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Designing Together in Multi-Crisis Times: Effects of Mundane and Strategic Work with Indigenous Communities in the Ecuadorian Amazon

Nathaly Pinto, Efrén Nango

Abstract *This article explores the effects of committing to collectivity when considering the role of mundane and strategic work in cultivating a powerful action space for design research, particularly design for social change, with indigenous communities in the Ecuadorian Amazon. We reflect on the process and advanced results of an ongoing design intervention that aims to collaboratively design a system of pictograms for popular education processes, supporting the strengthening of identity and the creation of politicized spaces for education and action with and for the youth of indigenous nationalities, their communities and organizations, part of a regional indigenous movement. The project began by joining efforts with young student representatives from different Amazonian nationalities who were motivated by their need to make visible and denounce how the COVID-19 pandemic harshly deepened historical structural restrictions on access to higher education for indigenous peoples. The impact of COVID-19 on indigenous nationalities in the Amazon helps us address the way in which historical intertwined inequalities reflect in socio-environmental multi-crises in the region.*

The focus of this article is the histories of collective effort that underpin the design intervention. Through this focus, we argue that spaces for mundane and strategic work, explored before with citizen-designer or user-designer communities, hold vital potential for tangible, practical effects in grappling with the immediate and long-term needs of historically marginalized communities facing multi-crises and occupying contexts of oppression. Thus, we explore experiences where sustaining transitions between designing together and taking roles across levels of involvement with the latter, allow all of us to try out various forms of knowledge and skills building, critical understanding, and connection to reality. We then weave together the experiences outlined with reflections on two effects of committing to collectivity in collaborative design with indigenous communities: (1) more-than-academic encounters with communities and (2) redistribution of participation related to knowledge, production, and burdens.

Author keywords *commitment to collectivity; mundane and strategic work; participatory design; indigenous communities*

1. Introduction

In its attention to social change, design research has increasingly problematized ways of approaching inclusive and equitable collaboration (e.g., Light and Akama, 2014; Hodson et al., 2023). In particular, encounters with realities beyond those of the Global North and its prevailing neoliberal capitalist economy have prompted active pursuit of more meaningful engagement with diverse communities, facing complex challenges. The field's connection to social change has involved linking work with the peripheries and contexts of oppression in the world's various Souths—focusing on issues such as empowering indigenous peoples (Laiti 2021; Borzenkova et al. 2021), confronting neo-colonialism in our methods (Barcham, 2019), resistance and emancipation (Batista e Silva, 2023), support for vulnerable populations' agency (Gautam and Tatar, 2020), and sustainable social innovation against the backdrop of global-local tensions (Fuad-Luke, 2009). While challenging the dominant perspectives and the related design processes and products has brought diverse voices and experiences into designing for social change and has broadened out from traditional approaches to facilitation and participation (e.g., Papanek, 1973; Margolin and Margolin, 2002), the necessary critical transformation requires more. As historically excluded communities and territories continue to feel the impact of dominant structures of power and dispossession, bound up with multiple crises, we find it crucial to continue challenging the ways in which the various approaches and positionalities can either assist or counteract asymmetric/extractive research relationships.

Tackling this issue necessitates orienting the collaboration for social change toward the perspective of diverse communities more strongly: asking which spaces in our collaborative efforts are dedicated primarily to directly addressing both the immediate and the long-term needs of each community we work with, as opposed to catering to academic or design demands. We argue that taking into account and making visible those spaces of collective action that are often overlooked in academic circles helps everyone involved to uncover opportunities for the design interventions to transcend the academic sphere further and engage with complex, multifaceted realities.

This attention within the realm of participatory design requires a nuanced understanding of what some have called *mundane and strategic work*: all kinds of work necessary to make collaborative design function and render design methods effective in real-world projects (Hyysalo and Hyysalo, 2018; Botero et al., 2020). To capture the range of mundane work in collaborative design, Hyysalo and Hyysalo (2018) cite co-ordinating workshop spaces, finding participants, organizing materials, and estimating what can be achieved in a specific time, and all other activities that can be seen—or not even—as lowbrow design, such as data analysis, secretarial work, handling recruitment, and keeping the work spaces in order. The work of strate-

gizing collaboratively, on the other hand, entails attending to how collaborative design can serve purposes beyond design itself. In their account, this often involves integrating design participation with marketing, handling public and stakeholder relations, and implementing organizational changes. Considering collaborative design's mundane and strategic efforts alike can yield greater insight as to what it takes to sustain projects related to the corporate, public, and third sector on multiple time scales and ensure the infrastructure also for peer-to-peer open-design initiatives. Considering concrete results in this context, Botero et al. (2020) have emphasized how these efforts translate into design methods and outcomes. Applying a mundane- and strategic-work lens when examining citizen-designer or user-designer communities has led to enhanced services, opportunities for democratic engagement, better user experiences, and more distributed design.

Examining mundane and strategic work in collaborative design research not only acknowledges but also amplifies the importance of the spaces where nuanced phenomena and alignments essential for those engaged in the design process emerge. Inspired by this awareness, we have identified a valuable opportunity in using this lens to examine collaboration *with* indigenous communities, beyond the most prominent sectors of society. This tool should shed greater light on mundane and strategic conditions' permeation of design research in other settings. There is much we can learn from communities that while facing conditions of oppression, safeguard their knowledges and build organizational capacities to resist it. In these contexts, wherein designers directly collaborate with oppressed communities, can support their participation in citizenship processes and challenging power structures woven into state and global hegemonic systems—contexts that exhibit a mounting need for establishing a “stronger tie between explicit participatory methods and capacitating the user community to design for itself” (Botero and Hyysalo, 2013). Here, we recognize mundane and strategic work's links to infrastructure and infrastructuring—the social, material, and technical practices, resources, and arrangements crucial for the long-term reproduction of design efforts. The concept of infrastructure has been explored in participatory and social design from various perspectives (Karasti, 2014; Hillgren et al., 2011; Crabu and Magaudda, 2018, to name a few); however, mundane and strategic work provide explicit insight, aiding the understanding of collective action spaces in and out the design process. Spaces that could enable people involved in a design process to develop the tools and knowledge necessary to sustain—or keep sustaining—acts of resistance and the reproduction of life otherwise, surpassing the infrastructure of the design, in contexts of designing for social change.

