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Fighting for climate environmental education in Brazil: educative perspectives against the instrumentalization of human and nonhuman lives

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Brazilian socio-environmental coalitions and movements that fight for climate environmental education have invested in educative practices and perspectives against the instrumentalization and over-exploitation of human and nonhuman lives over the years. They seem to have learned that, to postpone the end of worlds it is necessary to always tell one more story. Ailton Krenak, Indigenous leader and Brazilian philosopher, teaches us that it is increasingly important to ask ourselves by whom and where these narratives emerge and toward what futures they point at. In this conceptual analysis article, we follow Krenak and ask what stories are being told about environmental communication in the Global South, specifically Brazil, and what futures we want to follow as environmental communication scholars. Following a literature review and empirical data on the recent Brazilian social mobilizations in favor of climate environmental education, we first analyze how the challenge of overcoming economic conceptions of development goes along with overcoming the instrumental vision of communication. We then discuss four epistemological tensions that challenge environmental communication in this counter-hegemonic movement: tactical and strategic, complexity and reduction, virtuality and grounding, and ancestry and acceleration. Finally, we then demonstrate how education, an epistemology of the South, contributes to the decolonial process of paradigmatic rupture of communication, guided by more plural perspectives such as *good living* (buen vivir).

KEYWORDS

climate communication, climate environmental education, education, global south, climate justice

1 To start the conversation

This conceptual analysis falls within the scope of the project “How can education help expand and qualify climate education practices in basic education in Brazil?” which since March 2024 has been developed by the School of Communications and Arts at the USP in an official partnership through a Technical Cooperation Agreement with the federal government (in the form of the Ministry of the Environment) and the São Paulo City Hall (in the form of the Municipal Education Secretariat). With funding from the Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP) (the São Paulo State Research Foundation), and under the Public Policy Research Program, this initiative is characterized by applied and experimental

research, with four major products to be completed by February 2026: (a) a public policy agenda with recommendations on how to deepen educommunicative practices to build sustainable and resilient schools (thinking about curriculum, school management, school buildings and physical space and their relationship with communities); (b) an open database with information on the collectives and organizations already working in Brazil to tackle the climate emergency from a dialogical perspective; (c) a training processes for public school educators on how to work on climate change using educommunication; (d) strategies for schools themselves to monitor and evaluate whether these efforts are generating effective local action (Biasoli and Brianezi, 2024).

The reflections and data we present here are supported by previously published results of this ongoing project. We therefore follow the guidelines for conceptual analysis texts established by Frontiers: do not present new data, but rather articulate and deepen the debate on already known information and concepts. From product 1 (public policy agenda), we draw on the source of the bibliographic review regarding the relationship between Brazilian public policies on educommunication and environmental education. From product 2 (database of collectives and organizations), which currently has 212 registered initiatives that will soon be open for public consultation on the portal of the Brazilian System for Monitoring and Evaluation of Public Policies for Environmental Education – MonitoraEA,¹ we selected the movements and organizations that will be mentioned throughout this article (Table 1)

It is essential to explain that, throughout the text, the term environmental communicators is not restricted to people with training or professional experience in the area. In line with the educommunicative paradigm, which understands communication as a fundamental human right and each person not only as a receiver, but also as a potential transmitter, it refers to all those engaged in the fight to confront the climate emergency through practices of mobilization and social action.

And finally, so that the reader can more easily guide themselves in the conversation that we propose throughout this conceptual analysis, it is helpful to present the general map that structures the text: first, in the introduction that will follow, we will defend the dual need - interconnected - to overcome instrumental conceptions both in communication (sender-receiver relationship) and in the environmental area (society-nature relationship). In the following section, entitled “Educommunication as an epistemology of the South,” we will present the Latin American educommunication paradigm and how it has supported socio-environmental mobilizations and public policies in Brazil. Then, in the section “Four interconnected tensions,” we will address four polarizations between which educommunicative practices linked to climate environmental education need to move: (1) Tactics vs. strategy; (2) Complexity vs. reduction; (3) Virtuality vs. grounding; (4) Ancestry vs. acceleration. In the “Discussion” section, we will discuss how these educommunicative practices can be a vaccine

and a remedy to combat the post-truth and post-politics that mark the climate emergency. Finally, in “Final remarks,” we will revisit the central arguments of this conceptual analysis and signal potential next steps for a research agenda.

2 Introduction

Overcoming economic conceptions of development must go hand in hand with overcoming the instrumental view of communication (Bordenave, 2012). Because both areas share the perspective of exploitation, of conceiving humans and more than humans as resources (Brianezi and Gattás, 2022), an overcoming of the instrumental view of communication needs to be linked to the deconstruction of the instrumental view of the modern conception of nature (Blotta and Brianezi, 2024). As Leff (2006, p. 288) reminded us, “the environmental crisis is the crisis of Western thought, of the metaphysics that produced the disjunction between being and way of being, which paved the way for the scientific and instrumental rationality of modernity that produced a fragmented and objectified world in its eagerness to dominate and control nature.” Bruno Latour (2004, p. 216) exemplified this notion as he said that “[t]he ecological crisis, as we have often noted, presents itself above all as a generalized revolt of means. Nothing and no one is willing any longer to agree to serve as a simple means to the exercise of any will whatsoever taken as an ultimate end.”

Around the world, treating another person (and nonhumans) as a means to a predetermined end is at the root of the prescriptive tendency that has marked hegemonic environmental campaigns (Leiserowitz et al., 2022; Lessøe et al., 2009; Nerlich et al., 2010). In Brazil specifically, this view is present in the limited and narrow approach that the topic of climate change receives in school curricula (Jacobi et al., 2015; Grandisoli et al., 2021). Climate change education (CCE) practices in Brazil are insufficient in quantity and coverage and often present “a content-based reading, such as passing on meanings of the techno-scientific potential, with a list of tips and practical suggestions of a behavioral, simplistic, reductionist and decontextualized nature” (Tamaio, 2010, p. 46) that is in line with an understanding of communication as an instrument, and not as a transformative tool.

Research on environmental education in schools has shown that, despite the growth and greater distribution of initiatives in terms of scope and content, there tends to be a predominance of an instrumental approach in environmental education practices in Brazilian schools (Fracalanza et al., 2013; Carvalho and Neto, 2024). And part of this more restrictive approach, generally marked by a conservationist content, is reflected in the minimal and superficial presence of environmental education in the National Common Curricular Base (BNCC), established in 2017, in dissonance with the critical perspective advocated by the National Curricular Guidelines for Environmental Education (DCNEA/2012) (Behrend et al., 2018).

