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Formabiap's Indigenous educative community, Peru: a biosocial pedagogy

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ABSTRACT

This article provides a descriptive account of the workings of an Indigenous-led teacher training initiative in the Peruvian Amazon (Formabiap) and considers the extent of its transdisciplinary pedagogic approach, with a special focus on the ontological and epistemological stakes of intercultural knowledge exchanges in the context of contemporary global challenges. The article evaluates the extent to which Indigenous pedagogical projects can sustain inter-species relationships that promote a good life in which diverse species, including both humans and plants, can flourish. To extol the potential of Formabiap's 35 year plus Indigenous rights initiative, the authors forward the notion of biosocial pedagogy, a heuristic device that helps value the constabstantial, and relationally entangled epistemologies of Indigenous Life-worlds.

KEYWORDS



Indigenous rights; intercultural; bilingual; teacher training; biosocial pedagogy

Introduction

Education is not only teaching maths; teaching communication. Education is a very complex process that involves various actors. There are formal teachers, but also day-to-day teachers who we learn from, through observation, mimicking and practice. As a child playing out the things you have observed, you are learning. You are always watching and observing in a community, this is another way of learning. *Richard Ricopa Yaicate, Coordinator of Initial Teaching Training, Formabiap Educative Community, Peru, May 2017.*¹

Coming out of the classroom later, Richard explained:

We are discussing the notion of education that each people (Sp.²*pueblo*) has, how you learn, in which spaces you learn, who are the teachers, why are they teaching. We have reflected on this today, with the help of the elders.

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Figure 1. First-year students in the central longhouse ‘maloca central’ in Formabiap’s educative community in Zungarococha, September 2022. Author Fernando is pictured in the lower row, second from the right.⁵

On the outskirts of Peru’s largest Amazonian metropolis, Iquitos – a city of three-wheeled motorcycle taxis, with cosmopolitan luxuries alongside marked urban poverty – lies the Educative Community of Zungarococha (see [Figure 1](#)). Its educative programme, Formabiap,³ provides teacher training for the diverse Indigenous⁴ peoples of Peru’s largest region: Loreto. The offer is both intercultural and bilingual; training teachers in their native languages as well as Spanish, in dialogue with both national and other Indigenous societies and cultures.

Formabiap’s explicit aim is the exercise of collective rights as Indigenous peoples; outlined in the Peruvian constitution and declared in article 18 is the Universal Human Right ‘to manifest their religion or belief in teaching, practice, worship and observance’.⁶ The programme facilitates critical reflection on education and offers a linguistically and culturally bespoke teacher training programme to the various Indigenous peoples it serves. Formabiap’s critical lens assumes the inequality of contemporary democratic societies; asserts that the dominant ideologies sustain this inequity; and that we need to be aware, challenge and do something about these (see [Brookfield, 2005](#)). In so doing, Formabiap enables aspiring community leaders to return to their homes and teach with dignity and self-respect, equipping them with the tools they need to continue to secure other collective rights ([Brookfield, 2005](#)).

Formabiap’s teacher training programme is rooted around a common thread evoked by Indigenous societies, one that explicitly honours convivial ethics and sustainable environmental relationships: the Indigenous ethos of living well (or good living, the

'good life', 'Sp. *buen vivir*'⁷); or more recently for Formabiap, 'full living' (Sp. *vida plena*).⁸ This ethos is one that understands species across different taxonomic realms (fauna, flora, fungi) to have an agency with which humans can relate well and sustainably over time; one of which Amerindian peoples have extensive lived experience – experience well documented by the ethnography of lowland South America and within the ancient anthropogenic biodiversity of Amerindian forests themselves (Heckenberger et al., 2007).

The Amazon Basin is one of the most ethnolinguistically diverse regions in the world – a reflection of diverse and fluid social and ethnic identities (Hornborg & Hill, 2011), one paralleled by biome and species diversity. This is something that Formabiap's programme is keen to sustain. Formabiap goes a step further to dialogue with occidental knowledge as part of critical thinking around how full living manifests for each of the peoples with which it works. Teachers together aim to construct their own understanding of 'development', 'from the perspective of the ancestral practices of forest use and its resources and forms of land use – that are starting to be valued today – to the immeasurable knowledge accumulated in medicinal, ornamental, food and forest resources, as well as the rich diversity of ritual manifestations, ceremonial, dance, craft, literary, musical' practices (Sotil Garcia, 2001, p. 4; Trapnell 2017). It is in this sense that Indigenous epistemologies, as Indigenous scholar Townsend-Cross (2011, p. 73) argues, have a 'concrete perception' of alternatives that have been realised in the present or recent past.

A primary aim of our paper is to celebrate, endorse and learn from this values-orientated Indigenous onto-epistemology, as actively engaged by Formabiap, with a special focus on how this underpins relationships, especially those with plants. This is of chief importance when Indigenous worldviews are often judged to have an 'epistemically uncertain (i.e. belief-like) status' (Gow, 2009; also see; Fricker, 2007; Grosfoguel, 2015). Sustainable plant relations are central to Amerindian notions of what it means to be human; and these are evinced ethnographically as well as through the projects engaged as part of Formabiap's programme and reflected upon through students' theses (see p. 547 of this article).

