

Research Article

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Pestalozzi, Precursor of Modern Popular Pedagogy and the Active School

Johan Méndez Reyes , Pedro González-Rivera

Abstract

Background/Purpose. The pedagogical thought of Johann Heinrich Pestalozzi (1746–1827) has been recognized as one of the pillars of modern popular pedagogy and the Active School movement. His student-centered approach and emphasis on holistic development have significantly influenced contemporary educational trends. However, his legacy has not been sufficiently valued in current educational debates. This study aims to analyze Pestalozzi's fundamental contributions to highlight the relevance and enduring validity of his educational proposal.

Materials/Methods. The research was conducted using a qualitative and hermeneutic approach. A preliminary bibliometric analysis of the existing literature on Pestalozzi was conducted using the Web of Science and Scopus databases. The search focused on titles, keywords, and abstracts. In the first stage, 736 articles were identified in Web of Science and 662 in Scopus, whose metadata was analyzed. Additionally, 30,200 bibliographic sources were found in other databases. The software VOSviewer was employed to visualize similarities, identify the core ideas of Pestalozzi's educational approach, and explore its connection with modern pedagogy.

Results. The study identifies the triad “head, heart, and hands” as the central axis of Pestalozzi's thought, guiding his proposal for integral education. Key elements such as play, the child's natural activities, and manual work are highlighted as means to foster cognitive and motor skills. These principles remain highly relevant in early stages of learning, especially in areas like drawing and writing.

Conclusion. Pestalozzi's pedagogy continues to be an essential reference for student-centered education. His ideas provide a solid foundation for rethinking more human, holistic, and socially committed educational models.

1. Introduction

In the main contemporary pedagogical currents, the influence of the fundamental principles of the Active School —or Active Pedagogy— is widely recognized. This educational approach emerged from a movement that began in the late nineteenth and early twentieth centuries with the so-called New School. According to González-Rivera (2024), it is important to highlight the relevance of active pedagogy in today's educational context, particularly due to its student-centered orientation and its emphasis on the learning process. Among the pioneers of this transformation in teaching methods is Johann Heinrich Pestalozzi (1746–1827), a Swiss educator considered the father of modern popular pedagogy (Almeida Aguiar, 2017), thanks to his socially oriented educational proposal, which remains relevant to this day.

Although some researchers regard him as a precursor of modern popular pedagogy and acknowledge his influential social agenda inspired by the philosophical and pedagogical ideas of Rousseau—applied in practical educational contexts—Pestalozzi's work has not been sufficiently valued in current teaching–learning processes. This lack of attention constitutes a gap in contemporary pedagogical literature, as it limits the understanding of the relevance of his legacy in current educational debates, especially in a context where teacher training and student-centered pedagogical models are central axes of discussion.

In this sense, the aim of this article is to analyze Pestalozzi's work, recognized as a precursor of modern popular pedagogy and of the Active School. Based on this analysis, the study seeks to answer the research question: How have Pestalozzi's ideas contributed to the development of teacher training within the new approaches of the Active School? This formulation allows for a clearer delimitation of the research problem and emphasizes the need to revisit his legacy within the framework of contemporary pedagogical debates.

2. Literature Review

2.1. Context and General Significance

According to Caicedo (2025), Pestalozzi's pedagogical model emerged in a context marked by profound social changes driven by the Industrial Revolution in Europe, the rise of Enlightenment thought, and the impact of the Great Revolution that began in France in 1789. On a personal level, Pestalozzi faced various family difficulties, while socially, he demonstrated a strong commitment to improving education and living conditions for the most disadvantaged sectors.

In contrast to a rigid, memorization-based, and elitist traditional education, Pestalozzi proposed a comprehensive educational vision, strongly rooted in humanism and universal accessibility for all children regardless of social background. His proposal was based on the formative nature of education in its multiple dimensions, including intellectual, moral, and physical development.

García (2013) also affirms the ongoing relevance of Pestalozzi's educational principles. His vision emphasized learning grounded in direct experience and real-life engagement. For him, effective learning results from observation, action, and reflection, rather than mechanical repetition.

