

NEW TERRITORIALITIES IN ALTERNATION OF EDUCATORS OF THE ESCOLA FAMÍLIA AGROEXTRATIVISTA DO CARVÃO IN AMAPÁ

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Abstract

This paper aims to comprehend the educator's perception about the educative praxis in alternation, at the Escola Família Agroextrativista do Carvão [Family School of Coal's Extractive Agriculture] (EFAC), located at the Amapá's side of Amazônia. The research is a study case and used the qualitative approach. The techniques of research used were direct observation and socio-educative cartography of the interviewed educator's knowledge. The results highlighted the educator's commitment on the search for strengthen their performance in education centers that compose the areas where the EFAC's act, characterized by the interdisciplinary and the experience of the community school. Thus, the education is built from the socio-educative knowledge created by EFAC whereby the alternation principles and the lifestyles of Amazonian traditional families integrate the educative making where EFAC's act.

ALTERNANCE • SOCIO-EDUCATIONAL CARTOGRAPHY • PEDAGOGICAL PRACTICE

NOVAS TERRITORIALIDADES EM ALTERNÂNCIA NA ESCOLA FAMÍLIA AGROEXTRATIVISTA DO CARVÃO, NO AMAPÁ

Resumo

Este artigo buscou compreender as percepções dos educadores sobre a práxis educativa em alternância na Escola Família Agroextrativista do Carvão (Efac), no estado do Amapá. A pesquisa é um estudo de caso, de abordagem qualitativa, e as técnicas de pesquisa foram: observação direta e cartografia socioeducativa dos saberes dos educadores pesquisados. Os resultados evidenciam o engajamento dos educadores no fortalecimento de sua atuação nos núcleos formativos que compõem as áreas da Efac, pautados na interdisciplinaridade e no tempo/vivência na escola-comunidade. A educação é construída com base em saberes socioeducativos construídos pela Efac, em que os princípios da alternância e modos de vida das populações tradicionais amazônicas integram o fazer educativo em seus territórios de atuação.

ALTERNÂNCIA • CARTOGRAFIA SOCIOEDUCATIVA • PRÁTICA PEDAGÓGICA

NUEVAS TERRITORIALIDADES EN ALTERNANCIA EN LA ESCOLA FAMÍLIA AGROEXTRATIVISTA DO CARVÃO EN EL AMAPÁ

Resumen

Este artículo buscó comprender las percepciones de los educadores sobre la práctica educativa de forma alterna en la Escola Família Agroextrativista do Carvão [Escuela Familia Agroextractivista del Carbón] (Efac), en el estado de Amapá. La investigación constituyó un estudio de caso, de forma cualitativa y las técnicas de investigación fueron: observación directa y cartográfica socioeducativa de los conocimientos de los educadores investigados. Los resultados son una evidencia del compromiso de los educadores en el fortalecimiento de su actuación en los núcleos de formación que componen las áreas de la Efac, teniendo como modelos la interdisciplinariedad y en el tiempo/vivencia en la escuela comunidad. La educación es construida teniendo como base los conocimientos socioeducativos construidos por la Efac, en que los principios alternados y los modos de vida de las poblaciones tradicionales amazónicas integran el quehacer educativo en sus territorios de actuación.

ALTERNAR • CARTOGRAFÍA SOCIOEDUCATIVA • PRÁCTICA PEDAGÓGICA

NOUVELLES TERRITORIALITÉS EN ALTERNANCE À L'ESCOLA FAMÍLIA AGROEXTRATIVISTA DO CARVÃO, AMAPÁ

Résumé

Cet article a cherché à comprendre les perceptions des éducateurs sur la praxis éducative, réalisée en alternance, dans l'école-famille en milieu agro-extrativiste des charbon, appelée Escola Família Agroextrativista do Carvão (Efac), dans l'état d'Amapá. La recherche a consisté en une étude de cas, d'approche qualitative, dont les techniques de recherche ont été l'observation directe et la cartographie des connaissances des éducateurs interrogés. Les résultats montrent que les éducateurs sont engagés à renforcer leurs actions dans les noyaux de formation des différents secteurs composant l'Efac, ancrés sur l'interdisciplinarité et sur le temps et le vécu de cette école-communauté. À l'Efac, l'éducation est basée sur des connaissances socio-éducatives élaborées par l'école elle-même. Les principes d'alternance et de modes de vie des populations traditionnelles amazoniennes façonnent le système éducatif adopté par l'école dans ses territoires d'intervention.

ALTERNANCE • CARTOGRAPHIE SOCIO-ÉDUCATIVE • PRATIQUE PÉDAGOGIQUE

Received on: JANUARY 7, 2023 | Approved for publication on: MARCH 10, 2023



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THE SUSTAINABILITY GOES BEYOND THE INTERDISCIPLINARY PROJECT, THE ECONOMY-society-environment triad, as it opens borders of knowledge and assumes that the environment isn't more than a new dimension to be attached by normal paradigms of science where the economy internalizes its ecological outside (Leff, 2021).

Comprehending the local reality is essential to take advantage of its potentialities for sustainability's background. Thus, it's necessary the strengthening of education as well the collective participation of involved actors, with initiatives that can modify its surroundings. However, the model of education that is driven to the farmer schools nowadays presents a structure of deficiency, limitations and difficulties, presenting at the same time that is inefficient and out of context. Moreover, it's important to highlight the structural fragilities, the elevated change of professors, the inconsistent comprehension of rotation pillars, which directly hits the educative process offered (Pereira & Gomes, 2021).

There are models and experiences of success of farm, water and forest education, ruled at the Pedagogy of Alternation, as the Family Schools and/or Family Houses, which have the labor as an educative principle when training of young people and teenagers that live in farm areas. During these experiences, the collectivity and social emancipation are fundamental principles for the provision of Paulo Freire's popular education, built with farm people, what can be seen on the researches made by Gomes and Calado (2022), and Pereira and Gomes (2021) at Escola Família Agroextrativista [Family School of Extractive Agriculture], in Amapá's State.

