Digital critical pedagogy: describing paths to digital equity

Ana Carolina Carius*,Petropolis Catholic University, Benjamin Constant 213, Petropolis and 25610-130, Brazil

Fabiana Rodrigues Scartoni[b], Petropolis Catholic University, Barão de Amazonas, Petropolis and 25610-130, Brazil

Abstract

This work aims to analyze the speed of implementation of pedagogical practices during the COVID-19 pandemic without concern for the specificities inherent to education for the popular classes, seeking to answer the following guiding question: Is it necessary revisit to the concept of Paulo Freire's Critical Pedagogy in digital times, to provide the digital equity of the popular classes through education? An exploratory and qualitative case study was carried out with educational actors. The participants of this case study make up the four actors of the school community: managers, teachers, family members, and students. Participants were chosen from eight different school units among the one hundred and nine that offer elementary education. Interviews were chosen as an instrument for data collection. Based on this study, it was possible to observe that the pedagogical practices used during the period when schools were closed did not corroborate the wishes of the actors involved and, therefore, led to an expansion of social inequality through the existing digital inequality.

Keywords: Critical Pedagogy; digital equity; educational technology; popular classes; qualitative study.

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* ADDRESS FOR CORRESPONDENCE: Ana Carolina Carius, Petropolis Catholic University, Benjamin Constant 213, Petropolis and 25610-130, Brazil https://orcid.org/0000-0002-7284-665X

1. INTRODUCTION

This research discusses the digital empowerment of the popular classes and the consequences of constructing a Digital Critical Pedagogy. Globally, the world has shifted to a digital platform, especially in the education sector during the COVID-19 Pandemic (DeCoito & Estaiteyeh 2022; Diaz Lema, 2023; Hietajärvi et al., 2020). Brazil's structural social inequality inspired one of the most significant critical pedagogues of the 20th century: the Brazilian Paulo Freire. Based on his experiences with the popular classes, the critical pedagogy developed by the educator opened a deep and engaging way to discuss any pedagogical action in Brazil.

It is impossible to think about the school for the Brazilian popular classes without Paulo Freire's critical pedagogy. We believe that such a perspective can underpin ongoing learning in Brazil and other parts of the world imbibing classes within the scope of digital knowledge in the post-COVID-19 pandemic (Hong et al., 2021; Cummings, 2023).

1.1. Conceptual framework

Paulo Freire's critical pedagogy, expressed in his main work on the subject, Pedagogy of the Oppressed, aims to develop the student from an emancipatory point of view. Under the proposal of liberating education, Freire (2021) observes that the Brazilian popular classes cannot develop socially because no social mechanisms provide freedom from the oppression they experience. For the educator, the technicist conception of Brazilian education at the time, expressed in the term he authored as banking education, cannot provide students with opportunities for social advancement. The school and education only aim to perpetuate the existing social structures, as the popular classes cannot see significant aspects of their own lives in the educational system. It should be noted that Paulo Freire was one of the founders of Critical Pedagogy alongside researchers such as Henry Giroux.

From the oppressive situation experienced by the popular classes, Freire (2021) proposes, in his critical pedagogy, a practical approach to the access and construction of knowledge by the popular classes. They were anchored in generating themes, the student dialogues with the educator, and the process of collective construction of relevant knowledge for the student. This knowledge is essential in their daily lives and an essential tool in constructing their emancipatory process: education as a practice of freedom (Giroux, 2010).

With the abrupt closing of schools on March 13, 2020, there was no discussion about teaching methodologies or appropriate pedagogical practices at all levels and teaching modalities in Brazil. Similarly, the work by Suratmi et al., (2022) presents the difficulties in implementing online teaching in Indonesia. There was no concern with educational assistance mediated by digital technologies for the popular classes in Brazil. Several attempts in this direction can be observed (Al-Subaie, 2021; Ospanova et al., 2022; Wardoyo et al., 2021). To understand the complexity of adopting digital technologies without any planning in the pedagogical processes of schools that work with these actors, it is necessary to discuss how the popular classes relate to digital technology.