Pestalozzi thus advocated active learning, based on the idea that the student builds knowledge progressively through stages from simple to complex, supporting the development of natural capacities. His pedagogical approach is synthesized in the triad “head, heart, and hands,” referring metaphorically to the balance of intellect, values, and practical skills (Redondo, Gálvez & Fuentes, 2025).

Another core aspect of his model, as noted in assessments of his legacy, is the emotional bond between teacher and student. Pestalozzi believed the role of the teacher should shift from being a

mere transmitter of knowledge to a guide who supports and understands the learner. Empathy and respect for the child's individuality are essential values for educators, as inferred from Soëtard (1994).

An educational environment founded on love, kind discipline, and mutual trust was, for Pestalozzi, crucial for emotional and intellectual development. Calderón & Corts (2002) argue that his pedagogical system was grounded in humanistic principles, combining emotional engagement with an integral educational vision.

Similarly, when contrasting Pestalozzi's pedagogical principles with contemporary educational approaches, the enduring relevance of fundamental concepts such as intuitive education and the emotional bond in current teaching practices becomes evident. Intuitive education, understood as learning based on observation, action, and reflection (García, 2013; Redondo, Gálvez, & Fuentes, 2025), is reflected in modern methodologies such as Project-Based Learning and experiential learning, which prioritize the active construction of knowledge and the progressive development of cognitive and practical skills according to each student's individual pace (Kolb, 2015).

Likewise, Pestalozzi's emphasis on the affective bond between teacher and student, grounded in empathy, trust, and respect for the learner's individuality (Soëtard, 1994; Calderón & Corts, 2002), aligns with socio-emotional pedagogy approaches that highlight how positive relationships facilitate motivation, self-regulation, and meaningful learning (Zins, Weissberg, Wang, & Walberg, 2004).

This critical comparison not only recognizes Pestalozzi's historical significance but also situates his principles within a contemporary framework, demonstrating how his ideas on active learning and holistic education can be integrated, with appropriate adaptations, into current pedagogical designs, thereby strengthening the connection between historical legacy and modern educational practices.

2.2. Fundamental Works

Pestalozzi's biographers highlight the abundance of writings he produced during a time of significant transformation in Europe. One of his earliest educational works, *The Evening Hours of a Hermit* (1780), is considered his first professional contribution to education, reflecting the intellectual climate of the Enlightenment.

Among his most notable works is *Leonard and Gertrude* (1781–1787), a pedagogical novel depicting the life of Gertrude, a peasant mother who successfully educates her children through love, firmness, and moral guidance (Pestalozzi, 1871). The novel emphasizes the potential of home-based education when grounded in values and emotional connection. Gertrude represents the ideal mother—an educator with strong moral character. The story also underscores the transformative power of education for both the family and the broader community.

This literary and pedagogical work promotes the idea that education begins within the family, with the mother figure playing a central role. It presents a critique of social injustice and affirms education's power to combat ignorance and poverty (Sáenz-Obregón, 2025). Thus, the text becomes an accessible and emotional means of disseminating his pedagogical principles (Cordoví Núñez, 2025), advocating for the dignity of the people and the moral significance of childhood.

In *How Gertrude Teaches Her Children* (1801), Pestalozzi presents a more theoretical exposition of his principles of intuitive education, grounded in observation, direct experience, and active participation. He asserts that learning must move from the concrete to the abstract and from the simple to the complex, using the senses and emotions (Pestalozzi & Cooke, 1898).

This work also emphasizes a balance among the three fundamental dimensions of the human being: the head (intellect), the heart (values and emotions), and the hands (practical action) (Horlacher & Parra, 2018). Moreover, he advocates a methodology that fosters both instruction and

character formation, promoting autonomy, responsibility, and moral sensitivity. The book has been recognized as a major influence on the development of modern pedagogy (Martín, 2024).

