

RETHINKING ENVIRONMENTAL EDUCATION THROUGH PROFESSIONAL REFLEXIVITY: A QUALITATIVE META-SYNTHESIS BETWEEN CATALONIA (SPAIN) AND THE MAULE REGION (CHILE)

*Repensar la educación Ambiental desde la reflexividad
profesional: una metasíntesis cualitativa entre Cataluña
(España) y El Maule (Chile)*

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ABSTRACT

This article analyses environmental education (EE) from a socio-critical, biocultural and intercultural perspective in the context of the contemporary eco-social crisis. In light of the fragmented relationship between humanity and nature, the study seeks to understand how professionals in the field perceive EE, its practice and their role in shaping eco-social identities. The research combines the results of two studies conducted in the autonomous region of Catalonia (Spain) and the Maule Region (Chile), by means of a qualitative design based on inductive-deductive reasoning and qualitative meta-synthesis. The article seeks to analyse the representations of EE professionals about the discipline itself and their role in society, to examine the educational purposes that guide their practice, and to identify which aspects of professional practice promote critical, participatory and transformative EE. The findings show that EE is perceived as an interdisciplinary, humanist and transformative field, focused on overcoming the anthropocentric paradigm and advancing towards ecocentric, biocentric, socio-critical and intercultural approaches. Major common elements include territorial integration and local ways of knowing, the use of active methodologies, engagement and the need to build community networks. Conceptions about their practice reveal ecological awareness, relational transformation, and the development of critical, environmentally responsible individuals. The study demonstrates and asserts that EE brings science together with bioculture, overcoming educational technocracy and integrating multiple ways of knowing that strengthen eco-citizenship and the eco-social transition. Moreover, it underlines the need to recognise EE as a space of disciplinary vibrancy, focused on transformation on three levels: personal, relational and social.

Keywords: environmental education; professional training; intercultural dialogue; environmental ethics; citizenship; qualitative meta-synthesis; qualitative research.

RESUMEN

Este artículo analiza la educación ambiental (EA) desde una perspectiva sociocrítica, biocultural e intercultural en el contexto de la crisis ecosocial contemporánea. Ante la fragmentación del vínculo humano-naturaleza, la investigación busca comprender cómo los profesionales del área conciben la EA, su práctica y su papel en la formación de identidades ecosociales. El estudio integra los resultados de dos investigaciones desarrolladas en la comunidad autónoma de Cataluña (España) y en la región del Maule (Chile), mediante un diseño cualitativo basado en razonamiento inductivo-deductivo y la metasíntesis

cualitativa. El artículo se propone analizar las representaciones de los profesionales de la EA sobre el propio campo disciplinar y su papel en la sociedad, examinar las finalidades formativas que orientan sus prácticas e identificar los elementos de la práctica profesional que favorecen una EA crítica, participativa y transformadora. Los hallazgos muestran que la EA se concibe como un campo interdisciplinar, humanista y transformador, orientado a superar el paradigma antropocéntrico y avanzar hacia enfoques eco- y biocéntricos, sociocríticos e interculturales. Entre los elementos compartidos destacan la integración del territorio y los saberes locales, el uso de metodologías activas, la participación y la necesidad de construir redes comunitarias. De las concepciones sobre sus prácticas emergen la conciencia ecológica, la transformación relacional y la formación de sujetos críticos y corresponsables con el entorno. La investigación evidencia y reivindica que la EA articula lo científico con lo biocultural, superando la tecnocracia educativa e incorporando múltiples saberes que fortalecen la ecociudadanía y la transición ecosocial. Se reafirma, además, la necesidad de reconocer la EA como un espacio de efervescencia disciplinar, enfocada a la transformación a tres niveles: personal, relacional y social.

Palabras clave: educación ambiental; formación profesional; diálogo intercultural; ética ambiental; ciudadanía; metasíntesis cualitativa; investigación cualitativa.

1. INTRODUCTION

The relationship humans have with nature is key to their identity. Environmental education (EE) plays a central role in rebuilding a sense of belonging and care in a context marked by an eco-social crisis and a breakdown of relationships with the environment. From intercultural, ecocentric and biocentric perspectives, the aim is to deconstruct hegemonic identities and promote biocultural practices through critical decolonial frameworks (Marín Isamit, 2024). Under these frameworks, EE proposes relationships based on interdependence and the recognition of ancestral roots, thereby critiquing the anthropocentric paradigm (Marín and Inaipil, 2017). As such, identity is shaped through eco-dependence and biocultural relationships. According to Maturana (2017), who asserts that an ecological niche is the relational environment in which a living thing lives, to recognise ourselves as part of the ecosystems and cultures that came before us is to inhabit them.

The climate crisis and breakdown of relationships with nature reflect weakened values, attitudes and ways of life that threaten the sustainability of our planet. We are at the intersection of a socio-environmental, epistemic and ethical crisis (Bonil et al., 2010). EE must combine place-based, relational, emotional and ethical ways of knowing to expand beyond the mere transmission of objective knowledge (Marín and Inaipil, 2017; Marín Isamit et al., 2024). Its role is to establish a coherent relationship between individuals and nature, thus overcoming historically objectified, fragmented knowledge (Pinheiro Barbosa, 2025).

Educating requires recognising the voices of those who educate and engage, integrating eco-dependence, environmental justice and ancestral ways of knowing.

Educating eco-social individuals requires understanding teacher beliefs (Calafell et al., 2024) and encouraging reflexivity in order to obtain theoretical and practical knowledge that strengthen engagement in EE (Crespo i Torres, 2024). Fostering reflexivity in educational practice serves to bring hidden social structures to light and reinforce the collective responsibility of EE in advancing the community and integration of different identities (Caride, 2017). In this sense, it provides an opportunity to learn to live with otherness (Muradian and Pascual, 2018).

