

From breakdown to possibility: CLEHES and Anam Cara as enactive tools for transformational decision support

Oswaldo Garcia De la Cerda*, Maria Soledad Saavedra Ulloa** and Patrick Humphreys***

*International Centre for Reflexive Action. Cigar Ltda. Santiago, Chile.

Email for correspondence: osvaldogarcia.d@gmail.com

**Physics and Mathematics Education Department. Universidad de Santiago, Chile.

***Psychology and Behavioural Science Department, London School of Economics, UK.

Abstract

Our bodies and interactions play a fundamental role in everyday life. From an enactive and ontological perspective, self-observation unfolds as a moment-to-moment, situated process through which human presence and enaction emerge. Pain, breakdowns, and uncertainty are not merely disruptions but generative conditions that open or close different contexts and possibilities within complex human activity systems. When eros—the vital force sustaining care, trust, and meaning—is absent, such systems risk cognitive blindness and fragmentation. In our Learning Laboratories, as enactive methodology, we employ implementations of the ontological technology CLEHES ((Cuerpo) Body, Language, Emotion, History, Eros, and Silence) within a bottom-up framework that decision supports observers in addressing complex problem situations affecting human coexistence.

The paper presents a case of significant impact involving school directives, managers, and teachers working in vulnerable Chilean schools within a public policy framework connecting the Ministry of Education and the Ministry of the Environment as compassionate institutions providing facilitative support.

As projection of the results, the Anam Cara perspective emerges, nourishing and strengthening the ontological framework articulated through CLEHES and Enactive Management. Findings suggest that implementations integrating CLEHES, Anam Cara, and Enactive Management foster relationally grounded decision-making and positive affirmation, strengthens creative environmental care practices, and enhance the long-term viability of educational systems.

Key words: Ontological perspective; Enactive approach; Enactive tools; CLEHES; Anam Cara.

1. Introduction

Educational systems worldwide are facing increasing levels of complexity, uncertainty, and socioenvironmental vulnerability. Climate crisis, social inequality, institutional fragmentation, and emotional exhaustion challenge traditional models of management that rely on control, prediction, and technical rationality. In this context, the ontological question is "How does a human being dance with complexity and uncertainty in caring for the human activity system under their responsibility, when facing breakdown situations and forms of suffering across different domains and contexts?"

This article proposes from the paradigm of complexity, that such sustainability requires an ontological shift: from management as control to management as care, from decision-making based on "representing the problem" to decision-making as enaction, and from leadership as authority to choreographer as designer and relational presence (Maturana, H. and Varela, F., 1987; Garcia., 2009; Garcia, O.; Humphreys, P.; Saavedra, M.S., 2018).

This jump requires not only a deep critical reflection of the cartesian paradigm we are still involved in but to develop methodologies and tools within an ontological framework that opens the possibilities to move the observer each human being embodies. In this way, implementations informed by a combination of CLEHES and Anam Cara ontologies (Bedi, Brezillon and Humphreys, 2026) offers a strong perspective to look forward to and enrich this work.

The case study described in this paper draws on an enactive approach: featuring embodied cognition, informed by these two relational ontologies, and implements diverse enactive tools. It investigates their effectiveness for the education of directors, school principals and teachers who are responsible for their communities in vulnerable contexts in Chile. These tools are the consequence of extensive research and Learning Labs developed for more than 30 years in communities, small, medium and large organizations, universities and formative programs which have opened a nurturing space for innovation and reflection from the framework that is proposed (Garcia, O. and Saavedra, M.S., 2006; 2014; 2016; Garcia et al 2018; Garcia et al, 2022).

2. The Enactive Approach and Embodied Cognition

The enactive approach understands cognition not as internal representation, but as sense-making enacted through embodied interaction with the world. Knowledge, action, and identity emerge together through lived experience. From this perspective, human beings do not act on the world; they act with and within it. (Maturana, H. and Varela, F., 1987). Embodied cognition emphasizes that our bodies, languages, emotions, histories, eros and silence in a situation situated, movement in our conversations are inseparable from thinking and decision-making (Garcia, O., et al 2018). Leadership, therefore, cannot be reduced to strategic planning or rational choice models; it is an embodied, emotional, and relational practice shaped by history, culture, and context. In this sense a human being who is responsible for a human activity system, is a choreographer that has the ontological capacity to design and open conversations attended the context and the situations which surrounded it. These abilities only can be actualized if we look at the ontology that constitutes a human being. Within complex human activity systems, breakdowns and uncertainty are not anomalies but structural conditions. The enactive approach treats such moments as opportunities for learning, if individuals and collectives can observe themselves in action. That conditions act as hinges between possibilities and allow the emergence of a new or different identity. It is especially transparent in breaks, ruptures or conflict situations (Varela, F., 1998, 2000; Garcia, O. et al. 2018).