It is therefore necessary to invest in training basic and higher education educators to include environmental and climate education in a permanent and transversal manner in the multiple curricular components of schools and universities, public and private, in teaching, research, and extension activities. And these training processes and their developments in schools and higher education institutions need to go beyond the prescriptive perspective and be based on dialogue (Brianezi et al., 2025).

¹ The MonitoraEA platform (<https://www.monitora.org.br/>) is hosted by the Brazilian National Institute for Space Research (INPE). The Educom&Clima project database (<https://sites.usp.br/educomeclima>) is expected to be available to the public from August 2025.

TABLE 1 Brazilian movements and organizations that served as examples for this conceptual analysis.

Organization or movement	Year of creation	Main characteristics	Role in the fight for environmental climate education in Brazil
Brazilian Fund for Environmental Education (FunBEA)	2011	A private fund of a public nature that seeks to expand and decentralize financing for environmental education in Brazil	Led the participatory Development of the Guidelines for Environmental Climate Education
School of Activism and Mobilization for Sustainability	2011	Civil society organization that supports activist groups through learning processes in strategies and techniques of non-violent and creative actions, campaigns, communication, mobilization and security and comprehensive protection	Supports organizations and collectives fighting for climate justice in several Brazilian states
Cemaden Education Program	2014	Program linked to Brazil's National Center for Monitoring and Alerting Natural Disasters (Cemaden), a federal agency linked to the Brazilian Ministry of Science and Technology	Through citizen science and edcommunication practices, it provides training for educators and civil defense agents with a focus on education for risk and disaster prevention.
Cambona	2014	Afro-Brazilian dance company that performs shows and offers Afro dance courses	Performed, in 2024, the show "How do the orixás see the climate emergency?"
Climate Reality Brazil	2016	The National Office of the US organization, created by Al Gore in 2006, seeks to train and articulate climate leaders	Creation and implementation of the Climate Journeys, animation of the national Climate Fresh network, and executive secretariat of CBEC
Plant-for-the-Planet Brazil	2017	The National office of the German organization that aims to plant a trillion trees worldwide	Provides training to educators and holds Academies to train youth ambassadors
Schools for Climate Movement	2021	Network made up of more than 1,100 Brazilian schools (more than 70% of them public) committed to tackling the climate emergency	It provides free monthly training courses, produces and curates teaching materials and sequences, and organizes Climate Education Week and the Schools for Climate award
Brazilian Coalition for Climate Education - CBEC	2023	Network composed of 80 Brazilian organizations and social movements that seeks to strengthen and qualify the treatment of the climate emergency in education (especially formal education)	Advocacy for the inclusion and qualification of climate education in school curricula; creation of the Technical Chamber for Environmental Climate Education in the Brazilian Forum on Climate Change

Source: authors (2025).

As we engage in the dissemination of climate change information in education settings, we need to think about transmitters and receivers. In communication research, we do not see transmitters passively sending information or receivers as automatic decoders (Lasswell, 1971; Lazarsfeld and Merton, 1971)—nor do we see them as naïve puppets who are easily manipulated (Adorno and Horkheimer, 1985). Therefore, communication and education must be understood as cultural processes (Martín-Barbero, 1997), which helps us to construct a shared sense of the world. This cultural process requires, as Sodré (2023, p. 20) has argued, a paradigmatic rupture from the “mechanistic and positivist epistemology of the social sciences forged since the end of the European 18th century”:

Communication as a science of the common means producing knowledge with wisdom, discourse with dialogue, action with

pause and reflection: a field of transitive meaning, recognizable by the Other. Far from being an epistemological appendage of the 19th-century social sciences, communication implies a paradigmatic break, a new expansive field in which the object of knowledge moves from the epistemic subject's abstraction to the empirical subject who, in turn, is not the sovereign of the Anthropocene, but the concrete partner of Earth and machines (Sodré, 2023, p. 27).

The way we communicate affects our perceptions and helps shape our actions. Communication, therefore, not only reflects these aspects highlighted by Sodré, but helps constitute the relationships between human beings and the environment (Milstein, 2009). This is why, in his classic essay “Nature's ‘Crisis Disciplines’: Does Environmental Communication Have an Ethical Duty?,” Cox (2007) argues that

environmental communication has an ethical duty in the face of contemporary ecological crises. Hence, environmental communication holds with it the challenge of deconstructing naturalized categories that support hegemonic rationalities while giving visibility and political relevance to new proposed categories—categories that do not treat the public as an object of manipulation and control (Brulle, 2010).

This ethical duty toward deconstructing and surfacing different rationalities about our relationships is increasingly latent in climate education, as well as across the conflicts and world projects in which climate education is immersed. Leite (2024, p. 3) observed climate education practices in schools in the United States and Canada and the ways these practices approach or distance themselves from a transformative perspective. She identified that “[h]ow the purpose of CCE is defined—whether it is to support sustainable development or transform unjust economic systems—influences how CCE is ultimately designed and practiced.”

It is in the context of tension and articulation of CCE that the *Coalizão Brasileira pela Educação Climática* (Brazilian Coalition for Climate Education) (CBEC) emerged in June. CBEC is constituted by 80 civil society organizations and social movements. Due to CBEC’s commitment to review the National Policy on Climate Change—which includes the participatory drafting of the new Climate Change Plan that has education, research, development and innovation as one of its five cross-cutting axes—the coalition’s mobilizations contributed to education being included in the *Contribuição Nacionalmente Determinada* (Nationally Determined Contribution) presented by the Brazilian government at COP-28. In this sense, the coalition is allied to UNESCO’s international movement *Greening Education Partnership*, proposed during COP-27, which has the ambitious goal of reaching the national curricula of 90% of the world’s countries. On the other hand, CBEC emphasizes the need for greening of curricula to take place through the lens of climate justice, overcoming the technical and prescriptive approach that usually marks so-called education for sustainability (Biasoli and Brianezi, 2024).

Another achievement already made by CBEC was the creation of an advisory body to the federal government called the *Câmara Técnica de Educação Ambiental Climática no Fórum Brasileiro de Mudanças Climáticas* (Technical Chamber for Environmental Climate Education in the Brazilian Forum on Climate Change). It is significant to mention that although CBEC uses the term “climate education” in its name, the Technical Chamber is called *Climate Environmental Education*. This update came from the recognition of the contribution that the critical perspective of environmental education brings to tackling the climate emergency—and the need to value and implement the public policies that Brazil already has in this area, such as the *Política Nacional de Educação Ambiental* (National Environmental Education Policy) (PNEA, Law 9795/1999).

