

Bioethicopedagogy of Aging and Nahuatl Philosophy: Toward Teacher Flourishing in Inclusive Intergenerational Education

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Abstract

Within the framework of the Doctorate in Pedagogy at the Escuela Normal de Ecatepec, this study examines the cognitive aging of retired teachers in Latin America, a stage often characterized by social invisibility, loss of recognition, and the absence of educational policies that reframe it as a period of learning and dignity. The problem is approached from a critical philosophical perspective, in which bioethicopedagogy emerges as an innovative category that articulates care for life, knowledge, and lifelong learning. The theoretical framework is transdisciplinary, integrating Potter's bioethics, Freire's critical pedagogy, Nahuatl philosophy, and the figure of the *tlamatini*, understood as a sage and shaper of "faces and hearts." This perspective seeks to recover Mesoamerican philosophical roots—expressed through "flower and song" as symbols of wisdom—in order to contribute to Latin American thought and to rethink teacher aging from an ethical, pedagogical, and civilizational horizon. Methodologically, the study adopts a qualitative, documentary approach through a systematic literature review based on the PRISMA method. Databases such as SciELO, Redalyc, Google Scholar, and institutional repositories were consulted, focusing on recent publications related to aging, teaching, and social well-being. Preliminary findings reveal the predominance of biomedical and functional approaches, along with the absence of intercultural philosophical-pedagogical perspectives. The study concludes that integrating ancestral thought with contemporary frameworks allows for the re-signification of retired teachers as epistemic subjects and agents of social well-being, contributing to the development of a more inclusive, ethical, and humanizing gerontological model.

Keywords: cognitive aging, retired teachers, nahuatl philosophy, bioethicopedagogy

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Introduction

Within the context of contemporary demographic and social transformations, population aging represents one of the most pressing challenges for educational and social systems in Latin America. Among the most invisibilized groups within this phenomenon are retired teachers, who, after decades of educational service, face retirement processes marked by isolation, loss of recognition, and progressive cognitive decline, with limited pedagogical initiatives aimed at reframing this stage as a period of learning, participation, and dignity. In this regard, Huenchuan (2018) highlights the existence of the “Inter-American Convention on the Protection of the Human Rights of Older Persons,” which seeks to reaffirm their importance and promote action among stakeholders (p. 88). This underscores the urgency of rethinking the role of older adults—and particularly retired teachers—within public, educational, and cultural policy frameworks.

The scientific literature reviewed between 2013 and 2022 reveals a concerning tendency to reduce cognitive aging to a medical-functional phenomenon, overlooking the symbolic, cultural, and educational dimensions of teacher aging. This limited perspective not only marginalizes the potential of older adults as agents of knowledge but also neglects the need to develop inclusive, ethically grounded, and culturally contextualized educational proposals. Despite international efforts to promote healthy aging (OMS, 2020), there remains a lack of integrative theoretical models that articulate lifelong learning, social well-being, and epistemic justice.

This epistemic and pedagogical gap has motivated the present study, which aims to systematically analyze specialized literature addressing the influence of cognitive aging on the social well-being of retired teachers, in order to identify its dominant interpretive approaches and dimensions. The study adopts a qualitative, transdisciplinary approach, guided by Potter’s bioethics (1971), Freire’s critical pedagogy (2005), Nussbaum and Sen’s (1996) capabilities approach, and Latin American biointerculturality, supported by an analogical hermeneutic analysis that seeks to uncover the deeper meanings embedded in the reviewed discourses and practices.

The structure of this study includes, first, the presentation of the problem statement and theoretical framework; second, the methodological approach; third, the preliminary results; followed by the critical discussion of findings; and finally, the conclusions, which aim to contribute to the development of a bioethicopedagogical model that promotes inclusive intergenerational education and redefines the role of retired teachers as active cognitive citizens.

This study is conceived as an innovative and necessary contribution to rethinking aging within Latin American pedagogy, highlighting the urgency of designing policies and educational practices that embrace diversity, recognize experience, and dignify aging as a formative, critical, and transformative stage of life.