The *Book for Mothers* (1803) is addressed to mothers as the child's first educators. Pestalozzi offers practical guidance to help them teach basic concepts and values. He emphasized home-based education grounded in affection, patience, and observation, using everyday objects to develop children's intelligence (Pestalozzi & Cabanas, 2004).

Again, the maternal figure is seen as central in early moral, emotional, and cognitive development. For Pestalozzi, maternal love should be the foundation of effective education from the earliest years of life.

The *Swan Song* (1826) is considered one of his final works, written in the last days of his life. It offers reflections on his life, educational legacy, and core beliefs (Pestalozzi, Villalpando & Mallart, 2003). The title alludes to the ancient belief that swans sing before they die, serving as a metaphor for his pedagogical testament. The book reaffirms his belief in education as a tool for social justice and moral development.

In this text, Pestalozzi is a sharp critic of the shortcomings of traditional education and a firm advocate of love, freedom, and respect as the foundation of teaching. His personal hardships did not diminish his conviction about the transformative power of education.

His *Letters on Early Childhood Education* (1818–1819) offer a summary of his pedagogical views late in life. Through an epistolary format, he provides guidance for parents and educators, stressing love, understanding, and respect for the child's individuality as essential to character development (Pestalozzi & Cabanas, 1982).

These letters cover topics such as play, language, observation, and active learning, reinforcing his belief that early education should be non-mechanical, non-authoritarian, and based on mutual trust. Pestalozzi's educational precepts have influenced emerging pedagogical approaches, particularly those shaped by information and communication technologies (ICTs).

2.3. Contributions to Emerging Pedagogies

Recognizing Pestalozzi's legacy enables us to identify several enduring ideas reflected in contemporary teaching practices, especially those aligned with active learning. One such idea is his concept of integral education through the triad of head, heart, and hands, representing intellectual, emotional, and practical development.

Pestalozzi's call for holistic education remains foundational in contemporary pedagogy. As Soëtard (1994) notes, this involves redefining the teacher's role, integrating method and spirit, and fostering a thoughtful connection between educational theory and practice. Consequently, educational programs supported by ICTs must also foster cognitive, emotional, and physical development. Learning becomes more effective when approached holistically.

His idea of learning by doing is also central to current pedagogical innovations such as project-based learning, inquiry-based learning, and play-based strategies, all rooted in constructivism (Tröhler, 2014).

Pestalozzi's emphasis on early stimulation is echoed today in neuroscience and developmental psychology. In early childhood education, hands-on activities and exploration are crucial, validating his assertion that learning should be experiential and contextual.

His intuitive method also gains renewed relevance with the use of ICT tools—such as educational games and sensory activities—that allow children to build knowledge through real-world

engagement. The use of concrete materials and real-life experiences is especially critical in early education.

Finally, emerging pedagogies must respect each child's learning pace through personalized and inclusive approaches—key principles in contemporary education. Pedagogical strategies should adapt to individual learning rhythms to support holistic development, avoiding pressure and unnecessary comparisons.

While Pestalozzi's principles provide a strong theoretical foundation for integrating technology into contemporary education, it is essential to critically examine both the applications and the limitations of ICT tools in practice. Although educational technologies, such as interactive platforms, digital simulations, and gamified learning environments, can enhance experiential and active learning, their effectiveness depends on careful pedagogical design, teacher training, and the socio-economic context of learners. Uncritical implementation risks emphasizing technological novelty over meaningful learning, potentially undermining holistic development by prioritizing cognitive engagement at the expense of emotional, social, or physical growth.

Moreover, the reliance on digital tools may inadvertently reinforce inequities in access and participation, particularly in under-resourced settings. While ICT can facilitate personalized learning, disparities in connectivity, device availability, and digital literacy can limit the inclusivity of technology-mediated pedagogy. Consequently, emerging educational practices must balance the affordances of technology with potential constraints, ensuring that digital interventions complement, rather than replace, the experiential, hands-on, and affective dimensions emphasized in Pestalozzi's legacy. Critical evaluation of both benefits and limitations is therefore crucial to align technological applications with the principles of holistic, inclusive, and active learning.

