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Challenges, Reflections and Possibilities Experienced During the COVID-19 Pandemic Period by an Interdisciplinary Professional Doctorate Course in the State of Pernambuco, Brazil: Experience Report

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***Abstract*—** *The Covid-19 pandemic, which directly impacted the entire education network in a global context, also caused a process of reinvention and emergence of skills that were required in the relationships between students and teachers, from the moment that educational institutions were forced to cancel face-to-face teaching. In this sense, this article socializes and reflects on the experience lived by a team of collaborators and students of the Postgraduate Program course in Agroecology and Territorial Development (PPGADT) of the Federal Rural University of Pernambuco (UFRPE), located in the city of Recife, Pernambuco, Brazil, facing the challenges imposed by the Covid-19 pandemic, elaborated from participant observation conducted between March 2020 and January 2021. This is an interdisciplinary research with a qualitative approach, whose data were collected from bibliographic and documentary research, field diary, and evaluation meetings of the school semester. A systematic survey of the main difficulties faced was carried out, as well as the strategies adopted to perform the practical part of the course, required by the course regulations. The results indicate that the field immersion model proposed by PPGADT, faced with the emergency situation of remote teaching, even with many setbacks presented, is feasible and reproducible. Moreover, it generated significant reflections and learning that act in the transformation of the doctoral students.*

I. INTRODUCTION

In this article, we will report on the strategies and tools adopted to transform practical field classes of a professional doctorate, into an interactive and dynamic remote learning experience, with as little impact as possible for the student team.

The Covid-19 pandemic has created an unprecedented global health crisis. As a measure to contain the infected and the dead, social isolation and quarantine measures were adopted in many countries. As a result of these actions, routine classroom teaching at all levels was initially suspended. Given this scenario, global leaders and teaching professionals were forced to find an alternative to minimize the impacts suffered by the 2020 school year, adopting Emergency Remote Learning, a term used by distance learning scholars to highlight a clear difference between the classic distance learning we have known for several years (HODGES et al., 2020).

Covid-19 is a class of Severe Acute Respiratory Syndrome (SARS) triggered by the SARS-CoV-2 virus (new coronavirus) and is mainly airborne transmitted through respiratory droplets or close contact with infected patients, and even asymptomatic patients. The symptoms are generally dry cough, fatigue, fever, sore throat, headache, fatigue, runny nose, and diarrhea. The disease in its severe state can rapidly progress to acute respiratory distress syndrome (ZHENG et al., 2020).

The World Health Organization issued an alert in January 2020 to the emergence of a new lethal virus that was spreading rapidly across the planet: the Sars-cov-2 virus, causing Covid-19 disease. This virus had its epicenter in the city of Wuhan, China. and was causative of severe respiratory symptoms, which evolved, often to death (WORLD HEALTH ORGANIZATION, 2020). The Covid-19 pandemic was declared on March 11, 2020 by the director-general of the World Health Organization. At that time, there were already more 118,000 cases in 114 countries and 4,200 people killed by the virus worldwide, and thousands more fighting for their lives in the hospital network (PAN-AMERICAN HEALTH ORGANIZATION/World Health Organization AMERICAS, 2020).

As a way to moderate the rate of transmission of the disease, social distancing, social isolation, and paralysis of numerous routine activities, educational activities, religious activities, urban transport services, and leisure were adopted. Only those services considered essential were not stopped. These drastic measures generated serious consequences, especially from the economic and mental health point of view, however, they were necessary precautions to contain the proliferation of the virus, because the pace of contemporary urban mobility was a determining factor in the rapid spread of the disease, generating strong pressure on the world health system (SPOSITO; GUIMARÃES, 2020).

With the arrival of the Covid-19 pandemic in Brazil, in-person classes were replaced by classes in digital media, through Ordinance No. 343 of March 17, 2020, which authorized this situation, on an exceptional basis, for up to thirty days, extendable until the pandemic situation lasts (BRASIL, 2020a). As time passed, the pandemic situation only worsened, so a new official document was published revoking Ordinance No. 343, and establishing new guidelines for remote teaching. Ordinance No. 544 of June 16, 2020 determines that the educational institutions will be responsible for defining the curricular components that will be replaced; and all academic activities not performed must be replaced in their entirety in order to comply with the course workload (BRASIL, 2020b).

In the midst of the chaotic situation and extreme uncertainty that Brazil and the world were going through, the public authorities faced a duality regarding the return of in-person classes. It was understood that there was not enough security for the return of classes, however, the damage to students and their respective school semesters was already huge. Given this panorama, the President of the Republic sanctioned Law No. 14.040 of August 18, 2020, which establishes exceptional rules to be adopted during the state of public calamity of Covid-19 in the levels of infant, primary, secondary, technical and higher education (BRASIL, 2020c). Months later, through Ordinance No. 1.030 of December 1, 2020, it determines the return of face-to-face classes in higher education institutions that are part of the federal education system as of January 4, 2021 (BRASIL, 2020d), however, in the face of pressure from the growing rates of infected and dead, on December 7, 2020, the Ministry of Education published Ordinance No. 1. 038, which determines that the face-to-face return should only occur as of March 1, 2021, provided that all biosafety protocols for facing the Covid-19 pandemic are followed (BRASIL, 2020e).

With a scenario of uncertainties and adaptations, remote classes followed without national guiding guidelines officially established by the Ministry of Education, which only occurred on December 10, 2020, through Resolution CNE/CP No. 2, prepared by the Ministry of Education and the National Education Council, which establishes exceptional educational standards to be adopted by teaching systems, institutions, and school networks, public, private, community, and confessional. This official document was determinant for the remote teaching process to be regulated, monitored, and above all

guided according to technical nomas so that all levels and educational institutions could standardize the pedagogical and health protocols applied (BRASIL, 2020f).

The rapid advancement of Covid-19 caused a discomfort in students, families, and teachers, who had little time to adapt to the context of remote learning and the digital platforms. Everyone would need more time to adjust to the aspects proposed by classes in a remote environment (RIBEIRO JUNIOR et al., 2020). However, it is necessary to highlight that "remote teaching has become the primordial foundation to follow up studies and provide favorable circumstances for teaching-learning without shaking the norms of mandatory social distance, preventing the dissemination of the coronavirus [...]" (ANDRADE; MATOS; FERNANDES, 2022, p. 12).

The technological support in teaching has positive results because it allows students to develop analytical and cognitive skills with greater ease. However, online teaching also acts as an obstacle when it comes to hands-on learning as it limits the construction of fundamental skill sets triggered by direct communication and interactions (BROWN, 2017; TARRANT; THIELE, 2014)

Remote teaching is characterized by being non face-to-face, transmitted via a virtual network, radio or TV. This teaching modality can be presented in two ways, with asynchronous and/or synchronous classes, transmitted to students through digital platforms such as Google Classroom, Google Meet, or even through cell phone applications and social networks, enabling the realization of asynchronous activities (CUNHA; SILVA; SILVA, 2020).

