

Special Issue

Healing in the damage: Towards novel perspectives on
human-environment entanglements in the Americas

Planetary healing and care through popular education:
Transformative pathways shaped by waste picker-led action

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Abstract

Increasing global waste generation is both a visible manifestation and a systemic indicator of the contemporary ecological crisis and climate change. In this context, waste pickers are critical, yet often overlooked, in environmental governance. By recovering recyclable materials and reducing reliance on landfills, they advance circular economy practices, conserve natural resources, and reduce greenhouse gas emissions. Despite these contributions, waste pickers continue to face precarious working conditions, social stigma, and exclusion from formal recognition and decision-making. Established in 2023, UNICATA, the University for and with Waste Pickers, emerged as a transformative response. Grounded in *Buen Vivir* and Paulo Freire's popular education, UNICATA strengthens waste pickers' protagonism and enhances waste management. With two classrooms in Brazil, it equips participants to influence policy and expand regenerative practices. This paper presents initial outcomes, showing how popular education advances environmental justice, planetary healing, and relational care through grassroots knowledge and collective action. *Keywords:* Planetary health, healing, waste pickers, popular education, grassroots knowledge, knowledge co-creation.

Resumen: Sanación y cuidado planetario a través de la educación popular: Vías transformadoras formadas por la acción liderada por los recicladores

El aumento de la generación global de residuos es tanto una manifestación visible como un indicador sistémico de la crisis ecológica contemporánea y del cambio climático. En este contexto, los recicladores son actores fundamentales – aunque a menudo invisibilizados – en la gobernanza ambiental. Mediante la recuperación de materiales reciclables y la reducción de la dependencia de los vertederos, impulsan prácticas de economía circular, conservan recursos naturales y reducen las emisiones de gases de efecto invernadero. A pesar de estas contribuciones, continúan enfrentando condiciones laborales precarias, estigma social y la exclusión

del reconocimiento formal y de los espacios de toma de decisiones. Fundada en 2023, UNICATA, la Universidad para y con recicladoras y recicladores, surgió como una respuesta transformadora. Basada en el Buen Vivir y en la educación popular de Paulo Freire, UNICATA fortalece el protagonismo de los recicladores y mejora la gestión de residuos. Con dos aulas en Brasil, capacita a las y los participantes para incidir en las políticas públicas y ampliar las prácticas regenerativas. Este artículo presenta resultados preliminares y muestra cómo la educación popular promueve la justicia ambiental, la sanación planetaria y el cuidado relacional mediante el conocimiento de base y la acción colectiva. *Palabras clave:* Salud planetaria, sanación, recolectores de basura, educación popular, conocimiento local, cocreación de conocimiento.

Introduction: Healing and care with/through waste pickers

Across the world, the widespread accumulation of waste constitutes both a visible manifestation and a systemic indicator of ecological degradation. From plastic debris polluting the oceans to overflowing landfills leaching toxic substances into soils and groundwater, pollution reflects unsustainable patterns of production, consumption, and disposal. The proliferation of waste contributes to biodiversity loss, disrupts natural habitats, and exacerbates climate change through greenhouse gas emissions from landfills and incineration. The omnipresence of waste signals not only the planet's physical deterioration but also a profound disconnection between communities and the Earth – a rupture expressed through interdependent ecological, social, and emotional harm. Recognising this rupture invites us to conceive responses to the environmental crisis as processes of healing, education, and care that can restore relationships between humanity and the living world (Gregson, 2023; Streater & Walton, 2025). This rupture cannot be reduced to ecological indicators alone; it cuts across historical, affective, and political dimensions. In the context of the Anthropocene, this deepening has been driven by colonial, extractive, and productivist development models that erode essential connections among bodies, territories, and material worlds. In this scenario, healing emerges as a pathway to restore these wounded connections through situated practices of repair, reciprocity, and care.

Addressing the ecological crisis, therefore, requires more than improving waste management systems: it demands enabling transformative processes that reconfigure how we inhabit and care for the Earth. An important innovation in this regard is the recognition that the knowledge and daily agency of waste pickers are highly relevant to the debate on the pursuit of environmental justice (Rodrigues et al., 2025). Since these professionals are involved in environmental solutions, they are also more vulnerable to the consequences of environmental crises and their intersecting impacts. From the perspective of their social practices and creative potential, the transformative action, or the emancipating transformation – with diversity and emergent ideas and interests – (Stirling, 2015), must be based on procedural justice, with possibilities for institutionalising the participation of waste pickers, and recognitional justice, with the necessary

efforts and approaches to overcome exclusionary and hegemonic cognitive mechanisms (Schlosberg, 2007).