3. Methodology

3.1. Research Design and Hermeneutic Approach

This study is grounded in a qualitative research approach of a hermeneutic nature, aimed at the critical and philosophical interpretation of texts concerning Johann Heinrich Pestalozzi as a forerunner of modern popular pedagogy and the Active School movement. A documentary research design was employed, which involved collection, analytical reading, classification, and comparison of relevant bibliographic sources. These sources, both printed and digital, were drawn from high-impact academic journals indexed in Scopus and Web of Science, as well as from recognized databases such as SciELO, Latindex, MIAR, and ERIH Plus.

The research was structured in two complementary phases, whose integration enabled a rigorous and nuanced analysis of the pedagogical thought of Johann Heinrich Pestalozzi. The first phase consisted of an exhaustive literature review in reliable sources and indexed academic journals, such as Web of Science, Scopus, SciELO, Latindex, MIAR, and ERIH Plus. This review allowed the collection, analysis, and synthesis of relevant information on Pestalozzi, based on clear selection criteria: thematic relevance, academic recognition, historical and geographical coverage, and full-text availability. Likewise, inclusion and exclusion criteria were established, limiting the documentary corpus to texts that offered significant contributions to the understanding of Pestalozzi's pedagogy and its influence on contemporary currents, thus ensuring the validity of the analysis from the outset.

The exploration of the research focused on identifying articles related to Pestalozzi's thought in the Web of Science database, covering the period from 2013 to 2025. The query was based on search criteria such as titles, keywords, and abstracts, with the aim of obtaining a clear overview of the direction of studies related to the research topic. The search filters and criteria employed in Web of Science began with the author under study, Pestalozzi.

A total of 736 articles were retrieved, which were subsequently selected, exported, and downloaded in plain text file format for consecutive analysis. The data obtained enabled a preliminary descriptive analysis, after which the retrieved metadata were imported into the software *Visualization of Similarities* (VOSviewer, version 1.6.20) and examined according to the selected parameters available in the tool. In addition, for the bibliographic review, a bibliometric analysis was conducted through graphical representations using VOSviewer, to distinguish keywords related to the research topic, particularly Pestalozzi as a precursor of modern popular pedagogy and the Active School movement.