The new remote teaching, according to Garcia et al. (2020) can be considered one that establishes the following aspects: 1. communication with the student in real time, synchronous moment, or at different times, asynchronous moment; 2. more intensive use of technological resources, digital or analog, as tools to support teaching and learning; 3. planning with time management in content presentation and time for reading and deepening.

Remote teaching and distance learning are not synonymous, although both are related to the use of digital technology, remote teaching is more comprehensive from the point of view of the use of auxiliary tools that are not necessarily educational. Remote teaching enables the sharing of teaching materials on teaching platforms, however, remote teaching covers several challenges, which involve people, technologies, expertise, and infrastructure (GARCIA et al., 2020).

Asynchronous learning, whose content is made available online, but without live classes, has as its greatest advantage the flexibility (HRASTINSKI, 2008), on the other hand, some students take a while to adapt to this modality because they feel they need face-to-face guidance from an educational instructor (HUGHES, 2014). Synchronous learning, whose classes are online and in real time, has the benefit of instantaneous interaction between students and collaborators (HRASTINSKI, 2008), however, it is necessary to establish schedules in a very organized way and compatible with the students' routine (HUGHES, 2014).

Even in the face of very well-structured planning, it is possible for eventualities to occur, as in the case of the field immersion of the academic semesters 2020.1 and 2020.2 of the UFRPE doctoral students, who were totally caught by surprise with the arrival of the Covid-19 pandemic. Also according to Cruz (1997, p. 94-95) "not everything, however, can be predicted by the planning of a field research: unforeseen events often occur.

Worldwide, about 1.6 billion students spread over 190 countries were impacted by the consequences caused by Covid-19 (HUSSEIN et al., 2020). The use of online education suddenly generated a great need for the publication of investigative studies, case studies, and experience reports that could share the experiences lived in various parts of the world.

The pandemic was a moment of resilience for many professionals, institutions, and educators, who at the moment of reinventing ways to adapt their routine discovered new skills and innovations. A clear demonstration of this process could be observed in a work conducted by Guedes (2021), who used as a strategy to minimize the lack of field classes, free images made available by Google Earth. Thus, the students of the Hydrography course participated in a virtual field practice, being possible in the identification of natural and artificial features found in the geographic space.

Teixeira and Ribeiro (2020) analyzed the impacts on management and on the school daily life by the context of the Covid-19 pandemic, verifying the limits and the challenges imposed to educators in the teaching and learning process with the use of information and communication technologies (ICTs). The results point out that the emotional health of the teaching staff was greatly impacted for 3 main reasons: the employees' work routine increased considerably; there were occurrences of concern about the need to learn how to use new technologies; and the low capacity to mediate with students in remote teaching.

Another research that reports impacts of the Covid-19 pandemic on education, was the one developed by Andrade; Matos and Fernandes (2022) with basic

education teachers from two schools, being a public school in the state of Pernambuco and a private school in the state of Minas Gerais. This work analyzed the perception of teachers of the area of Nature Sciences regarding the challenges of practical classes with digital tools, and how these contributed positively to the teaching-learning process of students during the pandemic. They concluded that it is necessary to invest in the initial and continued training of these professionals in order to improve their role in the face of the technologies used nowadays, as well as the latent need to apply public policies aimed at this type of training and to encourage the technological support of teachers and students.

In the academic context focused on graduate studies, Silveira and Bastos (2021), portrayed the negative effects generated by the Covid-19 pandemic in the field work of research conducted in 18 graduate programs in Geography in the five regions of Brazil, in the period between March 2020 and February 2021. The results showed that 59.4% of the students interviewed had to completely interrupt their field activities in the first 12 months of the pandemic, and there were extensions of deadlines in cases where adjustments and adaptations were not possible.

In a study conducted at a public university in Dubai, the prospects of distance learning in an undergraduate science course were explored. According to the reports of teachers and students, the major advantages of distance learning were related to flexibility, time efficiency, and adherence of a larger number of students per class. Challenges, on the other hand, were associated with psychosocial well-being, changes in institutional policies, changes in the interface of the learning environment, and challenges with handling new teaching-learning technologies (KHAN; KAMBRIS; ALFALAHI, 2022).

Sousa, Moreira and Santos (2021) in an article dealing with the pandemic context, discussed the challenges and impacts of rural education in the municipality of Bom Jesus da Lapa, in the state of Bahia, with the arrival of the Covid-19 pandemic. The results of this research detected precariousness of the teaching work, due to excessive workloads, weakened emotional health, and lack of investments to provide minimum conditions to provide the remote classes.

From a positive perspective of remote teaching during the pandemic, Butler (2022) shares the lived experience of an extension program in Oregon that successfully adapted field-based environmental education programming during the Covid-19 pandemic. The program is based on an interdisciplinary experience that underwent several successful adaptations during the pandemic. The strategies adopted were based on strict security measures and quarantine, which allowed the meetings to continue to take place in person. It is worth mentioning that this strategy was only possible because the campus is located in a very isolated territory, and all supplies and food were produced there, with no outside contact.

The virtual platforms and the social networks have been instruments of communicative support among the most diverse subjects committed to the teaching-learning process. In view of this, Soares Neto et al. (2021) state that for the quality of remote teaching is intrinsically associated with the skills of handling technologies, and for this to occur effectively, training is needed for the entire team involved: teachers, students and school managers.

The interdisciplinary study that collaborates with the scientific community to clarify the connections between the global pandemic, environmental challenges, and justice and equity is extremely relevant and necessary (RODRIGUES; LOWAN-TRUDEAU, 2021).

Godoi et al. (2020) presents as a result of their research, several challenges encountered by teachers during the period of remote teaching, they are: motivation and commitment of students in the virtual environment; personal difficulties faced by students in their social and family cycle that impact on the pedagogical relationship; institutional charges; flexibility and adaptation regarding the use and learning of technological tools for teaching; emergence of feelings of doubt, insecurity and work overload.

Remote learning throughout 2020 was used as being exceptional and challenging for students and faculty at all levels. In graduate school it was no different. Universities have devised tactics and used technological resources to manage to maintain teaching activities for their postgraduates, and to minimize the impacts. From this perspective, this article intends to describe how the pedagogical practices focused on the practical workload of a professional doctoral course in Brazil were reinvented. In view of the above, the following questions arose: What changes occurred, during the emergency remote teaching period, in order to ensure the practical classes of the PPGADT UFRPE? How was the planning, specifically, of the field immersions readjusted? What reflections were generated from these experiences in remote format? Throughout this article these concerns will be discussed.

In order to answer the research problem, the general objective of this research was to report the experience lived by students of the interdisciplinary doctoral course PPGADT UFRPE, from the conception of

one of the authors of this article about the field immersions during the Covid-19 pandemic.