The social relationships that connect a family school are presented by the nature's dynamic, which potentializes the social organization as well that guides a work organization ruled at the productive matrix of cooperation, restating the triad science, practice and social movement as an empower of the training process of young farmers (Brandão, 2009).

This pedagogical line permits to emphasize our educative making inside the four pillars of Pedagogy of Alternation: integral training of the students; alternation; associativism; and sustainability and environment, where the training of the young by the Alternation implies its involvement in productive activities to relate the practical activities to theoretical thinking about them (Silva, 2003).

The Pedagogy of Alternation aims to develop a curriculum that achieves territorial particularities in a way different from the education proposed by the process of urbanization, making possible to adapt the contents to a society that lives in largest contact with the natural resources. Its involves the sustainability as a generator and transversal theme on the educational curriculum, once the family's production is part of a model of ecological and democratic development (Cordeiro & Cardoso, 2016).

The families' protagonism to implement the alternation on their territory must allow the real meaning to curriculum, being locus of memories, rituals, productions of extractive agriculture, and its identities during the educative making. So, it's possible to affirm that the main rule of these schools is inclusion, to transform prejudices into possibilities and opportunities to the people that lives of water, farm and forest, understanding the territory as a place to build new knowledges – life territories – that are composed as social and historical practices, what represents “a intercultural communication and a conversation with science and its knowledges from experiences that compose them as memories and identities of their people” according to Leff (2021, p. 359, own translation).

So, the dialogue of knowledges is held by another understanding model of generation of historical truths as a strategy that open ways from history to build new knowledges, where the understanding of an education as social praxis surrounds the families integrating the Escola Família Agroextrativista do Carvão [Family School of Coal's Extractive Agriculture] (EFAC) and it's fundamental for the territory's sustainability, for the good living of the people living there and to

democratically build an education that dialogues with the lifestyles of people that lives of water, farm and forest.

During the year of 2021, EFAC experienced different moments of thinking-action-thinking about its performance, the educative process offered and the pedagogical practice developed by professionals of education that compose it. Before this, considering the education of water and forest (mark of Amapá's side of Amazônia) has its own particularities and experiences and, moreover, with the intention to socialize the results of this praxis, empowerment and protagonism process of these persons, this paper aims to present how the process to build the socio-educative cartography that directly led to thinking and rebuilding of pedagogical practice of EFAC's professors.

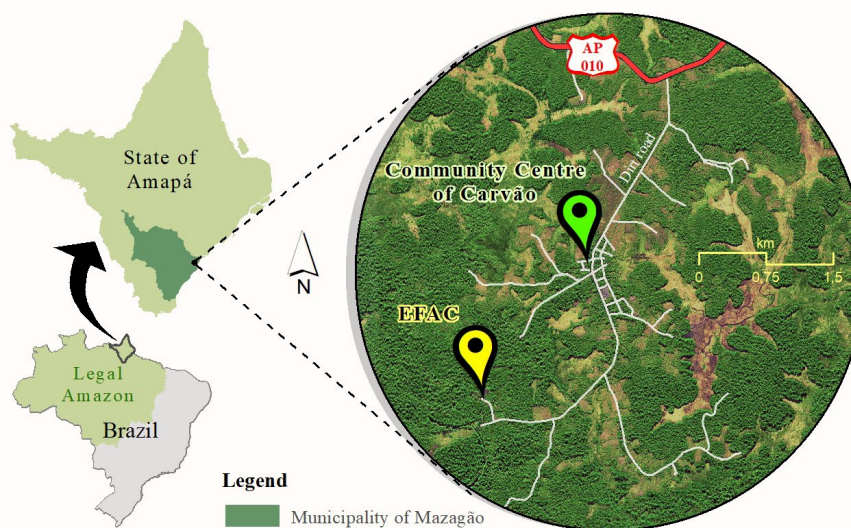
The paper is structured on three interlinked sections: the first one of contextual nature; on the second one we approach about the methodology used during the research-action, specially when building the socio-educative cartography developed, the third one we expatiate on the talk of involved subjects that demarcate their perception about its territoriality and pedagogical practice.

Field of study

The EFAC is settled at the rural area of Coal's District, 6km far from Mazagão City – Amapá. Its access area are Highway AP-010 and the Mutuacá River with its tributaries. Is a particular educational establishment, of community nature, non-profit, maintained by Associação Nossa Amazônia [Association Our Amazônia] (ANAMA).

Figure 1

Localization of Coal's Community, Mazagão – Amapá



Source: Núcleo de Desenvolvimento Territorial Sustentável (Nutex)/Universidade do Estado do Amapá (UEAP) (2020).

The economy of this place is mainly based on familiar subsistence agriculture, extractivism, trade, cattle, among others. The communities integrating Reserva Extrativista do Rio Cajari [Extractive Reserve of Cajari River] (RESEX), projects of extractive settlement (PAEs, in Portuguese), quilombo communities and landholding areas work with acai berries and fishing for consumption.

The educational and socio-environmental dynamics where EFAC operates is highlighted on Table 1, where we show the training centers that are composed by communities at the States of Pará and Amapá – placed by the river that unites all riverine people – that believe that education can change their children lives, based on a lifestyle markedly Amazonian, a Paulo Freire's popular education that dialogues with reality.