The PNEA was amended in July 2024 by Federal law no. 14.926/2024, which included more prominently in the National Environmental Education Policy the themes of climate change, biodiversity protection, and risks and vulnerabilities to socio-environmental disasters. Now, it is necessary to update the National Environmental Education Program (ProNEA), doing justice to these changes and helping to operationalize them. And one of the signs that there is a growing social demand to deepen and update the critical perspective that marks environmental education public policies in Brazil is that the second most voted proposal at the 5th National Environmental Conference concluded in May of this year, out of a

total of 100 approved, was “Implement **critical and transformative decolonial environmental education** as an integrated, continuous and permanent practice at all levels and modalities of education, **in an inter and transdisciplinary way and connected to the territories, integrated with themes such as historicity, social and climate justice, environmental racism**, traditional knowledge, mitigation, adaptation, conscious consumption, ocean culture and one health” (our emphasis).

Using only the term climate education could lead to a content-based perspective, guided only by climate science, as if the solution to the climate emergency could be technical and limited to reducing greenhouse gas emissions. This goes against Brazil’s long history of critical environmental education, inspired by popular education and communication practices.

Because of that, the inclusion of “environmental” in the expression climate education - or, seen from another angle, the joining of climate in environmental education - was also the choice of the *Fundo Brasileiro de Educação Ambiental* (Brazilian Fund for Environmental Education) (FunBEA) and the *Cemaden Education program*, linked to the *Centro Nacional de Monitoramento e Alerta de Desastres Naturais do Brasil* (Cemaden) (National Center for Monitoring and Warning of Natural Disasters in Brazil) when they published their *Guidelines for Environmental Climate Education* (Trajber et al., 2023). Not by chance, in its 10 guidelines and in the detailing of them, a critical perspective is present, as can be seen in this example:

2° GUIDELINE - Environmental education is a powerful process that brings political and ethical meaning to confronting the crisis of civilization and the climate emergency, going beyond, and breaking with the transmission of hegemonic developmental thinking. (...)

2.2 Creating dialogic processes on public communication, explaining its controversies and tensions in the sciences, in research processes and in transmedia;

2.3 Communicating scientific and artistic evidence, their methods and creations, dealing with different temporalities and scales, establishing the local-global relationship without falling into a misleading perception of totality;

2.4 Overcoming the concept of objective knowledge distanced from people, promoting the collaborative production and communication of different types of knowledge through citizen science and participatory practices (Trajber, 2019, p. 16).

It is important to highlight that the *Guidelines for Environmental Climate Education* was designed in a participatory process involving members of the CBEC, of which FunBEA is a part of. The first part of establishing these guidelines was by doing bibliographical research on environmental education, climate education and climate change practices in Brazil from 2016 to 2022, which resulted in 99 documents being analyzed in search of good practices and lacunas in these areas. The second stage was to hold focus groups with 25 experts in environmental climate education from universities, with members from the third sector and the Brazilian government. Finally, the third stage on the guidelines’ development was the submission of a draft to an online public consultation, which was attended by 236 people (Biasoli and Brianezi, 2024).

Implementation strategies 2.2, 2.3 and 2.4, linked to the 2° Guideline is in dialogue with the work of Bruno Latour (Brianezi,

2024), who argued that the opposition between nature and society is linked to the opposition between realism and idealism, in which he demonstrates how both are artificial and authoritarian. The climate emergency – which Latour (2020a, 2020b) prefers to call climate mutation, recognizing that it is a new regime – calls into question both supposedly objective certainties and multiculturalist tolerance, calling for scientists (from the so-called exact, human or biological sciences) to step down from their pedestal and assume the political character of their work. For communicators, there is a need to recognize scientific data that is fundamental to tackling the climate emergency as uncertainties that are part of the process, and not as decontextualized universal truths that give reason to discredit the scientific data (Brianezi, 2024). This is where educommunication, an epistemology of the South, can help environmental communicators around the world create a counter-hegemonic movement that contributes to a decolonial process.

3 Educommunication as an epistemology of the south

Educommunication is a field of practice and study with great potential to contribute to the decolonial process of paradigmatic rupture in communication, and also the very concept of development due to its closeness to more plural and integrated perspectives of sharing the world, such as *good living* (Brianezi et al., 2023), which will be further developed later. Educommunication draws on the practices of communication and popular education in Latin America, understood as necessarily linked processes with emancipatory potential (Freire et al., 1985). Over the last 25 years, it has been consolidated in Brazil as an area of knowledge and intervention, institutionalized in academia and public policies (Alves and Viana, 2020; Brianezi and Gattás, 2022).

The emergence of educommunication in Latin America is connected to the struggles for the effectuation of the right of communication. These struggles are seen from a “dialogical and reciprocal model, in which access and participation have become essential factors” (Mattelart, 2009, p. 41). Because of its Latin American origin, educommunication can be conceived as one of the so-called epistemologies of the South (Rosa, 2020). Educommunication’s Latin American roots position it as part of the decolonizing wave of thought based on the possibilities of intervention, contestation and (r)existence (to exist within the counter-hegemonic – as resisting).

Within educommunication, the critical reading of the media is added to collaborative media production and the democratic management of communication, understood as a right (not a commodity). Thus, it dialogues with the Global North approaches of media literacy predominant in the United States (Hobbs, 1998) or media education gestated in Europe (Pavlič, 1987), going further in its commitment to the process of social struggle for greater justice and equity.

The Rede de Comunicação, Educação e Participação (Rede CEP) (Communication, Education and Participation Network), established in Brazil in 2004, brings together civil society organizations and research centers. Rede CEP brought forward the following definition of educommunication at a meeting held in 2009:

[educommunication] is a set of processes that promote the formation of politically and socially participative citizens, who interact in the information society as senders and not just consumers of messages, thus guaranteeing their right to

communication. Educommunicative processes promote horizontal dialogic spaces that deconstructs power relations and guarantees access to authentic, quality communication at local and global levels. As such, educommunication necessarily includes a critical perspective on mass communication, its processes, and mediations (Soares, 2011, p. 38).

In 2004, educommunication was recognized by law by the São Paulo City Council, thanks to the visibility achieved with the Educom. Radio project, developed in 455 municipal schools in the capital between 2001 and 2004 in partnership with the Universidade de São Paulo (USP) (University of São Paulo). Currently, the Rede Municipal de Educação de São Paulo (RME-SP) (São Paulo Municipal Education Network)—with more than 1 million students—uses educommunication as one of its pedagogical strategies, having educators continually engaging in educational qualifications and trainings (known in Brazil as *ações de formação continuada*) (Brianezi et al., 2023).