1.1 Postgraduate Course in Agroecology and Territorial Development – PPGADT

The Professional Doctorate is a Postgraduate modality that aims to promote the integrated articulation of professional training with demanding entities of diverse natures, aiming to improve the effectiveness and efficiency of public and private organizations through problem solving and generation and application of appropriate innovation processes. This modality was created by the Ministry of Education (MEC) and instituted through Ordinance No. 389, of March 23, 2017 (BRASIL, 2017). The Professional Doctorate was regulated by Ordinance No. 60 of 2019, from the Coordination for the Improvement of Higher Level Personnel (CAPES), which says that one of the objectives of these programs is to train doctorate with a profile characterized by autonomy, the ability to generate and transfer technologies and innovative knowledge for unprecedented solutions to problems of high complexity in their field of expertise (BRASIL, 2019).

Brazil currently has 77 graduate programs in the Academic Doctorate modality and only 3 graduate programs in the Professional Doctorate modality, of these, the Graduate Program in Agroecology and Territorial Development (PPGADT) offers the first professional and interdisciplinary doctorate course in Brazil (CAPES, 2022).

The PPGADT was recognized by Ordinance No. 479 of May 13, 2020 and started its activities on August 1, 2019 (BRASIL, 2020g). It has 3 partner and associated educational institutions: the State University of Bahia (UNEB); the Federal Rural University of Pernambuco (UFRPE); and the Federal University of São Francisco Valley (UNIVASF).

The regulations in force establish rules for the organization and operation of the Professional Doctorate in Agroecology and Land Development, in the form of Broad Association of Higher Education Institutions (IES) - UNIVASF, UNEB and UFRPE. According to this regulation, the PPGADT aims at the interdisciplinary formation of professionals from different areas of training that will be capacitated to act in the promotion of Agroecology and Territorial Development, with regards to socio-environmental diversity and the challenges to the agroecological transition and promotion of sustainable agro-food systems and that present insertion in the program's sole area of concentration: Society, Nature, Sociotechnical Innovations and Public Policy. This area of concentration encompasses five research lines: 1. identity, culture and territorialities; 2. society, economy and construction of knowledge; 3. socioecological transitions and biodiverse productive systems; 4. living with the semi-arid region, socio-technical innovations and development; 5. environment, health and agri-food systems (UNIVASF, 2021). O propósito deste curso é preparar profissionais com visão interdisciplinar e profissionalizante, para atuar no Nordeste e, mais especificamente no semiárido, considerando as suas especificidades e a dívida histórica que o estado e a nação têm com a região. É regimental que todas as disciplinas do PPGADT deverão ser ofertadas no formato teórico e prático; já que a teoria e a prática se complementam e a teoria serve para criticar a prática e vice-versa (UNIVASF, 2021).

The subjects must be taught by at least two professors from different but related areas, taking care to make them theoretical and practical, using technical visits, laboratory classes, videos, field experiences, preparation and execution of projects, stimulating know-how, in attention to the methodological proposal of the course, which is to form an intellectual for work, training for the critical exercise of citizenship, autonomy, emancipation and for political practice, reorganizing the knowledge produced, with gains in all dimensions, by the attitudes, skills and behaviors developed (UNIVASF, 2021).

According to Almeida (1994), the joint action between teachers from different disciplines is interdisciplinary when these professionals appropriate a common object of study, define the indicators to be researched, develop the methodologies and, finally, discuss the results, all together.

The field experience, according to Cruz (1997), is capable of portraying a unique opportunity for direct contact between the researcher and the object of study, which provides the connection with aspects that would improbably be captured only by theoretical research. The field experience promotes the intellectual development of the researcher, which culminates in the enrichment of research and academic tasks. Fieldwork, however, requires prior planning that must include the delimitation of objectives, the elaboration of a script, and a schedule of activities.

The practical workload of the courses is concentrated in a moment called "field immersion". Always at the end of each semester or module, concentrated practical activities are carried out addressing themes related to the courses offered. These "field immersions" are experiences that stimulate the understanding of the person-environment relationship, based on a critical and multi-sensorial training model. That is why there was great concern about how these

immersions would be carried out during the pandemic. The students and teachers could no longer go to the territories to have the experiences, however, the digital tools were able to bring the territories into the homes of all of them.

The field immersions aim to establish a dialogue between disciplines based on the reference of the practical context visited; to favor interdisciplinary connections between students and teachers of the course; and to exercise practical elements in the light of theoretical concepts and reality.

The field immersion is an experience planned to provide multisensory, scientific, and interdisciplinary learning, whose formative pedagogical mediation is reflective. This experience aims, for one or more weeks, to put researchers in contact with the object of study, far from external influence (AZEVEDO; HIGUCHI; BARCELOS, 2009; BOLZAN, 2002; TARDIF, 2011).

The propulsive field classes in the teaching-learning process, while promoting greater flexibility to the teaching staff, enables students a unique learning experience outside the classroom and the classic teaching methods. They also enable the formation of ethical citizens with the territory where they live, while they are important teaching strategies that through problematization and interdisciplinarity promote reflection (CAMPOS, 2012; KRASILCHIK, 2008).

II. METHODOLOGY

This is a qualitative, descriptive, bibliographic and documental research whose approach has an interdisciplinary character and was developed between March 2020 and July 2022. To achieve the objectives, three phases of study were outlined. The first phase constituted the theoretical, bibliographical, and documental survey, searching for classical and contemporary theoretical references with the objective of substantiating this investigation. The bibliographical survey was carried out in scientific databases, such as Scielo and Web of Science, using the following keywords: "field class" AND "remote teaching" AND "Covid-19". The documentary and institutional research was done by analyzing official documents published between January 2020 and January 2021 by Brazilian government agencies, UFRPE and PPGADT-UFRPE, about the Covid-19 pandemic. In the analysis of the documents, the lesson plans of the courses, which were shared with the students, also served as support for our study. It is worth mentioning that the documents corresponding to the years 2020 - 2021 were verified, as this corresponds to the period when the field immersions 2020.1 and 2020.2 took place, both in virtual format. Subsequently, all the activities developed during the remote field immersions were described in detail, based on the reports collected from the field diary and the reports from the semester's evaluation meetings. Finally, the last stage corresponded to the interpretation of the facts brought forward, as well as to expose reflections generated by the experiences.

This experience report was developed by a team involving a student, a professor and the coordinator, all belonging to the PPGADT UFRPE, after previous authorization from the course coordination. The project of this research was not submitted to the Research Ethics Committee because it is a report based on the experience of one of the authors, with the consent of the coordination of the doctoral program and guarantees of confidentiality of the data and all those involved.

This research will be guided by the concept of Daltro and Faria (2019), which defines Experience Report as being a category of study belonging to qualitative research, which, although it contemplates the descriptive universe, is considered much more comprehensive. It is an instrument used to describe the experiences under analysis, sustaining their uniqueness, built from historical, critical, theoretical, and contextual elements, from the perspective of those who report the facts. It is advisable that at least one of the authors is a participant in the context under study, and should present as final considerations, the lessons learned.

This research works the data in a qualitative way, establishing subjective relationships and experimentation. Qualitative research, according to Dezin and Lincoln (2006), works with an interpretive approach to the world, and its researchers study objects in their natural environments, seeking to understand the various phenomena through the vision of the actors involved.

