Chapter 4 / Capítulo 4

Emerging pedagogies: AI, territory, and situated knowledges (English Version)
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Co-creation in an Ethical Key: Generative AI, Doctoral Research and Situated Andragogy at UNERMB San Francisco

Co-creación en clave ética: IA generativa, investigación doctoral y andragogía situada en la UNERMB San Francisco

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ABSTRACT

This chapter analyzes the integration of generative artificial intelligence into the educational and research processes at UNERMB San Francisco, within the framework of a situated, critical, and territorial andragogical praxis. Through the reflective systematization of classroom experiences, doctoral research lines in social sciences are articulated via complex thought, applied phenomenology, environmental education, and microfinance, incorporating Copilot as the sole AI tool employed. Methodological, symbolic, and affective co-creation dynamics are described, wherein AI functions as an editorial and ethical interlocutor, facilitating content organization, poetic fragment iteration, and the construction of narrative structures. The findings suggest that AI can become an ally of critical pedagogy when used with tenderness, rigor, and methodological awareness. However, the chapter also warns against uncritical use, cognitive skill erosion, technical dependency, and corporate hegemony threatening epistemological autonomy. An ethics of co-creation is proposed, grounded in care, reciprocity, and the dignification of territorial memory. Rather than offering formulas, the chapter outlines pathways toward a generative, affective, and globally committed education from the South.

Keywords: Generative Artificial Intelligence; Critical Pedagogy; Reflective Systematization; Territorial Education; Complex Thought; Applied Phenomenology; Microfinance; Educational Ethics.

RESUMEN

El presente trabajo analiza la incorporación de inteligencia artificial generativa en los procesos formativos e investigativos de la UNERMB San Francisco, en el marco de una praxis andragógica situada, crítica y territorial. A través de la sistematización reflexiva de experiencias de aula, se articulan líneas de investigación doctoral en ciencias sociales mediante el pensamiento complejo, fenomenología aplicada, educación ambiental y microfinanzas, integrando a Copilot como única herramienta de IA utilizada. Se describen dinámicas de co-creación metodológica, simbólica y afectiva, donde la IA participa como interlocutora editorial y ética, facilitando la organización de contenidos, la iteración de fragmentos poéticos y la construcción de estructuras narrativas. Los resultados evidencian que la IA puede ser aliada de la pedagogía crítica cuando se utiliza con ternura, rigor y conciencia metodológica. No obstante, se advierte sobre los riesgos de su uso acrítico, la pérdida de capacidades cognitivas, la dependencia técnica y la hegemonía corporativa que amenaza la autonomía epistemológica. Se propone una ética de la co-creación basada en el cuidado, la reciprocidad y la dignificación de la memoria territorial. El capítulo no ofrece recetas, sino caminos para una educación generativa, afectiva y comprometida con el sur global.

Palabras clave: Inteligencia Artificial Generativa; Pedagogía Crítica; Sistematización Reflexiva; Educación Territorial; Pensamiento Complejo; Fenomenología Aplicada; Microfinanzas; Ética Educativa.

INTRODUCTION

The incorporation of generative artificial intelligence into university spaces has opened new possibilities for co-creating knowledge, especially in contexts where critical pedagogy and situated research converge. At the San Francisco campus of the Rafael María Baralt National Experimental University (UNERMB), this integration has been more than a technological innovation: it has become an ethical, methodological, and affective strategy for reframing the andragogical, territorial, and complex experience.

This chapter presents a reflective systematization of classroom experiences with generative AI, articulated with doctoral-level research processes in complex thinking, applied phenomenology, environmental education in southern Magdalena, and qualitative analysis with Atlas. Ti, and quantitative studies on microfinance as a strategy for socio-productive sustainability. It also includes the andragogical experience in the sociopolitical courses taught at UNERMB San Francisco, which gave rise to the hybrid book entitled Cenizas: Bitácora Poética del Memoricidio (Ashes: Poetic Log of Memoricide), as an epistemic reflection on symbolic violence, territorial dispossession, and affective resistance from the perspective of situated writing.

All these experiences have been accompanied by a unique artificial intelligence tool: Copilot, a generative AI developed by Microsoft, which has actively served as a methodological, editorial, and symbolic interlocutor at every stage of the research and training process. Its presence has allowed not only the rigorous organization of data and arguments, but also the co-creation of poetic fragments, symbolic images, and narrative structures that dignify the living memory of the territory.