Table 1
Territories where EFAC performs

Centers		Communities covered by EFAC-2021
Centers of training connections	1. Carvão	Comunidades do Carvão, Camaipi Km 17 – Mz, Assentamento do Piquiazal, Ramal do Pioneiro, Rio Mutuacá, Foz Mz Mazagão Velho, Rio Urubuena, Assentamento do Barreiro, Anauerapucu Ramal da Totoia, Fazendinha Rural, Maruanum e Pancada do Camaipi.
	2. Rio Preto	Poção do Rio Preto, São Jorge, Cafezal, Antônio do Rio Preto, São João, São Lazaro, Recreio do Rio Preto, São Francisco, Boa Vista e Maracá Mirim.
	3. Maracá	São José do Maracá, Santa Maria, São Jorge e Rio Navio.
	4. Cajari	São João, Itapira, Vila Nova do Muriacá, São Tomé Reserva Extrativista do Cajari, Açaituba e São José Lago do Ajurixi.
	5. Furo Seco (Ilhas do Pará)	Rio Arangona, Rio Furo Seco, Três Irmãos, Rio Sumaúma, Nossa Senhora das Graças Ilhas do Teles, São Francisco Rio Palha, Ilha Pequena, Rio Mulato, Santa Bárbara Rio Brito, Rio Bacuri, Rio Furta Fênix, Rio Ajará e Rio Furinho.
	6. Ilha das Cinzas	Rio Barbosa, Furo Seco Ilha Pracubinhas, São José Ilha das Cinzas, Furo dos Periquitos, Nossa Senhora do Perpetuo Socorro e Rio Turé.

Source: EFAC (2022).

In general, the communities mentioned above experience several challenges and difficulties, which get worse because of absence or, sometimes, limited performance of public policies by the State. It's important to highlight that most of the students is from Mazagão city, then Afuá, at Pará State, what's related to the proximity between both States. It's possible to note that the rivers don't split the border barriers, they break them since the socio-cultural dynamic of this place determines the relation established to beyond territorial barriers.

The talk of the people that composes communities covered by EFAC about their reality demonstrates how they suffer with the absence of public power, basic services such as health, education, water for human consumption, electricity, among others. On this background, EFAC and ANAMA work as main agents to access public policies according to what Gomes and Calado (2020) defend about the prominence of community organization, which outlines new ways to resist and other existence at Amapá's side of Amazônia.

The association that manages EFAC is composed by 220 people, the most of them are farmers, fishers and extractive workers. EFAC, founded on September 8, 1997, started working only with a class of the 5th grade of the Elementary School and now offers both levels of education: Elementary, from 6th to 9th grades, and the High School.

In 2002 started working with High School, with two classes of the 1st grade. In 2005, started the Career and Ensino Técnico Profissionalizante em Agroextrativismo, Produtos e Recursos Florestais [Technical Education on Extractive Agriculture, Forest Resources and Products] as an alternative for rural education, reaching people who were neglected on process. Nowadays, EFAC offers three educational levels: Elementary School, from 6th to 9th grades; High School and Career and Technical Education on Extractive Agriculture (on acknowledgment stage).

Its physical structure has five classrooms, computer lab, library, monitors room, lab for medicinal plants manipulation, field laboratories, auditorium, male and female dorm rooms, dining hall, kitchen, principal's office, school office, pedagogic center and ANAMA's head office.

Talking about professors and technical team, on the lasts five years, EFAC reinforced itself and created strategies to train these teams, generating a sharp rise on their board of permanent

personal (Table 2), a result of international, regional and local partnerships established by ANAMA as a way to reinforce the school as training center where perform, to develop a quality education which represents the lifestyle of Amazonian people at their coverage areas.

Table 2
Demonstrative of the EFAC's technical-pedagogical board

Year	Number of Monitors/Professors	Number of Technicians	Number of Associated Families
2017	-	-	102
2018	10	-	115
2019	14	1	112
2020	17	2	118
2021	17	2	132

Source: EFAC (2022).

The partnerships and agreements among the school and the Secretaria de Estado da Educação do Amapá [State Department of Education] (SEED/AP), with the Universidade do Estado do Amapá [University of State of Amapá] (UEAP), by means of the program Programa de Professores Voluntários da Pró-Reitoria de Extensão [Volunteer Professors of Deans Office for Graduate] and the establishment of donations agreements with international institutions and others partners have enabled EFAC to build a new story through education, assuring the experience of the seventeen goals of sustainable development, established by United Nations Organization (UNO), where they perform, as a pedagogical process that fortifies Alternation.

In terms of the number of enrollments on the lasts five years (2017-2022) (Table 3), there was a sharp increase in the academic year of 2022 and this is directly related to the matters of planning, to the integration of associations and the creation of ANAMA, as well the collective building of a new pedagogical proposal that promotes curricular adaptations assimilating local knowledges according to the desires, philosophies and goals of the places where they act/training areas.

Table 3
Situational board of the number of enrollments at EFAC 2017-2022

Year	Number of students enrolled	Transfer	School evasion
2017	115	2	11
2018	141	2	19
2019	143	3	16
2020	163	-	-
2021	174	-	-
2022	180	-	-

Source: EFAC (2022).

Important to highlight that EFAC decided not to carry out their educational activities in 2020 and during the first semester of 2021 for the remote modality because of the Covid-19 pandemic. Instead of this, they decided to strength the alternation as a pedagogical process to be built on the territory, decision taken by the people that compose the educational unit. It's also

important to point out that EFAC doesn't has a board of permanent employees, what has been one of the hardest challenges, even searching for continuity and collective building of a solid pedagogical proposal and ruled by the reality of the Amapá's side of Amazônia, the lack of professionals with experience and training to act on the educational unit reality is one of the main concerns of ANAMA and of the educational community.

Methodology

This research is guided by a case report, which enable us to identify significant characteristics of the real life as it's an empiric investigation that aims to comprehend the limits and context of the researched facts (Alves-Mazzotti & Gewandsnajder, 1999; Alves-Mazzotti, 2006; Chizzotti, 2006). Thus, we opt to use this method as we understand that it uses techniques for data collection that subsides this research, as direct observation and building of a cartography of socio-educative knowledges with the collaborators of this study, for example.