The first part of the paper describes the programme and the backdrop from which Formabiap emerged. With a focus on relations with medical plants, it then turns to take a closer look at how this training is put into practice when teaching in Indigenous communities. We then consider the significance of relational epistemologies and the ontologies in which they are embedded to discuss biosocial pedagogy in the broader context of global challenges in education (Rahman, 2017; see also Rahman & Barbira Freedman, *in press*).

This paper is a collaborative effort between Fernando Antonio García Rivera, Meredith Castro Rios, Françoise Barbira Freedman and Elizabeth Ann Rahman. Fernando Antonio García Rivera, a linguist and native speaker of Ayacucho Quechua, started to work in Formabiap in 1988 as a linguist to advise Ashaninka and Shipibo students during the early years of the programme. After a break, to undertake postgraduate studies, he returned to Formabiap to take charge of the Educational Research Course and to support the training of Amazonian Kichwa students, a language closely related to Ayacucho Quechua. As a teacher and coordinator of Formabiap, he is currently involved in developing the programme's training strategy.

Meredith Castro Rios is an anthropologist, currently training for her master's degree, and is a former member of staff, who from 2016 to 2018 supervised student teachers' theses in Formabiap and accompanied student teachers to the field: Meredith accompanied Shawi students on two occasions, for a total of two months, during their pre-

professional practice in small village communities of single-teacher schools of less than 30 students. Her observations are derived from her accompanying these groups of students, and from the conversations held with some of them about their preliminary teaching experience, with a special focus on the role pre-professional teaching played in their training.

Elizabeth Ann Rahman, an Amazonianist and anthropologist based at the University of Oxford, spent a month on site, working with Formabiap's residential educative community as part of a year-long ESRC Global Challenges Impact fellowship dedicated to articulating research on Indigenous Amerindian attentional (mindfulness) techniques with pedagogical practices on the ground.

Françoise Barbira Freedman is a Cambridge University lecturer and NGO Director, with over 30 years' field experience with the Kichwa of San Martín, including migrants to Iquitos and other cities in the Peruvian Amazon. Her reflection dialogues with authors' contributions to Formabiap's institutional journal, *Kúúmu*, a key instrument of Formabiap's evolving vision and analysis. Françoise's reading of *Kúúmu* presents and comments on the contributors' own critical discussion of their praxis.

This collaboration between scholars, activists and practitioners has been an exercise in building and maintaining meaningful relationships across continents entrenched by differential power and means to visibility, acts that challenge the competitive and individual-centred values of knowledge production (Torres, 2019). In this sense, anthropology's open enquiry is akin to a 'poor pedagogy' offering an unlearning, at once a non-didactic but also 'authentic' mode (Masschelein, 2008; 2010; Mozombite Maca & Vargas Zambrano, 2010) of what Ingold (2017), drawing on Masschelein, has termed an 'undisciplinary' investigation with a transformative methodology. Focused on learning from Indigenous onto-epistemologies and their reproduction and in dialogue with Formabiap's initiatives, we combine our expertise and experiences. We provide some empathetic reflection on 'what really matters' (Kleinman, 2008), with all the promise that Formabiap's moral, medical and political 'remoralisation' brings.

A note on schools in the Amazon

While there were various mission-based educative initiatives in 18th century Amazonia, it was not until the 20th century that the first formal schools were established within rural, forested areas of Amazonia. A case in point is that of the Awajún people (Greene, 2009; Guallart, 1997), who principally live in the upper Peruvian Amazon, and to whom one of the programme's founders, Never Tuesta Cerrón, belongs. The first school was established in Awajún lands in 1924 by an evangelical pastor, a second in nearby Santa María in 1948, rapidly followed by a Jesuit boarding school and the Summer Institute of Linguistics (SIL)⁹; the first bilingual school. The SIL trained translators and teachers throughout lowland South America using a model of bilingual education whose aims were primarily evangelical, with active disregard for Indigenous culture. On these grounds, SIL was expelled from other countries on the continent, including Brazil, Ecuador, Panama and Mexico.

The second half of the twentieth century saw the creation of public schools in many parts of rural Amazonia, including in Peru. The people's concern to educate their children, so they might defend themselves and avoid exploitation as part of their coerced participation within national extractive economies, stimulated

disparate and nomadic families to migrate into collective sedentary communities. These communities could then be recognised by the state as fiscal and bureaucratic entities, with the power to request the creation of a school. Initially, public schools overwhelming taught in Spanish regardless of the native tongue of the students, and in many cases speaking their mother tongue during classes was forbidden.¹⁰

In the 1980s, due to the poor quality of the education in Indigenous communities, combined with how poorly the educative model (with its urban values and focus) reflected Indigenous people's realities, a group of anthropologists and Indigenous leaders decided to create a bespoke teacher training programme. In the late eighties this idea came to fruition with Formabiap, one of the first programmes to offer teacher training in Intercultural Bilingual Education (IBE) in the Amazon and one of the first to be recognised by the Peruvian State. It has since informed approaches recommended by the Peruvian Ministry of Education.

