

**FROM MARGINALITY TO AGENCY THROUGH ZOOANTROPELAGOGY:
A COMMUNITY CARE EXPERIENCE BRIDGING SIMULATION AND NARRATIVE MEDICINE
WITH DISADVANTAGED MINORS IN SOUTHERN SALENTO**

**DALLA MARGINALITA' ALL'AGENTIVITA' ATTRAVERSO LA ZOOANTROPELAGOGIA:
UN'ESPERIENZA DI CURA COMUNITARIA CHE INTEGRA SIMULAZIONE E MEDICINA
NARRATIVA
CON MINORI SVANTAGGIATI NEL SALENTO MERIDIONALE**

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ABSTRACT

Geopolitical permacrises and systemic delays in welfare access exacerbate educational poverty, with adverse consequences for individuals' physical and mental well-being. This paper argues that when fostered by community-based Participatory Co-Design, research interventions like *equine-assisted learning*, augmented with *narrative medicine* and *high-fidelity simulation* practices, can operationalize a person-centred pedagogy of care, capable of decelerating such self-reinforcing vicious cycles and attenuate health and social inequalities.

Le permacrisi geopolitiche e i ritardi sistemici nell'accesso al welfare aggravano la povertà educativa, con ripercussioni avverse sul benessere fisico e mentale delle persone. Questo contributo sostiene che, quando promossi tramite co-progettazione partecipativa di comunità, interventi di ricerca quali l'educazione assistita con il cavallo, integrati con medicina narrativa e pratiche di simulazione ad alta fedeltà, possono operationalizzare una pedagogia della cura centrata sulla persona, in grado di rallentare tali circoli viziosi auto-rinforzanti e di attenuare le disuguaglianze di salute e sociali.

KEYWORDS

Equine-assisted Learning; Educational Poverty; Narrative Medicine; High-fidelity Simulation; Inner Marginal Areas.

Apprendimento equino-assistito; Povertà Educativa; Medicina Narrativa; Simulazione ad alta fedeltà; Aree Interne Marginali.

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Introduction

Problem context

Educational poverty reaches beyond low literacy to chronic barriers—low self-esteem, dysregulated arousal, fragile peer relations, motivational erosion—that narrow access to learning and therefore social mobility (Brown and James, 2020). These barriers can amplify welfare and service asymmetries and be amplified by these, therefore both influencing and implying limitations in individuals' capacity for self-care and preservation of well-being (Montez, et al., 2023). In inner marginal territories like southern Salento, typically affected by economic, social, demographic and ecological desertification, these scenario appear to be even more critical and unlockable only by a subsidiary virtuous relationship between pedagogy and politics (Author, 2025a). The cohort of the present study, reflects this complexity involving minors in selective mutism with ODD, language delay with motor difficulties, SLD within families navigating ASD in siblings, plus one under social services, through a horse camp opportunity aiming to implement that subsidiarity.

Pedagogical rationale and theoretical bridge

ZooAntroPedagogy positions the horse as a non-judgmental mediator whose clear, immediate, non-verbal feedback invites safe experimentation with presence, signalling, boundary-setting and care. Horses mirror human tension and calm, enabling children to notice and modulate inner states and to rehearse communication without stigma.

Narrative Medicine cultivates narrative competence through close reading, reflective writing and facilitated dialogue (Charon, 2008), while converging evidence from person-centred training in the health professions shows that narrative medicine (close reading, reflective writing, narrative humility) and simulation (protected rehearsal, structured debriefing, programmatic assessment) can rapidly develop communication, empathy and reflective capacity (Palla et al., 2024).

Research objectives

The research investigates at which conditions a community participatory mobilization process, can foster structured ZAP modules enriched by narrative-medicine circles and simulation-style role-plays, to reduce avoidance and dysregulation, increase effective non-verbal and verbal communication and

promote collaborative behaviours transferable to classroom and family life, while this way generating robust, programmatic evidence of learning on which consequentially the capacity of a determined territory to reverse the trajectory of its cultural and wellness decline depends.

Specifically, this research aimed to examine whether a structured, person-centred ZAP module can strengthen foundational transversal competencies (self-regulation, communication, collaboration) for minors living in conditions of educational poverty and to show how narrative medicine and patient simulation practices can enhance ZAP's reflective depth and assessment robustness (Isseberg et al., 2005).