To this end, the concept of digital equity presented by Willems (2019) is considered Digital equity is defined as 'equal access and opportunity to digital tools, resources, and services to increase digital knowledge, awareness, and skills.' For the author, digital equity goes far beyond providing access to the same digital devices or the same internet speed, for example. Equity is only achieved when, through equal access, it is possible to develop the same skills, awareness, and knowledge homogeneously. And how can digital equity be seen in the context of Brazilian popular classes?

Any study intended to be carried out on the digitalization of education aimed at Brazilian popular classes permeates the role digital technology plays in the daily lives of these people. Nemer (2021), in a detailed study on the relationship between digital technologies and popular classes, observed the absence of digital equity from the perspective of Willems (2019). The author defines 'Mundane Technologies' as how people exercise agency, awareness, and appropriate technologies to mobilize themselves toward the quality of life they desire. Therefore, from inferior quality cell phones to devices purchased by people who do not live in slums, passing through precarious access to electricity, which contributes to a shorter useful life of batteries, chargers, and cell phones themselves; low-quality internet access, without competition for services, since only one person or company can provide such a service in the slum are some of the difficulties that Brazilian slums' residents face in accessing digital technologies.

However, Nemer (2021) concludes that despite all the difficulties inherent to the digital exclusion that people living in Brazilian slums experience, smartphones and internet access guarantee these individuals a kind of belonging to a networked society (Castells, 2019). Being seen on a social network, commenting, liking, or having your content viewed, liked, or commented on puts popular classes on an equal footing with Brazilians living outside the slums. With all the obstacles, access to social networks, games, sites of interest, or quick communication apps like WhatsApp gives slum residents the feeling that they are exercising their freedom, even in cyberspace. This is defined in Lévy's (2010) perspective as the means of communication that arises from the global interconnection of computers, covering the material infrastructure of digital communication, the information sheltered in it, and the human beings who navigate and feed on this universe.

1.2. Related Research

Even though even in cyberspace, there is discrimination between those who live in slums and residents in other places, the feeling of sharing the same spaces without prejudice or segregation is remarkable, although the effort demanded by the popular classes to reach the same spaces is undeniably greater. The popular classes design the so-called cyberplaces (Wellman, 2001; Oddone, 2023; Barber, 2020), which are places (not necessarily in the same geographic space) in which people, who identify themselves by different factors, interact in cyberspace. In Brazilian slums, the precariousness of the living conditions of residents is also reflected in the precariousness of access and use of digital technologies in their daily lives. By lack of digital equity, this work presents the cut of its research from the perspective of education in the period of school closures in the face of the health need associated with the COVID-19 pandemic considering the popular classes as protagonists of this discussion. Therefore, the following questions are brought to the reflection: 'How to define critical digital pedagogy in the context of popular classes?' Could it be that how education was carried out in this context did not produce new inequalities, as Selwyn & Jandric (2020) discussed?

Considering Bruno Latour's Actor-Network Theory and his sociology of translation (Latour, 2012), we observe that digital technological artifacts have been exerting an increasing influence on today's society. Therefore, it is imagined that Brazilian public schools were already incorporating, in their daily lives, actions that involved digital technological artifacts or even modifying pedagogical practices so that digital technological tools were active in daily pedagogical processes. According to McLay & Reyes Jr. (2019) and Lister (2021), 'Since the smartphone first emerged in the early 1990s, ICTs have increasingly been deployed as learning tools in various formal and informal contexts beyond school or university space-time boundaries. This has led to the hybridization of learning in terms of medium (digital, on-site) and type of learning (formal, non-formal, informal)'.

Despite the existing symbiosis between smartphones and people, modifying the space-time relationship as described by McLay and Reyes Jr. (2019), Castells (2019), and Lévy (2010), Brazilian public schools had not yet experimented with pedagogical practices involving smartphones. Due to the absence of a critical digital pedagogy for the Brazilian popular classes, digital equity is not established, and education for the popular classes during the pandemic evidenced this fact.

