, the higher education institutions suspended the face-to-face classes in the classroom and, by authorization of the Ministry of Education, started to adopt digital teaching-learning resources as a solution, with teachers and students spatially separated, similar to the distance education modality. It counted on video conferencing, audio conferencing, presentations, and the availability of reading materials on the Internet, which required more active participation from the student and much effort from the teachers.

The perception, then, is that technology has become one of the essential resources for the teaching-learning process in the Covid-19 scenario. In this sense, Goedert and Arndt (2020, p. 105) state that the situation of this pandemic is of uncertainties, insecurities, and adaptations in all social dimensions, such as health, politics, economics, and education. Such modifications have led to a new process in the initial training of many undergrad students and teaching practices, such as the mediation of classes through Google Forms, Google Meet, WhatsApp groups, and other types of ICT.

The work discussed the initial training of the geography course at the Federal University of Piauí (UFPI), Teresina/PI, during the pandemic in emergency remote learning. In this sense, with the Covid-19 outbreak and, consequently, the realization of online education, the teaching of geography underwent transformations, both in teaching practice and in the acceptance of students concerning the new reality of non-face-to-face teaching.

The general goal of this article was to discuss the perspectives of emergency remote learning in the geography undergrad course at the Federal University of Piauí. The specific objectives were i) to analyze how the students of the geography course deal with the new teaching modality and ii) to point out which Digital Information and Communication Technology (ICT) tools endure during online classes.

For the development of the discussion, the concerns that guided this research were how students of the geography course deal with the emergency remote learning, what the main technological tools used during remote classes are, and what the challenges faced by students during online teaching are. From these perspectives, the raised hypothesis is that students see distance education as boring, and the lack of ICT tools is a challenge, which usually characterizes digital exclusion.

The research counted on the literature review about the issue, analyzing academic articles, dissertations, books, and specialized websites, as well as the application of an online questionnaire for students from the geography course at UFPI. In this sense, the research becomes relevant because it was possible to make a critical and reflective analysis of the students' learning and acceptance of emergency remote learning by the academic community during social isolation. Goedert and Arndt (2020, p. 105- 106) point out that:

In this context, the use of digital technology and methodologies characteristic of distance education has been announced and put into practice by several education networks. Distance or online education has prevailed in many municipalities through classes on digital platforms and WhatsApp groups [...].

In this case, remote learning has brought significant changes during the pandemic, especially in the interaction among teachers, technology, and students, following the example of what have been happening in higher education, whose mediators are the ICT tools. In this way, such tools are no longer a novelty since their use in the classroom persists for a long time, but since the pandemic, discussions about distance education and remote learning have received new meanings.

1.2 Initial Training: Ict and Remote Education

The scenario caused by the COVID-19 pandemic demanded new pedagogical practices during social isolation, and this new way of delivering classes became a challenge for teachers and students. In this sense, Goedert and Arndt (2020, p. 106) argue that, in the pandemic context, the process of implementing remote teaching is new, which requires an attentive look at the conditions and particularities concerning the use of digital technology in education.

All these changes in the current scenario have modified the initial training because the technological resources have been valued and used more frequently and, consequently, have become part of their pedagogical practice. Tardif (2010, p. 36) mentions that professional knowledge is [...] the set of knowledge transmitted by teacher training institutions [...]. In this case, public and private institutions have adopted ICT tools in the teaching-learning process due to social isolation, directly replacing face-to-face classes with technology-mediated teaching. In this context:

The emergence and development of Information and Communication Technology (ICT), especially the digital ones, have intensified the possibilities of access to information, expanded the forms of communication, and changed the human relationship with the professional, academic, and family environment (GOEDERT AND ARNDT, 2020, p. 107).

Teachers should critically and reflectively appropriate technology to enhance their pedagogical practice in remote teaching. Thus, educators can develop new skills and seek knowledge about ICT in their teaching work process, especially in higher education. Lopes and Azevedo (2015, p. 79), on the use of technological resources in pedagogical practice, mention that:

The use of technology as pedagogical mediation is a favoring factor for the construction of transforming education in the educational and social aspects in favor of a more critical education that provides the basis for generating more reflective teacher training.