2. CLEHES and Anam Cara as Ontological Technologies

Table 1: The six dimensions of CLEHES

<ul style="list-style-type: none"> • Body(C): The body learns in the situated situation; learnings are installed and live within it and are triggered from it. The body gives presence and moves in a specific way in interactions. This builds an understanding of movement and the body in organizational transformation processes. • Language(L): Language shapes realities through distinctions, narratives, and commitments. It is possible to open or close conversations through language, but we can also hold missing conversations (opportunities) in the drift of experience. Each human being has their learning of this kind; but every organization also has its learning, and dances internally and externally through language. • Emotions (E): Emotions are intertwined with language to configure conversations and configures the domain of possible actions. Emotions inhabit the body and give direction, intention and strength to conversations. Because of this, emotions bring rhythm to human interactions. It is not the same conversation if a human being is feeling fear or joy: in this sense, emotions can open or close a learning process. • History (H): History is of key importance as it configures identity and nano identity, which are expressed in conversations. It is informed by experiences, expertise, practices and learning. In this field human beings can recognize sources of trust and distrust, historical pains and missing conversations; but, more, identity is the consequence of the observer that constitutes their world.
--

- Eros (E): Eros sustains care, creativity, trust, and ethical commitment. Listening with eros is the disposition to build and design with others. It is the potential to create different routes, (re)design interactions and conversations. It brings a certain possibility of enacting and affects situations. Opening and promoting eros in conversations surfaces new opportunities to be explored.
- Silence (S) Silence allows the discovery of missing conversations. Looking at these allows the observation of human practices and habits but also enables the observation of how silence (religiosity and mainly our conscience inhibit enaction) daily operates as a critical enactive factor in the structural dynamics of the organisation and its environment.

Source: Garcia, O. and Saavedra, M.S. 2006

3.1 CLEHES: Making visible the conditions that generate sustainable action

CLEHES—Body, Language, Emotion, History, Eros, and Silence, can function as an ontological technology or tool that enables self-observation, observations of our interactions and the organizational networks conversations.

CLEHES as an ontology does not prescribe solutions. Instead, it makes visible the conditions that generate sustainable action or paralysis, allowing new possibilities to emerge. Self-observation can be threatening if it occurs in contexts of fear, judgment, or competition, and is conceptualized here as a relational ontology of care. It assumes a unified and living world, rejecting Cartesian dualism between mind and body, reason and emotion, or human and environment. Eros becomes safe to express; silence becomes meaningful rather than threatening or ignorance; history can be revisited without shame. This relational quality is not sentimental but structural: it shapes what can be seen, said, and done.

An important distinction is to understand the difference between “CLEHES as a spouse tool” and “CLEHES in Use” (Argyris, C. and Schön, D. 1996). The first is related to all the information, knowledge, and externally imposed norms a human being can declare. Is often explicit, formal, and intended, whereas the second is implicit, informal, embodying and enacted, (what we are as we “do”). CLEHES in use (constitutive) is the actual guiding framework for behaviour, while CLEHES espoused as an ontology, the stated intention (how we describe what we “do”) (Maturana, H., 1988) The Learning Laboratory seeks to challenge the relationship between participants’ espoused theories and their theories-in-use, creating conditions for the emergence of new practices aligned with their aspirations. This awareness can lead to more effective enaction and learning of the situation in specific contexts (Maturana, H., 1988; Brezillon and Humphreys., 2026).

3.2 Anam Cara as a Relational Ontology of Care

Anam Cara, understood as Implementations of a Fundamental Process Ontology (Bedi, Bedi, J. et al, 2026) rejects Cartesian dualism and presumes “a single unified, all-inclusive world” in which physical, emotional, and spiritual dimensions are inseparable and accessed through lived experience. In this unified world, learning and decision-making are inherently relational processes.

An Anam Cara relationship—literally a “soul friendship”—is defined as a bond in which individuals can be seen and accompanied without judgment. (As described in the Anam Cara ontology, “With the anam cara, you could share your innermost self... You are understood as you are without mask or pretension”. (O’Donoghue 2022). This relational quality resonates directly with the Eros dimension of CLEHES, understood as the vital energy that sustains trust, care, creativity, and ethical commitment.

Importantly, Anam Cara relationships create a holding space in which what is implicit, unsaid, or emotionally charged can surface without coercion. This corresponds with Winnicott’s (2005) notion of the “holding environment” - a safe space that allows an individual to test autonomy while being psychologically held. As the Anam Cara ontology emphasises, the encouraging presence of an Anam Cara is not merely verbal but “a whole presence enfolding you and helping you find the

concealed door". This relates to CLEHES' concept of "Silence" as a generative space that enables new distinctions and actions to emerge.

3.3 Enactive Management: From Control to Care

Enactive Management reconceptualises leadership as the practice of moving the observer, rather than optimizing decisions. Managers and leaders are understood as caregivers of viability, responsible for cultivating conditions where people and systems can adapt, learn, and sustain themselves.

Decision-making shifts from a logic of consequences toward a logic of appropriateness, where action emerges from identity, values, and relational coherence. In this sense, management is not about choosing the best option, but about becoming the kind of person and community capable of dancing coherently in complex situations (Garcia, O and Saavedra, M.S., 2014)

4 Methodology

4.1. Learning Labs as Enactive Methodology

Learning Labs constitute the methodological core of this study. They are designed as situated, embodied, and relational spaces where participants work with real challenges from their professional contexts.