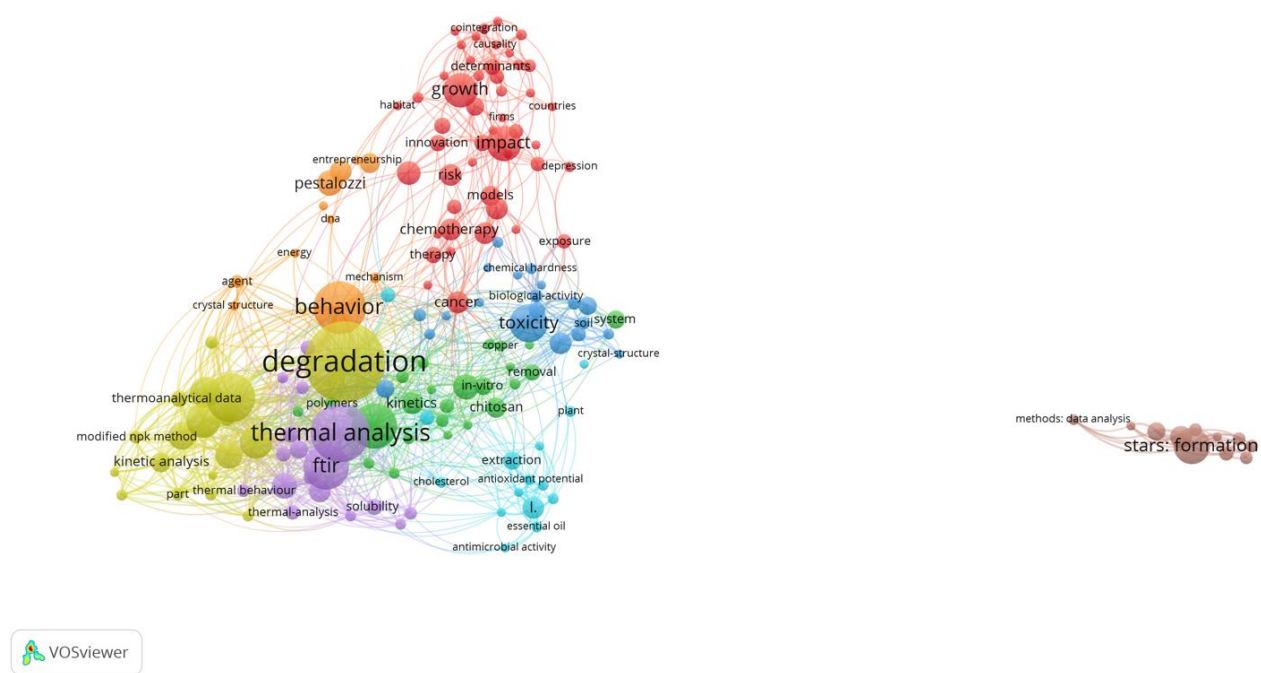


Figure 1. Co-occurrence Map of Keywords on Pestalozzi in the Web of Science Database.

Figure 1 illustrates, based on the co-occurrence analysis of keywords conducted with VOSviewer, that the most frequent terms correspond to research areas related to degradation, thermal analysis, and growth models, thereby evidencing a strong orientation of the literature toward experimental and technical approaches. However, terms such as “Pestalozzi” (14 occurrences) and “education” (12 occurrences) appear in the map with lower centrality, positioned within a peripheral cluster. This suggests that, although the educational theme is present in the database analyzed, its connection with dominant debates remains limited, which underscores the relevance of this study in addressing such a research gap.

In this regard, a new search was conducted using the terms *Pestalozzi AND pedagogy*, considering only articles while excluding reviews, early access documents, enriched cited references, invited open-access reviews, working papers, meeting abstracts, editorial material, corrections, or retracted publications. The selection included not only articles from the last five years (2021–2025), but also those published between 2013 and 2020, due to the limited number of studies directly related to the author and the subject. This new search yielded a total of 29 articles, which were selected, exported, and downloaded in plain text format for subsequent analysis. The obtained data enabled the execution of a preliminary descriptive analysis, after which the extracted metadata were introduced into the Visualization of Similarities (VOSviewer, version 1.6.20) software and examined according to the selected analytical criteria.



Figure 2. Co-occurrence Map of Keywords on “Pestalozzi AND Pedagogy” in the Web of Science Database

Figure 2 presents the thematic structure and relationships among the keywords extracted from a set of abstracts of articles focused on pedagogy. The map highlights how concepts related to Pestalozzi are connected to different dimensions of pedagogical research, including educational theory, teaching methods, the historical dissemination of ideas, and their influence on contemporary and social pedagogy. Taken together, the figure illustrates that Pestalozzi’s work is studied not only in isolation but also within a broader conceptual network, underscoring its relevance and enduring significance in global educational research.

Regarding the bibliographic review, reliable indexed sources such as *Scopus* (covering the period from 1977 to 2025) were consulted, allowing for the collection, analysis, and synthesis of existing information on Pestalozzi and pedagogy. The search strategy focused on identifying articles related to Pestalozzi's thought within the Scopus database. The queries were based on search fields such as titles, keywords, and abstracts, to obtain a comprehensive overview of the direction of studies related to the topic. The search filters and criteria applied in Scopus began with the combined terms *Pestalozzi* and *pedagogy*.

This process yielded a total of 662 articles, which were selected, exported, and downloaded in plain-text format for subsequent analysis. The retrieved data enabled a preliminary descriptive analysis, after which the metadata were introduced into the software *Visualization of Similarities (VOSviewer, version 1.6.20)* and examined according to the desired parameters offered by the tool. Furthermore, a bibliometric analysis was conducted through graphical representations generated in VOSviewer, which allowed the identification of keywords related to the study theme, positioning Pestalozzi as a precursor of modern popular pedagogy and the Active School movement.