The link between the practice of educommunication and socio-environmental struggles in Brazil is so strong that the term socio-environmental educommunication emerged from the appropriation made by environmental educators and was recognized in 2006 by the Ministry of the Environment as a federal program (Brianezi and Gattás, 2022). Since 2011, educommunication has been central to the Estratégia Nacional de Comunicação e Educação em Unidades de Conservação (ENCEA) (National Strategy for Communication and Education in Protected Areas) advocated by the Brazilian federal government. For ENCEA, it was established that communication and education plans required for protected areas, by law, must be drawn up and implemented not only by specialists, but based on the practices and knowledge of the communities themselves living in the territories in question (Menezes, 2015).

More recently, educommunicative principles permeated the aforementioned 10 Guidelines for Environmental Climate Education from FunBEA and Cemaden Educação, with the term appearing explicitly in the document linked to the following specific guideline:

3° GUIDELINE - Promotion of participatory methodologies, innovative practices and appropriate technologies aligned with educational processes that actively and inclusively engage multiple social actors in the protection of their communities with socio-environmental sustainability, risk management, reduction of vulnerabilities, going beyond and breaking with the transmission of hegemonic development thinking. (...)

3.4 Carrying out socio-educational interventions, with ecopedagogical practices, interactive activities, local research, case studies, **educommunication**, public debates, creation of pedagogical materials (printed, videos, online simulations, virtual field trips and other digital resources), creating opportunities for their construction in each territory of life² and its interconnections (Trajber et al., 2023, p. 17, emphasis added).

2 The expression territories of life, here, is inspired by the concept of territory consecrated by the Brazilian geographer Milton Santos (2006): not only a

4 Four interconnected tensions

Educommunication holds exceptional potential to environmental communicators, especially those working on the intersections of climate change communication and education. However, there is a need to navigate significant epistemological tensions that challenge environmental communication in this counter-hegemonic movement. We now turn to four different tensions that environmental communicators will need to acknowledge and navigate as they approach educommunication: tactical and strategic, complexity and reduction, virtuality and grounding, and ancestry and acceleration.

4.1 Tactics vs. strategy

French historian [Certeau \(2005\)](#) differentiates between strategy and tactic, describing the former as the calculated action of those with power and the latter as the possibility of projection for those working in the field of resistance. Climate environmental education—from an educommunicative perspective, and due to its counter-hegemonic nature, positions itself as a hacker of dominant logics:

The space of a tactic is the space of the other. Thus, it must play on and with a terrain imposed on it and organized by the law of a foreign power. It does not have the means to keep to itself, at a distance, in a position of withdrawal, foresight, and self-collection: it is a maneuver “within the enemy’s field of vision” (...) ([Certeau, 2005, 37](#)).

The tension between strategy and tactic, despite representing an asymmetry of forces, is not marked by submission. On the contrary: the field of tactic, despite being that of those considered weak ([Certeau, 2005](#)), is one of irreverence and insurgency, of disputing practices and meanings. And so, it comes close to the classification made by Spanish sociologist [Castells \(1999\)](#) in relation to identities according to their place in power relations. Castells argues that we may see legitimizing (dominant), resistance (stigmatized), or project (revolutionary) identities. The strategy is linked to the legitimizing identity, but it is common for the stigma (resistance) to become a force for mobilization (project). In other words, it is in tactic that there is the greatest potential for transformation.

Following Castells’ understanding of identities and the connection to tactic, we can think about activist Julia Butterfly Hill, who in 1997 climbed an ancient tree (which she named Luna) and remained there for 738 days (many of them under siege by logging companies, without food or rest). She became a celebrity, the subject of films and even a song by the Red Hot Chili Peppers. Her campaign was permeated by conflicts and paradoxes through her tactical use of communication and hacking of hegemonic strategies ([Fox and Frye, 2010](#)). This logic of using campaigns as environmental tactic, even though not homogenous in nature, marks the emergence of environmentalism in the Global North, which arises in a symbiotic relationship with the media ([Castells, 1999](#)).

biophysical space, but mainly a social space, in which individual and collective identities are created and supported by a sense of belonging to the place.

As environmental campaigns expanded into the Global South, the hacking of hegemonic strategies used in campaigns deepens and its appropriation by non-market tactics highlights other tensions and possibilities. One example is the civil society organization *Escola de Ativismo e Mobilização pela Sustentabilidade* (School of Activism and Mobilization for Sustainability), created in Brazil in 2011 by former members of Greenpeace’s national office. Their creation was precisely done to teach hegemonic mobilization strategies that could be appropriated by social movements. First author, Brianezi, was part of the creation of this organization. During her first 3 years of service, whenever she tried to disseminate educommunicative practices, her colleagues reminded her that there was an urgency for results and, therefore, the objective of *Escola de Ativismo e Mobilização pela Sustentabilidade* was not emancipatory education, but strategic advocacy. Today, however, as the group celebrated its 10th anniversary by honoring the centenary of Brazilian pedagogue Paulo Freire, they have a specific sector dedicated to education, which works with popular education and communication logics and practices ([Dias et al., 2021](#)).

The need for critical articulation of the tensions between strategy and tactic is ever present within individuals and institutions. Specifically, within the relationship between local offices of international organizations that promote environmental climate education we highlight two examples. First, the organization *Plant-for-the-Planet*, that has a German origin and a methodology validated by UN Environment and is present in 64 countries. Their goal is to plant a trillion trees around the world and their approach is toward using children and young people as protagonist of their story. Arriving in Brazil in 2017, the organization’s tendency to replicate European examples locally was deconstructed by the local team, which faced resistance:

Without the approval of the German headquarters, the team in Brazil (made up of the first author and one the organization’s project coordinators) authorized the teenagers and young people involved to change the presentation. The changes were significant, but they did not lose the message. The presentation they suggested is still used today in activities throughout Brazil. The German headquarters knows about the changes but has never released the presentation used in its materials for download on its website (it continues to suggest the old model) ([Araripe, 2020, p. 36](#)).