Within Learning Labs:

- Participants engage in embodied exercises, reflective dialogue, and collective inquiry.
- CLEHES guides observation of self, the other, and the relation network system.
- Listening with eros and without eros is the core in shape interactions, listening without judgment, mutual recognition, and care.
- Breakdowns are treated as learning resources.

Learning Labs support the proceduralising of shared contexts (Brezillon and Humphreys., 2026), making implicit assumptions, emotional traps, and historical constraints visible and transformable.

Three strategies guide the sessions of the Labs:

- a) Self-observation in CLEHES, involving what to keep and what to transform in the situation as the participants moved the orientation and recognised the CLEHES mood at the beginning and at the end of each session (Garcia, O. and Laulié, 2010). Observations of the orthogonal interactions: listening with eros related to autonomy, body and learning inhibitions in the quantum observer.
- b) Observation of the CLEHES network, related to the conversational network in the structural adjustment: Identity, anticipations, cohesion in the management of the resources, coordination, monitoring and implementation of the embodied policies in the day to day and their unfolding of the situations situated and measurement to learning. (Garcia, O. and Orellana, R., 2008)
- c) Circular arrangement of bodies and ludic resources (dance, poetry, rituals, music, singing, body movements) created the atmosphere of each meeting. Every session had a topic to develop and technologies or enactive tools to provoke and reveal conversations and their design.

Example of these are: synergy triggered by an enactive technology called TEC O, involving pains of the bodies (Ruptures, breakdowns, possibilities), enrichment of the enactive observer, characterisation (Who is responsible), maps, lack of conversations, creation of conditions in structural adjustment, interactions and self-observation to design and to enact the situations situated as a learning dynamic process (Garcia, O. et al. 2018).

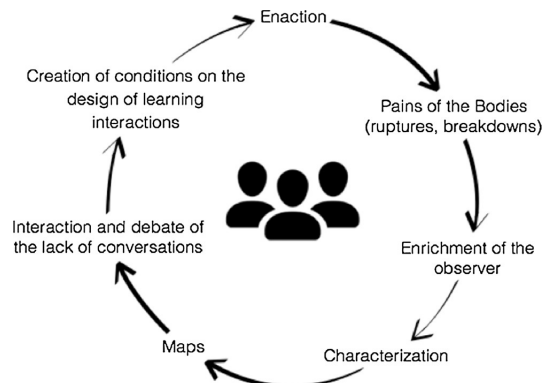


Fig. 1. Circular structure of a dynamic technology for Enaction: O- Technology

The methodology described generates a collective process of sense-making and enactive learning that is embodied and expressed through conversational design within organisational interactions.

4.2 Threats to Validity

This approach acknowledges several threats to validity. First, given the qualitative and situated nature of the intervention, the findings are context-dependent and may not be generalisable to other educational settings. Second, the dual role of the researchers as facilitators may have influenced participants' responses and interpretations. To mitigate this, reflective practices and triangulation of data sources were employed. Finally, the complexity of constructs such as enactive management and environmental care poses challenges for their operationalisation and measurement.

4.3. Research Methodology

This study follows an interpretive case study approach (Stake, 1995), focusing on the in-depth understanding of a situated educational experience within its real-life context and draws on both qualitative and quantitative data. Qualitative data include observations documented through photographs and videos, team-produced written work, and participants' testimonies collected via a virtual forum, a self-evaluation instrument, as well as responses to a satisfaction survey. Quantitative data were obtained from Knowledge and Prior Study Inventory (KPSI) pre- and post-tests and from the closed-ended items of the satisfaction survey.

5. Case Study: Enactive Learning, Relational and Environmental Care in Vulnerable Chilean Schools

This case study examines the learning processes and transformations experienced by 102 school principals, managers and teachers participating in the initiative "Enactive Education and Management for Environmental Care" as a focus and first module of the course "Leadership and Management for Decision Making in Environmental Education for Directors and Management Teams", running from Physics and Mathematics Education Department. The academic team comprised 10 professors from diverse areas of expertise: enactive management, climate change, clean energies, sustainable practices of indigenous peoples, solid waste management, biodiversity and National System for Environmental Certification of Educational Establishments (SNCAE).

This education program, designed and implemented by Universidad de Santiago de Chile during 2024-2025, responded to a public policy of the Education Ministry and Environmental Ministry to incorporate environmental education in the school curriculum.

The program comprised members of school management teams from vulnerable rural and urban schools, large and small secondary schools, early childhood education centres and schools within jails. The contexts for the social inequalities and social disadvantages the management teams must assume.

The Learning Lab began by dividing into three groups of 34 participants, each group conformed to a learning systemic process, where the interactions of CLEHES in Use, triggered a true talking and moved to enaction.

One of the key questions in regard of the learning process was: How to improve the direction of a vulnerable school, currently comprising human beings that were blind and ignorant, alone with an overabundance of data, information and algorithms, with dilemmas of trust in their relations with the teachers, students, authorities, families, and having to cope with the complexity and uncertainty involved in taking care of the pains of the environment?