This critical reflexive approach forms the basis of this article. Thus, a theoretical framework of EE is proposed alongside a study of its professional practice, with both aspects explored in depth through the voices of environmental educators. Based on two studies carried out in different contexts (Catalonia and the Maule Region), this research identifies common aspects in professional practice that shape EE as a transformative, engaging and critical practice.

2. THEORETICAL FRAMEWORK

2.1. *General frameworks on the relationship between educational knowledge and nature*

All education takes place in a specific context, pervaded by cultural, economic, social, environmental and political factors. As such, all education is in some way a form of EE, as it questions the relationships between people, society and the environment (Sauvé, 1999). That said, the definition of EE as a standalone field is rooted in the Stockholm Conference (United Nations, 1972) and the Belgrade Charter (UNESCO, 1975). The latter is considered to be the foundational document, which places emphasis on the understanding, protection and conservation of nature, together with citizen engagement. Prior to—and during—these milestones, other definitions have emerged from complex paradigms, which have influenced the institutionalisation of EE in a way that is consistent with and permeable to modern challenges. Among these, the Earth Charter (2000) was a landmark declaration in both form and substance, as it proposed a comprehensive ethical framework for sustainable human development following an unprecedented participatory and intercultural process (Novo, 2017). Thus, we have arrived at a concept of EE that has a strong ethical component, rooted in interculturality as the basis of common understanding and action.

More recently, the report titled *Reimagining our futures together* (UNESCO, 2021) underlines the notion that education must foster the ability to identify and deal with complex systemic issues, promoting educational environments where collaborative, intercultural and participatory efforts form the basis of learning and the commitment to a more sustainable future. As explained in the report:

Curricula should emphasise ecological, intercultural and interdisciplinary learning that supports students to access and produce knowledge while also developing their capacity to critique and apply it (UNESCO, 2021; p. 4).

However, the consensus on the complex nature of the socio-environmental crisis does not always lead to apt educational responses. The literature offers a broad range of terms, including: Educating for the Environment (Huckle, 1992), EE for Sustainability (Tilbury, 1995), Educating for Sustainability (Sterling and Huckle, 1996), Education for Sustainable Development (United Nations, 2015, 2023) and Eco-social Education (Gutiérrez-Bastida, 2019). Each term has its own framework, forms of citizenship, ethical implications, and methodologies. As Gutiérrez-Bastida (2019) warns, this plurality is fruitful so long as it does not result in ambiguity that cripples ecological commitment. In fact, “it would be difficult to encapsulate the extreme complexity of this subject in a single pedagogical proposal” (Sauvé, 1999, p. 14, translated from Spanish). The danger comes from narrow, instrumental visions that dilute the formative density of EE and frame it as a sort of marketing campaign with catchy slogans (Franquesa, 2018). The challenge, therefore, lies in bringing the diversity of approaches together under a robust ethical and political vision, consistent with shaping human identities that are aware of their eco-dependence and interdependence with the living things and environment that they inhabit (Mies and Shiva, 2014).

To refer to this vision of both individual and community identity, in this article we use the concept of eco-citizenship, put forward by Sauvé (2014), for its emphasis on integrating the biophysical elements of the global ecosystem. And although this concept lacks a concrete definition (Sageidet and Heggen, 2021), Sauvé defines it as:

A kind of relationship with the world based on “living here together”, a contextualised and situated relationship, which implies collective responsibility over living systems—of which we are part—and which require skills in order to effectively insert oneself into the political dynamics of decision-making and action regarding socio-ecological matters (Sauvé, 2014; p. 14).

Eco-citizenship is a political and pedagogical project with an ethical, critical and political dimension (Sauvé, 2014). Based on the needs of people and the environment, eco-citizenship must be capable of promoting a well-maintained and shared city, where citizens build their reality based on responsibility and cooperation with others (Limón-Domínguez et al., 2019).

2.2. *From currents of thought to practice: critical, eco-social and biocultural formulations in environmental education*

In recent decades, EE has been shaped as a pluralistic, dynamic field, which combines a range of currents of thought, pedagogical approaches and practices focused on rethinking the relationship between humanity and nature. The triangulation between the currents of thought described by Sauvé (2005, 2014) and eco-social, biocultural, socio-critical and sustainable perspectives (Andrade da Silva et al., 2020; Freire et al., 2024; Kong, 2015; Leff, 2014, 2019; Novo, 2009; Pinheiro Barbosa,

2025) has contributed to the construction of a critical, situated and emancipatory educational paradigm.

From this perspective, currents of thought in EE become repertoires in dialogue that hybridise to respond to local contexts and global challenges. As Sauvé (2005) notes, EE has moved between approaches focused on the transmission of scientific knowledge and problem-solving, and those of a praxical and critical nature, which question anthropocentrism and promote relationships of reciprocity and care with nature. This perspective views education as a process of rebuilding identity, where the individual recognises themselves as a constituent part of the ecosystem, as opposed to an external observer.

In practice, classic currents of thought (resolute, scientific) coexist with emerging currents of thought (bioregionalist, praxical, critical) in educational spaces (Marín Isamit, 2024). This coexistence reveals both the tension and the prosperity of the field. Modern perspectives agree that EE must be place-based, grounded in critical ecopedagogy that links reflection with transformative action (Freire, 1997; Leff, 2014; Sauvé, 2019). EE thus ceases to be the mere transmission of environmental information and becomes a political, ethical and community process that problematises the relationships between society and nature. These approaches are founded upon participatory methodologies that foster the empowerment of children and communities as active agents of eco-social and biocultural change (Andrade da Silva et al., 2020; Kong and Junyent, 2015).