The second example, the organization *Climate Reality Brasil*, also located in Brazil as a branch of *Climate Reality*, an international project created in 2006 in the United States by the influential Al Gore, who in 2007 won the Nobel Peace Prize for his mobilization against climate change. *Climate Reality Brasil* was established in 2016 with the merging of the former *Centro Brasil pelo Clima* (Brazil Climate Center). Since 2020, the group has held the *Jornadas pelo Clima* (Climate Journeys), a process of training and mobilizing grassroots educators that has been recognized as a social technology by the *Banco do Brasil Foundation* and which has helped *The Climate Reality Project*, as a whole, to place greater emphasis on the fight for climate justice ([Brianezi et al., 2023](#)). It was largely from the mobilization resulting from the *Climate Journeys* that CBEC emerged, whose executive secretariat is *Climate Reality Brasil* ([Biasoli and Brianezi, 2024](#)).

These two examples aforementioned demonstrate the tensions between tactic and strategy used in environmental organizing and campaigns in Brazil. Grassroots tactics hack top-down environmental institutional strategies in order to disseminate emancipatory and participative goals in an individual, team based effort within larger organizations that then either incorporate these tactics into their repertoire of strategies, or are completely neglected in order to maintain certain strategic values associated with the organizations. Next, we highlight how complexity and reduction permeate environmental climate education in Brazil.

4.2 Complexity vs. reduction

Complexity was defined by Morin (2005) as the interconnection of heterogeneous elements that influence each other within a system, present in the multiple dimensions of reality, which can hardly be adequately approached from disciplinary perspectives or from a linear relationship of cause and consequence and which require “a principle of explanation richer than the principle of simplification (separation/reduction)” (Morin, 2005, p. 30). Reduction refers to the process of coding (selection and editing) of reality, which Bourdieu (2004) demonstrated is intrinsic to communication, an exercise of symbolic power that always carries a degree of arbitrariness but is inevitable for establishing connections and coexistence, especially between different habitus.³ Therefore, the tension between complexity and reduction appears in educommunicative practices that broaden the debate on climate emergency, trying to promote the necessary cuts and translations for communication between different fields of knowledge and agents without falling into simplistic reductionism.

For us to be able to dialogue and live together, we need to recognize conflicts and to exercise a “risky diplomacy” (Latour, 2020a). We need to find common vocabularies and level the understanding of key terms that technical language tends to make inaccessible to non-specialist audiences—a form of exercising colonialist authority (Gómez, 2023). This exercise in translation is not just linguistic but always also cultural, in which plain language techniques can contribute greatly (Fischer, 2018). In other words, to communicate simply without being superficial, we need to dialogue, listen, and connect knowledge and experiences (Brianezi, 2024). This is what motivated Alfredo Pena-Vega to write “Os sete saberes necessários à educação sobre as mudanças climáticas” (Seven complex lessons in education on Climate Change), taking up the proposals made by his father-in-law Edgar Morin in his classic 1999 work “Os sete saberes necessários para educação do Futuro” (Seven complex lessons in Education for the future):

The idea of writing this essay stems from a simple realization: building an awareness of climate maladjustment undoubtedly

³ Bourdieu (1989) created the concept of habitus to combat structuralist determinism and draw attention to the creative power of individuals, without forgetting social inheritances and conditioning. Habitus would therefore be a structured structure: the division into logical classes that organizes the perception of the social world and, in turn, incorporates the division into social classes (Bourdieu, 2007).

involves learning and teaching young people about the climate. It is true that it is not a question of characterizing “climate change education” as “general theory,” nor of training future super-specialists (we know that hyper-specialization breaks down the complex fabric of reality), but of offering critical knowledge that can help them question, in the spirit of the human condition of young people, about the multiple interactions that cover climate change today (Pena-Vega, 2023, p. 36).

This perspective is in line with what Stengers (2023) has called as efforts to build *public intelligence of the sciences*, replacing the known *public understanding of the sciences*. In place of literacy, and in place of the pursuit of the possibility of decoding scientific results and methods that are supposed to be universal, comes the search for the ability to approach this knowledge and methods in a contextualized, grounded way (Latour, 2020b), what will be the focus of the next section.

We need to find common terms that reduce complexity, but that we cannot forget that describing is always prescribing (Latour, 2020a). Facts and values are intertwined and, in communicating them, our frameworks produce effects, as shown by the case of the narrative shift from global warming to climate change (Lakoff, 2010). In Brazil, mobilizations for environmental climate education use climate crisis and climate emergency as terms to attempt a call to action (Biasoli and Brianezi, 2024).

At all times, the tension between reduction and complexity manifests itself, often connected to the tension between tactics and strategy, since the frame and terms that tend to become legitimate (and even institutionalized) are those linked to dominant ideas and classes (production of hegemony). One example is the name of the Cemaden Education Program, which, as already mentioned, is linked to Brazil’s National Center for Monitoring and Alerting Natural Disasters (Cemaden). This federal agency linked to the Ministry of Science and Technology was created in 2011 after landslides in the mountainous region of the state of Rio de Janeiro claimed many lives and received significant media attention. Three years later, the institution’s educational arm was born, seeking to broaden the perception that the natural disasters that inform Cemaden’s name are actually socio-environmental:

Thus, transforming the understanding that rain is a natural phenomenon, but landslides are socially constructed processes through a network of generating factors that contribute to maintaining unsustainable scenarios is more than important, it is fundamental and urgent. Denaturalizing Brazilian disasters is a conditioning aspect for any educational process (Matsuo, 2023, p. 23).

Another concept under dispute in climate education practices in Brazil is that of adaptive capacities and resilience (Jesus et al., 2024). Cemaden Education Program, for example, has argued that environmental climate education should work from the perspective of transformative resilience instead:

As Mark Pelling (2011) ponders, there are several ways of understanding the term resilience when it comes to disaster-related social change. The most common is that of resilience as a return to stability and thus back to the situation before the disaster (but if the disaster happened, it was already unsustainable). The

other form is transition, when incremental social changes occur under the exercise of rights and the law. And the most complex form of resilience is transformation, based on critical awareness and requiring new rights, changes in the political regime and the economic system. Education can strengthen communities through transformative resilience, which depends on a critical understanding of the social risk factors that produce vulnerability to disasters, as well as the search for sustainable ways of living (Trajber, 2019, p. 58–59).

Even though permeated by the tension between reduction and complexity (Morin, 2005), what the mobilizations for environmental climate education in Brazil have shown us is that tackling the climate emergency requires an effort to establish a dialogue of knowledge between different disciplines, epistemologies and practices (Hajer, 1995; Dryxek, 2005; Leff, 2006). These educommunicative practices signal that although reduction is part of the communication process, it does not need to be done in an authoritarian manner. They have replaced dogmatic certainties with convictions that are recognized as incomplete, inviting dialogue, so that the possibility of developing and adopting new terms and frameworks remains open to multiple voices and narratives (Brianezi, 2024).