The schools' management teams were challenged, by the Environmental Ministry, to configure an Environmental Committee as a structural adjustment, within their schools, that would have the responsibility to involve the school and local community organisations in environment care. Looking at the existing breakdowns, and the future possibility of conversations and commitments, was key for the learning process.

Simultaneously to the presence of a Learning Lab, a virtual platform gave access to various education resources: papers, forum and the design of each session. At the end, employment of an instrument of self-evaluation allowed us to understand deeply the effectiveness of this process and provide the personal testimony of each participant.

Five intensive CLEHES sessions were designed for participant to enjoy this ludic and interaction Learning Lab:

Session one: *Tools of conversational design to cope the care of our Environment.*

This session addresses: Rituals and ludic rules of presence; Pains of the human being responsible for different context and domains; Strategies for cope the situations situated; Contests between CLEHES as espoused to CLEHES in use. Awareness enacted in the day. Listening with Eros. Learning of the pain with me, with the other, with all of us.

Session two: *Self observing the pains in the conversational networks*

This session addresses: Disposition the bodies to learning CLEHES Mood; CLEHES TO CLEHES interactions; Orthogonal interactions; Enactive commitment and inhibitions; Opinions, belief and judgments; Domains of the pains of the Ambiental Committee.

Session three: *Dancing in the network: Characterisations and maps*

This session addresses CLEHES Mood and dancing in the daily moment; Who are the enactors in the different situation's problems? What are the boundaries and contexts and potential transformations? Missing conversations about CLEHES in use and CLEHES as espoused at different levels of the enactor– observer relation.

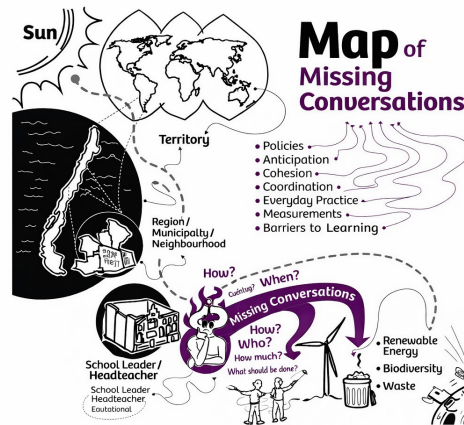


Fig. 2. Map of Missing conversations: from the human being to the planet (2025)

Session four: *When the conversations don't flow.*

This Session addresses: What happens with myself according to the map and my lacking conversations in my committee? What happens with the others and my network? Is conservation and transformation into the desired systemic and cultural feasible?

Session five: *Creation of conditions of Enactors and key criterion to a Ambiental Committee*

This session addresses: Measurement of CLEHES Mood in participants' disposition to enact; Structural adjustment in the scholar community and in the Environment committee; Adjustment in the interactions with the different members of the Directives; Adjustment in the enactive self-observation of the directive; Design and implement a performance in synergy with theatrical representations, dramatized using the dimensions of CLEHES, as well as an erospoiesis and a song; Questions like What? How? Whom? Where? When? How much? are enacted and ritual of learning and CLEHES animus together a dancing embrace to finish the session.

5.1. Observing the learning process

When ending the Learning Labs initiative, the Education Ministry and Environmental Ministry requested a satisfaction survey, that, together with a KPSI Pre-test and Post-test answered by the participants, configured a set of instruments to look at.

The analysis integrates quantitative evidence from pre-test/post-test measurements with qualitative observations derived from reflective forums, self-observation narratives, and applied products such as the formation of Environmental Committees.

Primary sources include:

- Learning Lab observations,
- Videos and photos,
- Reflective journals,
- Group conversations,
- and institutional documents.

The focus is on how participants enact as choreographers and environmental care through relational, embodied, and ontological practices.

5.2 Quantitative Results: Shifts in Enactive and Relational Competencies

The pre-test/post-test comparison reveals a substantial and consistent shift across all three participating cohorts moving from predominantly low levels of enactive and relational competencies toward intermediate and high levels after the intervention.

- **Enactive Conversations and Ontological Language**

In the dimension related to the design of effective conversations grounded in an ontological understanding of language, the pre-test showed that 55.7% of participants declared no knowledge of such practices, and only 5.7% reported regular application. Post-test results indicate a dramatic transformation: 93.1% of participants reported either regular application or active experimentation, with 36.8% stating that they now apply and promote these practices consistently.

From an enactive perspective, this shift reflects a movement of the observer: language is no longer treated as a neutral communication tool, but now as a generator of reality, capable of mobilising collective action. Ontologically, this change is consistent with implementation of CLEHES, where language and emotion are inseparable, and congruent with implementation of Anam Cara, insofar as relational safety enables honest and generative conversations.

- **Enactive Management of Socio-Environmental Pain**

Regarding the use of enactive management approaches to mobilise educational communities around socio-environmental pain, 59.1% of participants initially reported no knowledge, and only 2.2% applied these approaches regularly. After the module, 96.5% reported active application or regular use, with 42.5% promoting these practices within their schools.