The rise and scope of Formabiap

The Bilingual Teacher Training Programme of the Peruvian Amazon (Formabiap) began its activities in 1988, following the signing of an agreement between the Ministry of Education, the then regional authority, Loreto's Departmental Corporation of Development (CORDELOR), the Interethnic Association for the Development of Peruvian Rainforest (AIDSESEP) and the Italian NGO Terra Nuova. Following a regional evaluation and diagnosis, in which seven Indigenous federations affiliated to AIDSESEP participated, Formabiap and its operations was born in alliance with the Institute of Higher Pedagogy of Loreto (now Loreto School of Higher Education in Pedagogy). Since then, Formabiap is the official educational programme of AIDSESEP, functioning as part of the Intercultural Bilingual Education (IBE) Area and offering the standard five-year long Teacher Training Degree.

The participation of Indigenous organisations in the management of the programme was an important national innovation. In the course of the now 35 years of its operations, Indigenous participation has been consolidated through various institutional management modalities, such as the sharing of executive functions with the public pedagogical institute and a national Indigenous organisation, as well as through the presence of Indigenous wise men and women (sages or 'experts') in the teacher training process and the participation of community members in the elaboration of different educational materials for teacher training and primary education in IBE.

Formabiap began its work by training teachers in the speciality of Intercultural Bilingual Primary Education with students from seven Indigenous Peoples¹¹ whose territories are located in the regions of Amazonas, Cerro de Pasco, Junin, Loreto and Ucayali. In the following years, students from other peoples of northern and central Amazonia were incorporated in the programme.¹² In the mid-1990s, in alliance with regional Indigenous organisations, Formabiap initiated three in-service teacher training programmes in Santa Maria de Nieva (Amazonas Region), San Lorenzo (Loreto Region) and Satipo (Junin Region). Formabiap, with in-service teacher training in the speciality of Intercultural Bilingual Primary Education, also expanded its teacher training services to the Ikitu and Yanasha peoples (Trapnell Forero et al., 2018). Throughout its years of work, Formabiap

has trained Indigenous teachers for a number of Amazonian communities: of AIDSESEP's nine regional organisations; five have directly benefited from the Programme.¹³

In 2005, the programme, in conjunction with Kukama Kukamiria and Tikuna peoples, initiated a proposal to train female teachers in the speciality of Intercultural Pre-school Education. A similar experience has been developed with the training of Kichwa teachers in Intercultural Pre-school Education, under an agreement with the Ministry of Education (MINEDU), which qualified 30 teachers at this level.

Due to the decentralisation processes of teacher training adopted by the parent organisation and its regional federations, and given the dwindling support from international development funds, Formabiap's programme now only serves Indigenous peoples from Western Amazonia. Currently, Formabiap is developing initial teacher training in IBE only for men and women at the primary education level and with the Kichwa, Kukama Kukamiria and Shawi Indigenous peoples, and with a handful of Achuar and Awajun student-teachers in attendance.

While there are other teacher training options in the Western Amazonia (both in the public and private sectors, with or without the speciality of IBE), its campus, pedagogy and in community practice opportunities make Formabiap a competitive option for Indigenous youth wishing to pursue higher education. However, while tuition is state-funded, students need financial aid to cover their food and accommodation expenses. Until recently, students could seek a government grant to cover these costs.

How it works: an overview of Formabiap's teacher training programme

Not only do we train the students here in pedagogical terms – with an active pedagogy and giving them opportunities outside the classroom – we also give them productive, economic and livelihood alternatives with which they can work with the community, so that the school is not left outside the community, but also becomes part of the community and part of community planning, part of their 'life plan'. In this way, we can ensure the participation of parents throughout the learning process. Never Tuesta Cerrón, Co-Founder and Coordinator of Formabiap, Peru, May 2017.¹⁴

Formabiap has trained mostly Indigenous teachers in Intercultural Bilingual Primary Education, through various teacher training curriculums approved by the Ministry of Education, the regulatory body for schools and teacher training institutes. Formabiap's aim to ensure a quality bespoke training curriculum has meant the following six additional conditions are also attended to.

The first of these is organising the academic year around an Integrative Pedagogical Project. The use of integrative pedagogical projects is a strategy that tries to organise the integrated learning of future teachers in the most authentic way possible. A central objective is to present ways of developing situated learning (Lave 2019; Lave & Wenger, 1991) in activities that develop competencies, capacities and performances instead of focusing on the content of the school curriculum. Here, a particular project provides a transversal axis for various curricular areas and 'dialogues of knowledge' are used to evaluate the rightness of fit of the alternatives presented to each community's notion of what a full (i.e. moral and sustainable) life

should look like. Importantly, these dialogues of knowledge have explicit aims, for instance: food security or health.