Within this context, waste pickers emerge as crucial – yet often unrecognised – environmental actors (Gutberlet et al., 2021). Waste pickers collect reusable and recyclable materials from households, commercial establishments, dumpsites, and public spaces, reinserting them into recycling chains and sustaining their livelihoods (WIEGO n.d.). Working on the front lines of urban waste management, they reduce the volume sent to landfills, conserve natural resources, and contribute to ecosystem protection. Their labour directly addresses both the visible and structural consequences of waste proliferation; however, they frequently face unjust remuneration, social stigma, and precarious working conditions.

In this paper, we treat recognition not only as external validation by institutions, but also as a relational and pedagogical process through which waste pickers come to see themselves – and be seen by others – as subjects of knowledge, rights, and collective agency. This self-recognition is a key mechanism through which healing becomes possible, as it restores dignity, strengthens a sense of belonging, and enables political action. This can be central to place waste pickers' agency and knowledge at the centre of a health promotion praxis that begins with the struggle for better results on the local and personal scale, generating more dignity and income, but expanding to a perspective of healing the crisis on a planetary scale. At the heart of these connections lies the necessary inclusion grounded in recognition, achieved through pedagogical processes that employ dialogical, symmetrical, and inclusive practices. The objective of this article is to explore the practices and experiences of waste pickers in the process of implementing a university for and with the waste pickers – UNICATA – where the connections between their activities and knowledge can be analysed, transcending scales through pedagogical processes aimed at promoting planetary healing.

The whole of waste pickers and UNICATA

Globally, widely cited estimates suggest that approximately 15–20 million people earn income through informal waste picking. In Brazil, available estimates commonly range between 600,000 and 800,000 waste pickers. These figures, however, should be interpreted cautiously: the absence of a comprehensive census or registry – and the high prevalence of autonomous and street-based work – likely leads to substantial undercounting. The daily work of waste pickers unfolds within inequalities and multiple vulnerabilities, directly engaging with the socioenvironmental crisis. The materials they handle – marked by histories of use and discard – concentrate both ecological and social harm. Yet by recovering, sorting, and reinserting these materials into new circuits, waste pickers activate repair processes that transform the value and meaning of waste, challenging hierarchies that have invisibilized their labour for generations. For autonomous waste pickers, specifically female workers, vulnerabilities become even

more intense as they work in the streets and are exposed to physical violence, harassment, absence of public bathrooms, lack of menstrual care, and, as they often are, also in charge of domestic work and family care.

In the Brazilian context, waste pickers play a central role in the circular economy. According to Fraga Filho (2025, 5651), “workers associated with recycling cooperatives contribute up to 30 per cent of the country’s material recovery rates, despite operating under precarious labour conditions and with limited institutional recognition”. Their work weaves together subsistence, environmental justice, and the defence of life in territories marked by deep social inequalities. Even in the face of persistent stigma and lack of recognition, their practices generate significant ecological benefits and expand the horizons of socio-environmental justice.

UNICATA – the University for and with Waste Pickers – was created in 2023 by a consortium of universities, non-governmental organisations, and social movements to address these structural challenges (Gutberlet & de Carvalho Vallin, 2024). UNICATA emerged as a collective response aimed not only at providing training but at transforming the structures that reproduce the exclusion of waste pickers. By bringing academic, popular, and territorial knowledge into dialogue, the university rebuilds recognition and dignity through collaborative practices that restore centrality to historically silenced experiences. This initiative destabilises entrenched power relations and reconfigures waste pickers as legitimate subjects of knowledge, rights, and political action. Importantly, recognition here operates in two directions: internally, as self-recognition cultivated through learning, dialogue, and shared experience; and externally, as a demand for institutional and policy recognition that can translate dignity into effective rights, access, and protection.