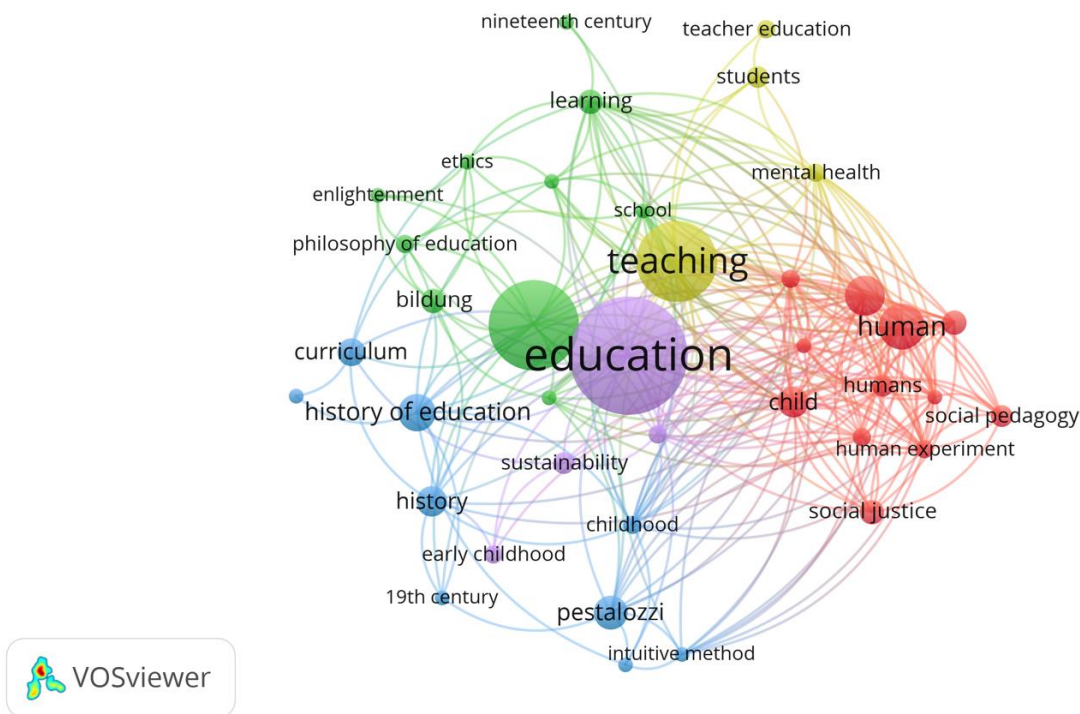


Figure 3. Co-occurrence Map of Keywords on Pestalozzi in the Scopus Database

Figure 3 presents the keyword co-occurrence map generated in *VOSviewer*, which highlights the centrality of the term *education* as the node articulating the various thematic clusters in the analyzed literature. Around this core, four major approaches are identified: (i) the philosophical, which includes terms such as *philosophy of education*, *ethics*, and *bildung*; (ii) the practical and psychological, associated with keywords such as *teaching*, *students*, *teacher education*, and *mental health*; (iii) the social, where *human*, *child*, *social pedagogy*, and *social justice* are prominent; and (iv) the historical, comprising *history of education*, *19th century*, *curriculum*, and *early childhood*.

Within this last cluster, Pestalozzi appears as a significant reference, linked to concepts such as *intuitive method*, *childhood*, and *the 19th century*. This indicates that Pestalozzi's contributions are primarily addressed from a historical and pedagogical perspective, associated with the foundations of modern education and methodological proposals that shaped the Active School movement. The size of the nodes and the density of their connections further confirm that Pestalozzi's work occupies a relevant place in the genealogy of contemporary education, particularly regarding child development and intuitive pedagogy as a basis for subsequent educational models.