1. Methodology

1.1 Design

ZooAntroPedagogy (ZAP) leverages the human–animal relationship—here, the horse—as a pedagogical mediator to build self-regulation, communication and agency in minors. In parallel, person-centred university training demonstrates that *narrative medicine* and *high-fidelity simulation* can strengthen communication, empathy and reflective capacity. On this basis, this work consisted in an experimental education research-intervention with mixed methods (structured observational notes, field diaries, focus groups) and programmatic assessment across sessions, plus assessment upgrades (reflective writing prompts, standardized interaction checklists and simulated caregiver role-plays) borrowed from narrative medicine and simulation (Bok et al., 2013). Therefore, this practice-based experimental education intervention expressed qualitative data, combining structured observational notes in sessions, daily field diaries and post-module focus groups with participants and caregivers.

To ensure continuity and sustainability, this work embeds the intervention in collaborative governance and ACL cycles—situated needs mapping, community of practice, performative/community methods and recursive learning (Manfreda, 2021)—and extends outcomes toward territorial agency via participatory methodologies (Author, 2025b).

1.2 Participants and context

Educational poverty in Italy's inner southern areas intertwines academic underachievement with socio-emotional fragilities that language-centred schooling struggles to address. Taking this as a point of departure, this work involved twenty-four minors (primary to lower-secondary age) from Southern Salento, identified via

schools and community partners as experiencing educational poverty, in the framework of the project “Move-IT, Educating in Action” funded by the Italian Presidency of Council of Ministers – Department of Family Politics and coordinated by GAIA APS.

Work took place at the equine facility “Amici del Murgese” ASD in Alessano, with safe paddocks, grooming stations and a quiet reflection area.

The Summer Camp targeted n. 24 minors with heterogeneous profiles including SEN, SLD, ODD with selective mutism, transition anxiety, attentional and emotion-regulation difficulties, language delay and motor impairments, under social-services custody and in need of relational and educational empowerment (a grey zone comprising minors who are not yet formally certified—or whose parents are reluctant to acknowledge the child’s difficulties—yet who exhibit vulnerabilities consistent with formally certified disabilities).

1.3 Intervention and session architecture

Each of the n. 5 half-day sessions, followed a constant pedagogical arc: pre-brief (safety, goals, signals), activity, debrief, diary capture, mini-narrative circle or role-play.

Activities rotated across four strands:

- *Grooming & Care* (trust, responsibility, attunement)
- *Groundwork & Leading* (assertiveness-with-care, clarity of signals)
- *Sensory Exploration* (breath, coat textures, hoof sounds; arousal modulation)
- *Team Games and Ethology/Anatomy Micro-lessons* (perspective-taking, rules, coordination).

As Narrative Medicine add-ons, the research included n. 8–10 minute micro-circles with a short text or photo, followed by 3-line reflective writing. As Simulation add-ons, 5-minute role-plays (e.g., explain to a caregiver how you’ll keep the horse—and yourself—safe; ask a peer for help and set a turn-taking rule), with structured feedback using an interaction rubric.

1.4 Techniques and instruments

Using Observational notes & Field Diaries, this research involved two trained observers who considered five domains: arousal regulation, approach/avoidance, signalling clarity, reciprocity/turn-taking, task persistence. Tutors recorded micro-breakthroughs/tensions and examples of transfer to school/home.

Focus groups have been set on semi-structured, same-age micro-groups at module end (children) and a short caregiver circle; prompts asked what became easier, how strategies were used elsewhere and what they would teach a newcomer.

2. Expected and obtained results

2.1 The overall ZooAntroPedagogy Experience

The ZooAntroPedagogy laboratory involved 24 minors and was crafted to leverage the unique human–horse relationship to promote personal growth, social inclusion and essential life skills. The approach moved beyond riding, centring educational, emotional and social benefits of interacting with horses. Core themes addressed challenges typical of educational poverty—low self-esteem, poor social skills, and low motivation—through relational and experiential tasks. The experience unfolded through the following formative phases:

- *Relationship and Communication* - Through grooming and care, children built responsibility and trust, learning to read non-verbal cues and to communicate via body language and calm tone. Leading exercises fostered assertiveness and self-confidence as children practised firm-yet-gentle commands.
- *Emotional Regulation* - Groundwork (on-foot) exercises taught emotional management as the horse's immediate, honest feedback mirrored a child's inner state. Sensory activities (listening to breath, feeling the coat) enhanced focus and had a calming effect.
- *Cognitive and Social Skills* - Treasure hunts and obstacle courses promoted collaboration and teamwork. As problems were solved together, children negotiated roles and respected peers' ideas. Micro-lessons in anatomy, ethology, and welfare nurtured empathy and respect for animals and people alike.