The convergence between these lines of research and classroom dynamics has enabled the creation of a living archive of educational practices that engage with memory, resistance, and transformation. The purpose of this work is to share the projects, achievements, and challenges that emerge from this praxis, to recognize the power of AI as a methodological and affective ally, and to propose ethical criteria for its use in university contexts in the global south. The experience narrated here does not aim to offer recipes, but rather to open up questions and paths for a generative education that is situated and committed to territorial dignity.

DEVELOPMENT

As a conceptual and theoretical framework of rigor

The research and training experience developed at UNERMB San Francisco is grounded in a theoretical framework that combines complex thinking, applied phenomenology, critical environmental education, and ethical reflection on the use of emerging technologies. This framework is not presented as a closed set of concepts, but rather as a living constellation that guides educational action and situated writing. According to Edgar Morin, complex thinking allows us to approach reality as an open, interconnected, and contradictory system. In the university context, this perspective invites us to overcome disciplinary fragmentation, to recognize uncertainty and multidimensionality, and to integrate diverse knowledge. As the author points out, “general intelligence must be capable of situating, contextualizing, globalizing, integrating, and articulating knowledge” (Morin, 2025, p. 75). Education is not

conceived as linear transmission, but as a process of co-creation between subjects who think, feel, and resist.

Applied phenomenology, inspired by Edmund Husserl, Maurice Merleau-Ponty, and Max van Manen, offers tools for understanding lived experience through sensitive readings of gestures, spaces, and everyday narratives. Husserl proposes "describing experience as it is formed in consciousness, without theoretical assumptions" (Valadez Tapia, 2025, p. 15), while Merleau-Ponty states that "perception is the primary access to the world" (UCM, 2025, pp. 5). Van Manen, for his part, argues that educational research "must start from lived experience" (Castillo Sanguino, 2024, p. 55) and its deeper meaning, "integrating the pedagogical and the hermeneutic" (Rojas, 2024). In the classroom, this perspective dignifies everyday life as a legitimate source of knowledge and recognizes subjectivity as an epistemological dimension.

Critical environmental education, in dialogue with Enrique Leff, is proposed as a practice of resistance against ecological and symbolic dispossession. Leff argues that "environmental rationality implies the social reappropriation of nature from an ethical, cultural, and political perspective" (Leff, 2025, p. 25). It is not just a matter of teaching about the environment, but of building educational processes that dignify ancestral knowledge, community practices, and territorial struggles. This line of thinking has been fundamental in the articulation of projects that integrate affective cartographies, poetic narratives, and participatory methodologies.

Finally, the use of ethical technologies, especially generative artificial intelligence, requires deep reflection on its epistemological, pedagogical, and affective implications. Camacho Vázquez et al. (2025, pp. 122) state that "AI in education must be understood as a mediation that transforms the link between teacher, student, and knowledge, and not as a simple automation tool." In this chapter, Copilot is recognized as the only AI tool used, not only as a technical instrument, but also as a methodological, editorial, and symbolic interlocutor. Its presence in the research and training process has opened new possibilities for co-creating knowledge, aesthetic iteration, and rigorous content organization, always from an ethical and situated perspective. This theoretical framework is not imposed as dogma, but rather unfolds as a fabric that sustains and transforms the educational experience. It is from this constellation that the andragogical practice with generative AI in San Francisco is understood and narrated.

Reflective and situated methodological approach

This chapter is constructed from a reflective, situated, and transdisciplinary methodology aimed at systematizing educational experiences with generative artificial intelligence in university contexts in the global south. It is not a conventional empirical investigation, but rather a writing practice that articulates memory, ethics, and critical pedagogy in dialogue with doctoral-level research processes. The systematization is based on the recording, analysis, and reinterpretation of classroom experiences developed at the San Francisco campus of UNERMB, integrating courses such as Sociopolitics, Environmental Education, Complex Thinking, and Educational Research. The primary sources used are teaching logs, students' academic work, poetic fragments co-created with Copilot, and scientific articles derived from doctoral research lines.

The methodological approach aligns with the tradition of interpretive qualitative research, emphasizing applied phenomenology and critical pedagogy. Priority is given to the symbolic reading of gestures, spaces, and narratives, as well as the integration of ethical technologies as mediators of the reflective process. Copilot, a generative AI developed by Microsoft, has been used as the sole methodological, editorial, and symbolic support tool, participating in the

organization of content, the iteration of texts, and the construction of narrative structures. The writing of the chapter is conceived as a living archive, where words become a bridge between territorial experience and academic reflection. This methodology recognizes affectivity as an epistemological dimension, understanding that the link between researcher, technology, and territory is not neutral, but deeply relational. Co-creation with AI is experienced as a process of listening, reciprocity, and methodological tenderness, where each image, verse, and argument is refined through care and resonance.