The option for the case report is because it comprehends the knowledges of a specific reality on the particular context of the EFAC, what Yin (2010) may contribute with the knowledge of individual, group, organizational and social phenomenon of the reality existent there. Moreover, as the work focus on the Amazonian lifestyle, the particularities of a riverside community, represented by experiences and knowledges about ways for coexist and usage of natural resources; and focus on the role of school, aiming to establish a relationship between the Amazonian extractive context and the experience school-community on the search to build new training territories.

The methodology used is guided by the conceptions of Morin et al. (2002) and Leff (2001), the idea of environmental complexity and thinking about the insertion of environmental education in school curriculum, emphasizing the importance of the use of generators themes, such as support activity, once the reality's seizure results on concept categories that are inseparable of the pedagogic process because of the complexity of socio-educative relationships on their real contexts.

In this context, Luizari and Cavalari (2003), based on the conception of Edgar Morin, affirm that we need to mitigate the partition of knowledge and teaching in order to establish an educative process that overcomes the fragmentation and promotes "articulation of knowledge". This articulation becomes able as long as a new structure of thinking replaces the dominant paradigm, which promotes the split among everything.

Talking about the socio-educative cartography, it's a specific technique that permeates the process of participative mapping, what's determinant on the practices of cartographic context as it aims dialogical alternatives from a collective planning. According to Gorayeb et al. (2015, p. 16, own translation), "it's able to propose technical-methodological procedures to build a cartographic product that will have, before all, a participative training as basic principle". Thus, maps are real representation of the living space, that may be created from the perception of persons or different groups, enabling a different vision to comprehend its own territory by its experiences and benefits similarities and/or complementation of different points of view from the local reality (Barroso & Aldigueri, 2015).

In this research, the cartography gave voice to the persons who compose school community, integrating actions of time-school and time-community to the principles of Alternation. The building movement and elaboration of cartography were founded on professors, technicians, associations and families meetings, constituted at the main strategy of training, empowerment, comprehension and effective intervention of them in order to create the pedagogical proposal. Thus, the following stages of applicability of EFAC's socio-educative cartography were defined, considering the basilar principles of the Pedagogy of Alternation.

During the first meeting, two principles of the Pedagogy of Alternation were defined as generator theme: Sustainability and Alternation. Each participant was accommodated by a mediator with an enrollment form with the socio-educative information to enable to know and define the dynamic of distribution of participants.

The second moment was to walk through a path built with the Achievements of Sustainable Development and the principles of Alternation, which had as inspiration the river, since it symbolizes the lifestyle of EFAC's territory. It was also the moment that a mandala was built, gathering images, maps, words and objects of the daily life where the school performs. Figure 2 shows the leaves of acai berry tree, its bunch, straw basket, banana, bitter orange, among others.

Figure 2

Mandala composed by objects and symbols used at EFAC's territory and its curricular integration on the experience community-school



Source: NUTEX/UEAP (2020).

After this moment, the participants were split into six groups, each of them representing a EFAC's training center. Then, they were oriented to build a pedagogic map of the knowledge areas where they perform and its relationship with the training center they were representing, which they must contemplate the curricular flexibility and the interdisciplinarity, considering the time needed to training, typical of the Pedagogy of Alternation: the time-school and the time-community.

The participants were oriented to show their pedagogical maps to each other as we think that different knowledges are interlinked with the existent reality and, consequently, with the process of teaching/learning (Figure 3). Moreover, each group created mental maps of curriculum integration on their knowledge area with local knowledge, enabling to identify standard points that could be worked in an interdisciplinary/transversal way, aiming to empower the Alternation on the time-community, such as on time-school. Then, the participants were invited to insert adhesives that represents the interpellation that are part of the curriculum and lifestyle of the professors and the propositions to be pedagogically developed in time-school and time-community.

Figure 3
Pedagogical maps at EFAC's training centers



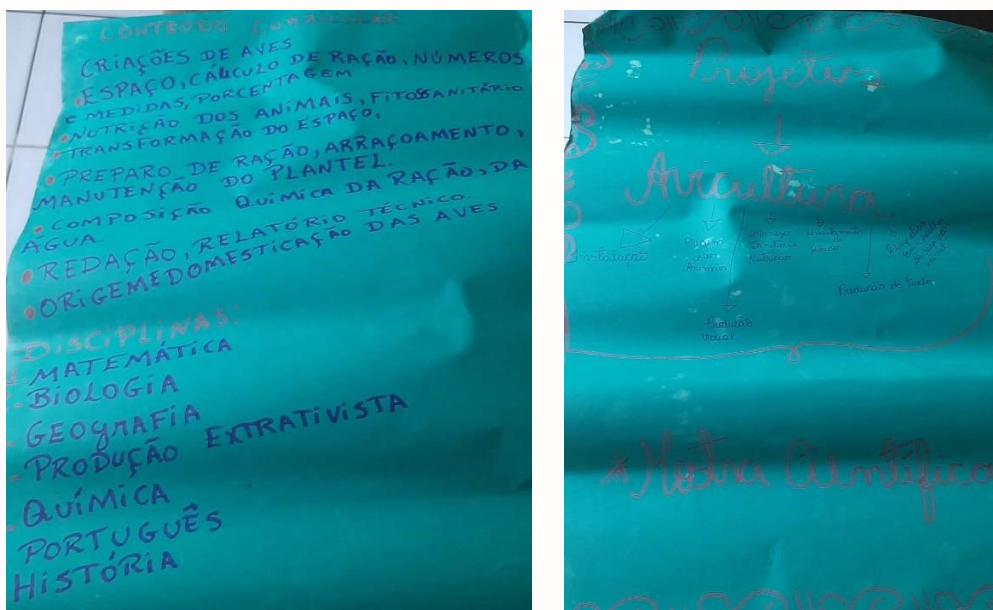
Source: NUTEX/UEAP (2020).