1.3. Purpose of the study

We pretend to answer the following question: 'Is it necessary to revisit Paulo Freire's concept of critical pedagogy in digital times to provide digital equity to the popular classes through education?' To answer the proposed research question, the general objective of this work is to present the concept of Digital Critical Pedagogy from the pedagogical practices developed with students from Brazilian popular classes. As specific objectives, we highlight the need to define digital culture within the popular categories and the different forms of appropriation of digital culture by this group. In addition, it is essential to understand the role of the school and popular education to establish new paradigms for critical digital learning in spaces where traditional pedagogical theories failed as pedagogical proposals in the past. In this scenario, we propose critical pedagogy as a possible solution, and we believe that an adaptation of this model to digital times is the way to go.

2. METHODS AND MATERIALS

As a research methodology, we propose a qualitative study, considering exploratory research on digital inequality in the educational field. We chose a case study since the research was restricted to the municipality of Petropolis and schools managed by the municipal government. As a methodological procedure, we choose two data collection devices were chosen: interviews involving school actors (managers, teachers, students, and family members) and the netnography of WhatsApp groups that served as mediators of the teaching and learning processes during the closing of schools. We chose these tools to ensure that the way education took place in the pandemic period, without any consistent educational theory that supported it, provided few engaging and emancipatory proposals so that the consolidation of Critical Pedagogy was unfeasible. The present study was carried out with the approval of the Research Ethics Committee based at the university that managed the study. All individuals who participated in the research did so voluntarily and anonymously through an informed consent form following the research ethics standards established in Brazil (Minayo et al., 1994).

2.1. Research Model

Since the globally unprecedented phenomenon of school closures is being researched by many researchers from different areas whose conclusions are still in progress, we choose a case study as a research methodology. According to Yin (2001), a case study is an empirical study that investigates a current phenomenon within its context of reality, when the boundaries between the phenomenon and the context are not clearly defined and in which various sources of information and evidence are used. We classified this research as exploratory since it is intended, from this study, to define paths for further in-depth studies (Gil, 2008), considering Freire's critical pedagogy and digital technologies. As we intend to analyze the research object from different perspectives, we choose a qualitative approach. According to Mattar & Ramos (2021), qualitative research aims to understand certain phenomena. This implies exploring and describing them from different perspectives and understanding the meanings and interpretations that research participants attribute to these phenomena and their experiences. We collected the data from interviews and WhatsApp group observation during the year 2021 in the Brazilian municipality of Petropolis.

The municipal education network in Petropolis is composed of approximately forty-one thousand students, divided into one hundred and eighty-seven school units, with seventy-eight of these units serving only Early Childhood Education. Therefore, the choice of research participants was restricted to the one hundred and nine units to which elementary education is offered. We pretend to answer these two questions from the case study

• How did WhatsApp become a mundane technology and an instrument of resistance of the popular classes in maintaining access to education during school closures?
• How to define Digital Critical Pedagogy in the context of popular classes to empower them to exercise practices of freedom in the context of digital technologies?

2.2. Participants

The participants of this case study make up the four actors of the school community: managers, teachers, family members, and students. For this purpose, we choose two managers of municipal school units, two parents with children enrolled in municipal schools, two teachers who work in municipal school units, and two students enrolled in municipal schools. Participants were chosen from eight different school units among the one hundred and nine that offer elementary education. The students participating in the research were between 12 and 14 years old. As it is research with a qualitative approach, the eight participants comprise a broad spectrum of perspectives on the same research object.

2.3. Data collection tools

As a data collection strategy, we chose to observe as a participant and interviews. Mattar & Ramos (2021) define observation-as-participant as the peripheral participation of the researcher in the field when conducting interviews, without more active participation in the field actions. For Mattar & Ramos (2021), interviews make it possible to include in the research the perspective of students, teachers, managers, coordinators, supervisors, psychologists, employees in general, and parents, whose individual and collective experiences effectively constitute education.