2.2 Obtained Results: Activity Strands, Target Competences and Evidence

The activity–competence mapping linked core strands of equine-assisted work to targeted outcomes and concrete evidence sources. Four principal strands were described: grooming & care, groundwork & leading, sensory exploration and team games paired with micro-lessons in ethology/anatomy. Each strand has been associated with specific competences and triangulated indicators (observer rubric entries, diaries, quotes and mini-assessments).

Grooming and care prioritise the cultivation of trust, attunement, and soft communication. Observable markers include a softer voice and stance, as well as a reduction in the horse's startle responses. Evidence is drawn from rubric observations and excerpts from participant diaries that capture shifts toward calmer, more respectful contact.

Groundwork and leading are designed to exercise assertiveness-with-care and boundary-setting. Clear, timely cues and successful halts/starts signal competence, alongside equitable peer turn-taking. Documentation integrates rubric ratings with

feedback derived from brief role-plays used to rehearse boundary cues and corrective micro-moves.

Sensory exploration targets self-regulation and interoceptive awareness. Hallmark behaviours include self-initiated breathing routines and tactile resets (e.g., hand-to-withers grounding) that correlate with fewer escalation episodes. Evidence combines rubric notes with short child quotes that describe bodily states and the perceived effects of calming routines.

Finally, team games coupled with micro-lessons in ethology and anatomy develop perspective-taking, cooperation and rule governance. Typical indicators are spontaneous behaviours that “give space” to peers and visibly smoother group flow during shared tasks. Evidence is assembled from rubric entries and a concise mini-CARE style check capturing rule recall, adherence, and peer-support moments.

2.3 Added value of narrative/simulation enrichments

Narrative circles helped minors convert tacit, bodily learning into words and connect strategies to school/home (e.g., breathing before reading aloud). Simulation-style role-plays made transfer explicit by rehearsing clarity, checking understanding and shared planning with a caregiver/peer. Mini-CARE items and the reflective mini-rubric provided concrete, criterion-referenced feedback children and caregivers could understand.

Specifically, close reading and micro-writing helped children name feelings and strategies (Leijenaar et al., 2023), while simulation made checking understanding and shared planning explicit. These contributions align with educational reviews showing improvements in empathy, communication and reflective depth (Milota et al., 2019).

2.4 Field Diaries

A series of **observational notes** in the form of a Field Diary have been compiled, capturing the key moments and learning experiences from the ZooAntroPedagogy intervention.

2.4.1 First Encounters

The study sample comprised 24 disadvantaged minors, representing a diverse group that included children with specific educational and clinical needs. Many are struggling with literacy and calculation, but it's clear their challenges go deeper, affecting their relationships and self-confidence. On the first day, the focus was on the most fundamental task: grooming and caring for the horses. The activity is simple, yet profound. The kids learned to take care of the animal, a responsibility that builds a sense of trust. It's a non-verbal exercise in communication, requiring

them to observe the horse's cues and use a calm tone. The physical act of grooming seemed to be an important first step, creating a tactile bond and shifting their perspective from one of need to one of competence.

2.4.2 The Art of Leading

On Day2, session moved from passive care to active leadership. The children were tasked with leading the horses. This required "assertiveness and clear communication," skills that many of them find challenging in human-to-human interactions. To succeed, they had to learn to give "firm, yet gentle, commands" and respond to the horse's reactions. For a child who may feel powerless in their daily life, the act of successfully guiding a powerful animal seemed to instill a profound sense of agency and self-confidence. The horse, a non-judgmental partner in the exercise, provided immediate and honest feedback, which resulted crucial for their development.

2.4.3 The Mirror

The most striking observation on Day 3 came during the groundwork exercises. The horses act as living mirrors, reflecting the children's emotional states. A child who was feeling anxious and frustrated had her emotions mirrored by the horse, which became agitated in response. This undeniable, cause-and-effect relationship forced the child to recognize their own internal state. The exercise taught them the importance of "calmness and patience". This emerges as a powerful tool for emotional regulation and self-awareness that would be difficult to replicate in a traditional setting.