Recognising each other as agents implies legitimising the diversity of pre-existing knowledge and ways of knowing. It is therefore important to restore plural epistemologies and strengthen the dialogue between ways of knowing, thereby reasserting the leading role of traditionally marginalised communities and their right to contextualised, emancipatory education that respects biocultural diversity (Marín and Inaipil, 2017; Marín Isamit et al., 2024). Consequently, emerging visions of EE require the bringing together of diverse ways of knowing, forms of participatory action and a clear transformative intention. These intersections between theory and practice give structure to a solid framework through which to redefine EE as key to shaping eco-citizen identities and as a driver of social, ecological and cultural change.

2.3. Environmental education professionals in the shaping of eco-social identities

EE professionals—such as environmental educators, teachers, municipal staff and leisure educators—work in dynamic settings characterised by the urgency to provide a response to major eco-social challenges (Crespo i Torres et al., 2025). Moreover, their work is scarcely regulated, resulting in several different agents performing educational functions from different positions (Soto Fernández, 2007). Against this background, professional development must reconcile theoretical knowledge, critical skills and the ability to offer supportive engagement that effectively leverages ways of knowing and learnings with a view to action (Crespo i Torres et

al., 2025). These professionals perform a role of community support geared towards collective well-being. According to Reis (2021), this implies inviting students to read their environment and problematise it; to share their outrage and turn it into action through alternative narratives. Through EE, we can—and we should—offer other narratives in order to give visibility and recognition to different ways of knowing. And to move towards them.

Consequently, the training of environmental educators must evolve from technical/transmissive approaches towards contextualised, dialogic, participatory spaces, where critical reflection, inclusion and the collective building of knowledge are cultivated, together with strengthened professional networks (Crespo i Torres et al., 2025). This implies teaching through engagement and interculturality, thus activating skills for dialogue between ways of knowing, systemic comprehension and mediation of socioecological conflict.

In summary, the professional situation is marked by ambivalence between the transformative potential of EE and institutional, educational and work-related difficulties. Professionalisation, revaluation and critical education are key conditions for these actors to effectively direct the social conversation towards eco-citizenship. Thus, there is a need for institutional recognition of the profession, the creation of stable skills frameworks and job security, which will serve to ensure projects with long-term impact (Bonil et al., 2010).

The theoretical framework established reveals EE, defined through critical, eco-social and biocultural approaches, as a key space for redefining the relationship between education, human identity and nature. Through dialogue between theory and practice, it is apparent that to educate about the environment is to rebuild the relationships that sustain life.

3. RESEARCH OBJECTIVES

This research combines the results of two studies¹ conducted in different contexts, in order to shed light on common aspects that allow for a better understanding of how EE professionals view the discipline itself and related practice. Based on this aim, the following specific objectives are established:

1. To analyse the representations of professionals about EE and its role in society.
2. To examine the educational purposes that guide their practice and the frameworks of meaning that uphold them.
3. To identify which aspects of professional practice promote critical, participatory and transformative EE.

¹ Both studies (Crespo i Torres, 2024; Marín Isamit, 2024) are published in institutional repositories and can be read in their entirety free of charge.

4. METHOD

The methodological process is based on inductive-deductive reasoning and an analytical-synthetic strategy (Quintas-Froufe, 2016), in accordance with the logic of qualitative meta-synthesis (Dawson, 2019; Mohammed et al., 2016). Based on inductive-deductive reasoning, previous findings were combined with new interpretations arising from data analysis. Beyond simply aggregating results, we aim to re-read, compare and reconfigure existing contributions, to create a dialogue between different epistemological and contextual perspectives (Finfgeld-Connett, 2018). By adopting synthesis as a generative process, in an attempt to engage with complexity, qualitative meta-analysis becomes a tool for studies that seeks to give meaning to complex phenomena by focusing on nuances, depth and the contexts themselves (Fendt, 2025).

The researcher acts as a hermeneutic mediator who reconstructs meanings in order to move towards broader and more nuanced frameworks of understanding (Coletti and Landoni, 2017), thereby contributing to the theoretical consolidation of the field of education and to deepening its interpretive foundations. To this end, and to ensure rigour, the research team carried out (1) an analysis of discrepancies and unexpected findings; (2) triangulation between researchers, with a collaborative review of codes and categories to assess whether they emerged from the data or resulted from theoretical assumptions; and (3) a review of instances where interpretation was influenced by prior theoretical frameworks versus those where new understandings emerged.

4.1. *Research contexts and participants*

The studies dealt with in this article were conducted in the autonomous region of Catalonia (Spain) and the Maule Region (Chile). Although situated in different geographical and sociocultural contexts, they share the purpose of understanding and enhancing professional practice in EE. Both of these studies were chosen for the meta-synthesis based on four primary criteria: (1) research accessibility, as these were studies conducted by established teams that facilitated contact with participants and professional networks in each region; (2) contextual differences, allowing us to explore whether EE professionals share similar views about their field and practices despite differing regional, political and cultural realities (whilst acknowledging the limitations this entails); (3) similarity in both epistemological approach and methodological purpose; and (4) synchronisation of data collection.