After each group define their challenges, they were instigated by mediators to suggest solutions and to glimpse results from the cognitive maps and then share with the whole staff of the school, pointing out the challenges' board, solutions, products and prospections for improvements on the process teaching/learning. All of this was collectively discussed, what enabled to define the evaluation and monitoring indicators and, mainly, think about the EFAC's pedagogical process on time-community and time-school as an educational proposal inclusive and dialogic to empower the school together with the families. To finish the first workshop, there was a cultural moment focused on the sociocultural diversity of Amapá's side of Amazônia.

At workshop 2 we had as generator theme the following principles of Alternation: Integral Training and Associativism. We started with a conversation about the proposals suggested and its integrations with the objects of Alternation and the productive projects as a moment to continue the previous activities. On this stage was proposed a discussion of projects of short, medium and long term, and about which ones are in progress as we can note bellow (Figure 4).

Figure 4

EFAC's pedagogical propositions to empower Alternation on the experience time-school



Source: NUTEX/UEAP (2020).

Thus, a lot of ideas at the subdivisions of groups, which had the following goals: think about the integration among the solutions, objects of Alternation and time for training; list the projects that the school was developing and that integrated the time-school and time-community; present possibilities to compose curriculum through the elaboration of a pedagogical map with proposals of projects integrating the objects of Alternation at time-school and time-community with productive projects, and show its relation with the propositions of solutions listed on the last meeting. Finally, we shared the pedagogical maps to integrate EFAC's pedagogical-political proposal.

Results/Discussions

New territorialities and Pedagogy of Alternation: A glance on educative practice of EFAC's professors

The educational and curricular fights at Amazônia are for life, guided by ethic and seeking human emancipation, which must be comprehended beyond economic and educational factors. EFAC thinks, according to their Pedagogic-Political Project, that the main pedagogic foundation to strength the Alternation of a Family School of Extractive Agriculture at Amapá's side of Amazônia is proposing innovations at educational praxis and understand that school education isn't only to fulfill the contents established, but also the to know-to-be-to do is related to an education's conception that change lives and train citizens involved with socio-environmental development of the territory.

As part of the development of actions aiming territorial units of expansion and research, specially at EFAC's and Coal's territories, Macacoari and Bailique, UEAP's staff tried a proposal an innovative methodology for building and elaboration of the pedagogic projects, in order to prioritize a dialogical and collective building guided by the perspective Paulo Freire's popular education, from socio-educative cartographies of the Family Schools mentioned above.

The socio-educative cartography was built using a methodological strategy for a dialogical creation of the pedagogic proposal of the Family Schools, that are directly linked to the participant territories. This strategy enabled the comprehension of the territory as a place for practices, despite

of uncertainty about the educative process, it transforms and empowers Amazonian socio-educative diversity as it interlinks sustainable usage of natural resources and the lifestyle of people as it was food of educational process, anchored on a popular education of the riverside, farm and forest people. The complementary relation among the sociocultural, educational and environmental issues takes us to think about complexity, as it's a seek for connection and inseparable between local knowledge and the educative process (Morin et al., 2002).

EFAC lives, since 2020, a creation process of its philosophical and educative basis for the education of riverside, forests and farm people, from the understanding of Paulo Freire's popular education that is fed on the heart of the community basis and is fed gain on the educative-to do in Alternation. The school goes from a comprehension education as a training territory integrating the lifestyles of experience school-community as a continuum process of learning, for beyond school curriculums and proposals of Alternation's objects because the sociocultural diversity in the territory where they perform doesn't fit with the educational patterns established, so the patterns established by curriculums and educational policies don't fit.

From this principle, EFAC has been tracing training territories from a knowledges ecology that dialogues with Paulo Freire's popular education, as a connection point between to know-to do of education praxis with socio-environmental complexity and the knowledge of traditional people. Thus, as an educative proposal, they built the centers for training connection as they understand the principles of Alternation must be experienced inside the family's basis of the students as a continuum process of teaching and learning, not on the way that the school has the knowledge, but as collective building that shares knowledge between school and community, what is reflected on the pedagogical practice of teachers, as we can note on the following reports:

We think our pedagogical practice...when we think in the community center or in the family center and school center. So, it's a *cycle that is fed repeatedly, the whole time*, and who guides this process? Everyone conducts this cycle, *but all of this... as a pedagogical process, we're talking about a pedagogical process that changes his lifestyle*, we say that he has with the classmate, scolding him, all of this *becomes learning*. (P1, emphasis added).

The excerpts from Professor 1 report: "a cycle that is fed repeatedly, the whole time", "but all of this... as a pedagogical process" and "we're talking about a pedagogical process that the lifestyle... becomes learning", it's possible to note that EFAC's learning-teaching process is substantiated on the principles of Alternation, as the integral training of the students for life, where the valuing the daily knowledges of alternants young people and teenagers is inside the educative practice as an extension of the socio-cultural diversities existing on their territories, giving meaning to education process and learning (Zimmermann & Meurer, 2016).

Talking about sustainability, professors comprehend it as "life territories", what means to go beyond the preservation/conservation of existing ecosystems and biomes, but defending life, the good living inside their territories, and for this is necessary a pedagogical process consisting in the comprehension of socio-environmental relations as a continuum training of forest people, so they can create and recreate as guardians of their life's territories, as the following report:

We talk about sustainability beyond the relations that we stablish with land, but, above all, we talk about a *pedagogical process of training, and this make us to generate the sustainability that I stablish with the land*. (P4, emphasis added).

It's possible to note the empowerment of families and its engagement with EFAC are directly linked to the discussion of the lifestyle in the Amapá's side of Amazônia as integrator element of educative to-do, on a narrow articulation with social movements as permanent fight on the search

for an education that has representative of riverside, forests and farm people. The Pedagogy of Alternation proposes an education organization into different places of learning, enabling the integral training of the students on its social, intellectual and cultural aspects (Nascimento, 2007; Teixeira et al., 2008), what is highlighted on the following reports:

How can we train these students to be critic? How do we get the work of extension student and transform it into our History, Geography, Mathematics, Writing class? How is everything applied in reality? And how the student's experiences at his community becomes a pedagogical process? *We're not talking about teaching-learning, we're talking about a pedagogical process.* And what could be this pedagogical process? *Everything the student create, experience, everything he shares with the classmates* becomes learning, becomes a formative pedagogical process, but doesn't train for curriculum, *but for life. And this makes him a critic student, from his experiences from the relationship with association.* (P2, emphasis added).