UNICATA is grounded in three interconnected principles that shape its ethical, political, and methodological foundation: 1) Popular education, its first pillar. Inspired by Paulo Freire’s pedagogy of liberation, UNICATA understands education as a political act of recognition and transformation. In Freire’s terms ([1970]1996a; 1996b), popular education seeks to unveil and overcome structural conditions of oppression by recognising historically marginalised people as agents capable of naming and transforming their own reality. From this perspective, learning becomes an act of healing – restoring dignity, agency, and collective awareness; 2) Knowledge democracy, its second pillar. This principle promotes equitable access to, participation in, and production of knowledge, challenging the concentration of epistemic authority in academic or institutional elites (Nowotny et al., 2003). It instead advances the co-creation of knowledge among diverse social actors (Jasanoff, 2003). UNICATA recognises waste pickers as knowledge holders whose everyday experiences are indispensable for reimagining sustainability and social justice. This work, in particular, requires dismantling the systems and practices that perpetuate misogyny and systemic inequality. Knowledge democracy thus represents both a methodological commitment and an ethical stance grounded in inclusion, reciprocity, and collective

authorship; 3) Peer learning and co-teaching, its third pillar. Methodologically, UNICATA draws on pedagogical principles of peer education (Rubin & Hebert, 1998) and on the participatory practice developed by the Brazilian National Movement of Waste Pickers (MNCR), known as “from waste picker to waste picker” (Alves, 2016). This approach transforms the classroom into a space of mutual recognition where academics and waste pickers co-design and co-teach modules integrating technical, political, and experiential knowledge. Through this dialogical process, teaching becomes an act of care and collective learning.

Together, these pillars embody a relational pedagogy in which learning becomes a process of individual and collective healing. Listening, co-creation, and horizontal participation place the lived experience of waste pickers at the centre of understanding and social transformation. With classrooms established in São Paulo and Brasília, UNICATA has become an institutional space where experiential, territorial, and environmental knowledges are recognised, valued, and articulated. The university thus materialises a pedagogy of healing that strengthens personal empowerment and ecological responsibility, transcending scales from local to global. It also reinforces the feminist perspective on care, which is often neglected and undervalued yet central to human well-being and the functioning of society. By circulating waste pickers’ knowledge and experience, UNICATA helps repair relationships affected by inequality and invisibility, weaving together memory, identity, body, and territory. From this standpoint, education becomes a concrete infrastructure of recognition and justice: it enables waste pickers to name rights, understand the policies and legal frameworks that shape their work, and build organisational capacities. As the participants of UNICATA emphasise, “justice begins to happen when people at least know it exists,” highlighting how recognition, knowledge, and autonomy co-produce healing in everyday life.

This experience also resonates with the ethical horizon of *Buen Vivir* (*Sumak Kawsay* in Kichua, *Suma Qamaña* in Aymara), an Indigenous worldview rooted in Latin America that emphasises reciprocity, collective well-being, and respect for Mother Earth (*Pachamama*) as a living being (Gudynas, 2011; Solón, 2019). The daily practices of waste pickers – recovering, sorting, and transforming materials – challenge linear and extractive paradigms, promoting regenerative cycles aligned with interdependence and socio-environmental justice. What might otherwise be understood as a technical operation becomes a symbolic and political gesture of ecological and social repair. *Buen Vivir* offers an ontological and ethical lens for understanding the work of waste pickers as a life-sustaining practice grounded in reciprocity, mutual care, and local agency. Their everyday actions activate regenerative cycles that affirm alternative ways of inhabiting the world and repairing damaged relationships between humans and the Earth.

The following section presents the theoretical framework centred on healing and care, articulating their relational, pedagogical, and political dimensions as processes of recognition and transformation through popular education. From this perspective, we draw on the philosophy of *Buen Vivir* and situate waste

pickers as key actors in social and ecological transformation within this worldview.

Theoretical frame: Healing and care for recognition and transformation

The concepts of healing and care function as relational, pedagogical, and political axes that enable a situated rethinking of socio-environmental justice. Rather than metaphors, they describe processes that recompose relationships between bodies, communities, and territories, in which popular education and collective action become practices of transformation and recognition. Healing restores dignity and repairs colonial and social wounds, while care sustains life through attentiveness, reciprocity, and shared responsibility. Sustaining life under structural injustice thus becomes a collective project that reorganises how communities relate to one another, to their environments, and to their own histories. Therefore, recognition is central to this argument: healing requires 1) self-recognition – the reconstruction of subjectivity, dignity, and belonging among marginalised groups –; and 2) institutional recognition – the translation of that dignity into enforceable rights, protections, and material conditions of care and justice. In this sense, healing and care also operate as analytic lenses for understanding how historically devalued labour – such as waste picking – and specifically female waste pickers become a site where stigma, exclusion, forms of misogyny, and vulnerability are confronted through practices of recognition, collective learning, and the repair of socio-environmental harm.