Moreover, they share three fundamental principles: multivocality, which recognises the legitimacy of the voices of academics, professionals, the community and children as epistemic sources (Tracy, 2010); reflexivity, understood as an ongoing review exercise of research positions and practices themselves (Cuesta-Benjumea, 2011; Finlay, 2003); and the democratisation of knowledge, focused on the shared building of knowledge with the participants. Both studies employed purposive sampling, combining direct contact with educational institutions and schools through

snowball sampling. The inclusion or exclusion of participants in each study was based on the following criteria:

- Active professionals explicitly linked to EE at the time of data collection.
- Diversity and heterogeneity in the educational setting. This involved including agents beyond formal education in the case of the Catalonia study, while in the Maule Region study, a representative sample of teachers from both urban and rural environments was included.
- Over 4 years of experience working in EE. In the case of participatory workshops, this criterion was rejected, and a conscious effort was made to ensure that the sample included respondents with a range of educational experience, from those in their first year of teaching to those with over 15 years' experience.

In addition, gender was considered an important variable in the data collection process, and all participants were informed of the objectives and scope of the studies, ensuring their voluntary participation. Written informed consent was obtained, emphasising the confidentiality of the data and its use exclusively for academic purposes, in accordance with the ethical principles of transparency, autonomy and research accountability.

4.1.1. Catalonia study

This study acknowledged the diverse range of practices that constitute EE in the region, where schools, leisure organisations, non-governmental organisations and social movements exist alongside each other. This diversity was reflected in the profile of the respondents, which included both teachers and other EE professionals.

Data collection consisted of three phases:

1. Semi-structured interviews with seven professionals (March–April 2022).
2. Questionnaires were given to 64 educators and 68 children (April–June 2023).
3. Participatory workshops with a core group of 10 participants (September–October 2023), designed to foster a process of sustained reflection.

For this article, data from the interviews and workshops were taken into account, given their interpretive potential and relevance to the dimensions explored in the research conducted in the Maule Region.

4.1.2. Maule Region study

The study conducted in the Maule Region sought to characterise primary school teachers' perceptions of environmental ways of knowing and associated teaching and pedagogical knowledge. The selection of respondents captured regional diversity and included teachers from both rural and urban schools.

Data collection consisted of two phases:

1. Semi-structured interviews with 23 teachers (March 2022–January 2023).
2. Four focus groups with 4–6 participants. Two with professionals working in an urban setting and two working in a rural setting (January–April 2023).

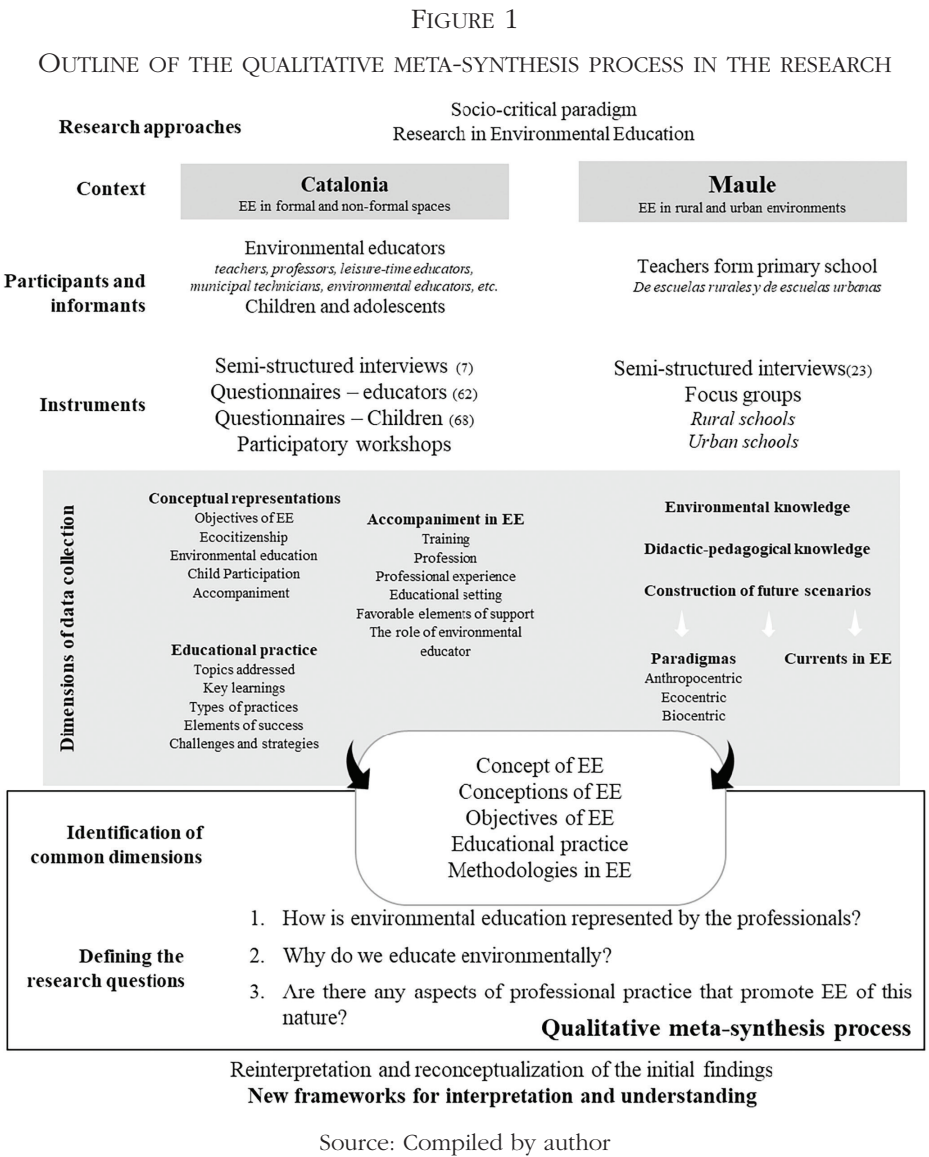
The semi-structured interviews conducted in both Catalonia and the Maule Region have enabled the exploration the ideas, concepts and objectives that professionals associate with EE, whilst the focus groups (in the Maule Region) and participatory workshops (in Catalonia) have revealed the narratives and reflections on day-to-day practices carried out in everyday life. All data collection instruments covered broader dimensions than those specifically selected for this meta-synthesis process, as shown in Figure 1, which illustrates the connections between the original dimensions of each study and those chosen for this synthesis. Based on the data analysis process detailed below, we have focused on these dimensions and the three research questions presented in the figure. We have prioritised the development of interpretive synthesis on the disciplinary representation, objectives and practices in EE.