This quantitative increase indicates not merely skill acquisition, but a qualitative ontological shift: pain and breakdowns are reinterpreted as legitimate entry points for learning and care, rather than as problems to be avoided. This finding aligns directly with Enactive Management's emphasis on working with breakdowns and also with the Anam Cara relational ontology, which sustains engagement in vulnerable situations.

- **Territorial and Relational Integration**

Pre-test data showed that 64.8% of participants reported no engagement in generative conversations with local communities. Post-test results show that 83.9% now engage actively or regularly in territorial collaboration, with 34.5% promoting these practices systematically.

This shift evidenced a transition from a school-centred prescriptive logic toward a relational and territorial ontology, where the school is understood as a living subsystem embedded in a broader socio-ecological network—an understanding central to both enactive cognition and relational ontology.

- **Leadership, Participation, and Distributed Care**

Significant improvements were also observed in school teams and change-management indicators. The proportion of choreographers who reported frequently or consistently supporting teachers in environmental education increased from 27.3% to 58.6%, while those promoting participatory decision-making rose from 34.1% to 67.8%.

These changes suggest a shift from hierarchical leadership toward distributed and relational roles, consistent with principles of non-judgment, mutual recognition, and shared responsibility. Choreographers here are enacted less as authority and more as care for relational viability.

From an ontological standpoint, this reflects an expansion toward a relational worldview, where environmental care is grounded in reciprocity, balance, and respect—values that resonate strongly with both the unified world presumed by the Anam Cara ontology and CLEHES's integration of history, eros, and silence.

5.3 Qualitative Results: Self-Observation, Care, and Enaction

Qualitative observation from the Self-observing (“autoobservándose”) forum and the final products from this initiative provide a rich insight into how these qualitative shifts were enacted in practice. Participants explicitly describe the use of CLEHES as a means of deep relational self-observation, enabling conversations that integrate body, emotion, language, and history. One participant noted:

Using CLEHES allowed us to explore our environmental pain and the emotional tensions that accompany our professional work, opening an honest space where body, language, emotion, and history became visible. (Autoobservándose Forum, Group 3)

Another participant expressed:

Thanks to everyone, I have discovered a new way of seeing and recognising context. Leadership is more than giving orders; it also involves recognising oneself as an unfinished human being who finds their place in the world through relationships with others. This has been deeply satisfying and genuinely useful in addressing difficulties within our communities. Becoming familiar with CLEHES and beginning to internalise the Eros 8×8 framework has allowed me, even at an early stage, to develop better tools for managing emotions. I had always thought that being a school principal largely involved managing the emotions and forms of distress experienced by others, but I had not found a theoretical foundation that allowed me to legitimise this approach.' to leadership. Today, it is part of my professional toolkit, and I can attest that it opens positive possibilities in my daily practice. The process of construction is collective, not only in theory but, above all, in practice. This is the only way to create healthy environments with clear and shared objectives. (Autoobservándose Forum, Group 1)

Other participants' testimonies highlight how these conversations translated into concrete enaction, such as reactivating recycling points, implementing visual campaigns, forming Environmental Committees, and coordinating community actors. For examples:

During the course, I came to understand that environmental leadership is exercised not only through management and planning, but also through active and empathetic listening. I engaged in a conversation with a member of the school's cleaning staff about the environmental distress experienced in our community, particularly regarding students' lack of ecological responsibility and the frustration generated by the rapid deterioration of shared spaces.

This dialogue allowed me to recognise both her strong sense of belonging and my own shared sense of environmental distress, as well as to expand my capacity for listening beyond addressing complaints to welcoming the emotions and meanings involved. As a result, we committed to implementing permanent visual campaigns and reactivating visible recycling points within the school. (Autoobservándose Forum, Group 2)

The conversation was experienced as liberating and mobilising, enabling me to view the school as a living organism shaped by our habits and values, and to understand that environmental leadership begins with listening, is strengthened through action, and is sustained through collaboration (Autoobservándose Forum, Group 2)

5. Results: Interpretation: Enaction, Resonance Anam Cara Ontology, and Viability

Taken together, the quantitative and qualitative results indicate that the Learning Labs fostered a coherent enactive transformation:

- Quantitatively, participants moved from minimal awareness to active and sustained application of enactive, relational, and environmental practices.

- Qualitatively, participants reconfigured their identity as leaders—from administrators to relational choreographers of care.

This transformation can be interpreted as the emergence of a relational ontology in practice, where Anam Cara provides the relational safety, CLEHES structures self-observation, and Enactive Management enables coherent action. Environmental care thus becomes not a technical intervention, but a lived, relational, and ethical practice, enhancing the long-term viability of educational systems. The narratives of participants also illustrate a resonance with Anam Cara-like relational conditions— listening without judgment, shared vulnerability, and mutual care—enabled participants to remain present in discomfort rather than retreat into defensiveness.

5.1 Quantitative Results: Pre-Test and Post-Test Comparative Analysis

In order to complement the qualitative findings, quantitative data derived from pre-test and post-test assessments were analysed to evaluate changes in participants’ enactive, relational, and leadership competencies. Table 2 summarises the percentage of participants who reported high-level application (regular application and promotion) across key dimensions before and after the intervention.