For this stage of the analysis, search filters and selection criteria were applied using the keywords "*Pestalozzi AND pedagogy*." Only research articles were considered, excluding review papers, early access documents, enriched cited references, invited open-access reviews, working papers, meeting abstracts, editorials, corrections, or retracted publications. The final corpus included articles published not only in the last five years (2021–2025) but also extending back to 2002, due to the limited availability of literature directly addressing Pestalozzi and pedagogy. This search yielded a total of 48 articles, which were selected, exported, and downloaded in plain-text format for subsequent analysis. The retrieved data enabled a preliminary descriptive analysis, followed by the introduction of the metadata into *VOSviewer* (version 1.6.20), where they were examined according to the selected criteria provided by the software.

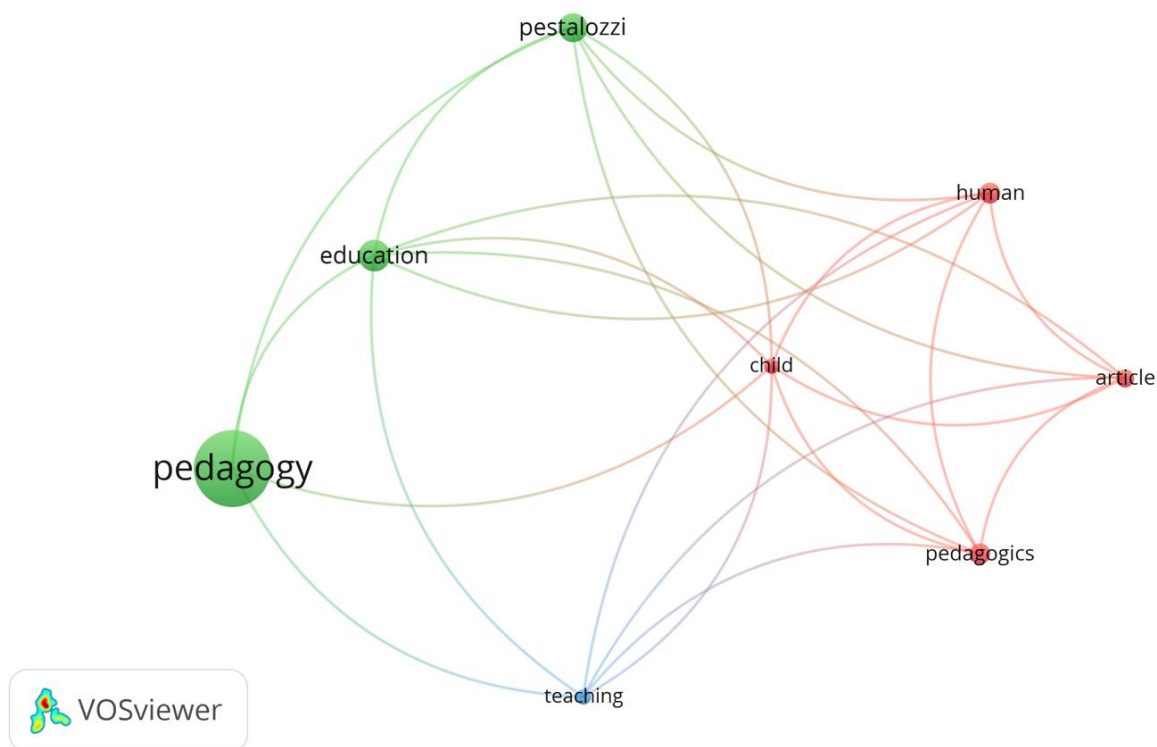


Figure 4. Co-occurrence map of Keywords on “Pestalozzi AND Pedagogy” in the Scopus Database

Figure 4 presents the keyword co-occurrence map generated in VOSviewer, which reveals the centrality of the term pedagogy, emerging as the largest node with the highest number of connections. Surrounding this core are closely related concepts such as education, teaching, and child, confirming that contemporary pedagogy is constructed in continuous dialogue with educational practice and with the recognition of the child as the central subject of formation.