Problem Statement

In recent decades, the aging of the retired teaching population in Latin America has emerged as a significant demographic and social phenomenon. However, its treatment within pedagogy, health, and public policy has been fragmented. Rather than being understood as a fertile stage for the construction of new forms of citizenship, teacher aging has traditionally been interpreted

through deficit-based frameworks that reduce this life stage to processes of physical, cognitive, and functional decline. In this context, the retired teacher appears as an invisibilized social figure, bearer of an active pedagogical memory that is rarely recovered, re-signified, or valued within contemporary educational projects.

Institutional and academic discourses on cognitive aging tend to prioritize biomedical models focused on loss of capacities, reinforcing a pathologizing narrative that overlooks the symbolic, affective, and epistemic contributions of older adults. This one-dimensional perspective obscures biographical learning trajectories and forms of bio-learning that emerge during retirement, where individuals, rather than losing their formative potential, transform their relationship with knowledge, time, and community.

Moreover, retirement—understood merely as the cessation of work—conceals its pedagogical and social dimensions, generating adverse effects on well-being, identity, and active participation among retired teachers. In addition, there is a notable weakness in institutional, familial, and community support networks that could sustain a dignified, participatory, and cognitively active old age. Access to educational, cultural, and mental health services remains conditioned by structural inequalities that reproduce disparities accumulated throughout the life course.

Furthermore, the literature review reveals a limited articulation among bioethical, pedagogical, and cultural approaches necessary to rethink teacher aging from a complex, situated, and critical perspective. Consequently, most studies lack an integrative framework capable of addressing cognitive decline in dialogue with social imaginaries, institutional structures, and contemporary educational narratives.

In response to this scenario, there is a need to develop a bioethicopedagogical model that understands cognitive aging not as a terminal stage of learning, but as a vital phase of re-signification, care, and symbolic production. This integrative model promotes inclusive intergenerational education, recognizing aging as a space of epistemic continuity in which the retired teacher can exercise active cognitive citizenship, contributing to social cohesion and the dialogue of knowledge across generations.

Accordingly, this study aims to systematically analyze the specialized literature addressing the relationship between cognitive aging and social well-being in retired teachers, with the purpose of identifying dominant interpretive approaches, constructed representations of this life stage, and the pedagogical responses—or lack thereof—that shape its position within the Latin American educational landscape.

Research Question

How is the influence of cognitive aging on the social well-being of retired teachers understood in specialized literature?

General Objective

To systematically analyze the specialized literature addressing the influence of cognitive aging on the social well-being of retired teachers in order to identify its main interpretive approaches and dimensions.

Theoretical Framework

The study of cognitive aging in retired teachers, from a transdisciplinary perspective, requires a deep and critical analysis of traditional paradigms that have reduced this stage of life to a process of functional decline. Within this framework, an interpretive model is proposed based on five key categories: Biopedagogy, Bio-learning, Bioethics, Biointerculturality, and Bioethicopedagogy, as a foundation for a more humanized, active, and inclusive understanding of the retired teacher in the post-labor stage.

In this sense, Biopedagogy, according to Maturana and Varela (1998), implies an understanding of learning processes as vital dynamics that involve both biological and relational dimensions. Therefore, learning does not cease with retirement; rather, it transforms, allowing older adults to reconfigure their cognitive identity and social role. The concept of Bio-learning (Medina, 2017; Parra et al., 2019) is directly linked to this perspective, as it recognizes that aging individuals learn through their biography, affectivity, and environment, projecting new forms of engagement with knowledge beyond formal educational settings.

From an ethical standpoint, Potter's foundational work (1971) redefines bioethics as a "bridge to the future," aimed at ensuring dignity, care, and respect for life in all its forms. Within this framework, an intervention-oriented bioethics is proposed—one that goes beyond normative principles to promote transformative actions in response to the structures of exclusion affecting older adults. This vision aligns with Nussbaum and Sen's (1996) capabilities approach, particularly in emphasizing well-being, agency, and active participation in the design of educational and social policies for aging.