According to Dürr and Rohrer (2022), healing requires acknowledging colonial and ecological wounds and fostering regenerative processes that rebuild reciprocal relations between humans and the more-than-human world. Healing is therefore a political and social act: it reweaves broken ties among people and with the Earth through everyday, situated practices of repair. These practices, often invisible in dominant narratives, sustain life precisely where socio-environmental crises are most intensely experienced. This perspective aligns with Middleton's (2010) political ecology of healing, which conceives healing as a relational process of recovering agency in contexts marked by dispossession. Healing becomes a collective act of recognition that restores dignity and enables the regeneration of territories, bodies, and memories, while decolonisation challenges the epistemic and political structures that maintain the wound (Middleton, 2010, pp. 10-11). Repairing relations, therefore, requires both rebuilding connections and transforming the systems that fractured them.

Decolonial authors such as Fanon (1967) and Coulthard (2014) deepen this understanding by conceptualising colonisation as a social pathology that fractures consciousness and subjectivity. Healing, in this sense, becomes inseparable from reclaiming denied humanity and creating forms of self-determination rooted in everyday collective practices. It is a strategy of re-existence that reaffirms autonomy, belonging, and the value of life in contexts shaped by racialization and violence. In Brazil, these colonial wounds are inseparable from racial

hierarchies that have historically structured labour, citizenship, and access to rights. Afro-descendant communities, disproportionately affected by exclusion, have developed forms of organisation, mutual support, and community care that can be read as expressions of collective healing. These practices resist structural inequalities while generating new relational and political possibilities.

The feminist movement plays a vital role in exposing prejudice, hatred, and contempt directed towards women, while also highlighting how misogyny is deeply intertwined with other systems of oppression, including racism (De Souza & Rodrigues Selis, 2022). The reproduction of marginalisation also involves cognitive exclusion (Santos, 2007). Knowledge produced by vulnerable groups has historically been denied legitimacy, creating an epistemic wound that limits their ability to influence decisions that affect their lives. Democratizing knowledge thus becomes a central dimension of healing, especially in contexts shaped by long-term colonial processes. Self-recognition is one mechanism through which cognitive exclusion is confronted: when marginalised workers perceive their lived experience as knowledge – valid, transmissible, and politically consequential – they begin to re-enter the public sphere as legitimate interlocutors. Recognition, therefore, is not only an outcome of policy change; it is a pedagogical and relational process that precedes and enables collective claims-making.

Even within conditions of vulnerability, diverse social groups generate creative political processes, adaptive strategies, and local innovations (Magnani, 2002; Giatti et al., 2021). These practices reflect cosmopolitical arrangements (Stengers, 2018) where different ontologies negotiate ways of living together. Anchored in place-based readings of territory, such practices produce what Scoones and Stirling (2020) call “previously unimaginable innovations”, expanding horizons of justice and possibility beyond extractive and colonial logics. Debates on health promotion emphasise the articulation of local knowledges with technical, scientific, and political capacities (WHO, 1986; Buss, 2000). A critical and decolonial approach deepens this by recognising that present-day inequities are rooted in colonial histories, requiring reparatory actions that address structural harms and promote knowledge democracy (Hall & Tandon, 2017). Health promotion, therefore, must go beyond biomedical interventions or behavioural change to integrate reparative actions grounded in local, technical, and political knowledges (Whitmee et al., 2015).

Freire (1996a, 1996b) offers a crucial insight for connecting healing with pedagogy: education as an act of freedom and transformation. Teaching and healing intertwine through practices of dialogue, listening, and collective reflection, enabling oppressed groups to reinterpret their experiences and transform them into emancipatory action. In contexts of inequality, pedagogical spaces can thus become spaces of healing. Care, complementary to healing, represents its ethical and relational dimension. Lau (2023) defines care as a commitment to the world – a practice grounded in interdependence and shared responsibility among human and more-than-human beings. Care challenges logics of

disposability and extractive productivity, advancing an ethic of resistance and a politics of interdependence capable of sustaining life in fragile contexts. From this perspective, healing is not merely a theoretical concept but a lived experience within community-based pedagogical processes. Through knowledge co-creation, mutual listening, and the revaluation of marginalised trajectories, healing unfolds simultaneously at individual and collective levels. These practices foster recognition, justice, and autonomy by transforming the relational conditions that shape everyday life. As Johnson and Sigona (2022) highlight, healing requires collective structures of justice capable of translating recognition into effective rights and historical repair. Processes of professionalisation and legal recognition – when grounded in reciprocity, cooperation, and mutual care – become expressions of empowerment and social regeneration. Healing and care, therefore, sustain life not through accumulation but through justice and interdependence. Caring for society and caring for the Earth emerge as inseparable, everyday, collective, and political acts.