Research is classified, according to Gil (2002), according to its general objectives and based on the technical procedures used. This research is descriptive, as to the general objectives, and bibliographic and documental, as to the methodological procedures applied. Descriptive research is characterized by the detailed description of "a certain population or phenomenon, or the establishment of relations between variables. [...] and one of its most significant characteristics is the use of standardized techniques for data collection, such as the questionnaire and systematic observation" (GIL, 2002, p. 42). "The bibliographical research is developed based on already elaborated material, consisting mainly of books and scientific articles" (GIL, 2002, p. 44). Finally, documentary research are those "elaborated based on documents, the documentary research is based on materials that have not yet received an analytical treatment" (GIL,

2002, p. 45). This category includes documents published by public agencies, ministerial orders, memoranda, bulletins, among others.

Andrade (2002) points out that descriptive research focuses on observing, recording, analyzing, classifying and interpreting the facts, without being influenced by the researcher.

The documentary research, according to Sá-Silva, Almeida e Guindani (2009, p. 5), "is a procedure that uses methods and techniques for the apprehension, understanding and analysis of documents of the most varied types".

The use of field diaries as a research tool enables the detailed description of the study procedures, the steps taken during the activities, as well as possible adaptations made during the research development. This instrument also serves as a personal narrative of the researcher's impressions about the object of study. The textual narrative present in the field diary brings the actions, desires, advances, obstacles encountered, knowledge acquired along the trajectory and proposals for intervention (PEZZATO; L'ABBATE, 2011).

Oliveira (2014) highlights the field diary as a record capable of capturing the subtleties involved in data collection, perception of expressions of emotion, among other intimate details, which even in recordings are not possible to capture.

According to Weber (2009) the field diary is an important instrument for self-analysis of the researcher, not being a complete text, being a fragmented material for research analysis, and may contain excerpts that will not be relevant in scientific publications, but that within a holistic view of data analysis, should be considered.

Kroef, Gavillon and Ramm (2020, p. 464) establish that the use of the field diary "participates in the production of the researcher's attention in its insertion in the field-theme, so that the memories, habits and the insertion of the researcher in everyday contexts also compose the research, taken as a political act that intervenes in reality".

In the field research process, "it is of utmost importance the use of the field diary as an instrument in which are inserted the descriptions, sensations, notes of what happened, what was seen and heard" (SANTOS; RODRIGUES; CASTELAR, 2022, p. 77).

III. RESULTS AND DISCUSSION

From the records collected from the field diary and the interpretations generated by the semester evaluation meetings, data analysis related to the daily experience observed by one of the authors were prepared. The records sought to bring together the theoretical knowledge of the disciplines and the practical part, thus, the results and discussions presented in this article show the reflections on the challenges posed by the Covid-19 pandemic in the development of the practical activities of a doctoral course in Brazil, guided by the theoretical concepts already mentioned.

3.1 Timeline of events

The timeline presented below, details the series of events, including the stoppage of face-to-face meetings, which triggered the beginnings of remote classes and field immersions in remote format, which started 6 months after all face-to-face classes were suspended for students all over Brazil. Field immersion 2020.1, was supposed to take place in the month of May 2020, while field immersion 2020.2, in the month of September 2020, however, they took place in September/October 2020 and January 2021, respectively.

The Timeline of events leading up to the start of the remote field immersions are as follows:

- Official Note published on the UFRPE website suspending the Academic Calendar until March 31, with possible extension according to future evaluations. Published on March 16, 2020 by UFRPE's Management and the Teaching, Research and Extension Council (CEPE);
- Publication of Ordinance No. 343, which provides for the replacement of face-to-face classes with classes in digital media for the duration of the pandemic situation of the New Coronavirus - Covid-19. Published on March 17, 2020 by the Ministry of Education;
- Publication of Ordinance No. 345, which amends MEC Ordinance No. 343, of March 17, 2020. Published on March 19, 2020 by the Ministry of Education;
- Publication of the Official Note published on the UFRPE website suspending the Academic Calendar indefinitely. Published on March 27, 2020 by the UFRPE's Management and the Teaching, Research and Extension Council (CEPE);
- Publication of Ordinance No. 473, which extends the deadline provided in § 1 of art. 1 of Ordinance No. 343, March 17, 2020. Published on May 12, 2020 by the Ministry of Education;
- Publication of Ordinance No. 544, which provides for the replacement of face-to-face

classes by classes in digital media, for the duration of the pandemic situation of the new coronavirus - Covid-19, and revokes MEC Ordinances No. 343, of March 17, 2020, No. 345, of March 19, 2020, and No. 473, of May 12, 2020. Published on June 16, 2020 by the Ministry of Education;

- Publication of Law No. 14,040, establishing exceptional educational standards to be adopted during the state of public calamity recognized by Legislative Decree No. 6, of March 20, 2020; and amending Law No. 11,947, of June 16, 2009. Published on August 18, 2020 by the Acts of the Legislative Branch;
- September 24, 2020: First elective day of the 2020.1 remote field immersion;
- Publication of Ordinance No. 1,030, which provides for the return to face-to-face classes and the exceptional nature of the use of digital educational resources for the completion of the workload of teaching activities for the duration of the pandemic situation of the new coronavirus - Covid-19. Published on December 1st, 2020 by the Ministry of Education;
- Publication of Ordinance No. 1.038, amending MEC Ordinance No. 544 of June 16, 2020, which provides for the substitution of face-to-face classes by classes in digital media, for the duration of the pandemic situation of the new coronavirus - Covid-19, and MEC Ordinance No. 1.030 of December 1, 2020. Published on December 7, 2020 by the Ministry of Education;
- Publication of Resolution CNE/CP No. 2, establishing National Guiding Guidelines for the implementation of the provisions of Law No. 14.040, of August 18, 2020, which establishes exceptional educational standards to be adopted by education systems, institutions and school networks, public, private, community and confessional, during the state of calamity recognized by Legislative Decree No. 6, of March 20, 2020. Published on December 10, 2020 by the Ministry of Education and the National Education Council;
- January 21, 2021: First elective day of the 2020.2 remote field immersion.

The documentary analysis presented here is the result of a data survey that took place between March 2020 and January 2021, in the UFRPE Portal, Diário Oficial da União, official PPGADT website and official documents sent to the email box of the students.

3.2 Remote field classes: transition from face-to-face teaching to distance learning

Due to the urgency of the transition to distance learning, the course coordinators dialogued together to promote the practical workload, characterized by field immersion, in a fully virtual version. To this end, all in-person evaluation processes that could not be adapted to distance learning were removed.

The field immersions started to be planned to take place remotely. Contact was established with leaders active in their territories so that they could participate in the field immersions, sharing their experiences and life trajectories.