Figure 1 also includes the differences between each study. These differences prompt us to clarify that the research presented here does not seek to compare the two sets of data; rather, given their similarities and points of convergence in terms of theory, it aims to recognise the specific characteristics of each region and identify common understandings regarding how different professionals view EE and its practice.

4.2. *Analysis procedure*

Data analysis was conducted using an inductive-deductive and socio-critical approach (Cohen et al., 2018; Kemmis, 2008), consistent with the logic of qualitative meta-synthesis, and aimed at reinterpreting the meanings and representations of EE. Strategies of thematic analysis (Braun and Clarke, 2006) were combined with those of narrative analysis (Czarniawska, 2004; Riessman, 2008), allowing us to identify emerging categories and to establish interpretive links between the studies. Categories of analysis used in the meta-synthesis are shown in Table 1.

The coding process began with the re-reading of the interviews, focus groups and workshops. In this process, fragments of meaning were identified, and descriptive labels were assigned *in vivo*, without reference to any prior theoretical framework, resulting in a wide variety of codes. These were then grouped into emerging thematic categories and the relationships between them were studied. This process led to various categories being identified for each question, allowing us to then cross-reference these categories with the sources, contexts and techniques, as well as with the theoretical frameworks of EE. This final stage allowed us to both validate existing conceptions and to identify any nuances, tensions or reinterpretations that could enrich the theoretical framework and form the backbone of the findings presented in this article.



Finally, it is worth noting that the research team’s constant reflexivity was a feature throughout the entire process (Finlay, 2003), acknowledging their role in the construction of meaning. Overall, this approach served to bring the findings together and to develop interpretive synthesis that goes beyond local contexts.

TABLE 1
CATEGORIES AND SUBCATEGORIES LINKED TO THE RESEARCH QUESTIONS

Catalonia study		Maule Region study	
Category	Subcategory	Category	Subcategory
How is environmental education represented by the professionals?	<i>Based on...</i> Concrete practice		<i>Based on...</i> Educational cross-disciplinarity
			• Complexity • Dialogue between ways of knowing • Territorial connection • Interdisciplinarity
	<i>Based on...</i> Purpose of EE		<i>Based on...</i> Critique of anthropocentrism
			• Biocentric/ecocentric alternatives • <i>Buen vivir</i> • Critique of extractivism
Why do we educate environmentally?	<i>Based on...</i> Paradigmatic representation		<i>Based on...</i> Political and cultural dimension
			• Ethical and political paradigms (explicit) • Critical pedagogy p. • Community • Interculturality • Lifelong education • Problematising p.
	<i>For...</i> Environmental knowledge and awareness		<i>For...</i> Reaffirming a sense of identity with the local area
			• Territorial transformation • Engagement • Situated experience • Rebuilding relationships with the land
Why do we educate environmentally?	<i>For...</i> Collective understanding and awareness		<i>For...</i> Development of critical and ecological awareness
			• Cultural relationship • Overcoming urban-centrism • Sense of rural belonging
	<i>For...</i> Relational transformation		<i>For...</i> Education for <i>buen vivir</i> ("good living") and collective action
			• Socio-environmental complexity • Local/global + ancestral memory • Reflexive skills • Conscious living • Resilient community • Biocultural ethics

Are there any aspects of professional practice that promote EE of this nature?	Content	• Contextualised • Interesting/motivating • Current issues	Active and collaborative methodologies	• Projects • Research-action • Interdisciplinary cases
	Space	• Convenience • Adaptability and flexibility • Outdoors • Community/out-of-school accessibility	Integration of biocultural ways of knowing	• Rural/ancestral ways of knowing • School agroecology • Holistic approach
	Educational action	• Utility beyond the classroom • Experiential • Concrete and defined	Openness to change	• Innovation • Resistance • Community network • Reflexive leadership
	Environmental educator	• Communication • Motivation and critical thinking • Local community ties • Educational experience/convenience		

Source: Compiled by author

5. RESULTS

From a hermeneutic perspective, each question is explored through emerging categories, informed by the participants' voices. This approach serves to reconstruct shared meanings surrounding EE and to identify points of convergence and divergence. All quotes have been translated from Spanish.

5.1. *How is environmental education represented by the professionals?*

In Catalonia, EE was described by those involved as a process of support geared towards action, aimed at fostering citizenship. As one participant said, *"the construction of support for people to take action, and therefore the construction of their social action, and ultimately their citizenship"* (E1_Catalonia). Based on this representation, the meaning of the concept has three levels:

- **Experiential and methodological practice:** EE is linked to active methodologies, play and outdoor learning as a prime space for experiencing the relationship with the environment and fostering meaningful learning.

But in a somewhat more dynamic and motivating way, through play and the outdoors... if you want to teach about the natural environment, so to speak, then the way to learn is by experiencing and being in it, you know? (E3_1Catalonia).

- **Educational and transformational purposes:** scientific literacy, environmental transformation and civic engagement emerge as core purposes, although sometimes without explicit pedagogical development.
- **Paradigms and reference frameworks:** from a deeper understanding, EE is perceived as an interdisciplinary, humanist and critical practice, in which ethical, social and political dimensions intertwine. Its complex community nature is recognised, geared towards the construction of committed active citizenship.