Methodology

This study adopts a qualitative and participatory research design, aligned with the principles of popular education and knowledge co-creation that underpin UNICATA's approach. Data were collected through semi-structured interviews, videos, audiovisual recordings, course evaluations, and field notes from several training sessions and workshops held by UNICATA in São Paulo and Brasília. These materials capture the voices, narratives, gestures, and experiences of both students and educators, reflecting the relational and dialogical nature of the educational process. This research received approval from the University of Victoria's Research Ethics Board to ensure participants' rights, welfare, and safety (Protocol #23-0559).

The analysis focuses on the subjective experiences of waste pickers participating in UNICATA. We employ an interpretative narrative analysis to examine how students articulate their trajectories, labour, learning processes, and forms of recognition, care, and collective transformation. Particular attention is given to moments of dialogue, co-learning, and reflection that reveal how participants make sense of their identities, work, and participation in the university. Analytically, we worked iteratively by coding the corpus around core themes – recognition/self-recognition, care/healing, stigma/marginalisation, and agency – and by mapping “turning points” that signal shifts in voice, belonging, and political engagement. Interpretations were cross-checked across interviews, evaluations, and audiovisual records and discussed within the UNICATA context to strengthen credibility and reduce the risk of misrepresentation.

This case study approach allows us to understand UNICATA not only as an institutional initiative but as a lived process situated at the intersection of popular education, environmental stewardship, and socio-political struggle. By analysing narratives generated by students within this university's activities, we

explore how practices of healing and care are co-constructed in everyday educational encounters and how they contribute to broader forms of agency, dignity, and socio-environmental justice. As educators or students, the authors have collectively interpreted the data and developed this paper, a methodology which is informed by the program's commitment to peer learning and knowledge democracy. Participant accounts are treated as situated interpretations of lived experience, foregrounding reflexivity and reciprocity in the research process.

UNICATA: A university for and with waste pickers

Founded in 2023, UNICATA is a university for and with waste pickers of recyclable materials, with in-person classrooms in São Paulo and Brasília. It was created by a collective of waste pickers, academics, students, and technicians with extensive experience in solid waste management. The initiative responds directly to longstanding demands for a continuous, inclusive, and participatory learning space. Grounded in community-based research, UNICATA emerged from the recognition that waste pickers required a permanent educational institution tailored to their socio-economic realities, one that fosters the co-creation and validation of knowledge related to waste picking, environmental governance, and social innovation.

UNICATA began as a collaborative initiative supported by a network of social movements, universities, and partner organisations (including waste picker movements and academic institutions). In its early phase, participation often depended on workers' ability to forgo daily income to attend classes. More recently, UNICATA has mobilised public and institutional support, including targeted partnerships that help provide basic student support (e.g., food and stipends/"bolsa" for attendance). Despite these advances, both students and educators have identified financial sustainability as a key challenge, given the growing demand for new classrooms across Brazil.

UNICATA's pedagogical foundations draw on Freire's popular education, which centres the experiences, knowledge, and perspectives of marginalised groups (Freire 1996a, 1997b). Learning is anchored in the daily practices and practical wisdom of waste pickers, thereby making the curriculum accessible, relevant, and politically meaningful. By promoting critical thinking, dialogue, and collective action, UNICATA challenges traditional educational hierarchies and affirms waste pickers as both recipients and producers of knowledge. Knowledge and skills are collectively developed to promote autonomy, engagement, and dignity in waste-diversion work. Peer learning and co-teaching in pairs integrate academic knowledge with situated expertise, expanding the "from waste picker to waste picker" methodology developed by the National Movement of Waste Pickers in Brazil (MNCR) (Alves, 2016). As one student describes, "I believe the life experiences and stories of each student and the knowledge of the teachers, who are also waste pickers, such as Dudu, Luzia, Pedro, Edna, or Cida – I think it's great to have these examples".

Samantha, an educator at UNICATA, highlights the importance of affective safety and belonging within the pedagogical process: “UNICATA is a space where autonomous waste pickers can empower themselves and recognise their own identity. It is a welcoming space – we feel that we belong. And when we feel that we belong, we participate fully, we want to learn”. Her testimony reinforces that belonging, recognition, and emotional security are essential components of healing within a Freirean educational environment. Classroom interactions often reveal tensions between different worldviews, lived experiences, and epistemologies. Samantha further reiterates, “I’ve been a feminist for a long time; I always raise flags on the subject even at UNICATA. The subject of misogyny must be addressed more in class, because our category has a lot of lack of literacy on the subject”.