It is undeniable that Information and Communication Technologies (ICTs) have contributed a lot to the advance and success of remote learning. Google meet is a video communication service developed by Google, and was one of the tools used for the meetings of the activities developed by PPGADT. Another tool used was Youtube, a video sharing platform, which was widely used by teachers to enrich their asynchronous classes. WhatsApp, an instant messaging and voice call application for cell phones, optimized a lot the communication and sharing of important notices. The creation of groups on WhatsApp, related to each subject, facilitated quick access to the teaching staff.

Some strategies were adopted to increase the involvement between students and professors and guests. The microphones and webcams were facilitators of the learning process, without a doubt, the chats, however, exercised a primordial role during the sessions, since, at any moment a question, reflection, or compliment could be made to the speaker who was presenting, without any interruption and prejudice of the presentation. The chat was also available in a private format, when the content of the conversation was not shared with the whole group, but only accessible to the student and the session facilitator, so that questions and comments could be made anonymously.

Synchronous classes had the advantage of contact with the faculty in real time. The preference for synchronous sessions was quite evident, however, the need to provide recordings of these live sessions was imperative. The recordings were important because some students constantly had problems with internet connection on rainy days and instability due to the use of many people at home, so the recordings served as support in missed passages and to review the content explained before the evaluations.

The concentration aspect during remote teaching was greatly affected as everyone had to deal with the many distractions around them, such as the high noise levels generated by children, lack of privacy, daily household responsibilities, and poor quality internet and insufficient bandwidth. With everyone at home, working and studying remotely, the internet service has become overloaded, causing connection drops and instability. As a result, at many moments the class was asked to turn off the cameras, in order to make the connection lighter and the class not be interrupted. This impacted the interaction of the class and caused a low rapport, no doubt.

Regarding announcements, materials posted by teachers and activities, they were always posted through Google Classroom, which according to Schiehl and Gasparini (2016) is a virtual classroom environment where there is interaction between teachers and students. In this virtual space, the teacher organizes and manages his class, makes his materials available, and monitors the students through activities posted there. All the information recorded by the teacher concerning a certain subject is sent to the students, minimizing the big bottleneck that is communication failure. In Google Classroom, all the recordings of the lectures that took place via Google Meet were made available, so that any student who had experienced internet instability could follow the entire recording, with no harm to their learning. It was also the environment where the teachers shared the slides whose guests had used in their presentations, and all the materials of the asynchronous moments.

Most of the assessment activities were distributed to the students through Google Forms, and were thoroughly described there in Google Classroom, with their given deadlines and place to upload the file.

With so many abrupt changes in the school calendar, there was a substitution of materials to be used for the implementation of the new curricular proposal, and the evaluation systems adopted by the teachers also changed.

All the activities of the semester, teaching activities, including the field immersions, were evaluated by the teaching staff and the students. On an individual basis, the coordination team sent feedback, criticism, and evaluation forms to all the students, and always at the end of the semester there was a collective moment between teachers, students, and coordination so that everyone could explain, reflect, and suggest improvements in the teaching-learning process. The students' participation in the field immersion activities was monitored by means of an online attendance list on Google Forms, whose link to be filled in was only available at the end of the teaching activities. Each student should fill in his or her own attendance list with personal and academic data.

During the evaluation meetings of the semester, many difficulties encountered by teachers and students during the emergency regime of non presence classes were reported, among which we can highlight insufficient mastery of technological tools; few or no skills with digital technologies; insufficient quantities of devices for the use of all the people in the home environment; setbacks provided by digital resources, such as battery discharge, defective battery charger, and problems with the internet connection; absence of a satisfactory environment to make the video calls and record the classes; change in the work and study schedule, becoming more exhausting and stressful; difficulties of concentration during virtual meetings; lack of control over the work demands via WhatsApp making it more difficult or not having the separation between work routine and personal routine.

There was an excess of demands regarding the volume of evaluative activities directed to the students, which generated an atmosphere of discontent and anxiety, which was increased by the situation of confinement to which everyone was exposed. However, this moment of adversity experienced in the teaching/learning process of the remote format was understood by the collective, since it was a moment of adaptation that everyone was going through, especially the teaching staff in their evaluative planning.

The field immersions under analysis in this article are those referring to the academic year 2020, which occurred in 3 editions, two in the academic semester 2020.1 and one in the academic semester 2020.2. Each edition was organized in 3 days, addressing different themes and the dynamics of each day was divided into 4 moments, two synchronous and two asynchronous, as can be seen in Table 2. All contact between students, faculty and guests was exclusively virtual, through meetings provided by the video communication platform, Google Meet.

Table 1. Distribution of daily activities during the field immersions

Time	Dynamic of the day
8:00 am to 10:00 am	Readings and videos - asynchronous moment
10:00 am to 12:00 pm	Lectures and conversations with the guests - Synchronous moment
2:00 pm to 4:00 pm	Moment of individual reflection on the theme from the script of guiding questions - Asynchronous moment
4:00 pm to	Collective debate about the experiences

6:00 pm	and immersion of the day - Synchronous moment

Source: Prepared by the authors

At the end of each field immersion, the students should send to the teaching staff, as an evaluation requirement, a report of reflections about the experiences lived during the days of practical classes. To this end, the teachers previously sent a script of guiding questions to guide the construction of the report.

3.3 Field Immersion 2020.1 - during the pandemic

The practical experiences related to the disciplines of module I of semester 2020.1 was entitled "Field immersion in the Sertão do Pajeú", since the culminating activities between the disciplines and the practice were developed with elements, leaders and experiences inserted in the territory of Sertão do Pajeú, a semi-arid region located in the State of Pernambuco.

In the first module of the 2020.1 semester, 3 courses were offered: Self-Management and social and Entrepreneurship; Epistemology and Methodology of Interdisciplinary Research; and Social History of the Semi-Arid Peasantry, under the guidance of 7 professors.

The 2020.1 field immersion of module I took place on September 24th, 25th, and 26th, 2020, and had the objective of deepening the knowledge experienced in the three disciplines of the first module, establishing relations of the construction process of inter and transdisciplinary knowledge in the experiences and knowledge shared by the guests. The themes worked in this field immersion were: Women, Agroecology and Networks; Organizational Processes, Agroecology and Territorial Development; and Traditional Communities, Agroecology and the Semi-arid.

On September 24, 2020, in the morning, we received 3 female leaders linked to the theme "Women, Agroecology and Networks". The first invited to share her experiences was a representative of the Pajeú Network of Women Producers.

The Network of Women Producers of Pajeú operates in 11 municipalities of the state of Pernambuco and mobilizes rural women to build their autonomy through entrepreneurship. The network is formed by productive groups that produce individually, but for a collective benefit. It is not a project that deals only with the economic aspect, it is a space that aims to build women's participative democracy so that they can mobilize other women from oppressive contexts to fight for their rights, have a voice, and contribute to the end of gender inequalities.

The exchange of experiences generated from this network provides the formation of critical and interdisciplinary thinking because it involves the productive, political, and especially environmental dimensions, when respect for natural resources is shared, the implementation of the living pharmacy and the planting of seedlings in their productive capitals. This knowledge is multiplied through workshops and training held with the women who lead the groups, while empowering and strengthening these women who still come from a sertanejo culture that is mostly machista patriarchal, which cooperates with the condition of oppression, submission, inequality, and domestic violence.