2.4. Data collection process

In this perspective of scope, interviews were chosen as an instrument for data collection in the field. We recorded the interviews with the consent of the participants, for later transcription of the conversations. To complement the material collected, the researchers took part, as an observer, in WhatsApp groups composed only of managers; students, managers, teachers; and managers and families to carry out the netnography of these environments in cyberspace.

According to the perception of Mattar & Ramos (2021), the richness of research in education lies in the fact that different actors can contribute to their perception of the research object. In this sense, it is important to observe the roles played by managers, family members, teachers, and students in the context of the closing of schools with online education in the municipal education system of Petropolis.

In mid-April 2020 (almost a month after the closure of schools), the Municipal Education Department of Petropolis announced the creation of the Educate at Home platform, in which students could find content, initially in Portuguese (their mother tongue) and Mathematics to be carried out. At that first moment, there was no interaction between teachers and students, either by WhatsApp or on the platform itself. The Municipal Department of Education was responsible for making the materials, and the managers of the school units were responsible for mediating the materials. Students who

could not access the platform were excluded from the educational process as there were, until then, no alternative activities (Carius, 2020; Carius, 2021).

As the closure of municipal schools continued, the Municipal Secretary of Education decided that, in September 2020, teachers should return to interacting with students, still through the Educate at Home platform. This platform offered the teacher the possibility of posting various materials (reading files, videos, audio), and interactions should occur through a chat on the platform itself. However, the platform's creators did not realize that the platform would frequently go offline due to the lack of a suitable server, leaving the school community without service. In addition, it is necessary to consider that the students enrolled in the municipal education system of Petropolis belong to the popular classes, whose access to digital technology is precarious.

There was no concern on the part of the municipal government with the expenditure of data by the popular classes to access the Educate at Home platform. Therefore, considering the problem of the unstable server combined with the expense of data to access the contents by the students, the Municipal Department of Education itself began to informally guide school managers to manage WhatsApp groups for the classes, considering the popularization of the application and the unrestricted use of data, as confirmed by Zuboff (2020) and Nemer (2021). The actors participating in this research are in this scenario.

It was then up to school managers to create and manage WhatsApp groups for each class of students at their school, a communication group with family members, and another communication group with teachers and support staff. Managers were also responsible for printing, delivering, and removing printed class material for students who did not have access to WhatsApp groups. The students had the task of participating in the classes. This participation started to be carried out only through WhatsApp groups. The student should join the group related to their class, register their presence, and ask questions about the material posted by the teacher corresponding to the teacher's class. If the student did not have access to WhatsApp, he should go to the school remove the printed material, and return it resolved the following week.

The teachers were responsible for interacting with students through WhatsApp groups, posting the material both in the group and on the Educate at Home platform, although most students did not use the official class vehicle. The teacher should also go to school once a week to remove the printed activities, correct them, and give feedback to the students the following week. The family members were responsible for monitoring the students' interactions in the WhatsApp groups, and going to school when they did not have access to the WhatsApp groups to guarantee access to the school for the children. Based on the scenario described, we analyzed the interviews with each of the eight participants.

2.5. Data Analysis

Considering the approaches raised by each of the actors participating in the research, we choose the content analysis of Bardin (2011), from the categorization by themes suggested by Bardin for analysis of data from interviews. For the author, performing a thematic analysis consists of discovering the 'core of meaning' that makes communication and whose presence, or frequency of appearance, can mean something for the chosen analytical objective. Then, we analyzed the collected material, observing themes as a cut-out rule for the transcription of the interviews with the help of the software ATLAS.ti. In addition to the perspectives presented by interviews, we realized a netnographic analysis for the WhatsApp groups through netnography, a tool proposed by Kozinets (2014).

We used the ATLAS.ti software to support the Content Analysis and the ethnography for WhatsApp groups. Based on the thematic analysis proposed by Bardin (2011) for interviews, we transcribed the speeches, which were recorded, observing the codes used and categorizing them by topics of interest in each group of actors. We considered sentiment analysis and word count relevant tools for analyzing the interviews as a strategy to list the topics of most significant interest to each of the groups under analysis.