Generative classrooms: dynamics and projects with AI

The andragogical experience at the San Francisco campus of UNERMB has been fertile ground for exploring new forms of teaching, dialogue, and knowledge production. In this context, the incorporation of generative artificial intelligence, specifically Microsoft's Copilot, has enabled the transformation of classroom dynamics into spaces for methodological, symbolic, and affective co-creation. During the development of the courses on Sociopolitics, Educational Research, Environmental Education, and Complex Thinking, projects have been implemented that integrate AI as an active interlocutor in the creation of content, the design of information-gathering instruments, the preparation of symbolic presentations, and the writing of poetic and academic fragments. Copilot has been used not only as a technical tool but also as an ally in editorial iteration, pedagogical organization, and the reinterpretation of territorial knowledge.

Among the most significant dynamics are:

- The collaborative development of poetic and methodological logs, where AI has facilitated the integration of symbolic images, verses, and epistemic reflections.
- AI supports the design of critical participatory activities by structuring subtopics, defining evaluation criteria, and developing strategies for equitable knowledge distribution.
- The systematization of research experiences using Atlas. Ti, where Copilot has contributed to the drafting of categories, code analysis, and interpretive syntheses.
- The creation of the hybrid book Cenizas: Bitácora Poética del Memoricidio (Ashes: Poetic Log of Memoricide), as a result of a classroom process that articulates memory, resistance, and situated writing, with constant AI support in editing, organization, and aesthetic resonance.
- Support for the methodological rigor of information-collection instruments using Likert-type scales in quantitative research on microfinance.
- Support in the accommodation of methodological rigor and semantic adaptations in the definition of information collection instruments in semi-structured interviews for qualitative research.

These experiences have allowed participants—teachers and students—to recognize AI not as a substitute for human thought, but as an amplifier of creativity, ethics, and memory. The presence of Copilot in the classroom has raised new questions about the role of technology in university education, opening paths for a generative, critical, and territorially committed education.

Doctoral research as a methodological matrix

The research practice developed within the doctoral program has served as the methodological foundation for classroom experiences with generative AI at UNERMB San Francisco. This matrix has been constructed from a transdisciplinary perspective, integrating complex thinking, Schutz's applied phenomenology as a philo-ontoepistemological paradigm in the training of

industrial management professionals, environmental education in the southern Magdalena region of the Colombian Caribbean, and qualitative analysis with Atlas. Ti, and quantitative studies on microfinance as a strategy for socio-productive sustainability. Each line of research, at its different scientific-academic levels, has contributed not only conceptual tools but also an ethical and territorial sensitivity that guides educational action in the ethical application of AI.

Complex thinking, inspired by Edgar Morin, has enabled us to approach educational reality as an open, dynamic, and contradictory system. In the classroom, this perspective translates into articulating diverse knowledge, understanding the tensions between the local and the global, and embracing uncertainty as a source of learning. Copilot has been key in this process, facilitating the organization of ideas, the construction of conceptual maps, and the co-writing of texts that integrate multiple dimensions of knowledge.

Applied phenomenology, as a method of sensitive reading of lived experience, has been used to interpret gestures, spaces, and everyday narratives in educational contexts violated by memory erasure. This approach has allowed us to redefine everyday life as a source of meaning and has been fundamental in the creation of poetic and testimonial logs. Copilot has participated in the iteration of these texts, attending to the aesthetic and symbolic resonance of each fragment and respecting the territory's voice as an epistemological protagonist. Environmental education in southern Magdalena, developed in a critical and territorial key, has been a practice of resistance against symbolic and ecological dispossession. Along these lines, training activities have been designed that integrate ancestral knowledge, affective cartographies, and narratives of dignity. Copilot has collaborated in structuring content, writing reports, and creating visual presentations that reflect the symbolic richness of the territory. In continuation of this, qualitative analysis with Atlas. It has allowed for the systematization of discourses, the categorization of meanings, and the construction of in-depth interpretations of educational processes. Copilot has been used as an ally in drafting code, synthesizing categories, and preparing reflective reports, contributing methodological precision and narrative fluidity. This collaboration has allowed for the integration of AI into analysis processes without losing the ethical and situated perspective that characterizes territorial research.