This article explores the effects of committing to collectivity, when considering the role of mundane and strategic work in cultivating a powerful action space for design research with historically marginalized communities, (indigenous communities, part of a regional social movement). *Commitment to collectivity* involves a deep

exploration of mechanisms for meaningful involvement within community-based production, and is one of four interrelated emerging commitments for collaborative design from the margins: visibility, sustainment, tensions, and collectivity (see Pinto et al., 2022). In practice, commitment to collectivity involves continuously infra-structuring the design research to respond to and reciprocate with the marginalized communities' histories of collective work—knowledge sets and practices of resistance as tools of counteracting dominant structures—that underpin and inform the research collaboration. This approach is learned from the communal processes that shape Indigenous communities, where the social entrenchment of collective priorities asserts their lifeways amidst the structural oppression of imperial modernity and liberal individualism (Simpson et al., 2024; CONAIE 1994; 2012). It guides design processes toward distributed action, with the research community striving to act as a collective. Here participant relationships are principally defined not in terms of users and designers but, rather, as co-researchers committing to multifaceted, multi-engagement actions.

We focus on this commitment as it illuminates how sustaining mundane and strategic work in research settings involving designing with indigenous communities and social movements could help redistribute participation in knowledge generation, production processes, and research responsibilities and burdens. This redistribution in participation strives to guide design research efforts toward supporting resistance processes and critically counteracting the reproduction of inequalities through concrete actions, in settings that differ to corporate, public or civic, and contexts of the Norths. We argue that frequently neglected spaces for mundane and strategic work, while hard to incorporate into the prevailing academic narratives, hold vital potential for tangible, practical effects in grappling with the immediate and long-term needs of communities facing multi-crisis and occupying contexts of oppression.

The empirical foundation for our argument is formed by the authors' work on collective research and design of a system of pictograms with indigenous youth, communities and organizations in the context of the Ecuadorian Amazon. The pictograms (see appendix A) were used to building *own* representation resources and making visible different ways of marginalisation from university and education, that indigenous students experience, particularly deepened in times of multicrisis. For this article, the focus is *not* on the pictograms as semiotic or communicational tools, or as a part of participatory design methodology, as these aspects have been extensively explored in other work (see Pinto, Julier, Tapia, et al., 2023; Pinto, Botero, & Julier, 2024). Instead, attention is directed towards the collective efforts that infra-structured the design intervention, and the political interdependencies evolving around the design of the pictograms. This shift is crucial for understanding and sustaining processes and work parallel to or beyond design research for social change, as these efforts created spaces for maturing professional skills, expanding indige-

nous leadership competences, and reactualizing situated knowledge and practices, connected to long-term necessities of the collective. Thus, we centered on this approach as it encouraged all of us involved to explore various forms of knowledge and skill-building, which, in turn, offer opportunities to further advance our critical tools to contest prevailing complex realities.

To establish some background for understanding our positioning and design intervention, here, we introduce *education in multicrisis times in the Ecuadorian Amazon*. The Amazon region is situated at a confluence of multiculturalism, biodiversity, and inequality. The region is home to various indigenous communities and mestizo populations, encompassing 11 indigenous nationalities. Spread over 120,000 km², it constitutes almost half of Ecuador's mainland. Despite its biodiversity and natural wealth, the region faces challenges due to extensive resource extraction, primarily oil. This contradiction between environmental richness and economic exploitation creates complex inequalities (Arsel et al., 2019). In this region, indigenous communities face limited access to vital services due to their economic disadvantages within the nation. Simultaneously, their territories and social resources face continuous damage, exacerbating their challenges for social and economic reproduction. This situation compels indigenous youth and their communities to navigate both historical and emerging multi-crises to access education, especially at the university level.

Despite government efforts to address the demands of the indigenous movement, such as integrating the *Plurinationality* concept and *Buen Vivir* principle into the Constitution, which helped establish the right to Intercultural Bilingual Education throughout the national public education system, challenges persist for indigenous university students. These challenges stem from the struggle to assimilate into knowledge structures rooted in urban contexts and influenced by the global Anglo-European paradigm (Pinto, Barriga, Machoa & Minoia, 2023; Hernández Loeza, 2016), where specific social and economic privileges are required, leading to a disconnection from their languages, cultures, and communitarian ways of doing and knowing. This disconnection exacerbates existing disparities and marginalization, especially in times of crises, like the pandemic. An article co-authored by indigenous youth (Pinto et al., 2021) highlighted intertwined emergency and structural conditions, criticizing inadequate pandemic responses hindering virtual schooling due to factors such as geographical remoteness, mobility issues, unstable connectivity, limited technology access, unequal resource distribution and cultural exclusion. Beyond the immediate crisis, indigenous students, communities, and organizations continuously seek justice through creative political-educational actions, enhancing protest mechanisms and tools, and sustaining organizational and decision-making spaces. Access to education with a decolonizing focus emerges as a vital resistance pathway, empowering these communities to challenge and reshape their living conditions (Walsh, 2009; Arias-Gutierrez & Minoia, 2023). This struggle goes beyond mere inclusion, focusing on non-formal education and the development of univer-

sity proposals aligned with knowledges and practices of each nationality, supported by appropriated resources (Pinto and Nango, 2021).

Against this background, our design practices and learnings are shaped by the context of *the indigenous movement and resistance in the Ecuadorian Amazon*. This framing serves to clarify and acknowledge the rich histories, knowledge systems, and practices of resistance that support our design intervention. Indigenous resistance takes diverse forms, affirming indigenous identity and propelling social change through dynamic channels. These efforts are intricately linked to specific political actions facilitated by indigenous organizations, as highlighted by Quijano et al. (2014). In the Amazon region, indigenous nationalities engage in resistance to safeguard their territories and ways of life, often in opposition to both local and transnational neoliberal interests.