2.4.4 Sensory Connections

With a focus on emotional regulation, Day 4 activities involved sensory exploration. For children who are easily overwhelmed, this kind of focused sensory input is invaluable. They have been encouraged to explore the horse's different sounds, textures and smells. The simple act of "listening to the horse's breath or feeling its coat" seemed to have a calming effect, helping to improve their "sensory regulation and focus". It's been clear that these seemingly small, non-demanding interactions provide a crucial grounding anchor.

2.4.5 Collaborative Efforts

The program culminated in team games and collaborative activities. These group exercises, both with and without horses, promote teamwork and problem-solving. It was fascinating getting feedbacks from parents and experts after the experience itself, knowing that children who have been developing individual skills all over the camp, applied them in a social context. They had to learn to "solve problems together, negotiate and respect the ideas of their peers". The presence of the horse

added a unique layer of complexity, requiring a higher level of coordination and communication among the group.

2.4.6 Final Reflections

Over the course of the week, the transformative power of this approach has been undeniable. The horse acts as a non-judgmental "mediator" who can reach children in ways that a human alone may not be able to. It has been observed a marked increase in self-esteem and confidence as the children successfully interacted with and cared for the animals. Their communication and social skills improved, as the horse's sensitivity to human body language pushed them to become more aware of their own non-verbal cues. Perhaps most importantly, the process fostered "greater empathy and emotional intelligence", as learning to understand and respond to the horse's needs helped them recognize and manage emotions in themselves and others. The program successfully addressed the foundational issues of educational poverty not through textbooks, but through the embodied, relational learning facilitated by the horse.

2.5 Focus-group highlights: Analyses and Findings by target

Children often described horses as honest and "not angry if you try again", supporting error-tolerant rehearsal. Caregivers noticed calmer evenings on session days, greater willingness to help at home and educators reported increased hand-raising and peer help-seeking the following week.

Feedback circles explored youths' territorial knowledge, aspirations and ambivalence about staying/leaving, while small youth-led steps like peer-help rituals and micro-projects linked personal gains to place-based agency (Manfreda et al., 2025).

- **Case 1. R.A. (female, 10 ears old). Oppositional Defiant Disorder (ODD).**

Initial Presentation: Generalized oppositional behavior, with selective mutism, poor frustration tolerance, provocative conduct toward adults and a latent anxious-avoidant profile. Initial exposure to the unfamiliar equestrian context elicited an acute anxiety response, manifested as rigid posture, avoidance, and verbal opposition. This initial refusal was interpreted as a control strategy against a perceived environmental threat, characteristic of ODD pathology.

Intervention and Outcome:

- *Containment and Mentalization:* A symbolic-expressive strategy (drawing a horse) was introduced for symbolic containment of anxiety, facilitating early mentalization dynamics.
- *Mediated Exposure and Agency:* The use of a smartphone as a mediating tool for documenting group activities (McLuhan et al., 2024) permitted

active participation from a distance, supporting R.A.'s need for emotional distance and fostering a sense of agency and control.

- *Developmental Shift*: Subsequent sessions revealed a gradual shift from rigid defense mechanisms to flexible conduct (e.g., spontaneous context exploration, peer sharing). This indicated a significant internal re-adjustment, marked by the emergence of self-efficacy and the construction of a trusting attachment to both the animal and the peer group. The animal interaction facilitated a lowering of defenses and the integration of previously absent social competencies.

- **Case 2: R.B. (male, 6 years old) and O.G. (female, 6 years old). Transition Anxiety.**

Initial Presentation: Navigating the complex developmental phase of transition from nursery to primary school, presenting with acute, reactive separation anxiety from the parental figure upon entering the manège.

Intervention and Outcome:

- *Gradual Exposure and Attachment*: The initial activity focused on the gradual approach to the horse via animal care (grooming). The group dimension served an essential regulatory role, facilitating a transition from emotional dependency toward exploratory trust and active participation.
- *Trust and Corporeal Security*: Leading the horse at a walk established a perception of security, mediating the first corporeal and relational contact with the animal.
- *Motor-Relational Adaptation*: Improvement was marked by autonomous entry to the manège, followed by acceptance of riding, initially with a firm grip on the reins interpreted as an emotional compensation mechanism. Over time, performance of complex in-saddle exercises (e.g., balance during ball handling) demonstrated enhanced self-confidence, tonico-postural regulation, and global motor coordination. The horse functioned as a relational, motor, and regulatory device, supporting adaptive processes (Bachi, 2012).