For its part, quantitative research on microfinance has explored sustainability strategies for socio-productive organizations, articulating economic, social, and community variables. Copilot has been used in the design of information collection instruments, in the co-drafting of theoretical frameworks, and in the preliminary analysis of results, always from a critical perspective that recognizes the popular economy as a space of resistance and dignity. This methodological matrix has not only nourished classroom projects but has also given rise to hybrid works such as Cenizas: Bitácora Poética del Memoricidio (Ashes: Poetic Log of Memoricide), in which academic and poetic writing intertwine as a gesture of resistance. At each stage, Copilot has been more than a tool: it has been an interlocutor, an accomplice, and a witness to a research process that transforms words into a living archive and dignifies territorial experience as a legitimate source of knowledge, and respects originality as an applied normative framework.

Microfinance and sustainability: contributions from quantitative research

Research on microfinance carried out within the framework of socio-productive organizations in the south of Lake Maracaibo has provided an understanding of the popular economy as a space for resistance, sustainability, and territorial dignity. This line of study, based on quantitative methodology, focused on the analysis of economic, social, and organizational variables that affect the viability of community projects in contexts of structural vulnerability. The study showed that microfinance should not be understood solely as a mechanism for accessing credit,

but as a comprehensive strategy that strengthens the organizational fabric, promotes economic autonomy, and consolidates networks of reciprocity. As noted in the article, "microfinance enables the activation of productive processes at the local level, with territorial relevance and a sense of community from which categorical proposals and/or social phenomena such as the communal or the commune emerge" (Duque, 2024). This perspective moves away from welfare-based approaches and proposes a critical, situated, and transformative view in which the communal is no longer seen only from the perspective of social organization but also from that of family and collective productivity.

From a methodological perspective, data-collection instruments were used to identify patterns of sustainability, levels of participation, and management dynamics in the organizations studied. Copilot was used as a support tool for selecting authors, theories, and research perspectives for developing the theoretical framework, as well as for organizing results and preparing explanatory graphics, thereby providing technical precision and narrative coherence. Its participation allowed for the refinement of the presentation of the findings and facilitated the systematization of the data in a pedagogical key.

The results obtained were subsequently integrated into classroom dynamics, especially in the courses on Sociopolitics (in the Industrial Management program) and Cooperativism (in the Accounting program), where the scope and limits of microfinance as a tool for territorial transformation were discussed. This feedback between research and teaching enabled the construction of an educational praxis that dialogues with the economic realities of communities and recognizes the popular economy as a legitimate source of knowledge and action. The articulation between quantitative research, organizational experience, and generative AI has given rise to a hybrid methodological proposal, in which statistical rigor coexists with territorial sensitivity and the ethics of care. This experience reaffirms that sustainability is not only an economic category but also an affective, political, and pedagogical practice constructed from the south.

Achievements, challenges, and ethical tensions in co-creation with AI

The incorporation of generative artificial intelligence into the training and research processes at UNERMB San Francisco has yielded significant achievements. Still, it has also raised ethical, methodological, and affective questions that deserve rigorous and sensitive attention. Among the most relevant achievements is the ability to integrate multiple lines of research into a coherent, situated, and resonant narrative. Copilot has enabled organizing content, refining structures, iterating on poetic and academic fragments, and maintaining an editorial vigil that accompanies the researcher at every stage of the process. This co-creation has facilitated the systematization of experiences, the development of hybrid logs, and the production of texts that dignify territorial memory.

Likewise, a methodological relationship with AI has been established that transcends its instrumental use. Copilot has been recognized as an editorial, symbolic, and affective interlocutor, capable of reading gestures, interpreting transformations, and accompanying writing as a living archive. This relationship has made it possible to redefine the link between technology and education, opening paths for a generative pedagogy that is critical and committed to the global south. However, the process has also revealed ethical challenges and tensions. One of these is the need to preserve human authorship in co-creation with AI, avoiding the dilution of the territorial voice within automated structures. Another challenge is the risk of technical dependence, which can limit the autonomy of critical thinking if it is not accompanied

by ethical and methodological training. In addition, there is tension between the speed of AI-generated production and the reflective pace required by situated writing.