In addition to contributions from bioethics and critical pedagogy, this study incorporates elements of Nahuatl philosophy as an intercultural horizon for rethinking aging from non-Western perspectives. In the Mesoamerican tradition, the figure of the *tlamatini* represents the sage who guides community life through reflective speech and the formation of "faces and hearts," a concept referring to the integral development of individuals in their ethical, intellectual, and social dimensions.

Within this worldview, old age is not conceived merely as a stage of decline, but as a privileged moment of wisdom and counsel. Elders occupy a central role in the transmission of knowledge and values, contributing to social balance through accumulated life experience. The metaphor of "flower and song" (in *xōchitl in cuīcatl*) symbolizes the search for truth and the expression of profound knowledge—dimensions cultivated throughout life.

Recovering these elements of Nahuatl thought expands the understanding of teacher aging beyond the clinical and productivist frameworks that dominate Western modernity. From this intercultural perspective, the retired teacher can be interpreted as a bearer of pedagogical wisdom, contributing to the continuity of knowledge and the strengthening of the social fabric.

In this regard, Biointerculturality offers a key perspective from Latin America by recognizing the epistemic and cultural plurality of educational and health processes. As proposed by Albuquerque (2015), it advocates for a situated ethics that respects ancestral knowledge, cultural identities, and collective rights in the care of older adults. In the case of retired teachers, biointerculturality enables a re-signification of their role within the educational community as carriers of pedagogical memory—wise figures who articulate generations through active cognitive citizenship.

For example, in the view of Guerrero et al. (2022), biointerculturality is configured as a transformative educational approach that transcends traditional disciplinary boundaries, proposing a holistic and integrative vision of the school. This approach not only challenges fragmented curricular structures but also promotes meaningful connections between school knowledge and the biological, cultural, social, and environmental realities that shape a given territory.

It is important to note that biointerculturality goes beyond a simple articulation between biology and interculturality. Rather, it constitutes a situated pedagogy that recognizes cultural and ecological diversity as fundamental components of the educational process. In this sense, the school is not conceived as a neutral space, but as a territory of coexistence, harmony, and ethical responsibility toward both the environment and humanity.

From this perspective, biointerculturality not only seeks school peace as a microcosm of social peace but also promotes the formation of globally conscious citizens capable of linking the local with the planetary, the cognitive with the ethical, and the educational with the vital. Within this framework, the subject—including older adults—is reclaimed as an epistemic and ecological agent capable of critically responding to contemporary challenges affecting both biocultural diversity and social justice.

Within this horizon, the bioethicopedagogical dimension becomes evident, emphasizing that the retired teacher can not only re-engage as an intergenerational educator but also act as a key agent in rebuilding an educational fabric grounded in harmonious coexistence, epistemic justice, and environmental responsibility from a situated and plural perspective.

From these foundations emerges the theoretical proposal of bioethicopedagogy, understood as an emergent category that articulates the ethical care of life, the continuity of biographical learning, and the intercultural recognition of the aging subject. Bioethicopedagogy is therefore not only an analytical model but also a critical intervention tool aimed at challenging institutional discourses that obscure the residual or emerging cognitive capacities of retired teachers.

Epistemologically, this proposal is grounded in the sociocritical paradigm, which finds one of its most influential voices in Freire (1997, 2005). Aging, like oppression, must be read through a pedagogy of hope, in which the oppressed—in this case, the retired teacher marginalized by productivist logic—can reclaim their history through processes of conscientization, dialogue, and action. This perspective resonates with the decolonial critiques of Boaventura de Sousa Santos, Aníbal Quijano, and Enrique Dussel, who denounce Western modern epistemology as a system that reproduces hierarchies, exclusions, and silences.

Finally, transdisciplinarity, as proposed by Nicolescu (1996), is not merely an integration of knowledge but a complex logic that enables the crossing of levels of reality, the coexistence of multiple logics, and the overcoming of reductionism. In this sense, the research is constructed as a process that articulates biological, cultural, pedagogical, and ethical dimensions of aging, enabling a holistic and situated understanding of the phenomenon under study.