Indigenous communities navigate oppressive conditions while fortifying their organizational strength. Ecuador's indigenous movement, arguably the most robust and influential in Latin America (Yashar, 2005), exemplifies this resistance. Through highly effective mobilization and organizational capabilities, the movement actively participates in significant dialogues in areas such as policy development, Intercultural Bilingual Education, and institutional design. These engagements are geared toward driving change across multiple levels, embodying a profound connection between organizations' leaderships and grassroots everyday experiences. The movement is grounded in a *communitarian* societal structure, where the community—elders, children, young people, and family members—are actively encouraged to participate in different levels of society, and territory is included as a social being (CONAIE, 1994; 2012). The organizational structure facilitates dialogue not only within the pluricultural indigenous context but also with other mestizo or northern contexts. These particular ways of doing and knowing of indigenous nationalities opened for us a collective understanding of *with what* and *where* to practise, preserve, and revitalize political, economic, social, and cultural systems (Pinto, Botero, & Julier, 2024).

In the following sections, we begin by presenting our design intervention to briefly introduce our methodology, and center on the people and the organizations involved. Subsequently, we elaborate on results of the experiences of mundane and strategic work related to our pictogram-design process, highlighting how committing to collectivity gains expression in this specific setting and context. In the discussion section, we weave together the experiences outlined with reflections on two effects of committing to collectivity in collaborative design with indigenous communities: (1) more-than-academic encounters with communities and (2) redistribution of participation related to knowledge, production, and burdens. We conclude by reflecting on the ways in which these effects respond to the 'long emergency' by sustaining spaces of collective action amid design and beyond it.

2. Emergencia de Educación en la Amazonía: Designing and Researching with Indigenous Amazonian Nationalities

Emergencia de Educación en la Amazonía (Education Emergency in the Amazon)—EEA, is an ongoing participatory design intervention that began in 2020. It was driven by the efforts of the Confederation of Indigenous Nationalities of the Ecuadorian Amazon, or Confeniae, and university students representing Amazonian nationalities present in the region. Their motivation was to bring attention to and criticize how the response to COVID-19 significantly exacerbated historical structural barriers to higher education access for indigenous peoples. The project thus revolves around a *research collective*, consisting of youth co-researchers, indigenous leaders, and communities from each nationality, with support from Confeniae education leader and a design researcher connected to the indigenous movement. Initially, the intervention focused on collaboratively designing a pictogram system for popular education and communication processes to support identity strengthening (Pinto and Botero, 2021; Pinto, Botero, & Julier, 2024). However, as the process evolved and in response to the collective's research needs, the project organically expanded its practices to sustain politicized spaces for education and action involving youth of indigenous nationalities, their communities and organizations.

The groundwork included collecting data on education in the Amazon (in February–December 2021) in the course of designing and discussing various versions of pictograms (between January 2021 and October 2022). The resulting pictograms and data have been used for visual resources (see Appendix B), which have already supported political-communication practices that utilize multiple channels to address issues related to the pandemic and extending beyond it. We anticipate that these resources will support broader advocacy initiatives as time unfolds, as the research collective's ongoing exploration of knowledge and skill-building forms has allowed us to reflect on and address underlying systemic issues.

This supposes management of two overlapping timelines: in the first timeline, prompt actions and reflections responded to the emergency between 2020 and 2021, where design research focused on delineating, validating, and sustaining spaces of connection and action, while producing materials together. In the second timeline, which started with the project's inception, extended research and practice are oriented towards responding to the 'long emergency'. Here, the research collective further nurtures and sustains action spaces. The research design is oriented towards adapting to new scenarios and generating necessary resources (cultural, social and economic) to sustain the project in the long term, while simultaneously activating and disseminating the materials produced.

Empirical work has been carried out over more than 34 months in the Ecuadorian Amazon by the first author. The project built the body of grounding data through workshops, meetings, interviews, and an ethnographic field diary, all anchored in

ongoing action research that has involved coordinating the pictograms' participatory design, finding resources, engaging in mentoring, and building connections. Additionally, a considerable proportion of the data takes the form of text messages and voice-message (WhatsApp) exchanges, on account of the co-researchers' locations spread across diverse Amazon-region territories. In the various activities, the co-researchers in this research collective shift in their levels of centrality within the overall project; we elaborate on this in the next section.

3. Mundane and Strategic Work in Collective Pictogram Design for Resistance

In the EEA component of the resistance efforts, committing to collectivity stimulated all participants in the collaboration process to act as subjects of action, simultaneously nurturing a paradigm of strengthening particular capabilities in connection with a felt need for concerted responses that counteract the inequality knots affecting indigenous Amazonian students. For real-world design practice, this focus on collectivity as a source of strength guided the project's efforts to effect social change, which required all participants to travel across various levels of involvement.

For example, the first author, Nathaly Pinto, is an Ecuadorian communication designer and researcher of *mestizo* heritage who works between Ecuador and Finland alongside indigenous youth and organizations to bring greater visibility to their struggles while creating spaces of deliberation and learning. She acts as a graphic designer (e.g., illustrating drawings and explanations of young co-researchers that transform into pictograms) and project co-ordinator, a role she has filled ever since helping establish the project (e.g., strategizing design actions with indigenous leaders), while also undertaking mundane and strategic activities (e.g., filing meeting notes and drafting administrative documents) and acting as an ally or *compañera* (e.g., performing caring work and enacting reciprocal relations with youth co-researchers and leadership bodies). Moving between roles has helped her to respond to the collective's immediate as well as long-term needs, while also permitting her to take a step back when other co-researchers lead certain activities.