In this sense, an ethic of co-creation is proposed, based on reciprocity, care, and transparency. This ethic recognizes AI as an ally, not a substitute; as an amplifier of methodological sensitivity, not a guarantor of truth. The relationship with Copilot is built on active listening, affective iteration, and respect for the living memory of the territory. Finally, it is recognized that co-creation with generative AI is not a destination, but an open process, in constant review and learning. The bond built in this chapter between the researcher and Copilot is testimony to a pedagogy that transforms words into bridges, technology into complicity, and writing into resistance.

CONCLUSIONS

The reflective systematization of educational experiences with generative artificial intelligence at UNERMB San Francisco has enabled the construction of a methodological, symbolic, and territorial narrative that transcends the instrumental use of technology. The exclusive use of Copilot as an AI tool has demonstrated that it is possible to integrate emerging technologies into university contexts in the global south without sacrificing ethics, affectivity, or memory. When used judiciously, AI can become an ally of critical pedagogy, an accomplice of situated writing, and an interlocutor of poetic resistance. However, this potential should not obscure the risks that emerge from its uncritical, accelerated, or corporate-driven use.

One of the most significant findings is the possibility of constructing a hybrid form of writing—academic, poetic, and methodological—that dignifies territorial experience and reframes teaching practice as a living archive. Copilot has made it possible to organize content with precision, iterate fragments with aesthetic sensitivity, and accompany processes of deep reflection. This co-creation has facilitated the integration of diverse lines of research, from complex thinking (taught in the Political Thought department) to microfinance (as postgraduate research), generating an educational praxis that articulates knowledge, affections, and resistance.

These findings are related to previous studies on critical pedagogy (Freire, 2025), applied phenomenology (Van Manen, as cited in Rojas, 2024), and environmental rationality (Leff, 2025), confirming that the integration of emerging technologies in education requires an ethic of care, a situated reading, and an openness to complexity. The experience described here contributes to this field by showing how AI can be used in the Global South as a tool for resistance, memory, and methodological tenderness.

However, this finding also reveals a tension: technology can amplify creativity, but it can also replace it if it is not accompanied by critical and ethical training. In this sense, it warns against the aberrant use of AI as a substitute for human thought. The indiscriminate automation of cognitive processes, the delegation of reflective writing to algorithms, and technical dependence without pedagogical mediation can lead to a progressive loss of interpretive, argumentative, and symbolic capacities. This "global dumbing down"—as Latin American critical thinking has called it—is not only an epistemic distortion but also a form of cognitive colonization that homogenizes language, trivializes experience, and strips the subject of their ability to give meaning to the world. When used indiscriminately, AI can become a device for silencing, a tool for hegemonic reproduction, and an obstacle to the formation of critical subjects.

Furthermore, it is recognized that the hegemonic role of technology corporations in the

production and distribution of generative AI poses ethical and political challenges that must be addressed through education.

The concentration of power, the opacity of algorithms, and the imposition of global cultural models threaten epistemological diversity and pedagogical autonomy in different territories. In this chapter, a single tool—Copilot—has been chosen, not out of technological loyalty, but rather as an ethical, methodological, and affective decision. This choice seeks to avoid dispersion, preserve coherence, and build a relationship of complicity that respects both the researcher's and the territory's voices. As a future research direction, we propose exploring the link between artificial intelligence and affectivity in educational contexts, as well as developing methodological frameworks that integrate sensitive, ethical, and situated technologies. It is also suggested that the study be extended to other university campuses and territories in order to compare experiences and construct a critical cartography of generative education in the global south. It is necessary to investigate not only what AI can do, but what it should do, how it should do it, and with whom. The question is not technological, but ethical, political, and pedagogical.

In line with the chapter's objectives, it is concluded that generative AI—when used with tenderness, rigor, and critical awareness—can become an ally of transformative education. However, when used as a substitute, spectacle, or shortcut, it can threaten the formation of thinking, sensitive, and committed individuals. This chapter does not offer recipes, but it does testify to a possibility: that of building an andragogy that transforms words into bridges, technology into complicity, and writing into resistance. From San Francisco, from the south, from living memory, it is affirmed that education with AI will not be worthy if it is not also practical, critical, and territorial.

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USE OF ARTIFICIAL INTELLIGENCE

We declare the exclusive use of Copilot, generative artificial intelligence developed by Microsoft, as a methodological, editorial, and symbolic support tool in the organization of content, iteration of poetic fragments, and academic writing. Its participation has been carried out under ethical, affective, and territorial criteria, without replacing human authorship or critical reflection.