In the Maule Region, teacher representations position EE as a critical, intercultural and place-based process that targets social and ecological transformation. One rural teacher described it as follows:

For me, something that needs to be implemented is agroecology, it is epistemological, cross-disciplinary and embraces both formal sciences and ancestral/rural ways of knowing on an equal footing, with the same importance, and thus agroecosystems are explored, understood and efforts are made to transform them,... a movement concerned with culture, social resilience and economic fairness. (Rural_JC19MMREG_Maule).

From these perspectives, three descriptive levels are identified:

- *Educational cross-disciplinarity and complexity*: EE goes beyond ecological teaching, fostering dialogue between scientific, local and ancestral ways of knowing, and is closely tied to the local area.

I believe that the lack of environmental ways of knowing (in the curriculum) is closely linked to economic, political and social factors; if we were to address this in class, we could engage in a critical and informed discussion of the environmental crisis affecting us. (Urban_JF14FPUE_Maule).

- *Critique of the anthropocentric paradigm*: proposing biocentric and ecocentric ethical alternatives of *buen vivir* (“good living”), in accordance with nature and social justice.
- *Political and cultural dimension*: EE is viewed as a tool for territorial transformation and emancipation, prioritising and centring experience, engagement and rebuilding relationships with the land in the face of the contemporary socio-environmental crisis.

Interpretive analysis reveals that in both Catalonia and the Maule Region, EE is understood as a transformative cross-disciplinary educational process, focused on education based on ethics, critical thinking and collective action. Both studies underline interdisciplinarity and its commitment to building a sense of community and citizenship. Nevertheless, certain epistemological and cultural differences are evident:

- In Catalonia, EE is linked to democratic, ethical and social values, and is particularly framed within civic engagement and ethical reflection based on complexity.
- In the Maule Region, the focus is on ancestral, rural and scientific environmental ways of knowing, offering a biocentric, localised vision based on the ethics of *buen vivir*, as well as cultural and ecological diversity.

Both perspectives converge on their transformative potential and the need to rethink the relationship between humans and nature, but they diverge on the epistemologies that underpin them: whilst in Catalonia the approach is rooted in critical social reasoning, in the Maule Region it is based on eco-territorial and decolonial reasoning.

5.2. Why do we educate environmentally?

According to the narratives of environmental educators and teaching staff, EE in Catalonia seeks to educate critically aware individuals. For most respondents, the civic dimension is clear, and EE is understood as a necessary tool for the full exercise of this citizenship.

If we understand citizenship as all the people that live in a society, you need everyone to engage... As far as they are able and willing, but then, their engagement

depends on the EE they have received, right? On the education they have received, and therefore the knowledge and awareness they have about their environment. (E5_Catalonia).

Looking deeper into the narratives, we find that we can break this civic exercise down into three cumulative levels, ranging from the subject of knowledge to the subject of action, and from the more local to the more global sphere.

- *Environmental knowledge and awareness*: it seeks to bring people closer to knowledge of the natural environment and to understanding ecological cycles and human impacts. This knowledge encourages reflection on the ways we inhabit the world, promoting more respectful, more sustainable attitudes.
- *Understanding the world and collective consciousness*: it highlights the need to understand the interdependence and systemic nature of environmental issues. From this perspective, EE fosters collective consciousness and recognises people as agents capable of coming up with alternatives and transforming social structures.
- *Transforming the relational paradigm*: there is an urgent need to change our ways of life and the relationship between humanity and nature. EE is seen as a driving force for social and cultural change, shifting from a technical to a relational focus, within a framework of respect, care and participatory democracy.

Putting an end to power and domination over each other as human beings, as well as over other species and Planet Earth in general. Putting an end to this way of relating to each other from here and starting to relate through other paradigms. Paradigms of democracy or true democracy based on engagement, on citizens, on horizontality... (E6_Catalonia).

The teachers from the Maule Region focus the objectives of EE on reshaping the relationships between development, nature and culture. From this perspective, three levels emerge that guide the educational purpose of EE. These range from individual territorial awareness to transformative collective action:

- *Reaffirming a sense of identity and territorial belonging*: educating individuals who recognise their relationship with the local area and its cultural value, thereby overcoming urban-centric or decontextualised perspectives.

Looking at our culture, how our responsibilities towards our environment are changing, for example, in farming, and migration to the city. I don't think my children should consider moving away, and if they do. (Rural_CP16FMREG_Maule).

- *Development of critical and ecological awareness*: understanding the complex nature of socio-environmental issues, integrating local and global perspectives

with ancestral memory and ways of knowing through practical reflexive skills.

- *Education for buen vivir and collective action*: rather than obedient citizens, the aim is to educate inhabitants—conscious and engaged actors—capable of building resilient, supportive and sustainable communities.

A human being who is conscious and proud of where they live, finds meaning in rural life and does not feel looked down upon; to shape thoughtful individuals who are conscious of their surroundings, who love the countryside, who feel that affection and sense of belonging; people who are open-minded and receptive to change, new opportunities and constructive criticism: is this right for me or not? (Rural_RV14FM-REG_Maule).

This focus positions EE as an ethical, political and cultural project in dialogue with the biocultural diversity of the local area.

The analysis shows that, in both Catalonia and the Maule Region, EE aims to foster the development of critical individuals who are committed to socio-environmental transformation. However, in Catalonia, this goal is tied to the development of democratic citizenship, the ethics of care, and the transformation of social relations. Meanwhile, in the Maule Region, there is a strong emphasis on reaffirming rural identities and local ways of knowing, promoting education focused on the notion of *buen vivir* and ecological justice from a local, decolonial perspective.