Projects developed by the programme include: 1) the use of healing plants for personal, spiritual and physical strengthening (see also Formabiap's theses, e.g. Cabudivo Aquituari, 2013); 2) the revalorisation of manioc preparations as a healthy food for the Kichwa and Kukama peoples (see also Formabiap's theses, e.g. Isuiza Manihuari et al., 2010); 3) the construction of a house according to the visions and techniques of each participating Indigenous people represented in the teacher training community (see also Formabiap thesis, Mozombite Maca & Vargas Zambrano, 2010).

During the first part of the project, students deepen and systematise the knowledge and practices of their own Indigenous people in the development of the activity. The learning takes place by way of actions, products and materials that are manipulated by the students themselves, with the advice of their respective Indigenous sages and teacher trainers who know their culture and their Indigenous language. They then present these achievements to students from other Indigenous peoples. In both stages, they express and reflect on the value of their own knowledge and the contribution of other Indigenous peoples and the western sciences within the 'dialogue of knowledge' framework. This dialogue implies a visibilisation of the achievements of each cultural tradition, in an asset- rather than deficit-based approach, cognisant of the lack of valorisation of the knowledges of Indigenous peoples vis-à-vis those of national society. This considers how knowledge creation is in the hands of the dominant classes, where oral tradition and myths are too often considered 'superstitions' and are derogatorily perceived as lacking in scientific rigour. In contrast, the Formabiap's programme identifies and names Indigenous experts, values their holistic and transdisciplinary science and actively includes them in the epistemic community where students learn (for discussion on this, see Cole, 2017).

The second training requirement is evoked by Formabiap's linguistic policy. This stipulates that if the majority of students are proficient in the Indigenous language, this is used and studied as the mother tongue and Spanish is treated as a second language. This contrasts to standard approaches to the IBE curriculum. In addition, Formabiap has developed revitalisation strategies for communities in which Spanish has become the main language. The Kukama Kukamiria is one of the Indigenous groups whose language was repressed and with whom Formabiap is facilitating language revitalisation in the classroom and through projects.

Thirdly, Formabiap builds relationships and knowledge of other participating peoples, where students also practice teaching. In the second trimester of each academic year, students undertake approximately two months of in-situ practice activity, which augments to five months in the last year of their course. Formabiap's teacher trainers accompany and supervise a group of students, observing their classes, supporting them and facilitating spaces for reflection after each day of learning. In the initial year, students observe classroom practice and provide support to the teacher in charge of the classroom. On following occasions, they have the opportunity to plan and develop their learning sessions for all six grades of primary education. During this process, student teachers familiarise themselves with single-teacher (mixed-grades) and multi-teacher schools, and with the different communities and territorial range of their own people (see Figure 2). In their final year, they develop their research project and design projects for their specific



Figure 2. Student of the fifth cycle conducting a class in a single-teacher school, Nueva Soledad community, November 2016.¹⁵

context. Some of the investigative methods used include observation and note-taking in field journals, interviews, witness accounts, observation, and the collection of oral stories and narratives.

Fourth, the programme ensures the presence of an Indigenous sage (Sp. *Sabio*, previously named Indigenous specialist) for each of the peoples represented by students in the programme. They advise students on both language and knowledge specific to their community's heritage. Their principal role is to facilitate integrative pedagogical projects.

Fifth, the aim is to have, funding permitting, a linguist and an anthropologist for each Indigenous people present in the teacher training. This is in line with the sixth commitment to manage the curricular areas of Society and Nature from a holistic and integrated vision that conceives the forest, territory and the human communities as integrated and related spaces, in which there is no predominance of human action but rather, a climate of respect for the guardian beings of diverse coexisting worlds. Imparted through sages, integrative pedagogical projects and as part of students' own research, Indigenous worldviews are key to upholding the Full Life ethos.

These strategies ensure future teachers are proud of their Indigenous heritage especially given that this knowledge and its associated practices have developed as part of longitudinal processes which takes care of the forest and lives in respectful coexistence with the beings that inhabit it.

An insight into pre-professional practice in communities

Formabiap's students are trained to understand the importance of integrating parents in the school, and the school within community dynamics. They participate in community activities, supporting the community by volunteering to keep a written record of an assembly and doing communal work (Sp. *mingas*). Trainee teachers also accompany families to go fishing or to harvest their farm (Sp. *chacra*), as well as playing or refereeing soccer games in the afternoons, and attending parties and meetings (Ríos Ahuanari, 2017).

It is important to note that, although future teachers go to schools in which their own people are represented, during their practice they are not always close to their home community, nor do they always know people when they arrive. It is often convenient for community introductions to take place on a community workday (Sp. *mingas*), when everyone is present and in this way, student teachers gain insight into interethnic politics.

Teachers also plan activities that include visits to the sages, elders or wise men and women based in the communities themselves, as Meredith's description of her accompaniment of teachers to the Shawi people demonstrates.