The second author, Efrén Nango, is an Ecuadorian-Shiwiar environmental engineer whose responsibility for education leadership at Confeniae—serving in 2020–2023—encompasses the entire Amazonian region. His work there involves reevaluation of indigenous knowledge and the development of skills to sustain it among leaders and grassroots members of various Amazonian communities. Ever since he helped initiate the project, he has supported it through expertise in socioeconomic environmental development of Amazonian nationalities and purposeful leadership while simultaneously acting as an indigenous leader (e.g., strategizing and guiding the project to represent indigenous organizations' and peoples' collec-

tive decisions). His multi-level efforts include undertaking mundane and strategic work (recruiting youth co-researchers, arranging encounters with organizations, etc.). His motivating influence (encouraging and supporting the co-researchers, sustaining an alliance relationship with the first author, etc.) has been particularly important, and extensive knowledge of the history of the territory and communities has played a crucial role in connecting the youth co-researchers and their work to indigenous organizations and their struggles.

Likewise, the youth co-researchers take on the role of young indigenous leaders, holding assemblies with their communities and articulating the project's aims, while simultaneously acting as intercultural researchers who write field diaries, gather data in their respective territories and languages, and translate the information for the rest of the group. Among their mundane and strategic actions are registering attendance at assemblies and drafting meetings' agendas. Their work of sustaining dialogue in their territories and with the communities was crucial for understanding what to represent through the pictograms, and they continue to enrich the refinement of the research infrastructure—for more reciprocal activities and better responding to young students' needs and capacities—with their experience.

These transitions between roles and across levels of involvement distributed the learning and skill-building, whether during our design processes or at times when we were not designing but acting collectively in other ways. On the one hand, collectivity redefined designers' role of 'facilitator of community development'; co-researchers became subjects of action and participants in the learning experience. On the other hand, it accentuated the significance of mundane and strategic tasks. These became acknowledged as opportunities for collective thinking about where to reproduce tangible, practical capabilities. In turn, we progressively learn to better identify actions that are able to address immediate and long-term community needs while connecting to political-educational needs.

To start building the research collective, we had to reach university students who could express the nature and extent of the education emergency. For this process, inclusion of all nationalities represented by the confederation alongside outreach to distant communities, would prove vital. To recruit youth co-researchers, Efrén commenced voice-messaging-based consulting with leaders from all nationalities' organizations, who, in turn, began discussions with the communities in their territories. The Amazon's territorial dispersion of nationalities and irregular connectivity already encouraged asynchronous communication via platforms such as WhatsApp, so he was able to adapt well-established but complex practices of communitarianism accordingly. Activation through partial virtuality established dialogue to link diverse grassroots worlds for deciding together. Thus, the system of youth co-researchers was established: indigenous communities nominated a student to represent each

nationality, they informed first and second author accordingly, and joint work with the young people began.

Through this *mundane* task of recruiting youth co-researchers, we shaped our methods to utilize the limited resources available creatively for data collection, analysis, and collective decision-making. This work has informed the ongoing design of the pictograms. We developed methods that focus on indigenous youth co-researchers collecting data and sharing information with their nationalities in the territories in tandem with collaboration with the authors. Our practice for implementing those methods has emphasized community-driven design, facilitated by a partial-virtuality approach. The early strategy, which entailed such actions as establishing a monthly stipend for helping mitigate technical disparities (such as issues posed by Internet expenses), ensured that all students could collect and share data under similar technical conditions. For our project, this approach allowed us to sustain the research process in a manner that avoided reinforcing asymmetric relationships. Simultaneously, it contributed to meeting students' immediate needs (mainly for access to virtual classes during the pandemic) and was aligned with their long-term objectives.

Once each nationality had reached consensus on its respective pictogram design and a final version emerged, it had to be presented to a national regional assembly for an official validation decision. As an education leader, Efrén placed the pictograms and access to higher education on the Confeniae Annual Regional Assembly agenda. In the lead-up to the assembly, youth co-researchers (serving as spokespersons), with Nathaly co-ordinating, collaboratively planned the presentation in accordance with indigenous-movement procedures. The planning process, which involved multiple Zoom meetings, was not restricted to this single task, however. It encompassed arranging transport for participants from their respective territories to the assembly location in the central Amazon, creating materials to support the presentation, discussing conventions related to traditional clothing and face-painting, and participating actively in the entire event.

Through these *strategic* actions for socialization of knowledge and materials, the pictograms were officially validated and shared widely with regional and national indigenous leadership groups and grassroots representatives (as the assembly's resolutions attest; see Confeniae, 2022). This action opened a space for discourse for youth co-researchers to speak out as advocates for resistance, fuelled by identity and representation and to denounce the violation of indigenous students' rights by referring to both personal experience and the data they had collected and presented to indigenous leaders (Figure 1). Furthermore, the project continues to sustain a space cohering around the design process that extends beyond the purposes of design in its own right: one rich with connections between young people and their nationalities' communities, organizations, and extended presence to their associated territories. This high- and low-level work, to develop skills and knowledge that strengthen

the nationalities' institutional capacity, takes into account that youth taking on leadership roles is a direct reflection of healthy community/territorial democracy and strong organizational footing (Pinto & Martínez, 2022).

Figure 1: Shakira Yumbo, Ai'Kofán co-researcher; Yankuam Wampash, Shuar co-researcher; and Lizbeth Tánguila, Kichwa co-researcher; presenting pictograms and data on access to education for Amazonian nationalities to regional and national indigenous leaders and grassroots representatives. Confeniae Annual Regional Assembly (October 28, 2022). Source: Archive of the project.



4. Effects of Mundane and Strategic Work when Designing with Indigenous Communities

The experiences outlined above, in conjunction with numerous others, affirm the importance of mundane and strategic actions in facilitating sustainable collaborative design and corresponding methods that contribute to real-life projects (Botero et al., 2020). Our project in the context of collaborative design with historically marginalized communities (Pinto et al., 2022) demonstrates well how these actions can translate into spaces for deliberation and for learning where it is possible to accompany and contribute to ongoing processes of resistance. Such spaces afford critical dialogue that can exhibit concrete effects far beyond the design itself:

a. More-than-academic encounters with communities

Commitment to collectivity, in interdependence with mundane and strategic tasks, nurtures a continuous connection to the day-to-day life of the research collective. This underscores the potent social conditions of production involved—mirroring the pragmatic and affective ties between politically organized indigenous communities (Simpson et al., 2024). One example became visible in the course of collaboratively preparing the Confeniae Annual Regional Assembly presentation of data on access to higher education and validation of pictograms. Such processes require young researchers to learn of or further connect to indigenous organizations decision-making spaces. Drafting the agenda of the presentation compelled the design researcher to ground academic vocabulary in real-life contexts. This occurs, for example, as students question the need to use the term ‘structural marginalization’, and share how they experience it. These collective actions, which go beyond the development of a lexicon connected to life in nationalities’ territories, have later manifestations. For instance, they prompted post-Zoom-meeting conversations to discuss the future with youth co-researchers soon to graduate and WhatsApp messages sharing updates on how indigenous leaders and communities were faring during an 18-day national strike in 2022 (see following whatsapp group dialogue excerpt).