It's important to note on the excerpts "we're not talking about teaching-learning, we're talking about a pedagogical process..."; "Everything the student create, experience, everything he shares..." and "but doesn't train for curriculum, train for life. And this makes him a critic student, from his experience from the relationship with association", that the integral training of the students is related to the pedagogical process integrated to the lifestyles and to the relations that establish with ANAMA, because understand, from the work to the relationships maintained with the nature, may be used as learning pedagogical tools, that fishing, extract acai berry, catch shrimps and the usage of the ground involve pedagogical process integrating the school curriculum, and the principles of Alternation are repeatedly fed by the methodological tools used for this.

Based on these affirmatives, import to mention Gimonet (2007) when remembering that the school-place is where the learning aspects are learnt, but also the alternant personalization and socialization, the one who walks through three places with different logics: educative logic, training logic and productive logic. So, we can affirm that in EFAC, beyond the comprehension of concepts and principles of Farm Education and of Pedagogy of Alternation, pedagogical strategies of reference for Amazônia are established, when the students' autonomy, during the training period as protagonists, is in constant learning.

Thus, having an interdisciplinary practice is to assume that there is a new epistemological focus necessary to overcome the hyper specialization and the fragmentation of knowledges, and to understand knowledge production as a pedagogical process of construction between school and experience in society. Consequently, the dialogue integrates sciences and knowledge building, since it's understood that the simple grouping of subjects isn't sufficient for the complexity of human training, once cooperation, interaction, change and confrontation of knowledge, on a systematic way, integrate the relation between the whole and the parts that composes it (Dias & Lopes, 2003; Thiesen, 2008).

From this premise, when we heard EFAC's professors, we understood that interdisciplinarity is present in the speak and in the educative doing on the experience school-community remarkably. The Alternation subsidizes pedagogical tools combining the lifestyle of the people that lives in the territory where EFAC performs to the traditional curriculum, where the agriculture-socio-biodiversity that exists integrates the school pedagogical planning, with knowledges that extrapolate their training areas, as we can note:

Let's suppose that I'll work with acai berry there, *I'll work with acai berry there and I'll use Physics calculus, Mathematics, Biology, Portuguese, Writing, so it's an infinity of actions* that we can develop there in a morning gathering a lot of subjects and that we hadn't

been working on this for so long, *we never worked on this! So, we're losing a lot*, I measured the coconut's area of 100 meters for 100 meters is how many squares, there are angle, calculus...we're losing, *there's all this material here and we don't use*, we don't use yet. (P6, emphasis added).

It's a content that I'll never use in my life, but from the moment that I use it, make easier for the student to learn, so we take for his life. (P7, emphasis added).

Our class is about how to use, and someone will work with the content X, the professor will work with each content that fits in my thematic. He will work geometry like it was a continuity, but *we professors must talk together because we need each other* for this, we professors *must create strategies together.* (P8, emphasis added).

When talking about Biology, talk about animal feed, this nutrition, sanity, comes from Biology, so englobes three subjects Mathematics, Biology and Veterinary, and Portuguese, there is Physics also. (P9).

Let's assume that *the generator theme is acai berry, so we'll specify what is the content that we can use on each subject.* (P10, emphasis added).

The excerpts: "I'll work with how to use acai berry there, I'll work with acai berry there and I'll use Physics calculus, Mathematics, Biology, Portuguese, Writing, so it's an infinity of actions"; "we never worked on this! So, we're losing a lot"; "we professors must talk together because we need each other for this, we professors must create strategies together"; "the generator theme is acai berry, so we'll specify what is the content that we can use on each subject" show that EFAC's staff of professors understand the importance of integrate the curriculum on a transversal and interdisciplinary way, inside the principles of Alternation, highlighting the experiences offered in the centers of training connections. However, they highlight that can use their productive labs and other natural ecosystems even more during the class on the school experience, and they understand that is necessary to discuss and a process of professors training that will highlight Alternation as part of educative doing.

It's possible to note through the reports a direct relation with the use of ground and the sustainability on the educative doing, in which the prominence of the families on the realization of Alternation in its territory gives real meaning to curriculum, being locus of memories, rites, of extractive agriculture productions and of its identities on the educative doing. EFAC is seeking to develop the role of inclusion, seeking to adopt different possibilities and opportunities to the riverside, farm and forest people, understanding the territory as a place to build new knowledges – life territories – that are composed of social and historic practice, considering Leff's perspective (2021, p. 359).

The interdisciplinary practice consists of understanding the importance of a process of knowledges creation, from problematization and dialogues, establishing environmental, cultural and social connections presents in society (Costa & Loureiro, 2015). The views of education and school in Alternation of EFAC's professors may be compared to a tree, on which the new EFAC's epistemological proposal about the pedagogical centers consists of: roots are the teaching, community organization and the extractive agriculture production; trunk is interdisciplinarity; and leaves are curricular components, pedagogical labs of production and the Alternation (communication and extension), as we can note on the following reports:

In the lab, projects are generated, which ones generate a work planning, which generate an operation itinerary that we organize to achieve these other branches, so it returns for us and then ramifies. This is the flow of a tree, feeding from sap, extract and take off. (P5).

If this is the analogy of tree, the pedagogical center is the middle and above, the leaves are the results of the work, and here is what we can say that the food is the pedagogical center, from where pull everything. (P8).