The second guest of the morning of September 24, 2020, was a leader of a feminist non-governmental organization, which for more than 30 years has strengthened gender equality in the Northeast region.

The organization's main ideological pillars are: feminist educational practices, increased political participation of women, feminist technical assistance, self-organization, economic autonomy of women, problematization of the division of domestic labor, and highlights the importance of women in the reproduction of life.

Its entire work philosophy is linked to sustainability, and brings to the debates the problems inserted in the territories where Pajeú operates, such as the pollution of the Pajeú river, silting up, deforestation of the riparian forests and the use of pesticides.

This NGO emphasizes in its philosophy the agroecology based on racial equality, feminism and solidarity economy. It managed, through its strong performance, to contribute to the creation of the Network of Women Producers of Pajeú.

And finally, the last guest of the 24th was a UFRPE professor, active in projects related to the feminist economy, and sexual and reproductive rights of rural women. This guest contributes to the Interdisciplinary Network of Academic Women of the Semi-Arid.

All the experiences lived from the reports of the three guests of the first day, reflect the importance of female emancipation in the deconstruction and perpetuation of toxic masculinity, patriarchy (which, by the way, feeds fascism), and machismo. And above all, how the valorization of reproductive work is still hidden. But little by little, agroecology comes as a science to break with these depreciative hierarchizations, teaching reciprocity as a modifying element of a system that is still eminently patriarchal.

On September 25, in the morning we received all the contributions from the reports of a representative of an Association for Sustainable Rural Development, active in two municipalities in the state of Pernambuco. The association, with years of history, gave origin to a cooperative that focuses on organic and agroecological production. This association counts, for the success of its work, on the mobilization and training of farmers for the agroecological transition, reinforcing its importance for the maintenance of the systems. It also highlights the insertion of rural youth in the transmission of this interdisciplinary knowledge and their performance in the process of environmental and cultural education, in the agro-ecological perspective.

To conclude September 25, we received one of the leaders of a network of social enterprises distributed throughout Brazil for the marketing of organic products from agrarian reform farmers. This network is a space for gender equality, political expression and representation of an agriculture that generates products that carry with them a baggage of struggle, resistance and traditional knowledge.

The debate and the experiences brought on September 25 reinforced the thesis that the peasantry and the peasant rationality have not been extinguished, they have only been remodeled to be inserted in a world today prepared for reflections, questionings, and problematizations.

On the last day of the field immersion, September 26th, experiences and agroecological knowledge were shared with representatives of traditional communities of the Brazilian semiarid region. First, the experiences of a quilombola community leader; then, we listened to two indigenous members of different peoples, bringing their experiences.

It was possible to verify how the cultural richness that traditional peoples carry, and how peasant rationality still strongly persists in quilombola and indigenous communities. The respect for natural resources is alive and nourished by the worldview, which provides the belonging that these people have to their territories.

The dialogue, no doubt, generates empowerment and rescue of the identity of these peoples. That is why agroecology comes as a science that works in a subjective and respectful way, involving education, ancestrality, beliefs, spirituality, and traditional knowledge. Quite different from what Cartesian science proposes in terms of its rationality.

The 2020.1 field immersion of module II was held on October 22, 23, and 24, 2020, and aimed to connect the experiences brought from the territories with the knowledge experienced in the 3 disciplines of the second module: Ecologically Based Agriculture and Markets; Plants in the Treatment of Health and the Environment, and; Information and Communication Technology Applied to Territorial Development. The subjects in this module were supervised by 7 professors from interdisciplinary areas. The themes worked in this field immersion were: Information and Communication Technologies in Organic Food Certification; Traditional Knowledge in Health; and Agroecological Fairs and Agro-Shops.

On the morning of October 22, 2020, we listened to the experience reports of two representatives that work in the area of computerized systems for the management of organic certification data. The first one invited to share his experiences was a professor from a public Federal University in the Northeast of Brazil.

The experience reported by the professor reinforces the importance of connecting information and communication technologies (ICTs) with the development of traditional communities. The development of easy-to-understand applications built from the needs reported by the family farmers themselves, generates a tool for managing and registering the data that permeates that rural property and facilitates the bureaucratic processes of distribution of agro-ecological production, such as organic certification.

These applications and platforms developed support the registration of inputs, outputs, pest and disease records throughout the year, and all the data generated facilitates the management of management and inputs within the production units.

ICTs also favor the systematization of agroecological production in terms of the farmer's financial management, since the applications are able to register what is produced and what is sold, presenting possible surpluses or productive demands.

Another advantage linked to ICTs is that they are able to generate reports that can be shared among all the members of an association, cooperative, advisory NGOs, agroecological organic fairs, or sales stores, in order to guarantee public transparency in the territory, give visibility to the experiences of the state, and, foster the social credibility of the work performed in the collective.

Data science and statistics have revolutionized predictability in the peasantry, and can indeed act to benefit agroecology and territorial development. Technology cannot be characterized as beneficial or harmful, the question to be analyzed is to whom it belongs and how it will be applied.

The second guest of the morning of October 22, 2020, was a leader of a network that organizes producing

families into associations, cooperatives or informal groups, focused on participatory certification of organic products.

In this participative certification process, the network uses a Software developed in a participative way, from its design to the information fields. It was implemented to manage all aspects of organic production, and this information management tool has greatly optimized the management of data needed for the certification process, especially in terms of the size of the network in terms of number of collaborators.

Among the obstacles encountered during the process of using the tool is the farmers' difficulty with basic computer skills, which hampers the use of the tool in aspects such as scanning documents that usually remain illegible, difficulties for farmers in filling out forms and documents, and the lack of internet access. Another bottleneck is the lack of dialogue with the leaders of the networks in order to think in a participatory way improvements in the software so that it becomes more and more objective for users.

On the evening of October 22, 2020, we received two more guests to compose the immersion debate, at this time the experiences were connected with the theme of plants in health treatment. The first guest of the evening was a professor specialized in the area, who presented the current scenario of bioactive plants in Brazil and in the world, as well as the main researches that are being developed in this line. The second guest of the evening was a Doctor in Biotechnology, who brought knowledge about fermented beverages using bioactive plant species.

The factors that influence the concentration of active ingredients in a plant species were discussed, such as: plant age, variation of active ingredients in different parts of the plant, soil type, rainfall, sun exposure, and type of management used in cultivation.

The evening's debate brought the reflection that phytotherapy is a very important front to boost agroecology, because it rescues the use of bioactive plants in healing, respects and perpetuates the diversity of medicinal species, and proposes the promotion of health with agroecological bases.

On October 23, 2020, in the morning we received all the contributions from the reports of an Indigenous representative and a Quilombola representative.

The first guest of the morning talked about the insertion of traditional knowledge in the health of her community, through the cultivation of native medicinal plants and the transmission of traditional knowledge within the families.