Virtuality and grounding are another set of tensions needed to be faced, and which are equally connected to the tensions between tactics and strategy and between complexity and reduction. Through highlighting different movements and organizations, we showcase ways in which a need to shift perspectives can reformulate ways of thinking and engaging with communities.

4.3 Virtuality vs. grounding

Here, we address the tension between virtuality and connection inspired by the work of Latour (2020a, 2020b, 2021). Virtuality refers to the ideal of superiority and supposed self-sufficiency of human beings and their technologies, to the Promethean illusion that denies and distances us from the concrete conditions of our existence. Grounding is the necessary process of reconnection, of thinking and acting from the place, from belonging to the soil, but without the illusion that there is a totality to be grasped or well-defined limits. In Brazil's mobilizations for climate environmental education, the tension between virtuality and grounding in educommunication practices manifests itself mainly in two areas: (a) in the use of digital communication and information technologies; (b) in the relationship between local and international organizations and movements.

Facing the climate emergency through the lens of environmental justice requires first dealing with different temporalities and scales, and secondly by establishing the local–global relationship that has been widely claimed—without falling into the authoritarian illusion of global totality. In order to orient ourselves politically in the Anthropocene, we need to both link ourselves to the ground and globalize ourselves - in the sense of establishing connections (Latour, 2020b).

The media, especially digital media, can be a powerful weapon in the process of globalization, provided there is a political-pedagogical intentionality (López, 2014). Otherwise, we run the risk of replacing - and not integrating - effective mobilization with virtual engagement (Latour, 2021) or of believing in the myth of the neutrality and

deterritorialization of the internet, hiding its character as a physical structure, geolocated and crossed by power relations (Coding Rights, 2024).

In Brazil, the Movimento Escolas pelo Clima (Schools for Climate Movement) is showing that it is possible and necessary to combine digital and analog communication tools. With 1,100 participating schools from all five regions of the country, 70% of which are public schools, the movement organized its second Climate Education Week in 2024. During their second event, different examples of student work were presented. One of them was of a school in which the student council holds monthly face-to-face debates with virtual transmission to all classrooms. Another example shared was a “talking wall,” which included a series of images about the Sustainable Development Goals produced by students and was physically displayed in the corridors, with QR codes for complementary virtual content. Another memorable example was of a kindergarten where teachers and children produced a podcast as a strategy for involving families.

Dealing with the tension between virtuality and grounding also requires attention to the attempt to impose universalist environmental narratives from the Global North. In Brazil, it is common for textbooks to exemplify socio-environmental disasters based on events such as earthquakes, volcanoes and tsunamis (which do not happen in Brazil), and not to deal with floods and landslides, which are recurrent (Matsuo, 2023).

In this respect, the case of Plant-for-the-Planet is once again very illustrative. Realizing that it was not enough to hire local representatives to achieve the goals of one trillion trees planted and 1 million ambassadors trained worldwide, the organization began opening offices in strategic countries in 2015, starting with Mexico. When it arrived in Brazil in 2017, the organization was forced to recognize that its methodology needed concessions and adaptations:

The German headquarters had a very clear stance that the methodology was stamped by UNEP, which is a UN program, and they certainly knew what they were doing when they recognized that it was international. It took some negotiation for the German head office to accept that the organization be called “Plantando pelo Planeta” (Plant-for-the-Planet in Portuguese) in Mariana and that the target audience be teenagers and young people aged 12 to 19, whereas in the country of origin the target age group is 8 to 12. The organization was a newcomer to Brazil and was not in a position to impose so many requirements (Araripe, 2020, p. 35).

Plant-for-the-Planet's first action in Brazil took place in Mariana, in the state of Minas Gerais, where the tragic collapse of an ore dam had occurred 2 years earlier. The pilot workshop with 10 teenagers was a failure because they did not identify with the presentation, which did not include any images or information from any South American country. It ended by asking for donations for planting, when the city was in the midst of a severe socio-economic crisis and the students' families had lost their homes and jobs (Araripe, 2020).

Surface level engagement is unable to establish connections and understand where people are coming from when engaging in emancipatory education. Grounding plays a key role in centering communities in larger global conversations. In the last section, we bring forward ancestry and acceleration; two different cultural values that bring us to the realization that our future is ancestral.

4.4 Ancestry vs. acceleration

Ancestry is the acknowledgment that we carry within ourselves and in the world the legacy of our ancestors' experiences and knowledge, and that they manifest themselves even on the spiritual and dream level. It is to value the resistance and existence of epistemologies and practices not guided by Western modernization and its instrumental rationality, which can contribute to the necessary re-enchantment of the world (Krenak, 2019, 2022). Acceleration is the exponential increase, since the second half of the last century, in scope, intensity, and speed of the super exploitation of human beings and so-called nature, seen as resources for capitalist accumulation, legitimized by the ideal of progress and productivism (Han, 2017a, 2017b, 2018). There is tension between ancestry and acceleration in educommunicative practices that face the climate emergency, especially because the severity of the crisis demands urgent responses. However, building them requires time and logic to cope with acceleration:

The paradox is that we have little time for reflection if we want to react in time; the paradox is that we have to accelerate educational responses to teach and learn to live more slowly, to respect the limits of the biosphere and the limits where the dignity of life is possible. I cannot imagine a greater source of uncertainty for an emancipatory environmental education project than this contradiction: accelerating to slow down (Layrargues and Sato, 2024, p. 10).

As the Brazilian environmental educator and researchers Philippe Layrargues and Michèle Sato pointed above, we are indeed facing a paradox. It positions us to tackling climate emergency as urgent and with immediate need for action, while, at the same time, in order to stop the climate emergency, we need to decelerate. The productivism that has led us to a society of tiredness, marked by positivity (Han, 2017a, 2017b) needs to be questioned, including in our social mobilization tactics. The affirmation "yes, we can" needs to be accompanied by the reflection "but should we?" (Brum, 2021).