Excerpt from whatsapp group dialogue, 14–19 June 2023

Yankuam: Greetings compañeros, in the south [of the Amazon region] we have joined the national strike. I hope everyone is well.

Nathaly: How is everybody?

Royer: We continue, here in the struggle at Shell [at the center of the Amazon region]

Efrén: Strength youth!. Let’s all unite to defend rights.

Shakira: That’s why we are protesting: to defend our rights. The strike [...] is to respond to the needs that the people have [North of the Amazon region].

The cumulative mundane and strategic effort creates spaces in which each participant can engage with nodes of every other’s experiences and knowledge of a shared yet distinct reality. The resulting holistic setting affords the challenging of traditional assumptions under which encounters are centered on data-based sympathetic knowledge-gathering that serves mainly design outputs. Thus, it supports striving at the same time for profound, more-than-academic encounters with communities. Even more than cooperation, this collaboration in and out of design research facilitates collective development of knowledge, resources and care—*en masse*—to counteract dominant structures. ‘In’ the design project, pictograms were created, extensive data was gathered, and we had experienced positive outcomes from the design research production. ‘Out’ of the design project, when planning presentations for assemblies, indigenous youth were actively empowered to criti-

cally occupy decision-making spaces in indigenous organizations. They reflected on political positions when establishing lexicons; redirected the project when discussing the future of young indigenous professionals; and struggled together when supporting during a strike, and other collective actions to guarantee collective rights. In the latter, encounters focusing on the relationships intertwined by the research collective, rather than the needs and time frames of the design project, help us nurture, coalesce, and grow communitarian sensibilities, organizational capacities, and a solidary social fabric. These more-than-academic encounters address the social and political needs of the research community and linked indigenous communities and organizations, to the extent in which they lay organic foundations for sustained social change effects of the research process and practice in spaces and through relationships not regulated by the central collaborative design project.

b. Redistribution of participation related to knowledge, production, and burdens

When committing to collectivity, mundane and strategic work highlight the social relations within research and the spaces where yields—such as knowledge and products—and burdens—such as emotional labor, time commitment, and effort—are redistributed (Pinto, Julier, & Tapia, 2023). For example, when preparing to establish our collective, Efrén observed that resources and opportunities were typically concentrated among larger nationalities or in territories closer to Confeniae's headquarters in the central Amazon. This awareness prompted us to reach out to all nationalities, especially minority ones, and cover all parts of the region—decisions partly sustained through the distribution of funding, prioritizing this decision. Through the mundane task of recruitment, Efrén created space for nationalities and territories with fewer opportunities to participate, a space continuously activated in other moments of the research. Another example is the co-researchers' proposal for bi-monthly videoconferences, where we reviewed our work, reflected on it, and planned our next steps. This strategic task created a space to discuss the future with youth co-researchers who, between 2020 and 2023, had strengthened their professional skills and capabilities as indigenous spokespersons and researchers through project activities and university studies. A subsequent strategic task involved creating a database of indigenous professionals, presenting research work and materials to civil society organizations working in the region, and preparing young individuals, especially from minority nationalities, for work in other projects across the Amazon. These new mundane and strategic tasks guide actions to continuously transfer and reallocate research yields to the research collective and their linked communities and territories. They align with the regional indigenous movement's efforts to strengthen the human talent and institutions of Amazonian indigenous nationalities, enabling them to decide on projects that

affect the sustainable use of their territories based on their worldview and ancestral knowledge (Confeniae, 2023). Through this effort, knowledge and research production could be further used as critical tools for communities to design for themselves (Botero & Hyysalo, 2013), in the context of addressing socio-environmental multi-crises in the region (see following field diary excerpt, and Figure 2).

Excerpt from Jeaneth's field diary / 12 July 2023

First workshop. We begin with the presentation of each member. The youth of Quijos [nationality] travelled from Archidona-Tena to Puyo (2 hours) and the youth of Sapara [nationality] from Tarqui-Pastaza (25 minutes) [...]. They expressed their views about the pictogram workshop. Both were nervous, [...] because they thought that designing their nationality [pictogram] would be easy but realized that even the smallest details are important for each nationality. They were happy to share their knowledge with everyone. [...]. I remembered everything I did when I started designing my nationality [pictogram]; I felt confident in myself.

Redistribution fostered by collectivity in mundane and strategic tasks, also guides research actions to visibilize burdens connected and unrelated to sustaining the research. This exercise facilitates managing and appropriating these burdens together, better responding to inequalities and systemic problems, the research collective confronts. For example, to access Intercultural Bilingual Education, youth mobilize between centralized universities and their territories, balancing roles as members of a nationality and an intercultural university community. This situation demands significant effort, time, and dual responsibilities, fostering unique intercultural knowledge but potentially leading to community separation at times and impacts on their wellbeing (Pinto et al., 2021). To redistribute this burden, we adapt the research design to accommodate each youth researcher's time and capabilities. This involves transferring efforts to the project's research design and coordination, requiring substantial care and resources to expand the design project's limits. Additionally, we promoted dialogue 'out' of the design process to extend dedication of time and care to collective well-being.