The insertion of technological resources has made teachers seek ways to acquire new knowledge about ICT to perform, in future teaching practice, new proposals that are stimulating, attractive, critical, reflective, and dynamic, considering the social reality of each student. Lopes and Azevedo (2015, p.79) state that there is a need for [...] the teachers, still in training, to analyze and act according to the situation around them, which implies a reflection on their practice to acquire knowledge, skills, and attitudes to interfere in the educational reality.

Leal (2020, p.42) discusses that, in early 2020, there was a real eye-opener with the awareness that the teaching process presented limitations, such as prior understanding of the principal teaching tools [...]. These limitations may be directly related to the lack of knowledge of the Virtual Learning Environment (VLE), new teaching practices, digital exclusion, and digital illiteracy. Pereira (2017, p.21) states that teaching staff, especially educators and teachers, need to improve their qualifications in terms of technology.

From these perspectives, teachers can face the dilemma of teaching mediated by digital technology, that is, to prepare for the new social and educational reality in the sense of dealing with all kinds of technological resources in the classroom. In this context, a new paradigm of the educational sector has emerged – the new normal – focusing on teaching mediated by tech resources, in which distance education and emergency remote learning have stood out. Nascimento and Azevedo (2017, p.66) mention that, in this corollary, interactive and innovative classes in the light of new technological tools arise as a path to a pleasurable, efficient, and challenging teaching-learning.

Given the above, remote teaching has become the best option for many public and private universities to continue with face-to-face teaching because this teaching modality has brought many doubts and discussions in the academic environment since it allowed the emergence of exclusions of some students. Despite all challenges, such a teaching method became an essential model for teaching and learning, especially with technology and the Internet. Moran (2000, p.137) states that, as in other times, there are expectations that new technology will bring quick solutions for teaching. Still, according to Moran (2000, p.138):

With the Internet, we can easily change the way of teaching and learning in classrooms and distance education. Many ways depend on the concrete situation in which the teacher finds himself, such as the number of students, available technology, class length, amount of classes the teacher has per week, and institutional support. Some of them currently seem to be more viable and productive.

In this sense, even with remote lessons to minimize the impacts that the pandemic brought to education, the insertion of ICT also became another problematic factor to be solved by schools and higher education institutes, for example, in the initial training of undergraduate courses. It is, therefore, up to the institutions to establish objective forms of interaction among teachers, institutions, and students because, in this way, the classes will be more attractive to the whole academic community in emergency remote learning. Kenski (2003, p.5) mentions that knowing how to use such technology for educational purposes is a new demand of modern society regarding the performance of educators. Still, according to Kenski (2003, p.9):

The current digital information and communication technology has brought new experiences to learning, which presents itself as a creative, fluid, and changeable construction. It leads people and society to experience creative and innovative thoughts and behaviors, which lead to new socially valid advances in the current stage of human development.

In this way, technology facilitates communication between teachers and students, speeds up the activities developed by the teacher, and provides students with collaborative and active education. Moreover, by using ICT, the classes become more dynamic and attractive, as well as the use in emergency remote learning in educational institutions in Brazil.

The main characteristic of emergency remote learning is the transmission of classes in real-time to establish direct relationships between teachers and students, followed by a schedule planned in the lesson plan and adapted from traditional classroom teaching. It is, therefore, pointed out as one of the emergency measures due to the Covid-19 pandemic. It is worth mentioning that it is temporary, different from distance education.

One can observe the difference between distance education and remote learning since the first form is an exclusive distance learning modality whose professors and teachers plan and perform the classes. On the other side, remote learning is a temporary teaching proposal for face-to-face teaching. In addition, distance learning happens through recorded classes, while emergency remote learning is often real-time (synchronous). Table 01 presents the differences between these two teaching modalities:

Table 1 – Differences between emergency remote learning and distance education.

Teaching methods	
Distance education	Emergency remote learning
It presents a pedagogical project authorized by the Ministry of Education as a remote course.	It is an exceptional measure for face-to-face teaching authorized by the Ministry of Education because of the Covid-19 pandemic.
Classes take place online throughout the course.	Online classes are temporary.
Its mediation happens through the teacher and a tutor in a Virtual Learning Environment (VLE).	Its mediation happens through the teacher of the face-to-face course but on the Internet.
It has the flexibility of time and space. Educators and students participate in the teaching-learning process at different times.	Teachers and students are connected instantly (in real time).
Distance learning has its methodology.	It has adaptations from face-to-face teaching temporarily to the remote model.
All the activity logs and student attendance records happen through the VLE automatically.	The teachers are responsible for recording the activities and the student's attendance.
Recorded lessons are in the VLE.	Asynchronous and synchronous classes.