Debates also emerge when popular and scientific knowledge collide, enriching the learning process even when such tensions are not immediately resolved. As one waste picker explains: “Teaching here has helped me speak more and unlock myself. At first, I started teaching to spark interest around handicrafts, but then I became involved in themes connected to the political situation of the country... and that motivates me”. Another student, Lucas, echoes this transformative process: “My greatest achievement as an educator at UNICATA was losing the shame of speaking in public. Today I can speak anywhere without fear, taking the voice of the waste picker in a positive way, showing that we are qualified and can provide environmental services because we also have practical knowledge”.

Horizontalty is central to the UNICATA model. It emphasises equality between educators and learners and supports mutual exchange of knowledge (Feitosa, 1999). Active participation engages students directly in shaping the themes and methods of learning, while contextualization ensures that discussions and content remain relevant to the community’s realities. Students frequently express this sense of recognition: “I am happy to be part of this; I feel welcomed and recognised. Everything is new to me, and I am grateful for this opportunity.” Another learner notes: “I learned a little more today, and I want to learn much more... today I am a multiplier – let’s multiply.” For many, the classroom becomes a space of reconnection, solidarity, and hope: “To meet and reconnect, to meet new people, to coexist – everyone here wants to return every Saturday”.

A powerful reflection from Alexandre connects environmental awareness with social recognition and decolonial critique: “Nature is the source of all resources. But society often labels us and excludes us. UNICATA allows us to speak... to express what is in our hearts, in our skin, in our daily lives. Society must learn to listen to what the Earth is saying”. This statement encapsulates how UNICATA becomes a space where environmental consciousness and social justice intertwine, affirming waste pickers as environmental stewards and political subjects. Critical dialogue and collective reflection are, therefore, not only pedagogical tools but central mechanisms for constructing knowledge. A

bottom-up, inclusive, and interactive educational model – centred on the lived experiences and perspectives of waste pickers – cultivates leadership capable of driving broader socio-environmental transformation towards a more just society.

UNICATA's first course, 'Participatory Solid Waste Management and Governance with the Inclusion of Waste Pickers for a Sustainable and Just Society', consists of six modules of 56 hours each, delivered once a week over fourteen weeks. Upon completing each module, students receive a vocational certificate from the University of Victoria (UVIC, Canada), the Federal University of ABC (UFABC), the University of Brasília (UnB), and the Federal Institute of Brasília (IFB). Upon completing all six modules, participants earn a professional diploma. These certifications reflect institutional collaboration, while UNICATA's pedagogical governance remains rooted in popular education and waste picker leadership. Academic partners contribute through co-teaching, technical support, and documentation, while waste picker educators and students shape curricula, priorities, and the knowledge produced.

Early outcomes highlight strengthened political education, advances in policy engagement related to waste diversion, and enhanced self-valorisation expressed through empowerment, emancipation, and insurgent forms of collective agency. UNICATA's pedagogy is grounded in the material realities of waste work – carts, streets, heat, rain, bodily strain, and exposure to contamination – making learning inseparable from lived infrastructures and everyday risk. At the same time, the program enables processes of "translation": experiential knowledge is translated into policy language, rights-based claims, and public narratives that reposition waste pickers from stigmatised "informal workers" to environmental service providers and political subjects. Participants also describe constraints that shape engagement: the need to secure daily income limits attendance; autonomous workers face greater insecurity and less policy coverage; and the program must continually negotiate institutional recognition while preserving its Freirean, horizontal ethos. These tensions are not external to UNICATA; they are part of the terrain in which healing and care are pursued.

Discussion: From individual empowerment to structural healing

Healing as an environmental, pedagogical and political practice

As evidenced in this paper, healing unfolds as an environmental, pedagogical, and political practice that connects the material repair of socio-ecological damage with the reconstruction of dignity, belonging, and rights-claiming capacity among waste pickers (Lau, 2023; Freire, 1996a, 1996b). Healing unfolds across interconnected dimensions. First, there is the healing of the Earth: a collective process of environmental regeneration driven by the everyday practices of waste pickers. By reducing ecological impacts, reinserting materials into productive cycles, and cultivating situated ecological awareness, waste pickers contribute to restoring damaged socio-ecological relations and generating local-level

benefits, thereby promoting planetary health (Whitmee et al., 2015). This dimension aligns with relational forms of multi-level environmental recovery, where regenerating ecosystems also requires rebuilding the social and territorial bonds that sustain life.