Table 2: Pre-Test and Post-Test Comparison of High-Level Enactive Competencies (Percentages).

Dimension	Pre-Test (%)	Post-Test (%)
Enactive Conversations	5.7	36.8
Enactive Management of Environmental Pain	2.2	42.5
Territorial Community Engagement	3.4	34.5
Support for Environmental Curriculum	27.3	58.6
Participatory Decision-Making	34.1	67.8

Source: Adapted from Informe USACH-CPEIP 2026.

The results reveal a consistent and substantial increase across all dimensions, particularly in areas directly related to ontological language, relational coordination, and enactive leadership. The most pronounced gains occurred in:

- Enactive management of socio-environmental pain: increasing from 2.2% to 42.5%.
- Enactive conversations: increasing from 5.7% to 36.8%.
- Territorial community engagement: increasing from 3.4% to 34.5%.

These shifts indicate, not merely skill acquisition, but a movement of the observer (Garcia, O. et al 2018), where participants began to interpret environmental challenges as relational and systemic phenomena rather than isolated technical problems. From a CLEHES perspective, these results reflect transformations across language, emotion, history, and eros, supported by relational safety and reflective silence.

From an Anam Cara perspective, the quantitative improvements can be interpreted as the outcome of relational conditions of care, trust, and non-judgment, which allowed participants to confront discomfort and uncertainty. These relational conditions sustained eros (commitment and motivation) and silence (space for reflection), enabling deeper self-observation and collective learning.

In CLEHES terms, taking a hermeneutical view indicates that:

- Language became generative rather than descriptive.
- Emotion shifted from fear or resignation to engagement and responsibility.
- History was revisited as a resource rather than a constraint.
- Eros supported sustained action.
- Silence enabled the emergence of previously unspoken concerns.

The convergence of quantitative and qualitative evidence demonstrates that the Learning Labs functioned as enactive and relational infrastructures, enabling durable changes in schools team practices. Environmental care emerged not as an external mandate, but as a lived, embodied, and relational practice, enhancing the viability of educational systems in vulnerable contexts.

6. Discussion

Our analysis revealed four key findings:

1. Shift in Observer: Participants moved from problem-solving to following the Logic of Appropriateness (March and Olsen, 2011; Bedi and Humphreys, 2026), recognising how emotions, history, and language shaped their actions.
2. Relational Safety: Anam Cara-like relationships enabled deeper reflection and risk-taking. Embodied Decision-Making: Actions became more coherent, ethical, and context sensitive.
3. Environmental Care as Relational Practice: Sustainability emerged not as a technical goal but as a lived commitment.
4. Integrating Anam Cara, CLEHES, and Enactive Management reveals educational leadership as a relational, embodied, and ethical practice. Learning becomes inseparable from care, and sustainability becomes a property of Anam Cara relationships rather than of policies alone.

This framework contributes to enactive theory by foregrounding relational ontology. It contributes to educational principles by offering practical, embodied methodologies.

7. Conclusion

In times of complexity and uncertainty, educational systems require more than technical solutions. They require ontological care. This article demonstrates that integrating the enactive approach, Integrating Anam Cara, CLEHES, and Learning Labs enables school teams, school managers and educators to enact care, sustain viability, and cultivate meaningful environmental and social transformation.

7.1 Anam Cara–CLEHES: An Ontological Relational Bridge for Enactive Management

Anam Cara and CLEHES converge ontologically in their shared understanding of human beings as situated, relational, embodied, and meaning-making actors within a unified and living world. Rather than assuming a Cartesian separation between the physical and the spiritual, Anam Cara is explicitly framed as a Fundamental Process Ontology that “presumes a single unified, all-inclusive world in which experience, consciousness, and action emerge bottom-up through lived relations (see Heidegger,1953), This ontological stance resonates deeply with the CLEHES framework, which

conceptualises action as arising from the dynamic entanglement of Body, Language, Emotion, History, Eros, and Silence.

The resonance of implementations of Anam Cara (Bedi, Brezillon and Humphreys, 2026) with Enactive Management becomes particularly clear in moments of breakdown. When individuals face uncertainty or paralysis, Anam Cara relationships help them move from a logic of consequences toward a logic of appropriateness (March and Olsen, 2013), asking not “What will I gain or lose?” but rather “Who am I in this situation, and what is a coherent action for someone like me?”. This ontological shift is central to enaction: action is no longer selected from predefined options but emerges from renewed identity, care, and sense-making.

Furthermore, the Anam Cara Ontology explicitly rejects competitive, exploitative, or instrumental relationships. It states that Anam Cara relationships are non-competitive and non-exploitative and are sustained through compassion and mutual affirmation. This value directly supports Enactive Management’s emphasis on viability rather than optimisation, and on sustaining human systems through trust, legitimacy, and ethical coherence rather than control.