2.6. Ethics

This study adhered to the ethical anonymity required of articles. The identities of the participants remained anonymous throughout the study. Similarly, oral consent was sought from the participants before the interviews.

3. RESULTS

3.1. Topics addressed by managers

The speeches of the two managers interviewed by the researchers pointed toward two problems: the exhaustion of managers and the absence of teachers who would carry out classes. We named these two participants MANAGER1 and MANAGER2. From the sentimental analysis conducted by the ATLAS.ti software, the speeches of the two interviewees revealed negative feelings concerning the entire process they were experiencing. Some excerpts from the speeches of these participants portray the problems encountered.

I don't have a teacher for almost any subject. I didn't have it before the pandemic. Students were out of class. Now I am obliged to prepare in English, geography, religious education, mathematics, and Portuguese. I am a Physical Education teacher. I spent the whole week working on the material. Then there were a couple of days to print for all the students. And I needed to fix something, at least. I am exhausted. I thought about dropping everything. (MANAGER1)

We spent the entire year without a math teacher. My pedagogical advisor took on conducting these classes because I didn't have the capacity. She had to put much effort into producing and correcting the material. (MANAGER2)

I wish they had a public tender for teachers. I'm exhausted. Students either. We don't want any more online classes. We need to go back to face-to-face teaching. (MANAGER2)

We consider the ATLAS.ti software word count tool to list the terms with the highest occurrence and, thus, ratify the choice of the most relevant topics of the two interviews. The results can be found in Table 1.

Table 1
Frequency of occurrence of terms

Terms	Relative frequency of occurrence
I	5.27%
Of	4.27%
What	3.85%
No	3.42%

From the recorded occurrences, we observe the negative feelings of the managers and the opportunity, during the interviews, to talk about their problems as drivers of all the online education processes.

When we asked if the students did the activities, MANAGER1 said that, as they did not have a teacher in the subjects she sent the material, less than half of the students participated, regardless of the form: WhatsApp or in writing. MANAGER2's perception of this topic was a little better. First, your school could take on hybrid learning permanently if it is well structured and with students who do not have internet access present at the school unit. Your school can reach more students.

However, MANAGER1 had a different view of online interaction than MANAGER2. As the MANAGER1 school is in a rural area, she believed that students who are rural producers, along with their families, would better participate in a hybrid way, especially during planting and harvesting periods, since these students' homes had internet access, in the same way, that they also had digital tools. She would like to broadcast the classes through YouTube to students far away while watching the face-to-face group. As the MANAGER2 school is in a slum, the difficulty with WhatsApp groups was greater, with printed activities essential for students to carry out activities. This manager abandons the idea of including technological tools or pedagogical practices mediated by digital technologies for her students.

3.2. Topics addressed by teachers

We considered the speeches of two teachers, who were called TEACHER1 and TEACHER2, both working in two different schools from the managers participating in the research. We consider the sentimental analysis applied by the ATLAS.ti software to the transcripts of the interviews of the two teachers, and we observed only negative feelings concerning the pedagogical practices linked by the Municipal Education System of Petropolis during the closing of the schools. The most prominent themes for this group were the lack of participation on the part of the students and the precarious nature of the classes offered through WhatsApp groups. Here are some excerpts from the speeches of these actors.

I am a Physical Education teacher. You know, it makes me sick to see how these classes are being linked together. To me, it's total nonsense. Someone needs to do something. I love my classes, but they're deceiving students and parents with this sort of thing. I can't do much for them. (TEACHER1)

I even opened a group video call via WhatsApp with the students. But nobody gets in. I don't know if they can't or are not interested. Some do the tasks; others deliver them wholly blank or with many errors. I feel frustrated, you know. Classes this way don't work for such small students. (TEACHER2)

We consider the word count tool linked by the ATLAS.ti software to verify the most frequent terms in the transcription of the interviews of the two teachers. The results can be found in Table 2.