According to EFAC's professors, its relation with natural ecosystems shows the curricular comprehension is directly related to natural ecosystems as the tree, that may be understood as a complex whole, from which the complementarity among its parts is what its survival possible, as we can note by the following figure:

Figure 5

Perceptions of EFAC's professors about school curriculum and Alternation



Source: NUTEX/UEAP (2020).

EFAC has been searching for the empowerment of Alternation through the creation of pedagogical centers, in order to incorporate the sociocultural and environmental diversity of each territory to their educative doing, on a way that the family-experience may be accompanied as a school extension and vice-versa, to enhance not only the productive ecosystems but also the engagement in the community organizations and, consequently, empower the identity training of the students, as the following report:

It's one of the specific curricular components of school, it's part of alternation, it has the diversified and the common national basis, so the agricultural extractive production is one of the activities from curricular components of the diversified part of school, so, inside this subject, we work pigs, rustic chicken, how to work with acai berry trees, animal husbandry. (P3, emphasis added).

I think that Portuguese is easier, because it'll go through all the others when you work, even on the *PE's thematic, one of the requirements is a collective construction*, simple, and this is a text production. (P4, emphasis added).

And Biology will work with pig breeding, Chemistry works with fertilization, soil properties. (P5).

So you note that *all subjects are grouped*. (P3, emphasis added).

When you think about pedagogical view, *we weren't trained*, we were trained on Mathematics to know second degree equation. (P4, emphasis added).

It's a content that I'll never use in my whole life, but from the moment that I use it makes easier to the *student seize, so we can bring life to him*. (P6, emphasis added).

For example, the labs today elect interdisciplinary projects, but, at the same time, these projects are in accordance with the Field extension, communication part of the course syllabus of the students, so *everything is integrated inside the pedagogical center*, making this feedback. He will go on this part where studies, the part of teaching, organization. (P3, emphasis added).

According to reports of the EFAC's professors, it's possible to note during the excerpts "It's one of the specifics curricular components of school, it's part of alternation"; "even on the PE's thematic, one of the requirements is a collective construction"; "all subjects are grouped"; "we weren't trained"; "It's a content that I'll never use in my whole life"; "student seize, so we can bring life to him" and "everything is integrated inside the pedagogical center", that the comprehension of interdisciplinarity is integrated into the proposal to create pedagogical centers as a way to make it practical application and monitoring of time-school-community. Despite of the planning of study (PE, in Portuguese) enables the dialogue between the student with reality, and socialization of these school/curricular knowledges with the experience knowledges in their territories, it's important to highlight that the collaborators understand that there is a lack on their training, since they weren't prepared on there are of knowledge to understand the act of teaching as sharing and integration with several areas, and another challenge is to make teaching on time-school as part of the life of these students.

On the reports it's possible to note that the exercise of Paulo Freire's popular education is determinant to understand how to seek for real solutions, as democratic practices, for the problems from social relations from which the popular social classes may organize, fight and exist again before the social injustices.

EFAC understand the territory as a training territory, once it becomes a place of life and resistance. In it, the fight of riverside, forest and farm people consists on the searching for access for education and basic services in order to survive in their life territories, as we note on the following reports:

We go toward the training groups that we have here in Rio Preto, Cajari, Ilha das Cinzas (inaudible part) and Maracá. From this, *each training group has their communities*, related to the need of each center, each community. *We see both sides: production and the pedagogical part*. (P9, emphasis added).

Low capability of active organization of the communities. The distance to school, the communities aren't distributed, they are where they should be, but then we come with our centers and training connections. (P2).

We take care to be an adequate content for each community. From the moment we make our PE, we already are aware of everything the community needs, so we have the possibility *to do these programmatic contents inside the reality of each community* where we work. (P2, emphasis added).

ANAMA is working with a project trying to seek for means to develop these territories. (P1).

At the estuary, people work with acai berry and chestnuts. So we try to *create priorities of our territory and talk a little about the divergency*. What we expect from school? Make our

young people to be critics, go after knowledge and then *return to work with their families*. (P1, emphasis added).

For me, the pedagogical center must do this link. The territory is a lab that returns for us, but it's here at the same time. The pedagogical center with this vision of the subjects must talk with each other, at the same time that is built on a participative way. (P6).

The school must give technical support, but, from this, what will be the protagonist is the own community. (P1).

The community thinking for school but also from the school to community, the own challenge of the community are three things. And the low community organization makes it hard to educational process. We don't have a community organized. (P6).

All of these challenges are linked to sustainability too, and with alternation, so you can think about these territories, what are the challenges of working with alternation. *Everything is linked*, everything communicates, the products, the infinite symbol, there is a plurality of products that we can bring, first we study and organize and, together with pedagogical center, then we dimension everything and drive for both sides, at the same time, we want the *prominence* has different results inside this context. Continuity is the main focus but, inside of it, there are several products, mainly due to the prominence. (P1, emphasis added).

From the excerpts: “each training group has their communities, we see both sides: production and the pedagogical part”; “to do these programmatic contents inside the reality of each community”; “create priorities of our territory and talk a little about the divergency”; “return to work with their families”; “Everything is linked” and “the prominence”, it's possible to note the constant coexistence of the community prominence of families and the necessary interpellation between work and education, as a training source for students. Thus, curriculum becomes only a point of connection with local knowledges and the Amazonian extractive agriculture lifestyle, since the productive chains predominant in the training centers, as acai berry and fishing for example, becomes part of the tools of Alternation, as the extractive agriculture pedagogical labs of school compose the curriculum suggested on the Base Nacional Comum Curricular [National Common Curriculum Base] (BNCC), integrated to the diversity of the territory and connected to the experience school-community.

The perceptions and praxis of EFAC's professors take us to experiment Paulo Freire's popular education, as a driving force for new alternatives, inclusion and empowerment, since the comprehension of territory and education isn't sealing, but presupposes a multiple vision of the existing socio-environmental dimensions, making us to comprehend what the professors conceive as “training territories”. These conceptions are what Canário (2005) defends about the social role of school, his consideration that training territories as social places of experiences and knowledges takes the educative action for beyond the school place.