The Shawi people are one of the 51 Amazonian Indigenous peoples living in Peru. According to the Peruvian Ministry of Culture, their population is estimated at more than 20,000 people, most of whom live in the regions of Loreto and San Martín, in the north-west of the Peruvian Amazon. The Shawi language belongs to the Cahuapana linguistic family and Shawi remains the mother tongue of its population.

Meredith observed the classroom of a Shawi trainee teacher during his seventh cycle of practice. On that occasion, the student was in charge of a group of school children who belonged to the fourth, fifth and sixth grades of primary school (9–13 year olds), sharing one classroom. The theme of his learning session was: 'Medicinal Plants'; within this framework he addressed the areas of Socio-personal development, First Language and Spanish. Meredith presents the following ethnographic vignette:

After an icebreaker, the practitioner proposes a riddle: 'I have life without being a person/I cure the sick without being a nurse/they always look for me to cure the sick, but I don't get paid'. In the classroom, different answers are given, including doctor, healer (Sp. *Mapachero* - *mapachero* is a tobacco healer, who diagnoses and treats sickness using tobacco as a diagnostic and therapeutic tool), God, and some examples of medicinal plants, such as cat's claw (*Uncaria tomentosa*), copaiba (*Copaifera langsdorffii*), black mucura (*Petiveria alliacea*) and chuchuwasi (*Maytenus macrocarpa*). The answer was ayahuasca.¹⁶ From the reaction of the children, it was evident that they had heard of this plant (on ayahuasca, see Fotiou, 2019; Narby & Chanchari Pizuri, 2020; the latter is a teacher trainer at Formabiap). After this initial stimulation, the practitioner explores the children's previous knowledge, by eliciting the names of other medicinal plants. He then asks if they want to know more and, after an affirmative response from the children, tells them that they will all go together to visit the wise man and that they should take notes of what he tells them. The teacher instructs the children to behave well and, in an orderly and quiet manner, they all leave to visit the sage's house, not far from the school.

The sage welcomes the group; there he explains what medicinal plants exist in the community, what types of diseases exist and, briefly, explains that both pharmaceutical medicine and natural medicine are good, however, natural medicine is more convenient, besides being much cheaper. This all unfolds in native shawi, and the practitioner thanks the sage on behalf of everyone and says goodbye before everyone returns to the classroom.

In the classroom, the trainee teacher organises the students in groups and draws a chart on the blackboard; in the first column he writes ‘medicinal plant’, in the second, ‘parts’ and in the third, ‘utility’. Afterwards, he asks them to copy the chart on a flipchart paper/large sheet of paper and, together, indicate the names of some medicinal plants, as well as the utility of each of their parts. While the children work, the practitioner checks their work and guides them. After this, a representative from each group comes to the front to present their work and the rest of the class applauds when each presentation is finished.

After the break, the practitioner conducts the class in Shawi. He writes on the blackboard ‘Knowing how to prepare remedies’ (Sh. *Nimiriu Ninesu’ nitutawa*) asking for a written example of how to prepare a remedy. After the assigned time, he collects their narratives. In the last part of the learning day, the practitioner develops the Active Spanish course, a constituent part being the mental gymnastics of working in Shawi and then switching to Spanish. He gives homework to the children, asking them to find the names of 10 medicinal plants and to write their names in Spanish and Shawi. To round up, he asks some questions to the children about the work they have done today.

Classroom activities are a means through which western dominant knowledge and epistemic classification and objectification practices can also integrate and valorise local knowledge. In other instances, community members participate as another actor in the children’s education when learning projects are carried out. These are often based on the projects in which the teacher training students have participated during their studies in Formabiap (e.g. Panduro Bartra, 2017). Parents can be invited to support their children in the project of making bags (Sh. *shicras*) woven with chambira (*Astrocaryum chambira*), a fibre from a palm tree found locally.

The elaboration of the *shicra* has different stages, since it is not only extracted from the forest, dried in the sun, braided and then woven, but during this whole process the appropriate times of day and season must be considered and the speeches must be pronounced before the chambira is approached (Marichín Tangoa, 2019) and an offering is made with thanks given, to ensure that the activity will be a fruitful one and that the plant’s spirit is well respected. Here, the etiquette and ethos of respectful plant relations, taking just the right amount at the right time, and developing a relationship with the plant as a person and entity to be addressed and communicated with, openly acknowledges a relational epistemology in a way that is no longer removed from or only casually associated with classroom experiences (Robilliard Ferreyra, 2017).¹⁷

Covid-19: wellbeing, health and knowledge

Reflections of teaching and knowledge exchange within the structural challenges caused by the pandemic made their way into the pages of Kúúmu (Chumbe Muñoz, 2021; Rosales Alvarado, 2021, Mendoza Zapata, 2021). The use of matico (mostly *Piper aduncum* rather than the *Piper Angustifolium* variety), a plant commonly used to treat tonsillitis, bronchitis, pneumonia and to prevent and treat common colds, was used to alleviate symptoms of Covid-19 in Peruvian Amazonian communities in 2020–21. Matico leaves were prepared in infusions, decoctions and vaporisations, as well as mixed with acetaminophen, an over-the-counter medicine widely used locally for the treatment of pain and fever. It became central to Indigenous endeavours to save lives in the face of inadequate services in

regional urban hospitals, and is documented as creative community revitalisation even despite the sad suffering and death of elders.