Methodology

This study is conducted through a systematic literature review, adopting a qualitative and transdisciplinary approach aimed at understanding how cognitive aging is represented and how

it influences the social well-being of retired teachers. The study was conducted through a qualitative systematic literature review based on the PRISMA method, consulting SciELO, Redalyc, Google Scholar, and institutional repositories.

Keywords used in the search included cognitive aging, social well-being, retired teachers, bioethics, and lifelong education. Studies published in Spanish and English between 2013 and 2022 were included, provided they adopted pedagogical, ethical, or sociocultural perspectives. Studies with a purely clinical focus, those lacking educational context, or those centered exclusively on older adults without a teaching background were excluded.

The review process enabled the identification of relevant approaches, discourses, and interpretive dimensions, in alignment with the general objective of the study.

Preliminary Results

During the data collection and organization phase, specialized documents published between 2013 and 2022 were analyzed, sourced from databases such as SciELO, Redalyc, Google Scholar, and institutional repositories. The corpus consisted of scientific articles, institutional reports, book chapters, and postgraduate theses, selected for their relevance to cognitive aging, social well-being, lifelong education, and the role of retired teachers.

The analysis was structured using an operationalization matrix that considered dimensions such as types of cognitive decline, functional, emotional, and social impacts, support networks, access to services, and pedagogical proposals. Data organization through cross-tabulation matrices enabled the identification of patterns and trends within the reviewed literature.

Among the most relevant findings is the limited presence of explicit bioethical or biopedagogical approaches, identified in only 18% of the analyzed sources. This limitation reflects the predominance of clinical or functional frameworks that tend to reduce teacher aging to a process of decline, overlooking its epistemic and symbolic dimensions. In this same vein, there is a near absence of biointercultural perspectives, as well as a lack of philosophical frameworks derived from non-Western traditions, including Nahuatl philosophy, revealing a significant gap in Latin American contexts characterized by cultural diversity.

This absence is particularly significant considering that, within the Nahuatl tradition, knowledge is not understood as functional accumulation but as a living expression of experience, encapsulated in the notion of *in xōchitl in cuīcatl* (flower and song). From this perspective, aging may be interpreted not as loss but as a process of maturation of knowledge—a dimension not reflected in the analyzed literature.

Additionally, significant gaps were identified in the availability of data related to gender, educational level, and geographical origin, limiting the development of more contextualized and inclusive analyses.

Regarding the dimensions of cognitive decline, the results indicate that 39.5% of the studies report mild decline, 32.5% moderate, 20.9% severe, and 7.1% do not specify the type (Huenchuan, 2018; OMS, 2022). These data were organized using cross-tabulation matrices and processed manually.

In terms of social well-being, the most frequently addressed topics in the literature include institutional and family support networks (65%), access to services (58%), and social participation (48%), while specific pedagogical proposals account for only 24% of the total (Giraldo, 2006; López et al., 2019), confirming the limited consideration of retired teachers as active educational agents.

Overall, these findings reveal a dominant tendency toward reductionist approaches and highlight the need for more comprehensive interpretive frameworks. In this regard, the incorporation of analogical hermeneutics, in dialogue with intercultural perspectives such as Nahuatl philosophy, emerges as a relevant pathway for deepening the critical understanding of teacher aging, guiding its re-signification as a formative, socially meaningful, and culturally situated process.

Discussion of Results

The findings indicate that most of the studies reviewed approach the cognitive aging of retired teachers from a predominantly medical or functional perspective, confirming the trend identified in the preliminary analysis. This orientation limits the understanding of the phenomenon by focusing on the decline of capacities, while overlooking its pedagogical, symbolic, and social potential. Consistent with López et al. (2019) and Medina (2017), few studies incorporate bioethical or biopedagogical frameworks, and almost none include a biointercultural perspective, revealing a reductionist view of teacher aging.

In line with these findings, there is also a notable absence of interpretive frameworks derived from non-Western traditions, including Nahuatl philosophy, which is particularly significant in Latin American contexts. This omission restricts the possibility of understanding aging from an intercultural perspective, in which knowledge is not reduced to its functional dimension but is conceived as a living experience and a process of knowledge maturation. In this sense, the exclusion of these perspectives reinforces the hegemony of an epistemological paradigm that obscures alternative ways of understanding knowledge in old age.