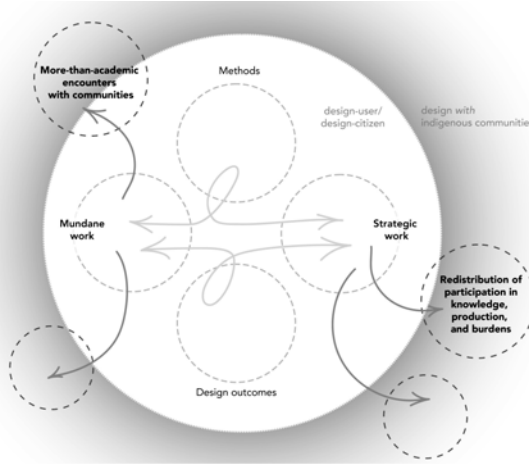
Figure 2: Jeaneth Mashian, Achuar co-researcher, autonomously incorporating pictogram design into her role as an intern in Confeniae's Plan de Implementación de Medidas y Acciones REDD+ project. This initiative focuses on the political-educational management of forests, biodiversity, and territories of Amazonian Nationalities, aimed at combating climate change. (July 12, 2023) Source: Archive of the project.



These involved non-formal education spaces and direct conversations to address concerns about the responsibilities and preoccupations of youth researchers as spokespersons for their nationalities, as well as challenges related to their student lives, facilitated by design researcher or the Confeniae education leadership.

Effects of both mundane and strategic work when designing with indigenous communities, draw attention to how we conceive and execute design interventions for social change. Our approach and positioning, creates and sustains spaces for collective action to tackle social issues and resist oppression together, taking these spaces—that extend beyond academic infrastructures—as generators of constructive tensions rather than limitations in design research (Figure 3).

Figure 3: Effects of mundane and strategic work when designing with indigenous communities, organized and linked to an indigenous social movement, extending beyond academic infrastructures. Adapted from “Figure 3. On interplay between mundane work and strategic implications.” by Botero, Andrea, Sampsa Hyysalo, Cindy Kohtala, and Jack Whalen. “Getting Participatory Design Done: From Methods and Choices to Translation Work across Constituent Domains” 14, no. 2 (2020, p. 5): 19.



However, it is important not to romanticize these effects sustained through the research collective’s communal absorption of work, care, and tensions, to avoid obscuring historical conditions of exclusion and injustice supported by wider structures of inequality (Pinto, Barriga, Machoa, & Minoia, 2023). While spaces for collective action allow the research collective to build knowledge and skills, develop critical understanding, and connect with reality—necessary for grounding design research and practice for social change—they require significant effort to mobilize resources and maintain alliances with communities, often conflicting with dominant academic timelines and infrastructures. For example, participation by design researchers yields immediate and mid-term tangible benefits, enhancing their social and economic capital and often leading to greater stability beyond the research project. Achieving similar transitions toward change for communities requires allocating economic, social, and cultural capital, such as acknowledging indigenous knowledge bearers without conventional titles. This redistribution is difficult to obtain and sustain under current research funding policies, timelines, or objectives, which need to be stretched. Thus, the effects of mundane and strategic work, sustained through commitment to collectivity, contribute to ongoing resistance actions for social change for indigenous communities and linked social movements as a long-term goal. Commitment to collectivity and both mundane and strategic work

can be essential in a bottom-up research strategy to address challenges, necessitating structural changes to further prevent asymmetric or extractive research dynamics.

5. Conclusions

It is crucial for the youth of various communities and nationalities to keep preparing ourselves to advocate for our territories [...], to make visible how indigenous communities and nationalities remain the most disadvantaged in terms of education, health care, and basic necessities, irrespective of the fact that the country's wealth stems primarily from [...] the Ecuadorian Amazon. (Kichwa co-researcher Lizbeth Tánguila, speaking online from Napo, Ecuador, at the EEA research collective's bi-monthly meeting of 23 March 2022; data ID L-Bi-Zoom2.)

At the time of writing this article, some of the conditions affecting students in the wake of the pandemic had eased, yet intertwined socio-environmental inequalities remain, perpetuating the 'long emergency'. Using the lens of mundane and strategic work in alignment with committing to collectivity for collaborative design from the margins fostered vigilance and critical perspectives that extend beyond academic interests and demands, taking into account broader contexts and historical relations in which the design intervention is sustained.

Our approach and positionality settled a different research and practice relationship than previous mundane and strategic work in collaborative design (Hyysalo & Hyysalo 2018; Botero et al. 2020), that resembles an interconnected research collective more than a cooperating user-design or citizen-design community. It is worth noting that the latter, from a position woven into the various sectors, undertake design to exercise citizens' rights or enhance their user experience, while marginalized communities and social movements have histories of systemic oppression that pose challenges to their equal and just participation in society (UNICEF, Social Behaviour Change, 2024). Therefore, it proved impractical and undesirable, if not impossible, for design collaboration with indigenous communities, to separate research practices from historic and everyday life practices or setting wider social change as achievable within the timeframe and boundaries of a conventional design research intervention.

However, when tensions are addressed and challenged, incorporating the examination of mundane and strategic conditions' possible influences on design research, design for social change *with* indigenous communities can be enriched as a way of pushing current research boundaries. Mundane and strategic tasks can aid opening spaces for collective action that encourage all participants to experiment with different forms of knowledge and skill-building, with a grounding in every-

day concerns, to challenge the prevailing reality from its members' unique vantage points. Spaces for collective action function most effectively when they align with a communitarian societal structure (CONAIE 1994; 2012), emphasizing collectivity when designing from the margins (Pinto et al., 2022). In this context, spaces cultivated through this connection can facilitate *more-than-academic* encounters with communities and promote the *redistribution of participation related to knowledge, production, and burdens*. These dynamics guide the research process toward nuanced distributed action, where the research collective takes roles across levels of involvement that imply 'designing together' for immediate issues and systemic horizons simultaneously, accompanying co-researchers to transition to design *by* communities. In this framework, effects of mundane and strategic work with indigenous communities that are challenging to sustain, visualize, and incorporate into the prevailing academic narratives can contribute to a collective history of resistance against dominant structures, both within and beyond design projects.