EFAC is developing a pedagogical suggestion ruled by sustainability and territories of life as indicators of learning by mean of a dynamic, emancipator and transforming teaching of social reality. This suggestion is based on a socio-educational and environmental view, which the principles of the Pedagogy of Alternation confer to farm young people the possibility to carry on with the studies and having access to scientific and technological knowledges, not as something given by others, but as knowledges conquered and built from the problematization of its reality and built as social praxis.

Remembering Bonavigo and Caimi (2018) and Sartori et al. (2019) when they highlight the Alternation as a continuum process of learning and training at the discontinuation of activities

and integrated succession of places and time. The training includes and transcends the school building, so the experience becomes a place with learning statute and production of knowledges, in which the person assumes its role of protagonist, individual and jointly appropriating its training process.

The principles of the Pedagogy of Alternation, jointly with philosophy of EFAC's performing, provide effectiveness to EFAC's performance when talking about the project of life and territories sustainability, since its realization in a training territory, molded by cultural diversity, with the valuing of student routine, his knowledges and experiences. A training process is established in order to reduce the impact of social crisis and voicing these persons, who fight for a quality education, a representative process of the lifestyles and ruled by a libertarian education. On it, the professor's arguments compose alternatives to create an education gives life for the students and for the families that are part of EFAC, as we can note on the following reports:

The study planning is the focus when we can verify the school and, at the same time, the field staff targets the work to this, so we can do a solid organization, considering that we brought information through the study planning, the monitoring form, for me are the tools for the foundation. (P5, emphasis added).

Our idea is *to do a scientific sample*, in which each student, each group present results of the academic year. And we'll work inside these curricular components: *Pedagogical Strategies and interdisciplinarity*. (P3, emphasis added).

We start from *projects of the school* and could be several themes, could be fish farming, acai berry, banana, but it's just an example to make it more practical. (P7, emphasis added).

Including all professors on the daily life of this scientific sample, so all of you would be responsible for *making it significant*. And this would involve all of us, from the one in the classroom the technicians, who is on the expansion, everyone would be together, so they can see the result of what they're doing. (P6, emphasis added).

We have a lot of *parental illiteracy here in the territory*, so we started a project of education of adults and young people that could be implemented, a project here in the school to solve this problem. (P4, emphasis added).

It's possible to note on excerpts: "The study planning is the focus"; "to do a scientific sample"; "Pedagogical Strategies and interdisciplinarity"; "projects of the school"; "making it significant" and "parental illiteracy here in the territory", these approaches appeared as suggestions of implementation of training connections done at the time/experience school-community, connections not offered as training to professors and not experienced at the educative practice of the ones composing the school.

Thus, more than training for professors that arrive at school to understand what Pedagogy of Alternation and its educative philosophies about the training territories and its connections would be, EFAC understand that would be necessary to promote a methodological readaptation and an integration between the projects and pedagogical labs that exists in the school, implementing an educative praxis that dialogues with several subjects, with the Alternation and with sustainability seeking to improve Alternation and integral training of the students and of the families.

From this assumption, the professors suggest scientific samples ruled by PE, as pedagogical strategy of dialogue, and the approximation with the school community, giving meaning to know-to do by means of generators themes, using the natural ecosystems as source of learning.

The suggestions made by EFAC's professors are based on the practice of an education as social praxis and not merely as knowledge transmission. They're anchored on the fight for an emancipatory education, in which they assume a role of mediators of the process teaching-learning as an act of dialogue, imaginative of reason of both: the notion of a science opened to popular needs and a participative and community planning. They forecast a mosaic of theories and practices that have in common the compromise with the riverside, forest and farm people and, moreover, with human emancipation (Wanderley, 2007).

So, we can affirm that on EFAC's educative practice value the knowledges and experiences the young people bring from their routine, that their territory of life is transformed into extension classroom and vice-versa, turning into pedagogical labs as a window to amplifies knowledge that directly interfere to improve quality of life of the families composing EFAC and the training territories (Zimmermann & Meurer, 2016).

Final considerations

Acknowledge on the Amazonian people their knowledge, valid and insert them on their praxis, composing an education that dialogues with the local lifestyles is a way that goes from acknowledgement to belonging in which the knowledges built could be linked to the training process of students and professors of EFAC.

From this premise, this research shows that EFAC seeks for Alternation empowerment through the creation of pedagogical centers to integrate sociocultural and environmental diversity of each territory to their educative doing, in which the time-experience-family may be monitored as extension from school. Thus, the pedagogical suggestion ruled by sustainability and territories of life has been an important guide adopt by EFAC, interlinked by a socio-educational and environmental viewpoint from which the Pedagogy of Alternation.

The realization of an educative praxis on Alternation on the context of Amapá's side of Amazonia, so it still a challenge. The existence of an Extractive Agriculture School as EFAC it's constituted by an embryo to insert educative models that focus on the dialogue of knowledges as integration among the curricular contents and the local lifestyles.

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Note on authorship

The first author systematized the data bank and the writing of this article, as well defined the structuration and the other elements of the article. The second author complemented and talked together on the writing and debate about the results, what made the production a partnership between the authors.

Data availability statement

The data can not be available as it is an analyze about the speak of the researchers that composes the data bank on the entirety of reports obtained and the identification of participants, what upsets the ethic on the research. Moreover, the Escola Família Agroextrativista do Carvão has a protective politic that prohibits the release the entirety of professors' reports to public.

How to cite this article

Gomes, R. K. S., & Novais, V. S. de M. (2023). New territorialities in alternation of educators of the Escola Família Agroextrativista do Carvão in Amapá. *Cadernos de Pesquisa*, 53, Article e10000. https://doi.org/10.1590/1980531410000_en