- **Case 3: D.G. A.L. (female, 6 years old). Attention and Emotion-Regulation Difficulties.**

Initial Presentation: Psychomotor agitation, attentional deficits, low-intensity oppositional behaviors (peer disturbance, low tolerance for shared rules), and difficulties in emotional modulation.

Intervention and Outcome:

- *Non-Verbal Observation*: The core strategy involved centered observation of the horse's non-verbal behavior (postures, emotional states) to promote safe, empathetic interaction and active observation/self-control.
- *Metacognitive Transfer*: Competencies acquired through direct experience were transferred during circle-time to the understanding of human non-verbal signals, promoting metacognitive reflection and alternative interpersonal strategies.
- *Regulation and Social Competence*: The mediation of the horse, sensitive to non-verbal cues, provided an external regulatory model. This resulted in significant reductions in disruptive behavior and conflict, enhanced attention, and the development of positive social skills (e.g., non-aggressive conflict management). Furthermore, riding activity improved **tonico-postural control** and motor memory.

- **Case 4: P.D. (male, 7 years), L.G. (female, 6 years), G.F. (male, 6 years). Language and Motor Impairments.**

Initial Presentation: Difficulties in expressive and receptive linguistic skills, coupled with fragility in motor coordination. Some presented with low self-esteem and reduced active participation.

Intervention and Outcome:

- *Multisensory Language Acquisition*: A practical, multisensorial approach introduced specific equestrian vocabulary (e.g., saddle, headstall) through observation and manipulation. These terms were spontaneously and functionally integrated into spoken language.
- *Motor-Cognitive Enhancement*: Significant improvements were recorded in global coordination and fine motor skills, particularly during in-saddle tasks requiring dynamic balance, postural control and precision.
- *Non-Verbal Communication*: The horse served as a unique non-verbal facilitator, providing immediate and coherent responses to human behavior, thereby activating alternative communication forms and corporeal empathy. This multi-modal approach (integrating body, language, and relationship) strengthened self-efficacy, intrinsic motivation, and sustained attention.

- **Case 5: Group of n. 17 minors with heterogeneous profiles.**

Initial Presentation: N. 1 minor with diagnoses of SLD aged 11, n. 1 minor with SEN diagnoses aged 10, n. 1 minor under social custody, n. 14 minors aged between 5 and 16 in need of relational and educational empowerment, all with difficulties in attentional regulation, impulsivity, frequent distraction and poor adherence to structured activities due to the rich sensory stimuli of the manège environment.

Intervention and Outcome:

- **Experiential Learning and Accessibility:** The direct interaction and practical, operative approach facilitated by the horse proved highly accessible, promoting deep learning and functional use of acquired skills (Kruger & Serpell, 2010).
- **Attentional and Emotional Regulation:** Progress was evidenced by conscious observation of the animal's behavior and non-verbal cues. This fostered **empathy** and emotional awareness: children spontaneously self-regulated (e.g., lowering voice) in response to the horse's distress signals. Significant improvement was seen in attentional regulation, frustration tolerance, and **sequential planning**.
- **Visuo-Spatial and Motor Skills:** Children developed a stronger sense of spatial management (respecting safety distances) and improved motor coordination, balance, and spatial orientation.

Overarching Findings

The integrated Equine-Assisted Intervention paradigm demonstrated robust efficacy across diverse developmental and clinical profiles. The equestrian setting's unique qualities—non-judgmental feedback, sensory richness and demand for non-verbal communication—served as a potent catalyst for functional growth.

- *Cognitive and Affective Gains:* The context fostered experiential thinking (promoting deep learning and sequencing) and multisensorial activity (stimulating selective attention, emotional regulation, and complex relational abilities).
- *Behavioral Flexibility:* A consistent finding across cases was the shift toward more flexible, adaptive behaviors, increased self-efficacy, and a reduced reliance on rigid defense mechanisms.
- *Clinical Implication:* These findings strongly suggest the integration of structured EAA programs into continuous educational and therapeutic pathways, in synergy with school, family, and health services, as a valid complement to traditional intervention modalities.

3. Discussion and Conclusions

The experimental education research-intervention, leveraging ZooAntroPedagogy (ZAP) enriched with *Narrative Medicine* and *High-Fidelity Simulation* practices, demonstrates a promising approach for addressing the complex challenges of educational poverty in marginalized territories like Southern Salento. By situating learning in the unique, relational space of human-horse interaction and consolidating that learning with reflective and rehearsal practices, the program successfully aimed to strengthen foundational transversal competencies (self-regulation, communication, collaboration) in disadvantaged minors.