Both contexts recognise the need to combine ecological awareness, collective action and a sense of belonging in response to contemporary crises.

5.3. *Are there any aspects of professional practice that promote environmental education of this nature?*

In Catalonia, a range of practical initiatives are emerging that promote transformative EE, rooted in everyday practice rather than theoretical ideals. These practices are framed around four interrelated pillars:

- *Dynamic and context-based content*: EE is seen as a process linked to students' experiences, which can be adapted to their interests and needs, and geared towards solving specific problems in the local environment.
- *Open and suitable learning spaces*: the space is seen as a safe and flexible place of their own, which encourages independence, contact with nature and extended learning beyond the classroom.

They find these topics interesting to discuss; they're things that are on their minds because they've heard about them in different places, but they don't often have the chance to discuss these issues based on their own perspectives (E6_Catalonia).

- *Transformative educational action*: this approach is based on genuine engagement, collective reflection and experiential learning, thereby fostering personal and community change.
- *Profile of the environmental educator*: characterised by a critical mindset, sensitivity to students' concerns and horizontal communication. Their methodological confidence and command of the subject matter make it easier to involve other educational actors, adapt to unexpected circumstances and strengthen networking.

You go out into town, out into the nature park, out to wherever, and you discover that place, and you start to become part of it and it starts to become part of you, but because you're interacting and doing something (P5_Catalonia).

These dimensions create an educational approach centred on support, openness and transformation, where situated learning and collective action become the pillars of EE committed to the community.

In the Maule Region, teachers' accounts reveal a socio-critical and participatory approach to EE, aimed at strengthening professional training through projects and experiences rooted in the local context. The most meaningful practices are framed around three main pillars:

- *Active and collaborative methodologies*: project-based learning, action research, case studies and interdisciplinary experiences are valued. These strategies foster meaningful and context-based learning underpinned by reflection, dialogue and consensus, linking situated knowledge with community action.

Furthermore, the methodologies should enable children to work together on the same tasks, such as farm work, animal husbandry, food processing, household chores, etc. (Rural_MV18FSRE_Maule).

- *Integration of biocultural knowledge*: the revival of rural and ancestral ways of knowing, alongside school agroecology, redefines the relationship between humans and nature and enriches pedagogical practice. These initiatives offer a holistic view of the environment and an alternative to the dominant development model, strengthening a sense of belonging to rural and community life and allowing us to move beyond prescriptive and fragmented curricular approaches.
- *Openness to change and pedagogical leadership*: innovation, networking and teacher leadership are recognised as pillars for sustaining critical, situated EE. In rural and peri-urban contexts, this openness is linked to the ability to integrate professional reflection, dialogue between ways of knowing and intergenerational engagement.

The methodology proposed in the context of rural education involves creating an educational school garden managed using agroecological techniques and rural ways of

knowing, in order to grow pesticide-free food through collective labour. In this respect, rural education takes on contextual meaning (Rural_JC19MMREG_Maule).

From this perspective, teaching practice emerges as a space for transformation capable of overcoming institutional and curricular obstacles, becoming a tool for resistance, community cohesion and the collective construction of new ways of life in the local area.

The joint analysis shows that, in both Catalonia and the Maule Region, professional practices in EE are based on active, collaborative and context-specific methodologies, geared towards educational and social transformation. The approach advocates for situated, experiential, and participatory learning that is closely tied to the local area. Moreover, certain nuances are identified which, far from fragmenting the field, broaden our understanding of it and highlight the diverse range of paths towards building eco-citizenship:

- In Catalonia, the emphasis is on horizontal structures, networking and the expansion of educational spaces beyond school, with a focus on support and respectful treatment in educational relationships.
- In the Maule Region, the integration of rural ways of knowing, agroecology and the biocultural dimension take centre stage, enriching educational practice from a local, decolonial perspective.

Both experiences come together to build a democratic, meaningful and transformative EE framework that promotes intergenerational learning and community building.

6. DISCUSSION

The discussion of the findings offers an opportunity to explore in greater depth how EE is represented in the discourse and narratives of the professionals, as well as perceptions of their practices and ways of knowing. It emerges as a political, ethical and transformative practice that challenges the dominant paradigm through its embodiment in concrete, tangible and experiential methodologies. The study examines the epistemological, community, curricular and political dimensions that underpin EE, paying particular attention to its transformative potential at different levels of interaction between individuals, groups and society. Despite the tensions arising from institutional and curricular fragmentation, the voices of educators and teachers in Catalonia and the Maule Region have revealed the existence of professional and community initiatives that are already sowing the seeds of change. According to the professionals, EE is increasingly recognised as a context-specific, dynamic and transformative practice that goes beyond disciplinary boundaries to address eco-social challenges. This characterisation does not stem solely from pre-existing theoretical concepts but is grounded in the agency of teachers and educators

themselves as they reflect on, acknowledge and question their professional performance and ways of knowing.

EE avoids simplicity by being structured through concrete practices. In formal settings, EE is characterised by its cross-curricular, interdisciplinary and complex nature, going beyond literacy to bring together the ethical, cultural and community dimensions of situated learning. In both Catalonia and the Maule Region, the professionals described it as a dialogue between ways of knowing where academic, local and ancestral practices converge, highlighting the epistemic plurality inherent to the relationship between humans and nature. This understanding reaffirms the notion that environmental education involves a situated, critical and liberating practice that challenges the economistic and utilitarian characteristics of the anthropocentric paradigm (Marín Isamit, 2024) and, through engagement, fosters new eco-dependent and interdependent identities (Crespo i Torres, 2024). To take shape, EE is implemented through specific methodologies (such as SL) and in certain spaces (such as the school garden) that integrate scientific knowledge and biocultural ways of knowing, becoming a reflexive practice that rethinks sustainability beyond technocratic discourse.