Statement on compliance with ethical standards

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References

- Arias-Gutierrez, R. I., & Minoia, P. (2023). Decoloniality and critical interculturality in higher education: Experiences and challenges in Ecuadorian Amazonia. *Forum for Development Studies*, 50(1), 11–34. <https://doi.org/10.1080/08039410.2023.2177562>
- Arsel, M., Pellegrini, L., & Mena, C. F. (2019). Maria's paradox: Oil extraction and the misery of missing development alternatives in the Ecuadorian Amazon. In P. Shaffer, R. Kanbur, & R. Sandbrook (Eds.), *Immiserizing growth: When growth fails the poor* (pp. 0). Oxford University Press. <https://doi.org/10.1093/oso/9780198832317.003.0009>

- Barcham, M. (2019). Towards a radically inclusive design – Indigenous story-telling as codesign methodology. *SSRN Electronic Journal*. Epub ahead of print. <https://doi.org/10.2139/ssrn.3378742>
- Batista e Silva, S. (2023). Design in and from the periphery: Building a praxis of resistance through collective investigations. *Revista Diseña*, 22. Epub ahead of print. <https://doi.org/10.7764/disena.22.Article.3>
- Borzenkova, G., Golovátina-Mora, P., Ramirez, P. A. Z., et al. (2021). Gamification design for behavior change of indigenous communities in Choco, Colombia, during COVID-19 pandemic. In A. Spanellis & J. T. Harviainen (Eds.), *Transforming society and organizations through gamification: From the sustainable development goals to inclusive workplaces* (pp. 309–334). Springer International Publishing. https://doi.org/10.1007/978-3-030-68207-1_16
- Botero, A., & Hyysalo, S. (2013). Ageing together: Steps towards evolutionary co-design in everyday practices. *CoDesign*, 9(1), 37–54.
- Botero, A., Hyysalo, S., Kohtala, C., et al. (2020). Getting participatory design done: From methods and choices to translation work across constituent domains. 14(2), 19.
- Chuji, M., Renjifo, G., & Gudynas, E. (2019). Buen vivir. In A. Kothari, A. Salleh, A. Escobar, et al. (Eds.), *Pluriverse: A post-development dictionary* (pp. 111–113). Tulika Books and Authorsupfront.
- CONAIE, C. de N. I. del E. (1994). *Proyecto político de la CONAIE*. CONAIE, Consejo de Gobierno.
- Confeniae. (2022). *Emergencia educación Amazonía – EEA*. Available at: <https://confeniae.net/emergencia-de-educacion> (accessed 8 December 2022).
- Confeniae, C. de N. I. de la AE. (2022). *Resoluciones Asamblea Anual 2022*. Confeniae. Available at: <https://confeniae.net/wp-content/uploads/2022/11/Resoluciones-Asamblea-Anual-28-de-October-de-2022.pdf> (accessed 18 June 2023).
- Confeniae, C. de N. I. de la AE. (2023). *Plan de implementación de medidas y acciones REDD+ – CONFENIAE*. In CONFENIAE. Available at: <https://confeniae.net/programas/plan-de-implementacion/> (accessed 31 October 2023).
- Crabu, S., & Magaudda, P. (2018). Bottom-up infrastructures: Aligning politics and technology in building a wireless community network. *Computer Supported Cooperative Work (CSCW)*, 27(2), 149–176.
- Fuad-Luke, A. (2009). *Design activism: Beautiful strangeness for a sustainable world*. Earthscan.
- Garcés, F. (2020). *Interculturalidad, educación intercultural bilingüe y etnoeducación: Una mirada teórica e histórica*. Repositorio Bibliográfico Digital De EIB, Etnoeducación e Interculturalidad. Available at: <https://www.repositoriointerculturalidad.ec/wp-content/uploads/2020/09/productomarcoteorico.pdf>
- Gautam, A., & Tatar, D. (2020). p for political: Participation Without Agency Is Not Enough. In *Proceedings of the 16th Participatory Design Conference 2020—Participa-*

- tion(s) *Otherwise*. 1. Manizales: Association for Computing Machinery, pp. 64–68. Available at: <https://doi.org/10.1145/3384772.3385142> (accessed 2 August 2020).
- Hernández Loeza, S. (2016). Educación comunitaria y EIB en el Ecuador contemporáneo. *Revista Ecuador Debate*, 098, 51–64.
- Hyysalo, V., & Hyysalo, S. (2018). The mundane and strategic work in collaborative design. *Design Issues*, 34(3), 42–58.
- Laiti, O. (2021). *Old ways of knowing, new ways of playing — The potential of collaborative game design to empower Indigenous Sámi*. Doctoral Thesis. University of Lapland, Finland. Available at: <http://urn.fi/URN:ISBN:978-952-337-249-8>
- Light, A., & Akama, Y. (2014). Structuring future social relations: The politics of care in participatory practice. In *Proceedings of the 13th Participatory Design Conference: Research Papers – Volume 1*, New York, NY, USA, 2014, pp. 151–160. PDC '14. Association for Computing Machinery. Available at: <https://doi.org/10.1145/2661435.2661438>
- Papanek, V. J. (1973). *Design for the real world: Human ecology and social change*. Bantam Books. Available at: <https://books.google.fi/books?id=GOCvWAEACAAJ>
- Pinto, N., Barriga-Abril, X., & Machoa, K. (2023). Intervenciones de diseño participativo: Apoyando redes de cuidado universitarias en tiempos de Covid. In R. I. Arias-Gutierrez & P. Minoia (Eds.), *Plurinacionalidad y justicia epistemica. Retos de la educación intercultural en la Amazonía Ecuatoriana* (pp. 195–222). Quito, Ecuador: Ediciones Abya Yala.
- Pinto, N., & Botero, A. (2021). Pictogramas, comunicación intercultural y diseño participativo. In: *Proceedings Pivot 2021 – Dismantling reassembling for alternative futures*. Design Research Society, p. 349. Available at: <https://doi.org/10.21606/pluniversal.2021.0052>.
- Pinto, N., Botero, A., & Julier, G. (2024). Politicizing the pictogram: Participatory design approaches within indigenous community communication. *International Journal of Design*, 18(1), 77–93. <https://doi.org/10.57698/v18i1.05>.
- Pinto, N., Julier, G., Tapia, A., et al. (2023). Pictograms for resistance: Historicity and militant design research in Amazonian Ecuador. *Journal of Visual Culture*, 22(2).
- Pinto, N., & Martínez, C. (2022). *Mujeres de las Nacionalidades: Nuestro método organizativo*. Puyo, Ecuador: Centro de Derechos Económicos y Sociales —Cdes.
- Pinto, N., & Nango, E. (2021). *Emergencia de educación en la Amazonía: aprendiendo de acciones indígenas de resistencia*. In *Development, Learning and Education: Post-pandemic Considerations*, Finland, June 2021. University of Jyväskylä.
- Pinto, N., Nango, E., Piaguaje, E., et al. (2021). *Emergencia de educación en la Amazonía: universitarios indígenas resisten*. *La Voz de la Confeniae*, October.
- Pinto, N., Vertiz, B., & Botero, A. (2022). *Resistance, social reproduction and emerging commitments for collaborative design from the margins*. In *DRS2022: Bilbao*, 16 June 2022. Available at: <https://dl.designresearchsociety.org/drs-conference-papers/drs2022/researchpapers/227> (accessed 20 July 2022).