3.1 Mechanisms of Change: From Embodied Feedback to Reflective Competence

The effectiveness of the ZAP approach rests on several synergistic mechanisms:

- *Embodied Biofeedback*: The horse serves as a non-judgmental mediator and a "living mirror". Its immediate, honest and non-verbal feedback reflects the child's inner state (tension or calm), functioning as an embodied form of biofeedback. This forces the child to notice, modulate, and practice self-regulation in real-time, which is a core challenge in educational poverty.
- *Fostering Responsibility and Self-Worth*: Engaging in grooming and care routines builds a tactile bond and shifts the child's perspective from one of need to one of competence and responsibility. This directly addresses the issue of low self-esteem typical of educational poverty.
- *Rehearsing Ethical Agency*: Leading tasks—which require "firm, yet gentle, commands"—instill a profound sense of agency and self-confidence by having the minor successfully guide a powerful animal. This is an exercise in "assertiveness-with-care" and boundary-setting.
- *Transfer into Cooperation*: Team games and ethology/anatomy micro-lessons facilitate the transfer of individual gains into cooperative behaviours. Children practice perspective-taking, negotiating roles and respecting peers' ideas, which visibly improves group flow during shared tasks.

3.2 The Role of Narrative and Simulation Enrichments

The integration of Narrative Medicine and Simulation practices significantly enhanced the reflective depth and assessment robustness of the ZAP module.

- *Narrative Practices*: Micro-circles and reflective writing helped minors convert the *tacit, bodily learning* into words, allowing them to name feelings and strategies. This process consolidates meaning and voice and helps children connect new strategies to life outside the camp, such as using breathing before reading aloud in a classroom.
- *Simulation Practices*: Role-plays (borrowed from high-fidelity simulation) provided a protected space for explicit rehearsal and concrete practice of *transferable skills*, like asking for help or explaining a safety plan to a caregiver. The structured, criterion-referenced feedback derived from the interaction rubric made the learning clear and understandable for both children and caregivers. These methods align with educational reviews showing improvements in empathy, communication and reflective depth.

3.4 Educational Implications

The intervention has significant educational implications, particularly for addressing systemic issues in marginal territories:

- *Centrality of the Person and Transversal Competencies*: The ZAP model operationalizes a person-centred pedagogy of care by focusing on developing foundational transversal competencies (self-regulation, communication, collaboration) that are crucial for reducing health and social inequalities. The approach moved beyond mere riding to center educational, emotional and social benefits.
- *Practical Assessment Culture*: The use of programmatic assessment with upgrades like reflective writing prompts, standardized checklists and role-plays creates a practical assessment culture. This utilizes rubrics and CARE-style items suited for non-classroom contexts, providing concrete feedback that supports the continuity and sustainability of the intervention through recursive learning cycles.
- *Community-Based Proximity and Territorial Agency*: By embedding the intervention in collaborative governance and extending outcomes toward territorial agency via participatory methodologies, the project links personal gains (e.g., peer-help rituals) to *place-based agency*. This suggests that the capacity of a determined territory to reverse cultural and wellness decline depends on generating robust, programmatic evidence of learning through community participatory mobilization.

3.5 Limitations and Future Work

While the results are promising, the study has limitations that must be addressed in future research:

- *Study Design*: The intervention was conducted at a single site over a short duration and lacked a control group, which limits the ability to make strong causal inferences about the observed improvements.
- *Future Research Directions*: Future iterations should aim for greater methodological rigor, including delayed follow-ups to measure long-term skill retention and triangulated teacher/caregiver ratings to better assess the transfer of skills to school and home environments.
- *Comparative and Subgroup Analysis*: It would be valuable to conduct comparisons with other embodied pedagogies and perform subgroup analyses (e.g., focusing on minors with selective mutism or language delay). The integration of small OSCE-style transfer checks could also provide further objective evidence of competence transfer.

In conclusion, this work documents a ZooAntroPedagogy (ZAP) model, when fostered by community-based Participatory Co-Design practices and enriched by narrative and simulation techniques, provides a tangible, person-centred pathway to address educational poverty by building essential transversal competencies, thereby contributing to the broader goal of reducing health and social inequalities in marginalized communities.

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