EE is a space of disciplinary vibrancy. Professional practice in EE is emerging as a vibrant field in which pedagogical knowledge and community-based ways of knowing converge. Context-specific methodologies, often not included in the curriculum, underpin eco-social and biocultural action. Those who educate build networks of collective learning, going beyond technical training and drawing on dialogue with children and elders, known as “tribal elders” (Soublette, 2020). Recognising the voices of those being educated means validating their contribution to eco-social transformation, strengthening their professional development and giving meaning to eco-political and community practice (Leff, 2019; Sauvé, 2014). Thus, reflexivity adopts a central role in educational practice.

EE broadens the meaning of community through its practice. Certain practices and professionals advocate for EE capable of addressing the contemporary epistemological crisis (Bonil et al., 2010). There are conceptions of these practices that promote a wider community where biodiversity, engagement and eco-social resilience combine. These practices are rooted in the local area, giving rise to socio-educational processes in which the community is an active agent of the paradigm shift (Crespo i Torres, 2024). Learning is viewed as the co-construction of meaning and shared responsibility, bringing together scientific, rural and ancestral ways of knowing to tackle the environmental crisis through the lens of justice (Marín Isamit, 2024). As such, environmental methodologies redefine community ties, strengthening the links between school, the local area and community life, becoming a social tool for eco-social change.

EE approaches the curriculum based on permeability. EE provides an educational space that goes beyond the curriculum, drawing on openness to other forms and fields of knowledge and on the intersection between critical education and

social movements. This permeability creates an interdisciplinary framework that aims to shape eco-citizen identities. By opening up to these contexts, the school's role is shifted: it ceases to be the only legitimate space for learning and becomes a node within a wider educational and social network. If this permeability takes hold—where the school “goes out” into the community and the community “comes in” to the school—it paves the way for contextualised EE in which the community becomes an educational agent. This approach allows us to scale up the specific socio-environmental issues addressed in the classroom to tackle broader global challenges, fostering a sense of citizenship that actively engages in caring for and transforming the environment.

EE seeks transformation on three levels: personal, relational and social. The results illustrate how, in both contexts, the focus is on developing critical thinking skills, environmental awareness, and a local perspective, while promoting a leading role for those involved and the building of resilient communities (Pinheiro Barbosa, 2025). This transformation takes place on three levels: within ourselves, within the group, and within society as a whole.

As such, these levels should not be understood as a linear sequence or as isolated spheres, but rather as a relational framework activated in a situated manner within EE practices. Personal transformation takes shape through ecological and ethical awareness; relational transformation is expressed in the building of relationships, shared ways of knowing, and collective responsibilities; and social transformation is reflected in the reshaping of the local area, the curriculum, and forms of community engagement. From this perspective, EE emerges as an eco-social practice that defines subjectivities, collectives and structures, engaging in dialogue with the spheres of action proposed by Sauvé (1999, 2019). At the same time, it intertwines with ecofeminist approaches to the recognition of eco-dependence and interdependence (Limón-Domínguez et al., 2019; Mies and Shiva, 2014) as constitutive conditions of life and educational action.

7. CONCLUSIONS

Criticality in EE has been and remains a defining element that has been extensively addressed in previous foundational literature (Sauvé 1999, 2005; Leff, 2014). This research upholds this criticality by recognising it in the way educators, from diverse educational contexts and realities, perceive the discipline, showing how it is expressed in processes of transformation that operate simultaneously on a personal, relational, and social level. Rather than merely a theoretical confirmation, this is an assertion of critical thinking as an emerging reality in professional reflection, going beyond its construction as an academic ideal.

In this context, professional reflexivity is firmly recognised as a core dimension of EE. The research conducted advocates for reflexivity not only as a desirable quality in educators and researchers, but also as a mechanism for action and transformation

consistent with the principles of EE. This finding raises questions about how to cultivate and sustain spaces for reflection in professional contexts, particularly when recognising teachers and educators as local mediators who enable dialogue between schools, communities, and nature.

Furthermore, EE is repositioning itself as an act of creative rebellion rooted in the community, rather than merely an add-on to the curriculum. In contexts of institutional, social or political fragmentation, the discipline emerges as a tool of resistance that allows critical practices to be upheld in the face of social, political, or curricular pressure. In the Maule Region, teachers' accounts highlight the use of school agroecology as a response to rural segregation, while in Catalonia, teachers' voices reveal an understanding of EE as a means of fostering mutual openness between the community and educational institutions.

From this perspective, the study offers a situated interpretation of the concept of eco-citizenship (Sauvé, 2014), understood as a synthesis of two parallel movements: territorial rootedness, which involves knowing, appreciating and recognising local ecosystems and ways of knowing; and democratic openness, linked to dialogue, engagement, and collectivity. Eco-citizenship does not emerge from either movement in isolation, but rather from the interaction between the two, as evidenced by the experiences studied in diverse regional and political contexts.

Finally, the meta-synthesis conducted has made it possible to approach EE based on teacher perceptions in order to identify common interpretive frameworks across very different educational contexts. While this approach serves to integrate both contexts, there are certain limitations in terms of the transferability and generalisability of the findings. In this regard, the study is intended to serve as a precursor to future research that broadens the dialogue between EE theory, teacher perceptions, and educational practice in other contexts. By emphasising the agency of teachers and educators as political and reflexive agents, EE reaffirms itself as inseparable from a commitment to democratic, place-based education, raising new questions about the extent to which these concepts materialise in everyday educational practices.

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