The pandemic has highlighted an autonomous wisdom to design remedies in the treatment of Covid-19, without resort to NGOs or state agencies: 'one of the lessons that Covid-19 has left us is that ancestral or traditional medicine is still in force' (Chanchari Pizuri, 2021, p. 33). The resurgence of interest in Indigenous Amazonian plant medicines can also be a source of lucrative activities for communities. As Emiliano Serrano Calderón affirms (2017, pp. 23–25), the goal is to equip boys and girls with better means of using local resources through activities linking school, the family economy and the environment in a poverty reduction strategy born from an agency in harmony with ancestral values.

The presentation of knowledge around biodiversity and transformative person-like attributes recorded in stories and myths were created using digital tools during the pandemic. Citing the example of the microcinema 'Kukisha', Chumbe Muñoz (2017, p. 35; 2021) supports not only the incorporation of programmes designed for ecological education but also audiovisual productions that can achieve empowerment in the school and the community. 'Urukuria: the owl woman', a work of collective creation between students of Formabiap, the Itinerant audio-visual training workshop (TAFE) and Warmayllu's Laboratory of Well-Being, describes the transformation and interbeing of the people and other species. These stories are a key way of keeping onto-epistemologies alive (see Cochrane, 2023, this issue).

Post pandemic, the new re-evaluation of Indigenous plant knowledge as part of Indigeneity claims in the Amazon region is taking place within a political-theoretical framework that contrasts with past definitions of IK (Indigenous Knowledge) as residual to Western science. Plants and their spiritual as well as economic value are central to this rejection given the continuous exploitation of Indigenous plant knowledge in the name of universal science since the Spanish conquest. Contesting the excesses of biopiracy is not enough. The teachers writing in Kúumu demonstrate eloquently the salience of primary classrooms and their interface with communities to lay new foundations of Indigenous epistemic agency.

Revaluation: biosocial pedagogies

Interculturality, a now national mandate in Peru which considers the plurality of 'educative cultures' traversing preschool to tertiary level education (Yangali Vargas, 2021) has been instrumental in reformulating a 'decolonial' curriculum in Formabiap, which values informal learning embedded within the ethnically diverse processes of socialisation evident in the Peruvian Amazon. Biosocial pedagogies, an emergent concept being explored by Rahman (2017) and Rahman and Barbira Freedman (2023) to help expound psycho-bio-social notions of the personal development, and person-making, in informal Amerindian education, moves beyond an understanding of culture as layered upon a biological substrate. Moving beyond superficialities, there are certain transethnic ontological and epistemological tendencies, captured by the 'full living' ethos, and very literally embedded within micropractices based on consubstantiality and minutiae observances, behaviours, and codes that detail Amerindian sociality in ways that move beyond western distinctions between nature and culture (Descola, 2013; cf. Taylor, 2009).

The full life (Sp. *Vida Plena*) captures something of Amerindian relational epistemology, in which knowing and learning is very much dependent on maintaining good relationships with agentful others inhabiting Indigenous lived worlds. Plants, and other visible and nonvisible agencies, are addressed as persons; their help or collaboration is solicited, an offering is made. Some of these relationships have been observed through participant-observation, itself spurred by the ‘the scientific observation of natural observation’ (Gow, 2009) and documented by multispecies ethnographies (Kohn, 2013). These are also phenomena described in the theses of Formabiap’s students, who have interviewed elders and participated in and observed community practices to develop relationships with plants for knowledge and spiritual growth (Cabudivo Aquituari, 2013).

The most prominent examples of this can be seen in Indigenous elucidations of wellbeing and health. Formabiap graduate Dora Rodríguez Fasabi (2022, p. 28) reflects of her own people: ‘Amongst the Kukama Kukamiria, illness is understood as a lack of respectful relationship with beings in nature; a nonharmonic relationship causes disequilibrium in the body, soul and the environment in which we live’. These are relationships built over time with kinship overtones, using addresses of grandmother or grandfather, or teacher.¹⁸ Dora goes on to reflect: ‘in the case of curing, you have to consider the age of the person curing or inviting the remedy’ (Rodríguez Fasabi (2022); invitations for help are themselves made using kin terms (see also Costa, 2017; Maizza, 2017), where seniority is important. This notion of sickness and disease (of mind and body) as essentially a ‘relational disorder’ is well captured by the early work of amazonianist medical anthropologists (Pollock, 1996).