Then, on the same morning of October 23rd, there was a continuation of the discussion about how popular knowledge is being preserved in traditional communities. The intervention of allopathic medicine in the territories of traditional peoples was also debated, as was the polemic of the prohibition of the use of "garrafadas", which, according to traditional medicine, are not concentrated herbal medicines, but toxic ones.

The afternoon of October 23, 2020 generated debates around the theme of the advances and setbacks brought by ICTs in the territories of indigenous peoples. For this moment, we had the contributions of the reports of 3 indigenous representatives who work with documentary production in the social bias, empowering the experiences and memories of indigenous peoples. It brings up the debate about the perspective of the audiovisual content produced by the Indians themselves, and not by third parties, which many times mischaracterize their cultural reality.

The production of this content by the members of the indigenous communities themselves guarantees the demythification of the folkloric image that the indigenous people carry in the history told by Brazilian textbooks, which places them in a caricatured position.

On the last day of the field immersion, October 24, 2020, in the morning we received three guests who shared their experiences with the use of plants to treat the environment, the well-known natural defensive agents.

We first received a professor who exercises in his teaching practices the culmination between chemistry and agroecology.

The guests brought the problem of the decline of cashew trees due to anthropic and climatic issues in the municipality where they live and the agroecological intervention used by researchers from a nitrogen-based extract from the leaf of Algarrobo as a way to combat the white fly on cashew trees. As the greatest products of this project, there was the social and economic rescue of the cashew culture, and the strengthening of the premise that empirical and technical knowledge should go together.

As the last guest of the morning of October 24, 2020, we had the contributions of a representative of organic cotton production, who reinforced the importance of agroecological cotton production in his region, as a form of economic growth of his territory, social empowerment, and sustainable production. He was also a professional who trained in an educational institution and returned to his territory to apply all the knowledge acquired.

The reflection comes from the importance of integration between different sciences for a common good,

exercising interdisciplinarity, as could be seen in this experience report, where there was the union of a technical and bench science, chemistry, with the needs coming from a field science, agronomy.

To close the field immersion, in the afternoon of the same day, we received three guests to talk about the context of markets and commercialization of ecologically based agriculture, and the experience of TICS in the promotion of agroecology.

At first we received the experience of a network that commercializes all the agroecological production from agrarian reform settlements, then we had the reports about the production of podcasts and content on youtube of ecological bias, and finally, we received a specialist, who reported the challenges faced in mobilizing the network of agroecological fairs and agro-stores in Pernambuco and how ICTs contributed in this pandemic period.

3.4 Field Immersion 2020.2 - during the pandemic

The practical experiences related to the disciplines of modules I and II of semester 2020.2 were entitled "Field immersion in the Sertões do São Francisco", since the culminating activities between disciplines and practice were developed with elements, leaders and experiences inserted in this territory.

The field immersion was related to the mandatory discipline of modules I and II of the academic semester 2020.2: Agroecological transition and agrifood systems, under the guidance of 5 professors of the PPGADT.

The 2020.2 field immersion was held quite late in its academic calendar and occurred between January 21 and 23, 2021. This practical stage of the semester was very important for us to establish the connections between the theoretical knowledge discussed in module II and the knowledge shared by the leaders of the territories and prominent social actors in this theme. The territory chosen for the immersion was one of the hinterlands inserted in the territory of the São Francisco river basin, a stretch of the semi-arid region of the state of Pernambuco.

On January 21, 2021, in the morning, we received as a guest, a professor from a federal university in the Northeast of Brazil, who presented a lecture entitled "Impacts of the transposition of the São Francisco River in the water destination communities: the case of the State of Paraíba", which lasted 30 minutes and generated many reflections and concerns for the debate that took place afterwards.

Through this lecture, it was possible to learn how the transposition process occurred in the state of Paraíba involving social movements, from a critical theoretical debate about the socio-environmental impacts of public policies in the Northeastern semi-arid region.

It was verified that the low prices of labor here in the Northeastern territory were determinant for the emergence of the label of the Northeast as "labor for the Brazilian industrialization process", bringing submission of the international capital that entered Brazil.

It was possible to reflect on the public policies created for the northeast and how they were formed under the premise that "we need water". The crisis was intensified by the process of emigration from the backlands of the Northeast in the 1980s, by the cotton crisis.

It is inferred that drought becomes drought because there are no organized structures in the Northeast to coexist with drought, causing social chaos.

In 2003 the debate about the water deficit in the Northeast grew stronger and the first rumors about the transposition of the São Francisco River emerged.

The debate brought to the surface the discussion about the environmental impacts existing along the channels. The transposition interconnects basins that make these waters come from the agribusiness regions of Bahia of soy, cotton, and mineral extraction, so they are waters contaminated with agrochemicals, synthetic fertilizers and heavy metals.

The reflection about this presentation is that it is necessary to transform these transposition channels into agro-ecological development models for the Semi-Arid, composing recovery of degraded areas, socially just, inclusive, and with active social technologies for family agriculture. There must be a struggle for agrarian reform and guarantee that the lands of the sertão are at the service of the people of the sertão.

The transposition emerged as a project of inclusion and articulation of the Semi-Arid, but contradictorily a phenomenon of land concentration tendency, incentive to soy production, fish farming, among other problems emerged. Economic exploitation around the lands that border the canals.

On January 21, 2021, in the afternoon shift, we received a guest who presented the lecture entitled "Impact of the transposition of the São Francisco River in the communities of origin of the waters: the case of the Sub-Médio São Francisco", which lasted 35 minutes and brought important points for further debate.

The theme of the transposition occupied between 2005 and 2015 a stronger debate, and with this debate emerged a front of mobilization and popular resistance with a religious and ecological background against the transposition.

It is of utmost importance to problematize the transposition of the São Francisco River, which is a work of public over-investment and unsustainable from an ecological and economic point of view, because it contaminates the soil and the water with agrochemicals, and generates poor quality jobs, degrading and conflictive social situations.

With the work, there was an increase in the incidences of erosion, silting, deforestation of the riparian forest, and pollution by rural, urban and industrial waste in the São Francisco River, according to data brought by environmental impact reports.

The transposition brings the discussion that the problem in the Northeast is not the lack of water, but the access to water, which is badly distributed and badly used, that is, there is a bad management of water. This can be seen in the people who live on the banks of the river and yet live in shortage of water and water treatment.

It is necessary to have strategies for coexistence with the semi-arid region and its caatinga biome, always knowing how to get the best out of this climate and biome so rich in biodiversity.

The semi-arid does not need a transposition project, but an efficient and fair management of the existing water resources. Only the organized civil society as social movements and traditional communities can stop the project and demand the reorientation of practices towards true sustainability.

It is worth noting that the pandemic came as a block to the forces of resistance to the movement against the current and future impacts of the transposition, since there is no way to make public mobilizations in a physical way.

On January 22, 2021, in the morning, a lecture was given by a leader who has been working for more than 30 years with family agriculture in agroecological transition projects. The lecture entitled "Food Sovereignty, Agrifood Systems, and Irrigated Perimeters" was presented, and lasted 20 minutes.