Situating ourselves in apocalyptic times (Latour, 2020a) is an opportunity - and most likely a necessity - to learn from the peoples who, since colonization, have resisted the ends of the worlds, the rapid and overwhelming advance of the exploitation of their bodies and territories⁴ (Krenak, 2019). And this interconnected resistance and existence involves dreams (Limulja, 2022; Kopenwa and Albert, 2019)—the ability to live and tell stories of re-enchantment:

Our current time is an expert in creating absences: of the meaning of living in society, of the very meaning of the experience of life. This generates a great deal of intolerance toward those who are still capable of experiencing the pleasure of being alive, of dancing, of singing. And there are many small constellations of people scattered around the world who dance, sing, and make it rain. The

kind of zombie humanity we are being called upon to join cannot tolerate such pleasure, such enjoyment of life. So, they preach the end of the world as a way of making us give up on our own dreams. And my provocation about postponing the end of the world is precisely that we can always tell one more story. If we can do that, we'll be postponing the end (Krenak, 2019, p. 19).

This quote from Krenak shows us how recognizing ancestry is not only a matter of time and pace, but mainly counter-hegemonic approach, of questioning productivism and the acceleration of the over-exploitation of humans and the more-than-human. Telling one more and new stories, from other voices and perspectives, helps us understand that the climate emergency is urgent. Still, its roots go back a long way: the colonization of territories, minds, and hearts. There is a rush to face it, but precisely for this reason, we need to go slowly, without giving in to solutions and narratives imposed by productivist logic.

It is necessary to recognize that the future is ancestral (Krenak, 2022), that every being's life on Earth is interconnected to the whole in constant metamorphosis, which blurs the boundaries between past, present, and future (Coccia, 2020). Consistent with this understanding, social movements in the Global South have argued that solutions for tackling the climate emergency must come from the territories, from social technologies, including their tactics for environmental climate education.

Mexican researcher Escutia (2023) recounted that an old man consoled him with a story as soon as he arrived in a peasant village in Chiapas and gave an unsuccessful lesson on global warming:

While he looked at me with tenderness, with that tenderness that only the peasant who has felt the wisdom of the earth and is grateful for what it generously gives him, the ejidatario (shared territory owner) told me that, after a long journey and with much enthusiasm, recent graduates from Normal School (trained teachers) arrived and presented themselves to the community saying that they brought good news: with the Educational Revolution, their children will learn by playing, they will learn in contact with the earth, they will learn by embracing their grandparents, they will learn in community. Their joy at being teachers was evident. Those present looked at each other in silence for a while that became long time - he told me -, until the oldest of the community expressed clearly: "forgive us, teachers, but this was just the way we raised our children before the school was brought to us with so many educational revolutions" (Escutia, 2023, p. 192).

This story, by Escutia, illustrates how hegemonic logic tends to disregard knowledge and practices anchored in ancestry. When permeated - albeit unconsciously - by the ideology of acceleration, it promotes the fetish of the new. In contrast to this thinking anchored in the ideology of progress and development, the paradigm of *good living* (Acosta, 2016) emerges in Latin America and has taken center stage in the debates of the Câmara Temática de Educação Ambiental Climática do Fórum Brasileiro de Mudanças do Clima (Climate Environmental Education Thematic Chamber of the Brazilian Forum on Climate Change).

The expression comes from the Andean Amazon and refers to the original languages of Kichwa in Ecuador (sumak kawsay) and

⁴ According to Castro-Sotomayor (2019), *territorio* and *territorialidad* are "Indigenous" inform[ed] positions about reclaiming land rights, revaluing natural resources, and socially and politically re-appropriating nature within the historical constructs of the nation state and its government structures" (p. 52).

Aymara in Bolivia (suma qamaña). The best translation to Portuguese would be *vida em plenitude* (whose literal translation into English would be *the plentiful life*),⁵ materialized in 13 principles: knowing how to eat, knowing how to drink, knowing how to dance, knowing how to sleep, knowing how to work, knowing how to meditate, knowing how to think, knowing how to love and be loved, knowing how to listen, knowing how to speak, knowing how to dream, knowing how to walk, knowing how to give and receive (Mamani, 2010).

In 2008 and 2009, respectively, Ecuador and Bolivia approved national constitutions in which they legally affirmed themselves as plurinational states, inspired by the idea of a pluriverse of good living (as opposed to the colonialist universe) (Brianezi et al., 2023). The institutionalization of the term has been permeated by battles over its practical meaning, especially in public policies (Gudynas, 2016). Even so, good living has gained strength in Latin America, including in Ecuador and Bolivia, as a concept-movement for articulating the Global South around decolonizing ideals that offer alternatives to the commodification of nature (Mamani, 2010; Arkonada and Santillana, 2011).

In line with the paradigm of good living, the fight against environmental racism has also become increasingly present:

There is an urgent need to recognize that there is no climate justice without racial justice. Without including the debate on traditional peoples, quilombola⁶ communities, and the racial debate, we will continue toward a model of neo-colonialism, a model that prioritizes the exploitation of planet and bodies (Belmont, 2023, p. 16).

Along the lines of our proposed paradox of urgency and deceleration (“let us go slowly because we are in a hurry,” because we need deeper changes that precisely counter the productivist acceleration), an example of mobilizations in Brazil that have challenged acceleration and drawn strength from ancestral roots is the Afro-dance company Cambona, which has been operating in São Paulo for 10 years and in 2024 premiered the dance show “How do the orixás⁷ see the climate emergency?.” In their work, they draw on ancestral religious practices and knowledge in order to make connections to the current climate emergency and ways we can think about past, present and future without tension, but as a continuum that can help us see alternative futurities.

When we look at the 13 principles of *good living*, we realize that the tension between ancestry and acceleration presented in the examples highlighted in this section does not just refer to time and speed when one look for more emancipatory and transformative type of communication and climate environmental education practices. It concerns, especially, the need for the re-enchantment

of the world process, with which educommunication can contribute. These need to come from a decolonial perspective, which recognizes asymmetries of power between the Global North and South and, most of all, values the knowledge and practices of original peoples and communities and learns from them a more comprehensive vision that do not separate nature and society.

5 Discussion

Mobilization around the climate education agenda in Brazil has grown alongside the occurrence, severity, and visibility of extreme weather events. In the first half of 2024, for example, the southern region of Brazil was affected by torrential rains. The city of Porto Alegre, capital of Rio Grande do Sul, was under water. In this context, a research institute linked to a large-circulation newspaper carried out a public opinion poll in July which showed that 97% of Brazilians interviewed perceive the impacts of the climate crisis on their daily lives and 77% say that climate change exists and is caused by human actions (DataFolha, 2024). But how do we turn this recognition (information) into knowledge (meaningful content) and generate connected local action? This is the challenge that has mobilized organizations and social movements in Brazil, many of them members of the Brazilian Coalition for Climate Education, and which sheds light on the need - and inseparability - to deconstruct both the instrumental perspective of communication and our relationship with so-called nature.