Table 2

Frequency of occurrence of terms

Terms	Relative frequency of occurrence
of	4.78%
no	3.19%
to	3.19%
classes	1.99%
student	1.59%

We should note that, in August 2021, schools in the municipal education system of Petropolis resumed classes in the hybrid format, that is, some in-person students and others remotely. As it was still necessary to carry out social distancing and classrooms, for the most part, they did not support the total number of students if social distancing was carried out. The teacher should interact in WhatsApp groups during this period and conduct the same class in person. The two teachers who participated in the research teach in regions serving the popular classes. The frustration pointed out by the teachers corroborates all the difficulties described in Nuri & Özer (2022).

3.3. Topics addressed by family members

We chose two family members whose children are enrolled in two other schools, different from the previous four. We named these participants PARENT1 and PARENT2. Sentimental analysis performed by the ATLAS.ti software about the transcription interviews with the two family members, we observe the predominance of a negative feeling about the linked classes during the closing of the schools. The most relevant themes indicated by the participants were the lack of cognitive development on the part of their children, as well as the need to have a place where the children could stay while they worked.

I work as a charwoman in people's homes. During this period, I had to make do to have someone to guide them. I have a 15-year-old daughter, a 12-year-old, and an 8-year-old. My oldest daughter was responsible for taking care of the children. But doing the homework was difficult. The little ones didn't have a cell phone. I saved some money and bought two second-hand cell phones to do their homework in my neighborhood. Even so, my little one didn't understand much. I can't explain it either. He has not learned to read and is already 8 years old. I went to live in Piabetá (neighboring municipality) because there is a face-to-face school for him to learn." (PARENT1)

I must go out to work. My cell phone goes with me. And WhatsApp groups are on my device. They can only do their homework or ask questions with the teachers after 5 pm when I arrive. Despite that, I monitor them, and they do their homework. (PARENT2)

We consider the frequency of occurrence of terms from the word count by ATLAS.ti whose results are in Table 3.

PARENT1 notes that her youngest child needed pedagogical support that WhatsApp groups could not offer and that, as she is not a teacher, she was unable to guide him. PARENT 2 had older children: 11 and 14 years old. The eldest daughter helped the youngest, and thus they were able, with difficulty, to do their homework. And they also counted on the teachers' understanding, who answered their children's doubts when she was home.

3.4. Topics addressed by students

We observed the negative sentiment was predominant one more time in the sentimental analysis for the student interviews with the ATLAS.ti software. Two students' speeches that belong to other schools than the previous six reveal their dissatisfaction with classes by WhatsApp, and the link between face-to-face attendance and the school, part of a culture that has always been sustained in their daily lives. We named participants STUDENT1 and STUDENT2.

I have a friend who studies at Pensi (a private school in Petrópolis), and her classes are live. I saw some of her classes and thought that I would learn. But like that, without a teacher, I just can't do it with WhatsApp. I need the teacher to help me. (STUDENT1)

Today was the first day I went back to school in person. I wrote in the notebook. Now I'm studying. Doing only homework, I don't like it. The teacher must be in the room with me. (STUDENT2)

We consider the word count from ATLAS.ti for the interviews with the two students, the term with the highest occurrence was 'I' (6.67%), followed by 'no' (3.64%), 'what' (3.64%), and 'house' (2.42%).

From the term 'I' as the most frequent, we observed that students revealed their perceptions about online classes without many observations concerning other colleagues or problems in the class. Therefore, online classes did not collectively contribute to the development of skills and abilities, in the opposite direction of skills and competencies that a citizen of the 21st century wants. STUDENT 1 is 15 years old, and STUDENT 2 is 13 years old. Due to their age, we observed that they have greater autonomy to study alone. However, the school culture of face-to-face classes is still striking for them. They understand that to study, they need to be at school, despite having their smartphones, with internet access and skills to use the devices, in both cases. Such results corroborate the conclusions obtained by Baniomar (2022) regarding the academic level and the use of subjects, despite the aforementioned study being carried out in the university environment.