Source: the authors (2021).

Remote teaching can provide students with two types of activities – synchronous and asynchronous. Synchronous activities are those in which real-time interaction occurs between the teacher and students and happens in Virtual Learning Environments (VLE) such as Google Classroom, Google Meet, Zoom Platform, and other ICT tools.

In contrast, asynchronous lessons occur when students and teachers do not need to be online to perform the activities. They happen through recorded classes, discussions in forums, e-mail, and WhatsApp groups. In this sense, remote teaching has enabled the learning of new tools and teaching modalities that are currently part of the teaching-learning process of many students, whether in elementary school or higher education.

2 Method

Remote learning has become a way to give continuity to face-to-face classes in many educational institutions. Therefore, such a teaching method has become intense and valuable due to the Covid-19 pandemic in 2020. In this sense, the ICT tools have assisted and mediated the classes in school environments and higher education institutions, such as UFPI.

The work is descriptive research, which happens, as expressed by Prodanov and Freitas (2013, p.52) when the researcher only records and describes the observed facts without interfering with them. It performs the description of specific characteristics of a population or even of a phenomenon. Furthermore, the research presents a quantitative-qualitative approach in which it was possible to quantify, interpret, and describe how the students from the undergraduate geography course at UFPI dealt with emergency remote learning. The research also counted on a literature review about the central theme by analyzing academic articles, dissertations, and books, as well as the works of Moran (2002), Kenski (2003), Pereira (2017), and Leal (2020).

In addition, the Google Forms digital questionnaire for the students of the undergraduate geography course from UFPI assisted the production of questions and data analysis. In this sense, the questions aimed to collect data and perceptions of students in the pandemic, how the academic community sees emergency remote learning and ICT tools, and which technological tools endure in the mediation of online classes.

It is worth noting the questionnaire structure: open question (1), closed question (10), and multiple-choice question (1), totaling 12 questions. These classifications have ground on the work of Prodanov and Freitas (2013). Furthermore, the research comprised seventy-eight students from the UFPI geography course in the Ministro Petrônio Portella campus, Teresina, Piauí, who received identifications as students A, B, C, and more. Also, the development, coordination, and application of the questionnaire happened through the research group on geography, teaching, and curriculum (GEODOC) from UFPI in 2020.

2 Result And Discussion

2.1 Analysis of emergency remote learning in the geography course at UFPI

The mediation of emergency remote learning classes counts on the assistance of the Internet, which was one of the most used technological resources for the lessons to be effective. Many students use this tool to communicate, acquire new knowledge, and exchange ideas with other people. Kenski (2012, p.69) states that people of all ages who have access to computers and the Internet use these resources to get information, exchange ideas, and discuss specific topics, among other objectives.

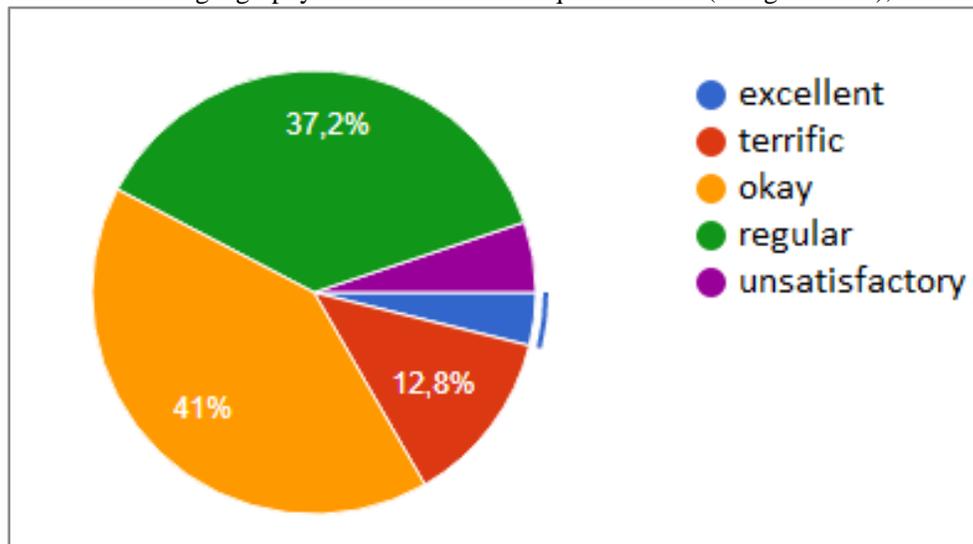
Thus, it would be no different for remote lessons in this institution. In this sense, the research with the students from the UFPI geography course revealed that a) about 88.5% of the students get information, exchange ideas, and discuss the class contents during remote lessons using Wi-Fi, while b) about 11.5% of them use the SIM card mobile data (3G and 4G) in cell phones. The last way, however, limits their participation.