In this sense, Anam Cara can be understood as the relational ontological substrate for implementations that, together with CLEHES, operate in lived experience and Enactive Management to become practicable. CLEHES offers the analytical and reflective dimensions through which the observer becomes visible to themselves; Anam Cara provides the relational condition that makes such self-observation safe, generative, and sustainable. Together, they enable enaction not as isolated agency, but as transformations where new possibilities for action emerge through care, presence and shared meaning.

7.2 Enactive Management and the Moving Observer

Enactive Management departs from traditional managerial approaches by shifting the focus from decision outputs to the observer who decides. Action is understood as emerging from the observer’s bodily dispositions, emotional moods, linguistic distinctions, historical narratives, and ethical orientations. Consequently, transformation does not occur through the accumulation of data, information, and algorithms, but through changes in how situations are observed and enacted.

Within this framework, breakdowns, uncertainty, and pain are not pathologies to be eliminated but privileged moments for learning and transformation. When habitual interpretations collapse, new possibilities for action can emerge (Gallego and Chaves, 2020; Brezillon et al., 2026) provided that the implementation system offers conditions of safety, legitimacy, and care. It is precisely here that the ontological articulation between CLEHES and Anam Cara becomes critical.

CLEHES (Body, Language, Emotion, History, Eros, and Silence) functions as an ontological technology that renders the observer observable to themselves. It enables participants to examine how their ways of being shape what they can see, say, feel, and do in each situation. Rather than prescribing solutions, CLEHES supports a bottom-up process of self-observation and collective reflection, allowing new interpretations and actions to emerge.

In this sense CLEHES operates in a relational vacuum. For self-observation to become transformative rather than defensive, it requires a relational context that can hold vulnerability, uncertainty, and not-knowing. This is where Anam Cara and CLEHES are ontologically intertwined.

7.3 From Relational Care to Enaction: Learning Labs as Situated Practices

Learning Labs constituted the methodological core of this research. They are designed as enactive spaces where participants—school principals, managers, and teachers—engage in embodied, conversational, and reflective practices grounded in CLEHES. Within these labs, participants work with real situations of environmental, organisational, and relational complexity, rather than hypothetical cases.

Anam Cara operates here not as a spiritual add-on, but as a relational compendium of opportunities for enactive learning. Through practices of deep listening, mutual recognition, and non-judgmental accompaniment, Learning Labs cultivate what the Anam Cara ontology describes as proceduralised shared context. In this process, implicit assumptions, emotional traps, and historical constraints are made visible and reconfigured.

7.4 Implications for Educational Leadership and Environmental Care

Integrated in this way, Anam Cara, CLEHES, and Enactive Management form a coherent ontological framework for educational policy makers and managers. CLEHES provides the analytical lenses for self-observation; Anam Cara provides the relational substrate of care and safety; Enactive Management offers the orientation toward action and viability; and Learning Labs enact these elements in situated practice.

In contexts of environmental education and sustainability—particularly in vulnerable school systems—this integration enables choreographers (instead of leaders) and teachers to address complexity without reverting to control or instrumentalization. Instead, they cultivate relational, ethical, and embodied forms of decision-making that sustain both human and ecological systems over time.

References

- Argyris, C., & Schön, D. (1996). *Organizational learning II: Theory, method, and practice*. Addison-Wesley.
- Bateson, G. (1972). *Steps to an Ecology of Mind: Collected essays in anthropology, psychiatry, evolution, and epistemic Biology*. London: Ballantine Books.
- Bedi, J. (2024) *Trapped in overthinking: Break Free with Self Love*. New Delhi: Grin.
- Bedi, J., Brezillon, P., & Humphreys, P. (2026). Anam Cara: Implementation of a fundamental process ontology <https://anamcaraontology.design> (In preparation).
- Beer, S. (1994). *Beyond Dispute: The Invention of Team Syntegrity*. Chichester: John Wiley.
- Brezillon, P. and Humphreys, P. (2026) Context-based modeling of decision-making in interaction with an anam cara. *Journal of Decision Systems*, in press.
- CPEIP (2026) Centro de Perfeccionamiento, Experimentación e Investigaciones Pedagógicas. Informe Liderazgo y Gestión para la toma de decisiones en Educación Medioambiental para directoras/es y equipos directivos. *Universidad de Santiago*. 22 Enero 2026.
- Espejo, R. (2003). Social systems and the embodiment of organizational learning, in Mitleton-Kelly, E. (ed), *Complex Systems and Evolutionary Perspectives on Organizations – the Application of Complexity Theory to Organizations*. Oxford: Pergamon-Elsevier Science, pp. 53-70.
- Espejo, R.; Reyes, A. (2011) *Organizational Systems: Managing Complexity with the Viable System Model*. Springer. Heidelberg.
- Gallego-Bono, J and Chavez-Avila, R. (2020) How to boost clusters and regional change through Cooperative Social Innovation. *Economic Research - Kenosho Istrazivanja* 333910 3108-3124
- García de la Cerda, O. and Saavedra Ulloa, M.S. (2006). Self-management: An innovative tool for enactive human design, in F. Adam, P. Brezillon, S. Carlsson and P. Humphreys (eds) *Creativity and innovation in decision making and decision support*. London: Decision Support Press, pp.195–214.
- García De la Cerda, O. and Orellana R. (2008). Metasystemic reengineering: an organizational intervention, in F. Adam and P. Humphreys (eds) *Encyclopedia of Decision Making and Decision Support Technologies*, Vol. 2. Hershey, NY: Information Science Reference, pp.612–617.
- García De la Cerda, O. (2009). Human re-engineering for action: An enactive educational management program, *Kybernetes*, 38(7/8), 1332–1343. DOI 10.1108/03684920910977005.
- García De la Cerda, O. and Lauhié Cerda, L. (2010). The CLEHES-MOOD: An enactive technology towards effective and collaborative action, *Systems Research and Behavioral Science*, 27, 319–335.