The struggles experienced by different groups and movements takes place in a context in which a recognition of the climate emergency varies: when the most blatant effects of climate change have passed, media coverage of the issue decreases to the point where the climate change agenda is absent from public debates in the current Brazilian municipal elections (Sakamoto, 2024). This helps to explain why, less than 2 years before this DataFolha survey, in November 2022, there was a Climate Action Against Disinformation survey, on the eve of COP-27, carried out in six countries, indicating that in Brazil 40% of people believed that fossil fuels were clean energy and 44% said that climate change was not caused by human activity (Sobrinho, 2022). A study conducted by Yale University’s Climate Change Communication Program in the same year (2022) found that although 90% of Brazilians were convinced that the average temperature had been rising over the last 150 years, only 53% recognized that the problem has anthropogenic causes (Leiserowitz et al., 2022).

The skepticism about the human causes of the climate emergency seems to be linked more to psychological factors than to socio-political ones, in other words, to each person’s worldview (Spektor et al., 2023). This is what has been called confirmation bias in communication: we tend to believe what we want to believe, what has to do with the way we have learned to see the world, with our values. And in a world in which a large part of our interactions is on digital platforms, which operate from the logic of customization, reinforcing polarization, there is a growing risk that facts will no longer matter, and post-truth will be in effect (Bucci, 2022).

We must remember, however, that there is an intrinsic relationship between the increase in socio-environmental inequalities, deregulation, and climate denialism, which makes post-politics the conjoined twin of post-truth. The concept of

⁵ However, we use good living because it was the term that became popular in literature and, especially, in social movements.

⁶ Quilombolas are communities that were created during slavery in Brazil. These communities were created by enslaved black people who fled plantations and set up places of freedom and resistance. Currently, Brazilian law recognizes the right of these communities to their lands and traditions.

⁷ Orixás are divinities from the Yoruba religion from West Africa that are part of several Afro Brazilian religions including Candomblé, Umbanda, and others.

post-politics was coined by Latour (2020b) and concerns the widespread production of distrust in any collective process, weakening democracy. The world's elites have acted like the captain of the Titanic: refusing to sound the emergency alarm, so that the middle and lower classes of the ship do not question the division of the lifeboats and the rich manage, without giving up any privilege, to escape the shipwreck (Latour, 2020a).

However, the water has already reached us, and more and more people are realizing that the ship is sinking and are refusing to continue dancing to the music (and life) as if nothing is happening.

Brazilian socio-environmental collectives and movements fighting for climate environmental education have been betting on educommunicative practices and perspectives against the instrumentalization and over-exploitation of lives (not just human lives). They seem to have learned that if, in order to postpone the end of worlds, it is always necessary to tell another story, as Brazilian indigenous leader and philosopher Ailton Krenak taught us. It is increasingly important to ask who and where different narratives emerge from and what futures they point toward. We need to work in an integrated way with information and values, combating post-truth and post-politics, helping to regain a sense of the common, and with the conviction that we can and must act collectively to build fairer and more sustainable worlds.

Examples such as the arrival of the German organization Plant-for-the-Planet in Brazil show that educators from the global South are increasingly recognizing that Eurocentrism (the root of colonialism) is part of the problem that caused the climate emergency—therefore, the most effective solutions will not come from it. The futures we want to follow as environmental communication scholars and educators will depend on bringing other forms of knowledge and epistemologies to the center of the debate and training processes, such as those represented by the concept-movement of *good living*, which has been influencing counter-hegemonic advocacy processes in multilateral climate negotiations since the People's Conference on Climate Change and the Rights of Mother Earth, held in Bolivia in 2010 (Brianezi et al., 2023).

If the abandonment of the common world generates a general distrust of the facts, it is necessary not only to disseminate reliable information, but above all to rebuild a sense of collectivity (Bucci, 2022; Latour, 2020b). And in this search, the decolonial perspectives of the original peoples of the Global South, such as Latin American *good living*, show that a powerful path—one that will be permeated by tensions and conflicts—is to bet on reciprocity and affection (Mamani, 2010).

6 Final remarks

Communicating involves selecting, adding, and cutting out information, an exercise of balance between reduction and complexity. As we face the climate emergency, we must establish a knowledge dialogue between different disciplines, epistemologies, subjects, and their experiences. To pierce the so-called bubbles, Brazilian organizations and movements that face the climate emergency through the lenses of climate justice and the tools of educommunications are trying to overcome instrumental perspectives,

not without contradictions. They also need to deal with the tension between tactic and strategy, hacking debates and arenas usually dominated by mechanistic and mercantile logics, including the recognition that virtuality and acceleration are part of the socio-environmental crisis and that their confrontation goes through a deep reconnection with the multiple territories (grounding) and with the reevaluation of vital cyclical times (ancestral futurity).

We begin this conceptual analysis by presenting the research project to which it is linked, entitled “How can communication help expand and qualify climate education practices in basic education in Brazil?” We would like to end it in a cyclical movement, returning to the larger scope of this project and pointing out potential next steps for a research agenda.

In the context of the third macro product foreseen in this project, related to training processes for public school educators on how to work on climate change using educommunication, an experimental class of the course “Socio-environmental educommunication: we need to talk about the climate emergency in schools” took place in February, March and April 2025. It was a 60-h training, with activities carried out in a virtual learning environment and weekly face-to-face meetings, for which 50 educators were selected (from a total of 163 applicants) from 50 different municipal public schools in São Paulo, spread throughout the territory of what is the most populous city in South America - of these, 33 met the prerequisites to receive the certificate, which included at least 75% participation in face-to-face meetings and the preparation of a Climate Action Plan in schools, anchored in educommunicative practices.

In the second half of 2025, the challenge will be to adapt this training process to a 100% distance learning, self-instructional version hosted on the Brazilian Ministry of Education's virtual learning platform (AVAMEC) to gain scale and reach more educators. The intention is to launch it before COP-30, in November of this year, in Belém (in the Amazon region, northern Brazil). Another challenge will be to monitor the implementation of the Climate Action Plans prepared by the participants in the experimental class in schools. Certainly in these two fronts of work, which must feed back into each other, the four tensions that we discuss in this text (tactics vs. strategy, complexity vs. reduction, virtuality vs. grounding and ancestry vs. acceleration) will need to be addressed and, from this, there will be new data and insights to deepen the debate about them.

Author contributions

TB: Conceptualization, Funding acquisition, Investigation, Writing – original draft, Writing – review & editing. JT: Validation, Writing – review & editing.

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