- Quijano, A., Clímaco, D. de A., & Quijano, A. (2014). *Cuestiones y horizontes: De la dependencia histórico-estructural a la colonialidad/descolonialidad del poder: Antología esencial*. Available at: <https://www.jstor.org/stable/10.2307/j.ctv1gmo19g> (accessed 1 April 2021).
- Reynolds-Cuéllar, P., Grisales, C., Wong-Villacrés, M., et al. (2022). *Reviews Gone South: A Subversive Experiment on Participatory Design Canons: Dedicated to the Memory of Oscar A. Lemus*. In *Proceedings of the Participatory Design Conference 2022: Volume 1*, Newcastle upon Tyne United Kingdom, 19 August 2022, pp. 206–217. ACM. Available at: <https://dl.acm.org/doi/10.1145/3536169.3537794> (accessed 22 August 2022).
- Santos, B. de Sousa (2016). *Epistemologies of the South and the future*. 13.
- Simpson, N., Tapia, A., & Smith-Morris, C. (2024). Levels of Communalism in the Ecuadorian Amazon. In C. Smith-Morris & C. E. Abadía (Eds.), *Countering Modernity* (1. ed.) (pp. 193–217). Routledge India. <https://doi.org/10.4324/9781003473565-14>
- UNICEF, Social Behaviour Change. (2024). *SBC programmatic approaches: Social movements*. <https://www.sbcguidance.org/understand/social-movements>
- Walsh, C. (2009). Interculturalidad colonialidad y educación. *Revista Educación y Pedagogía*, 19(48), 25–35.
- Yashar, D. J. (ed.). (2005). *Ecuador: Latin America's strongest indigenous movement*. In *Contesting citizenship in Latin America: The rise of indigenous movements and the postliberal challenge* (pp. 85–151). Cambridge Studies in Contentious Politics. Cambridge University Press. Available at: <https://www.cambridge.org/core/books/contesting-citizenship-in-latin-america/ecuador-latin-americas-strongest-indigenous-movement/101FD6DFBAF31C9385D021B600DF109D>

Appendices

Appendix A: Amazonian Nationalities of Ecuador Pictograms

Version 6.0 of pictograms of indigenous Amazonian nationalities of Ecuador. This is the version of the work with students and their communities validated after going through an official process of negotiation and public consultation with authorities and representatives of nationalities. Quijos and Sapara pictograms are currently under development (see project website Confenaie, 2022).



Waorani nationality pictogram poster. Pictograms showcase representative elements related to history, territory, rituals, medicine, food sovereignty, flora, fauna, and warrior knowledge. A series of posters for each nationality pictogram was designed as educational-communication tools, to further highlight the diverse languages and generations of knowledge involved in the representations (see project website Confenae, 2022).

**PICTOGRAMAS
NACIONALIDADES
AMAZÓNICAS
DEL ECUADOR**

Ayare
pluma

Otomenta
corona

Awinka
pemui,
kaka pemui
pintura facial

Onie
hombre

Patokaguime
Collar

Meñe baga
diente de jaguar

Eñake
oguime
Pasa cuerpo

Ömë
selva, bosque,
territorio, ecosistema

Oko
casa

Meñe jaguar

Tapa lanza

Omena cerbatana

Oñabo hoja

**EMERGENCIA
DE EDUCACIÓN
EN LA AMAZONIA**

Ayare
plumas

Otomenta
corona

Awinka pemui,
kaka pemui
pintura facial

Okie
mujer

Pantomome
patokaguime
collar de ormosia
coccinea

Eñake oguime
Pasa cuerpo

**PICTOGRAMA
NACIONALIDAD
WAORANI**

Más información y acceso a materiales:
<https://confenae.net/emergencia-de-educacion>

Este pictograma surge a partir de materiales desarrollados en el proyecto "Emergencia de Educación en la Amazonia", organizado junto con la alianza de educadoras de la Confederación de las Nacionalidades Indígenas de la Amazonia Ecuatoriana (CONENAE), y estudiantes representantes de nacionalidades amazónicas. Investigación y edición: Nathaly Pinto. Concepto y diseño estudiante representante: Micaela Nilson. Agosto 2022.

Appendix B: a sample of visual resources using pictograms

Pictograms as tools to draw attention to students' struggles. An infographic co-designed by Sabina Guerrero, Siona co-researcher, showing that 92% of Siona young people between the ages of 18 and 29, after completing their secondary education, could not access institutions of higher education during the pandemic. This infographic was used in an article for an Amazonian magazine, written by the collective to draw attention to students' impacted conditions during Covid (Pinto et al., 2021). Source: Archive of the project.