3.5. The Nethnography of WhatsApp groups

From the word counting technique, we observed that the preposition 'of' was the word with the highest relative frequency (7.75%), followed by the name of the school 'Abelardo' (2.27%) and 'List' (1.41%). The term 'List' is justified because, every day, MANAGER1 placed a header in the 'Attendance list' group, and students were required to put their names to validate their presence in classes. The word 'activity' (term used for what should be done each day) had a relative frequency of 0.65%, while the term 'doubts' (term of request for help from the teacher in the group) appeared in 0.32% of the posts. We observe little participation of students in the group. Their interactions were restricted to putting their name on the attendance list or asking about what time they could go to school to solve a bureaucratic problem if there would be a class on a specific day or the deadline for delivery of some activities.

We use the word count for the posts made in this group, and again, the preposition 'of' was the occurrence with the highest relative frequency (6.02%), followed by the first name (2.12%) and last name (2.08%) of the coordinator of the department responsible for the management teams. The low relative frequency of the terms 'students' (0.46%) and 'teachers' (0.30%) stands out so the posts referred little to these actors. The term 'platform' occurred with a relative frequency of 0.10%. In this group, there was a strong tendency to post about peripheral issues, such as the recurring complaint about the malfunction of the Educate at Home platform. There was no guidance on subjects specific to

online pedagogical practices in the posts, the group being a channel for complaints and not an environment for pedagogical discussion.

The word count for the posts of the teachers' WhatsApp group presented the term 'at' with the highest relative frequency (20.04%), followed by two abbreviations for the time '12 h (noon)' (11.33%), which indicates noon and '4 h (4 pm)' (8.72%), which indicates four in the afternoon. In practice, the group served as a point control post. Little information on pedagogical practices was linked or guidelines to interactive student service. The group was not used to exchange experiences but as an instrument for controlling teachers. The family members' WhatsApp group was not open to posts from these actors. The group was just a bulletin board for MANAGER 1. For this reason, no word count or observations were performed.

4. CONCLUSION

The present study presented qualitative research, outlined through a case study, which evidenced the fragility of the implementation of online education in Brazil in an emergency way, and without any consistent theoretical and methodological basis. The lack of infrastructure for the use of digital tools in Brazilian schools contributed to the fact that, during the closing of schools, there was not a good direction for the pedagogical practices in progress, leading to the ineffectiveness of the actions and the increase of social inequality, reproduced by the digital inequality. While private schools experimented with more adequate and productive solutions, Brazilian popular classes found themselves on the sidelines of the online educational process.

It was aimed at including the popular classes in the educational system after the COVID-19 pandemic; considering that innovative pedagogical practices perpetuate through digital technology, this work revisited the Critical Pedagogy of Paulo Freire, a guide of transformative pedagogical actions and practices to Brazilian popular classes. It was observed, through field research, that the emancipatory and libertarian principles of Freire's transformative education were not contemplated in the rushed actions of the implementation of online education for the popular classes. It was found that the WhatsApp messaging application proved to be an instrument of resilience for the research actors, but that it contributed little from a pedagogical point of view since there was no theory to support its use.

5. RECOMMENDATIONS

This research proposes a revisit to Freire's Critical Pedagogy (Freire, 2021), entitled 'Digital Critical Pedagogy,' which the following considerations should guide

•Development of a school culture in which digital culture is, in fact, present as part of everyday school practices.

•Educational policies of digital appropriation that promote digital equity.

•Construction of a school curriculum that incorporates digital aspects, based on digital practices of the students themselves and for the students themselves, in the same perspective as Freire (2021);

•Develop practices of digital resistance in the popular classes, increasingly inserting them into virtual learning environments from the perspective of Nemer's mundane technologies (Nemer, 2021).

We believe that mundane technologies such as WhatsApp can provide a liberating and equitable education in the digital age, starting from educational virtuality from the popular classes to the popular classes to the popular classes. However, the mere use of a tool such as WhatsApp without the proper meaning for popular classes does not contribute. As verified in the field research, education is a practice of freedom toward the desired digital equity for this group.

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