- García De la Cerda, O. and Salazar, A. (2013). A Soft Technology for Effective Enactive Management, in Mukhopadhyay, C., Akhilesh, K.B., Srinivasan, R., Gurtoo, A., Ramachandran, P., Piyer, P., Mathirajan, M. and Bala Subrahmanya, M.H. (eds) *Driving the Economy through Innovation and Entrepreneurship: Emerging Agenda for Technology Management*. Bangalore: Springer India, pp. 593–603.
- García, O. and Saavedra, M. (2014). Enactive Management: Dancing with Uncertainty and Complexity. *Kybernetes* Vol 43, (8), 1237–1247. <http://dx.doi.org/10.1108/K-01-2014-0003>.
- García De la Cerda, O. and Saavedra Ulloa, M.S. (2016). An ontological and enactive tool for education in the management of coexistence, *Orientación y Sociedad*, 16, 67–72. Facultad de Psicología, Universidad Nacional de La Plata.
- García De la Cerda, O., Humphreys, P. and Saavedra Ulloa, M.S. (2018). Enactive management: A nurturing technology enabling fresh decision making to cope with conflict situations, *Futures*, 103, 84–93. DOI 10.1016/j.futures.2018.03.014.
- García De la Cerda, O., Kernan, M. A. & Holtham, C. (2022) Embodied pedagogies, the arts and reflexive systems in enactive management education. In: Espejo, R., Lepskiy, V., Perko, I. & Novikov, D. A. (Eds.), *Systems approach and cybernetics, engaging the future of mankind: The significance of systems and cybernetics in the future of societies. Lecture Notes in Networks and Systems*. Cham, Switzerland: Springer.
- Heidigger, M (1953) *Being and Time*. Tubingen: Max Niemeyer Verlag. (Revised English version published by State university of New York, 2010)
- Humphreys, P., & Berkeley, D. (1995). Handling uncertainty in decision support systems. *IEEE Transactions on Systems, Man, and Cybernetics*, 25(7), 1047–1055. <https://doi.org/10.1109/21.397062>
- Humphreys, P., & Brezillon, P. (2002). Human-centred decision support: Context and narrative. *Decision Support Systems*, 34(3), 255–272. [https://doi.org/10.1016/S0167-9236\(02\)00062-5](https://doi.org/10.1016/S0167-9236(02)00062-5)
- March, J. and Olsen, J. (2011). "The Logic of Appropriateness. In Goodin, Robert E. (ed.). *The Oxford Handbook of Political Science*. Oxford University Press. pp. 478–497. doi:10.1093/oxfordhb/9780199604456.013.00
- Maturana, H.R. and Varela, F.J. (1987). *The Tree of Knowledge: The Biological Roots of Human Understanding*. New Science Library/Shambhala Publications, Boston, MA.
- Maturana, H. (1988) *Ontología del Conversar*. Revista Terapia Psicológica, Vol 10, N°VII. 1-14. Universidad de Chile.
- Maturana, H. (1988) Reality: The search for objectivity or the quest for a compelling argument. *The Irish Journal of Psychology*. 9(1), 25–82. <https://doi.org/10.1080/03033910.1988.1055770>
- Ministerio de Educación de Chile. (2021). *Marco para la Buena Enseñanza*. MINEDUC. Gobierno de Chile.
- Ministerio de Educación de Chile. (2024) *Marco para la Buena Dirección y Liderazgo Escolar*. MINEDUC. Gobierno de Chile.
- Ministerio del Medio Ambiente de Chile. (2022). *Sistema Nacional de Certificación Ambiental de Establecimientos Educativos* (SNCAE). MMA.
- Morin, E. (2008). *On complexity*. Hampton Press.
- O'Donohue, J. (2023). *Anam Cara: Spiritual wisdom from the Celtic world*. London; Penguin Books.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks, CA: SAGE Publications.
- UNESCO. (2020). *Education for sustainable development: A roadmap*. UNESCO Publishing.
- Varela, F. (1988). *Connaître: Les Sciences Cognitives, tendances et perspectives*. Paris, France: Editions du Seuil.
- Varela, F. (2000). *El Fenómeno de la Vida*. Santiago, Chile: Dolmen
- Varela, F. J., Thompson, E., & Rosch, E. (1991). *The embodied mind: Cognitive science and human experience*. MIT Press.
- Winnicott, D. (2005) *Playing and Reality*. London: Routledge Classics.