In his presentation were highlighted the main social and environmental impacts generated by the irrigated perimeters of the San Francisco River: High production of fruit for export; exploitative wage labor with the degradation of health; contamination of soil and water; soil erosion; coal mining, with 20% of the mineral activity of the country in this perimeter; displacement of communities to build dams; and installation of wind farms and solar energy that impact communities of deep pasture in Bahia.

Food sovereignty is not established in this perimeter since the entire production of fruit farming is exported. As a consequence, there is exclusion and poverty in family farming in this region.

Also on January 22, 2021, in the morning, we received a rural extensionist to contribute to the day's theme. This guest started her work out of discomfort with the issue of social inequality and degradation in the territories where she worked. So she started to coordinate agroecological projects.

She reports that it was very difficult and there was resistance from her team, but with periodic training of the team she managed to overcome the resistance. As a first action he implemented agroecological fairs in the region of the São Francisco valley and changed his perception as an agronomist trained in conventional agriculture.

On January 23, 2021, in the morning, we received 3 leaders of associations of the São Francisco region to contribute to the lecture entitled "Conservation and Agrobiodiversity in the Sertão do São Francisco", which lasted 40 minutes

The first to bring her experience was a leader of an association of women family farmers from a farm located near Petrolina-Pe.

This association works with agro-extractivism of umbu, and has an agro-industry that is under construction and currently produces umbu pulp, jam, liqueur, jelly, and compote.

The association does not have a sanitary surveillance seal, so they do not export. They point out that the absence of a seal makes it difficult to sell, and many times they produce and cannot sell. All transportation costs are on their own.

The second person invited to contribute was a member of an association located in the state of Alagoas.

This association has been in existence for 9 years and was created with the objective of training women farmers in the processing and extraction of pink pepper, cambuí, araçá and mangaba. They produce sweets, jams and jellies and are formed by more than 50 women. In this case, the agro-industry is already built and fully operational.

The experiences shared on the 23rd made me reflect on how patriarchy promotes invisibility and inequality to women's work, so there is no agroecological transition without a fair division of labor. These women are above all guardians of agrobiodiversity, who, with their capacity for self-management, have reinforced the importance of female participation in strengthening the permanence in the rural territory and income generation.

IV. CONCLUDING REMARKS

The experiences brought from the point of view of one of the authors of this article, present their trajectory over two semesters whose curricular practical activities took place remotely. Furthermore, this experience report provides an understanding of how the field immersions in an interdisciplinary doctoral course in a public educational institution in Brazil, has intensely complex demands.

The present work is inserted in the perspective of contributing to the debates around the theme under analysis, complementing the theoretical framework. This research arises as a basic assumption in order to contribute to possible eventualities occurring during the course of the academic calendar, guiding in the process of adapting the teaching-learning activities for graduate courses of an interdisciplinary and practical nature.

The current state of technology has made the PPGADT doctoral course field classes possible, and the teaching-learning has become particularly well adapted to the emergency remote format. And with the right tools and approaches, effective distance knowledge construction can be achieved.

Despite the difficult situation that everyone was going through around them, it is rewarding to continue the teaching process, even if remotely.

The daily meeting with classmates was very satisfying in contributing to mental health and preserving the perception of community, aspects that were directly affected by the Covid-19 pandemic.

The remote teaching during the pandemic also brought a positive outlook on the ability to do homework, including flexible scheduling. Considering that most of the students live in other states, there was a reduction in logistics, airfare, and lodging costs.

The experiences of the field immersions in remote format showed that it is feasible to do this kind of activity, which, in theory, requires experiences in an external environment. Although the class has adapted very well to teaching using digital platforms, and the whole team has shown itself to be resilient in the midst of such atypical semesters, an interdisciplinary professional doctorate in agroecology and territorial development has the differential of contact with popular knowledge, the territories, the leaders and their people as a form of participant experience of the dynamics under study, therefore, when everything returns to normal, it is preferable that the field immersions return to the face-to-face format.

The relevance of this study is the illustration of the obstacles encountered by the students of a professional doctoral class who were removed from field practices to live a complex experience in a fully virtual environment. We hope that this self-study will encourage other graduate programs of the same methodological nature to view ICTs as allies, should we experience circumstances similar to this Covid-19 pandemic. And that the skills and challenges faced in this process contribute to the continuous improvement of their own praxis.

Programs that take the student beyond the classroom are capable of causing substantial changes in the teaching and learning process, since it is through contact with the concrete and real world that powerful connections with the studied object are established (SOUSA; ALBUQUERQUE, 2019).

It is necessary to look at all situations through a positive prism, because it is through them that we are constantly challenged to put out skills that were not known until then. Andrade, Matos, and Fernandes (2022, p. 2) corroborate this line of reasoning when they state that during the pandemic educators "improved in relation to the various technological tools and started to take pleasure in them. They discovered that they could diversify their classes, make them more attractive, fun, and enriching."

The experiences reported here raise some points that should be highlighted because it sets precedents for improvement. It is necessary and fundamental to invest in public policies aimed at the initial and continued training of graduate teachers, especially in professional and interdisciplinary courses, which are practical in nature and carry with them pedagogical particularities. A better formation of this category implies in a better preparation of the doctoral students in their teaching-learning process. It is necessary that the educational institutions are equipped with a broad multidisciplinary team from the psychosocial field that can provide support to the teachers and students in the event of another event that again imposes social distancing, as happened with the pandemic caused by Covid-19.

The discussions presented here indicate that the field immersion model proposed by PPGADT, faced with the emergency situation of remote teaching, even with many setbacks presented, generated significant reflections and learning that act in the transformation of doctoral students.

This experience also gave the students and teachers the opportunity to develop skills for self-formation of the individual, and the ability to critically evaluate their own reality, while contributing to the maturation and professional qualification, in an immeasurable way. Which corroborates with Azevedo and Higuchi (2017, p. 4), who argues that " the immersion

experience "positively affects" everyone involved, and that our contribution has a limit, but also has an individual reach that is difficult to measure."

The analysis and discussion that this research brought, was able to present the scenario of challenges and vulnerabilities experienced by faculty, students and those indirectly involved in the process of knowledge construction within a doctoral program in Brazil. It is clear that all those involved went through a complex learning process, which caused, according to the reports analyzed, uneasiness, excessive work demands, fears, emotional instability, and hesitation.

The pedagogical mediation used in this doctorate aims strongly at the reflective exercise; at this point, group dynamics, such as conversation wheels, facilitate the understanding of the contents. As the field immersions could not be face-to-face, there was an immense loss in the relationships of coexistence and affective exchanges among the members of the class, which sometimes occurred during meals and during the cooperation among groups for the execution of tasks.

The records kept in the field diary were fundamental for the development of this experience report, once the use of this methodological tool was consolidated as an intervention instrument by generating reflections about the field immersion practice in virtual format and the measures taken regarding planning, elaboration, and scientific publication.

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