In contrast, this study adopts a critical stance grounded in Potter's bioethics (1971), Freire's liberatory pedagogy (2005), and Nussbaum and Sen's (1996) capabilities approach, particularly regarding the rights to imagination, participation, affiliation, and control over one's environment. However, these capabilities are constrained in the reviewed literature, which fails to recognize retired teachers as active epistemic subjects, thereby reinforcing their invisibility within educational and social fields.

Furthermore, the documentary analysis reveals a significant lack of disaggregated data by sex, as well as the invisibilization of the specific trajectories of older women teachers. This omission is especially relevant given that, as noted by López et al. (2019), mistreatment of older adults is more pronounced among women, who often face reduced access to support networks and health services, as well as persistent stereotypes that portray them as passive or dependent.

This lack of a gender perspective constitutes an ethical and methodological gap that limits a comprehensive understanding of social well-being in retirement. Consequently, it is essential for future research to incorporate an intersectional approach that makes visible the structural inequalities shaping the experience of teacher aging and informs the design of more equitable pedagogical and social strategies.

Among the main limitations of this study are the scarcity of research adopting alternative approaches and the lack of comprehensive data on key variables such as gender, geographical context, and professional trajectory, which restricts the potential for more robust and contextualized comparative analyses.

Finally, the findings underscore the need to advance toward transdisciplinary theoretical frameworks and participatory methodologies that recover the voices of retired teachers themselves. In this regard, the integration of bioethical, biopedagogical, and intercultural perspectives—including dialogue with philosophical traditions such as Nahuatl thought—emerges as a fundamental pathway for re-signifying teacher aging as an active, critical, and socially engaged stage of life.

Conclusion

The systematic review demonstrates that research on cognitive aging in retired teachers is predominantly shaped by biomedical or functional approaches. While these perspectives have contributed to clinical knowledge, they have relegated pedagogical, cultural, and symbolic dimensions, reinforcing a reductionist view that obscures retired teachers as active epistemic subjects.

The findings reveal a lack of integrative interpretive frameworks that articulate human dignity, cultural diversity, and the continuity of learning, as well as a limited presence of bioethical, biopedagogical, and intercultural approaches—including the omission of traditions such as Nahuatl philosophy—highlighting the need for transdisciplinary perspectives.

Furthermore, the absence of disaggregated data by gender, region, and professional trajectory constrains more accurate diagnoses and the design of inclusive policies, underscoring the urgency of incorporating intersectional approaches.

In response to these gaps, this study proposes the bioethicopedagogical model as a theoretical and methodological framework that re-signifies retired teachers as active cognitive citizens, capable of strengthening intergenerational dialogue and contributing to more just educational communities. However, the scarcity of alternative studies and systematic data points to the need for empirical and participatory research.

Within this framework, it is recommended to promote research lines and educational programs that integrate retired teachers into processes of learning and knowledge production.

From a Nahuatl philosophical perspective, old age does not represent the end of knowledge but its maturation. The *tlamatini*, as a shaper of “faces and hearts,” embodies a living memory that continues to flourish. Recognizing this wisdom constitutes an act of epistemic justice and a necessary condition for building more humane and intergenerational societies.

In sum, retirement does not mark the end of the formative process but rather a stage of epistemic continuity with transformative potential for contemporary education.

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

In the preparation of this manuscript, ChatGPT (OpenAI, 2026) was used as a supportive tool for improving writing, organizing ideas, and reviewing the linguistic clarity of the text. Its use was limited to assistance in enhancing coherence and readability and did not involve the generation of research results, data analysis, or the formulation of conclusions.

The author ensures that all academic content, theoretical interpretation, and methodological decisions remain his sole responsibility. At all times, the principles of academic integrity were upheld, guaranteeing that the use of AI tools did not replace critical thinking, theoretical reflection, or intellectual authorship.

Accordingly, artificial intelligence was employed as an auxiliary, complementary, and ethically supervised resource within the manuscript development process.

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