Second, healing acquires individual and community dimensions, linked to the subjective transformations experienced by waste pickers themselves. By recognising their labour as part of a broader project of caring for the Earth, they rebuild self-esteem, agency, and a sense of collective belonging. UNICATA's experience reinforces the recognition that waste pickers' worldview and their self-perception of the importance of their activity reflect (Freire, 1996a) changes within a global impact. The principles of Buen Vivir are integrated into this dynamic in the valorisation of local capacities and resources, as well as the creative and cultural potential of the subjects, in this case, waste pickers. This occurs within an interactive and symmetrical pedagogical process, which we therefore consider here as a pedagogy of healing. This transformation is not merely emotional; it constitutes a political affirmation within territories marked by inequality, coloniality, misogyny, and stigma.

As Dürr and Rohrer (2022) argue, responding to colonial and ecological wounds requires repairing fractured relations among people, communities, and more-than-human worlds. At UNICATA, this recomposition materialises in everyday practices that reconnect body, territory, and memory, allowing waste pickers to reinscribe themselves as subjects of knowledge, care, and transformation. Participant narratives indicated that self-recognition often begins with learning collective histories of struggle and prejudice, but also of achievements, and realising "there are many others like me." This shift – from isolation to belonging – supports what Freire (1996b) called hope-in-action (*esperançar*): organising with others and transforming passive waiting into collective praxis through a radical, emancipatory, and politically diverse interaction (Stirling, 2015). In practical terms, UNICATA's students describe how learning about laws, decrees, governance, and occupational health enables them to "name" rights and to reinterpret daily labour as environmental stewardship, thereby linking healing to concrete pathways of political action. Contemporary feminist mobilization as highlighted by De Souza and Rodrigues Selis (2022), is at the forefront of regional and international rearticulation of political resistance, which also plays out at the local level, with feminists like Samantha and others at UNICATA, where opportunities are created to address feminist perspectives of care in the classroom, challenging ingrained prejudice, hostility, and systems of control directed at women workers.

Care and the ethics of care

Care is understood as a movement that begins within – through self-recognition – and expands toward others and the planet. At UNICATA, this ethic is expressed both in pedagogical content and in everyday interactions: caring for the

environment, the community, the body, and work relations. Care becomes a situated relational practice that links personal transformation with collective responsibility. Freirean pedagogy reinforces this ethics by valuing lived experience and popular knowledge as legitimate sources of understanding. From this perspective, care is not only an affective gesture but a political one, sustaining life in contexts marked by structural injustice and historical exclusion. It affirms the dignity of waste pickers and positions their knowledge as central to learning, reflection, and collective transformation. From a planetary health perspective (Whitmee et al., 2015), care entails safeguarding ecological systems that sustain human and more-than-human life. UNICATA contributes to this horizon by reducing inequities, promoting safe and just environmental conditions, and strengthening community resilience by articulating technical knowledge with embodied, experiential understandings of waste work. Care thus becomes an interdependent process that traverses the classroom, public spaces, and the broader territory, challenging the logic of disposability and affirming practices that sustain life in all its forms.

Political agency and social recognition

Political agency and social recognition are essential for translating the individual and collective healing fostered within UNICATA into structural change. Waste pickers across Brazil and Latin America have long engaged in social movements and networks advocating for labour rights, social inclusion, and environmental justice. UNICATA strengthens this trajectory by cultivating leadership, offering analytical and organisational tools, and creating opportunities for participants to articulate their demands in public and institutional arenas. Care is also materially situated. For autonomous and especially women waste pickers, care involves the body under extreme heat and heavy rains, the strain of pulling carts, and the absence of public infrastructures for hydration and hygiene. Participant proposals – such as micro-credit for electric tricycles and the creation of support points in the city – show how care operates as a demand for material conditions that make dignity and safety possible.

Processes of professionalisation and legal recognition play a crucial role in this transformation. By formalising the value of waste pickers' labour and acknowledging their environmental contributions, these policies reinforce self-esteem, expand political agency, and challenge racialised and colonial hierarchies that have historically relegated waste pickers to invisibility. This dynamic resonates with the conception of healing as historical repair articulated by Middleton (2010) and Johnson and Sigona (2022): healing becomes transformative when it dismantles the epistemic and political structures that sustain inequality. Within UNICATA, this political dimension materialises in everyday practices of reflection, organisation, and public engagement. Similarly, this also opens up opportunities for creative and adaptive approaches as potential solutions to contemporary socio-environmental crises (Giatti et al., 2021; Scoones & Stirling, 2020).