Ethnographic descriptions of this kind have expanded our understanding of the hard won attentional and sensorially astute perceptual capacities that unfold within certain types of societies (Ingold, 2000; Gaskins, 2010) that underpin what Bird David (1999) has described as the capacity for responsible relation. This is a key part of Amerindian ‘animistic’ relational epistemology. Participation in ‘relational, embodied and eco-activist [...] larger-than-human, multi-species community’ (Grahman, 2013, p. 2) is a constituent part of Amerindian lived words.

Animism in this perspective dialogues with agential realism, as part of Barad’s (2007) ‘naturecultures’ and the ontologically inseparable phenomena of ‘inter-acting agencies’. Within Barad’s paradigm of mattering, where processes of coming to matter (demanding attention) and coming to exist merge, the perception of phenomena is altered by our focus and the apparatus with which we seek to perceive, observe or measure it, and are intractably tied to value judgements involved in choosing to and for what ends. Such a paradigm of entanglement challenges individualist and naturalistic ontologies, speaking to key theoretical elucidations advanced by anthropologists of Amazonia (Viveiros de Castro, 1998, 2004; Costa & Fausto, 2010). Humanity (personhood) is the common essence of all living beings irrespective of their species (see Rahman & Cochrane, 2023 – the Editorial in this issue). These cosmovisions are also depicted in artworks by Formabiap’s students and displayed on their onsite museum – The Green Eye (Sp. *El Ojo Verde*) and in the Hannover Expo 2000, whose selection criteria focused on ‘exemplary and potentially transferable practical solutions, oriented to our future necessities’. The latter culminated in Formabiap’s iconic publication of the same name (Landolt et al., 2000).

The importance of maintaining relations with other beings can be reframed as a fluency lesson in diverse biosocial dialogues. Especially in lowland South America,

paradigms surrounding health and wellbeing depend on the epistemological onus of one's own bodily capacity to consubstantiate knowledge of the world and others into one's own being. Medicinal baths (using barks, roots, leaves and insects) rely on the porous qualities of the self (and the body's largest organ: the skin) to absorb the material and immaterial qualities of the agentful substances used to prepare them (see McCallum, 1996). In this way, the observed characteristics and qualities of other non-humans (their morally upright 'vitalities'; Santos-Granero, 2012), be they stealth, resilience, serenity or steadfastness, can be transfused into the self. Medicinal baths and tinctures are commonly used to facilitate and correct the growth of attentive and robust children. On campus at Formabiap's educative community, student teachers regularly discuss the use of these remedies as part of children's education of attention, helping them be more upright and astute learners.

The active use of human/plant grafting techniques to enhance capacities and affects, as part and parcel of the alchemy of Amerindian persons, embodies what it means to be fully human in these contexts (see the Tipití Special Issue on The Alchemical Person, 2015).¹⁹ Londoño-Sulkin (2012) has described this consubstantiality among the Colombian Muinane 'bodies of substance' as an embodied morality, in which words and attitudes also have bodily effects.

Dialogue between more holistic onto-epistemologies and the New Sciences offers a deeper appreciation of Indigenous ways of knowing, and their interconnected whole-person-in-the-world perspective, for both human and pan-species, flourishing through biosocial pedagogies.²⁰ In this way, Indigenous knowledge and science can be linked with ecology, yet without losing the priority of integral development through Indigenous pedagogy (Trapnell, 2011, p. 47, commenting on Viruru, 2001):

to recoup strategies of observation, imitation and practice that are central in the processes of children's learning in Indigenous communities, and to give due importance to non-verbal forms of communication, including silence ... with the aim of challenging the hegemonic forms of representing and engaging with the world.

Honouring Indigenous onto-epistemologies, by facilitating their intergenerational transmission through time honoured learning methods is a feature of Formabiap teaching training, and a feature of Indigenous being itself. Anthropology can help explore Indigenous pedagogy further, by facilitating intercultural dialogues that help consider both the convergences and cognitive dissonances.

Retrospective

Formabiap provides the means through which Indigenous children can recognise themselves as part of an Indigenous people and to feel proud of it. As part of a non-essentialised Indigeneity, allowing young people to envision a future without the prejudices associated with colonising perceptions of the past, ancestral knowledge related to plants is vital for Amazonian Indigenous people. Plants are relevant to human lives beyond their utilitarian potential as food, medicines, and materials (Myers, 2018). How to integrate this in a practical 'Dialogue of Knowledges' in schools is a challenge that has become more urgent following the pandemic. In the words of Formabiap's Serrano Calderón (2017, p. 23

Living well now is more difficult and does not consist of the impossible and undesirable return to the way of life of the past, nor its reconstruction [. . .] But it can help to rescue some of the losses and to reinterpret others, incorporating them into the vital and productive cycles from which they were detached and forgotten.