As shown above, a small portion of students uses the Internet on their cell phones (SIM cards) due to several factors, such as socioeconomic issues, which often prevent them from participating in remote lessons. In this way, the Internet comes as a resource that provides them access to the information taught by the teachers, but in a very superficial way.

Digital Information and Communication Technology (ICT) is an essential tool to make synchronous and asynchronous classes effective. However, there are challenges for students during social isolation, and perhaps technological exclusion is one of the main factors that has increased this dichotomy in emergency remote learning, that is, of the acceptance or not of the academics in this teaching modality.

In this sense, the survey called into question how students evaluate emergency remote teaching at the Federal University of Piauí. The students considered the lessons to be okay (41%), regular (32.2%), terrific (12.8%), unsatisfactory (5.1%), and excellent (3.8%). Therefore, most students like the emergency remote learning, as shown in Graph 1:

Graph 1 – Result of the qualitative evaluative answers about emergency remote learning by the undergraduate students from the UFPI geography course in the virtual questionnaire (Google Forms), 2020.



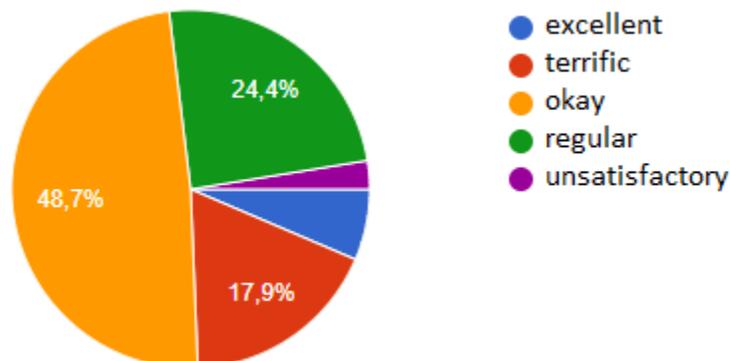
Source: direct research through Google Forms (2021). The authors, 2021.

Thus, technology improves and reduces the spatial distance between teachers/professors and students in emergency remote learning. Consequently, the limits for knowledge dissemination are increasingly smaller due to the new and sophisticated technology in the educational sector. Most professors and teachers have not had access to technology in their formation, usually those with older backgrounds, and some of them find it hard to handle such tools in geography classes.

For them, moving from physical tools (board, brushes, and erasers) to the use of ICT requires critical and reflective preparation through their continuing education. In this case, ICT started to have more value and utility in the teaching practice, acquiring new significance in online classes.

Another factor worth highlighting was the challenges that educators have been facing with emergency remote learning. For instance, the lack of planning when using these tools, the lack of technological knowledge (digital illiteracy), and the fear of using them since many still do not know how to handle them very well. Thus, some teachers choose not to use ICT in their classes, which can characterize tiring lessons. In this sense, students evaluated the pedagogical practices of the UFPI faculty in the geography course throughout emergency remote learning (Graph 2):

Graph 2 – Evaluation of the students from the UFPI geography course about the pedagogical practices of the faculty in emergency remote learning in 2020.