As participants reinterpret their labour as environmental stewardship and collective care, they also reconfigure urban narratives around waste, labour, and sustainability. Recognition operates both interpersonally and structurally, amplifying the presence of waste pickers in debates on environmental governance, social protection, and planetary justice. Furthermore, addressing feminist perspectives in the classroom holds important political potential because it challenges the social norms and power structures that sustain gender inequality and other intersecting forms of oppression. By fostering critical dialogue and centring the experiences of women from marginalised communities, educational spaces can become sites of collective empowerment and social transformation.

Healing and care as a horizon of Collective Health

The UNICATA experience expands the notion of health beyond biomedical parameters to include social, environmental, and political determinants. Waste pickers' labour constitutes a practice of collective health: caring for the Earth while strengthening community wellbeing. Healing emerges not only as an outcome but as a method – an everyday form of resistance and reconstruction of the commons. Educational activities led by waste pickers demonstrate that multiple epistemologies – including popular and experiential knowledge – provide viable responses to contemporary socio-environmental challenges (Freire, 2005; Gutberlet & de Carvalho Vallin, 2024). These practices generate empowerment, equity, and legitimacy, consistent with participatory frameworks that strengthen collective agency and health equity (Wallerstein et al., 2017a; 2017b), while also contributing to ecological debates on environmental limits, sustainability, and justice (Whitmee et al., 2015). Moreover, it corroborates the perspective of recognition as an elementary component in the pursuit of environmental justice (Schlosberg, 2007). Healing and care thus operate across multiple scales: individuals regain confidence and voice; communities strengthen solidarity; institutions reconfigure oppressive pedagogical structures; and broader socio-political landscapes shift through changes in public policy, environmental governance, and social perception. By articulating Buen Vivir, collective health, and epistemologies of the South, UNICATA offers a horizon of health in which justice, interdependence, and ecological regeneration become foundations for more equitable and sustainable futures.

Conclusion

By fostering collective learning grounded in the lived realities of waste pickers, UNICATA advances the principles of *Buen Vivir*, promoting knowledge co-creation that supports feminist perspectives on care and upholds human dignity while strengthening ecological integrity. This university provides a platform through pedagogic healing, in which waste pickers consolidate their role as environmental stewards, equipping them with analytical and political tools to

influence public policy, advocate for inclusive waste management systems, contribute to diverse and original alternatives, and expand regenerative practices that mitigate environmental harm. In doing so, UNICATA becomes an active contributor to planetary healing, reinforcing circular economy principles and elevating grassroots solutions to global environmental crises. By valorising the critical ecological labour of waste pickers, it challenges dominant paradigms that marginalise informal workers and instead positions them as knowledge holders and key actors in shaping sustainable, life-affirming futures.

This study offers insights into UNICATA as a living example of transformative popular education – co-created with waste pickers to recognise their knowledge, strengthen their advocacy, and formalise their contributions to environmental governance. The university's commitment to knowledge co-creation produces a form of symmetry that is as transformative as its environmental practices: both generate local benefits while responding to planetary challenges. Moreover, UNICATA's initiative is grounded in historical repair, proposing alternatives capable of healing the wounds of colonial violence that have long relegated marginalised groups to multiple forms of exclusion, including epistemic stigma and invisibility. The space that UNICATA has created also allows us to address dominant forms of oppression and systemic inequality, specifically against female members of society.

By sharing these early results, we highlight both the Freirean pedagogical methodologies developed within UNICATA and their tangible impacts on the empowerment of waste pickers and on the improvement of waste management systems. Theoretically, this discussion advances debates on popular education as a critical tool for ecological justice and social transformation, demonstrating how grassroots knowledge and collective learning can catalyse systemic change that transcends local concerns and outcomes to reach global ones. Centring waste pickers as agents of care and planetary healing reveals how UNICATA fosters regenerative practices aligned with the principles of *Buen Vivir* and with global agendas such as the Sustainable Development Goals. Ultimately, UNICATA offers a hopeful and concrete pathway toward more just, inclusive, and sustainable futures – where healing is addressed through pedagogy and recognition, and ecological care becomes the foundation of collective well-being.

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