For teachers educated outside the Amazonian worldview, attending to relational aspects with plants is something foreign and possibly subconsciously rejected. Including plants as living beings, whose growth is not separable from social relations of reciprocity, solidarity, and respect, is often formulated as the basis of Good Living but it may still require explicit presentations such as that of Chanchari Pizuri (2021). While the long cumulative and aggregate process of knowledge constitution in Amazonian Indigenous peoples is now well recognised by ethno-botanists, anthropologists and archaeologists interested in ecology (Germán, 2010), its complexity excludes all except specialised researchers. Formabiap's focus in revalorising the symbiotic, often mutualistic, and socio-centric relationships between plants lays a foundation for Indigenous youths themselves to reassess practices and perceptions, as well as stories and myths, related to plants.

Notes

1. This video provides a good overview of the educative community. <https://www.youtube.com/watch?v=YHerQ-3EKfs>.
2. Word prefixed by Sp. are in Peruvian Spanish, Sh. in Shawi, K. in Kichwa.
3. The name of the programme denotes its purpose as a training centre for bilingual teachers in the Peruvian Amazon (Programa de Formación de Maestros Bilingües de la Amazonía Peruana). For an English version of the site, see: www.formabiap.org/en.
4. Where specific peoples or ethnicities remain unnamed, the capitalisation of the word Indigenous is a conscious move away from classical understandings of innate and timeless identities, to actively emplace the plight of communities who, despite 'long settlement and connection to specific lands . . . have been adversely affected by incursions by industrial economies, displacement, and settlement of their traditional territories by others'. See Why Capitalize 'Indigenous'? SAPIENS, <https://www.sapiens.org/language/capitalize-indigenous/>. See also Younging, 2018.
5. Oral ethical approval was provided by all students pictured for the photo to be taken and reproduced.
6. <https://www.un.org/en/about-us/universal-declaration-of-human-rights>. We use the declaration here as a key structuring feature of contemporary international politics, but it is worth noting the scholarship on the verb to believe, in which the beliefs of others are more akin to knowledge in the sense of the degree of conviction and lived experiences that surround them (e.g. Pouillon, 1982) and the hierarchical juxtaposition between 'their' beliefs to 'our' knowledge. This is one issue with the drafting of universal rights by majority peoples that fails to capture important epistemological differences.
7. There is a large literature around Sp. *buen vivir* as an international development paradigm (e.g. Costa, 2013), including in cross-cultural contexts outside of South America.
8. This change in terminology reflects a critical take on what Sp. *buen vivir* means today, with a greater acknowledgement of community values related to the living environment. Discussions on campus frequently critically reflect on the place of mod cons within this ethos.
9. The Summer Institute of Linguistics is one of the largest known language intervention initiatives and is related to the evangelical missionary organisation Wycliffe Bible Translators. The work of SIL in Indigenous communities helped to 'integrate' communities into the Peruvian nation (Stoll, 1985).

10. One of the reasons that many Kukamas stopped speaking their language and transmitting it to the new generations was the prohibition to speak kukama in school and the punishments received if they did so (Stocks, 1981).
11. Ashaninka, Awajun, Bora, Kukama Kukamiria, Shipibo Konibo, Uitoto y Wampis.
12. Achuar, Chapara, Kandozi, Kichwa, Nomatsigenga, Shawi, Shiwilu and Tikuna.
13. Asociación Regional de Pueblos Indígenas de la Selva Central (ARPI), Coordinadora Regional de los Pueblos Indígenas de San Lorenzo (CORPI), Organización Regional de los Pueblos Indígenas de la Amazonía Norte (ORPIAN), Organización Regional Aidesep Ucayali (ORAU) y Organización Regional de los Pueblos Indígenas del Oriente (ORPIO).
14. see <http://formabiap.org/en/>; <https://www.youtube.com/watch?v=YHerQ-3EKfs&t=69s>.
15. Oral ethical approval by parents, the teacher and the community, to reproduce this photo in this article has been obtained by Meredith Castro during her follow-up field trip to this community in April 2023.
16. Ayahuasca is used by a large majority of the Indigenous peoples in the north-western region of the Amazon Basin where Colombia, Peru, Ecuador, and Brazil come together. The recent expansion of Ayahuasca tourism has affected traditional practices in the vicinity of Amazonian urban centres in both negative and positive ways.
17. *The Secret Life of Medicinal Plants* (Formabiap, 2008) is an interethnic ethnobotanical resource compiled by the programme's students Kichwa, Kukama-Kukamiria, Tikuna, and specialists and teachers, which includes images of the plant-person mothers.
18. Haraway's (2016) alternative to the Anthropocene, and finding ways to be in our current epoch, involves considering other species to be 'kin', inviting reflection on anti-imperial histories (Justice, 2020).
19. <https://digitalcommons.trinity.edu/tipiti/vol13/iss2/>
20. Not only do New Materialisms shed light on Amerindian onto-epistemologies, so too does a parallel move away from hermetic individualism by the New Biologies. New research on microbial symbionts has revealed 'a world of complex and intermingled relationships – not only among microbes, but also between microscopic and macroscopic life' (Gilbert et al., 2012, p. 326) that challenge the concept of anatomical, developmental, genetic, immune and evolutionary individuality.

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