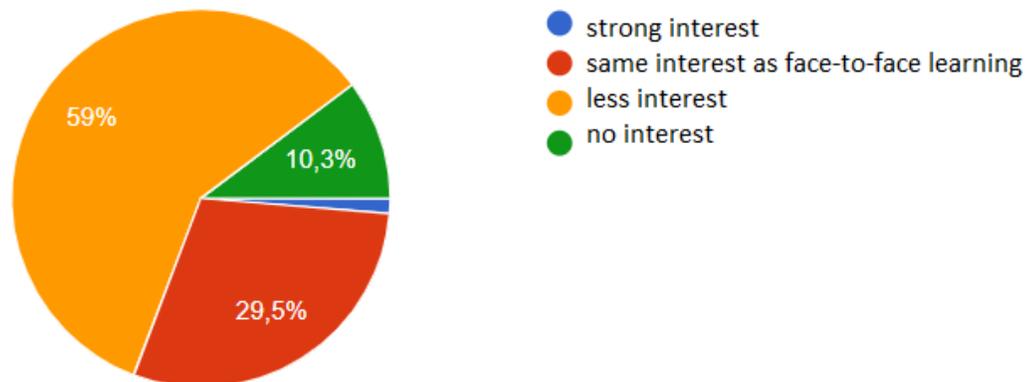
Source: direct research through Google Forms (2021). The authors, 2021.

Graph 2 presents data on the practices of students in emergency remote learning in the UFPI geography course, in which about 24.4% of the students consider the classes mediated by technology regular, 2.6% of them argue that it is unsatisfactory, and 48.7% state that the practice of the educator is okay. It is worth pointing out that about 17.9% and 6.4% of those interviewed agree that the classes are terrific and excellent, respectively. It reveals that those geography teachers know how to deal with such a teaching modality.

Regarding the concern in studies during social isolation, it is worth mentioning the satisfaction and interest of students in emergency remote learning. A resulting challenge was their engagement in online classes. In this sense, it was necessary to create actions to involve them in the learning process in the online format.

Therefore, this research carried out an analysis of how engaged they were in emergency remote learning, in which the lessons mediated by ICT tools are considered by many as tiring. That said, Graph 3 shows the satisfaction level that the students of the geography course presented during remote teaching.

Graph 3 – Evaluation of the satisfaction level of students from the UFPI geography course about teaching in the pandemic in 2020.



Source: direct research through Google Forms (2021). The authors, 2021.

The main challenges concerning student engagement in online classes may be related to their ability to adapt to the new reality of teaching mediated by technology. In this manner, Graph 3 presents, respectively, the degree of interest in emergency remote learning, which is strong interest (1.3%), same interest as face-to-face teaching (29.5%), less interest (59%), and no interest (10.3%). Because of this, a significant number of students still do not feel comfortable with the online learning modality.

Concerning the challenges and facilities in accessing remote lessons during the covid-19 pandemic, the interviewees mentioned Internet instability, lack of concentration during classes, reconciling schedules with personal activities, Internet quality, inadequate location for studies, lack of technological resources at home, tiring lessons due to the long exposure on the cell phone or computer screen, and distraction.

Concerning the facilities, it is worth mentioning the proper virtual environment, flexibility to perform the activities, no need to commute to the university to attend face-to-face classes, teachers' empathy with the students, which helps a lot during the period, and the teachers' attendance during the online lessons. Concerning such challenges and facilities, student A mentions that:

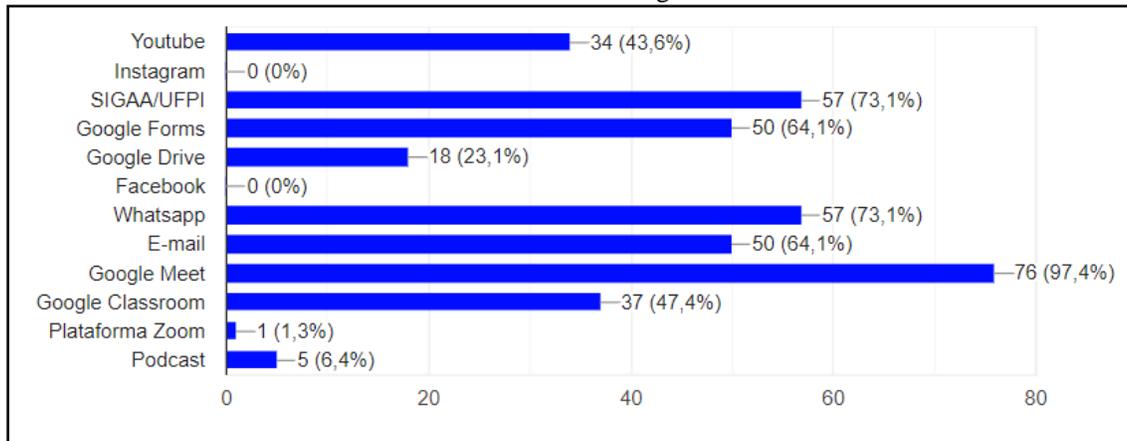
There is some comfort in studying from home, especially when I consider privileges such as the Internet in my house and a personal computer, among others. However, it does not overcome the challenges in such a time – family coexistence, psychological issues, concentration, conciliation between work and study, lack of social interaction, and income to pay the rent and other expenses when living in another city. Also, there is the feeling of a weakened formation since remote lessons lasted for many months, not having a stronger bond with the course, given the time for taking some measures and the choice of fewer subjects.

Student B pointed out the challenge of following classes in real-time depending on an infrastructure (Internet) for that, and as a facility, the participation of guests who can give other points of view of the contents. From such perspectives for remote lessons, the challenges most mentioned by the interviewees were the lack of concentration and an inadequate place for studies.

On the other side, the facilities were the geographical space (the non-displacement to the university) and the empathy of the faculty during classes that strived to make online classes with the same quality as face-to-face teaching.

Given the perspectives of remote teaching at UFPI, the undergraduate students mentioned the technological resources they used in classes. The survey revealed that the most common tools were Google Meet, the Sistema Integrado de Gestão de Atividades Acadêmicas (Integrated System for Management of Academic Activities, SIGAA/UFPI), WhatsApp, Google Forms, and e-mail. Besides these, they also mentioned Google Drive, Google Classroom, Podcasts, and Zoom (Graph 4):

Graph 4 – Presentation of the principal digital tools used in the geography classes at UFPI in emergency remote learning in 2020.



Source: direct research through Google Forms (2021). The authors, 2021.

Google Meet, an easy-to-use tool, was the most used platform by teachers in remote teaching. It can be used for slide presentations, videos, and even music, depending on the teaching methodology adopted by the teacher. In addition, it is a free service that allows video calls with more than 200 people, and the classes can be recorded and made available on Google Drive. The second most used resource, SIGAA, is an institutional tool that simplifies all academic activities, such as sending subject material, grades, lesson plans, and creating forums to discuss the activities proposed during the term.

Among the social networks used as a teaching resource, only WhatsApp stands out because it is a simple and easy communication resource in the academic community. Thus, one realizes how essential these tools have become for the continuation of the classes in times of pandemic.

From another perspective, the academic community still presents many challenges and difficulties throughout remote teaching since many do not have the necessary technological support for participation in online lessons. In addition, the research revealed that the students use several tools in their classes, aiming at the same quality as face-to-face teaching.

3 Final Considerations

This research presented a brief discussion about the main technological tools used in emergency remote learning, which were and continue to be one of the essential resources during remote teaching at the Federal University of Piauí, for example, in the geography course. In this sense, many undergraduate students had challenges in accessing the remote lessons for various reasons, among them the instability of the Internet, lack of concentration during classes, reconciliation of schedules with personal activities, not having access to quality Internet, a nonsuitable place for studies, lack of technological resources in the residence, distraction, and digital exclusion.

Concerning the principal digital tools used in emergency remote learning, the research pointed out that Google Meet, Youtube, SIGAA/UFPI, Whatsapp, Google Classroom, and e-mail were some of the technological tools used in the teaching-learning process in geography classes in 2020. It is worth mentioning that students consider such a teaching method tiring and boring because of long hours in front of the computer or cell phone screen, which ends up rectifying the research hypothesis.

Therefore, emergency remote learning brought with it several dilemmas in the field of education, in which digital Information and Communication Technology, dedicated teachers, and participative students were essential for this teaching method to be effective in the geography course.

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