Within this network, Pestalozzi occupies a prominent position, directly linked to education, pedagogy, and children. This indicates that he is regarded as a key figure in studies of modern pedagogy, particularly in relation to early childhood education and his contributions to methodologies that transformed teaching practices. The map also highlights Pestalozzi's connections with clusters associated with the human dimension and with pedagogy as a theoretical domain, thereby reinforcing his significance both in the practical and conceptual dimensions of the history of education.

Regarding inclusion and exclusion criteria, the rigor of the document selection process ensured the academic quality and relevance of the sources. Priority was given to research articles published in peer-reviewed journals within the fields of Education and Social Sciences, indexed in well-established databases such as SciELO, Latindex, MIAR, and ERIH Plus, thereby guaranteeing both validity and international visibility. Excluded from the corpus were conference proceedings, reviews, editorials, and documents lacking full access or without direct relevance to Pestalozzi and modern pedagogy. In this way, the selected corpus aligned with the thematic axes of the research and supported the analysis of the relevance and enduring validity of Pestalozzi's pedagogical thought, as summarized in Table 1.

Table 1. Inclusion and Exclusion Criteria for Texts

Inclusion criteria	Exclusion criteria
Research articles published in scientific journals	Conference proceedings
Field of Education or Social Sciences	Reviews, editorials, and non-peer-reviewed documents
Indexed in SciELO, Latindex, MIAR, and ERIH Plus	Publications without full access or not directly addressing Pestalozzi or modern pedagogy

Based on the thematic axis Pestalozzi and pedagogy, the document search was conducted in databases such as SciELO, Latindex, MIAR, and ERIH Plus. The selection of sources was closely aligned with the purpose of the present study, namely, to analyze Pestalozzi’s fundamental contributions and to highlight the relevance and enduring validity of his educational proposals. Consequently, the process of selection was rigorously oriented toward the categories mentioned, ensuring consistency between the study’s objectives and the reviewed sources.

The initial search yielded 30,200 documents in indexed databases referring to "Pestalozzi and pedagogy." This set was subsequently refined through thematic criteria, including context and general significance, Fundamental works, Contributions to emerging pedagogies, the progression from knowledge to being head, heart, and hands, Pestalozzi’s contribution to modern pedagogy, and the contemporary validity of his pedagogical thought. The refinement process resulted in a final corpus of 42 articles, selected because of title, abstract, and research scope, which were then analyzed through the identification of words, phrases, sentences, and themes relevant to the study.

For the second phase of this bibliometric research, the hermeneutic method was adopted as the principal analytical approach. This method was considered particularly suitable for interpreting historical texts, pedagogical works, and discourses within their cultural context. It was chosen because it enables a deeper analysis of meaning, acknowledging that meaning is constructed through the interaction between text, context, and reader, and is neither evident nor fixed. Furthermore, hermeneutics facilitates the understanding of complex categories such as context and general significance, fundamental works, contributions to emerging pedagogies, the principle of “head, heart, and hands,” and the contemporary validity of Pestalozzi’s thought—aspects that cannot be addressed through purely quantitative empirical verification.

The analytical process followed the principles of the hermeneutic circle, beginning with a preliminary reading of key texts and specialized studies to identify units of meaning related to the research categories. These units were thematically coded and iteratively contrasted with the full corpus, in a cyclical movement between the parts and the whole. This process allowed the identification of recurrent conceptual relations and the derivation of coherent analytical axes aligned with the study’s objectives. The main technique employed was documentary observation, complemented by content analysis (Hurtado, 2005) and theoretical framing (Sabino, 2007), which enabled the discovery of deeper meanings and the contextualization of Pestalozzi’s pedagogical ideas within contemporary practices of holistic education and active learning.

It was acknowledged that interpretation is mediated by the researcher’s pedagogical experience and theoretical framework, entailing potential biases. To enhance validity and reliability, specific strategies were implemented: bibliographic triangulation, by contrasting findings across various indexed academic sources; critical review, which allowed for questioning and refining initial

interpretations; and constant reflexivity on the part of the researcher, with awareness of preconceptions and pedagogical experience.

Additionally, the study drew upon the perspectives of Gadamer (2013), Heidegger (2002), Ricoeur (1970), and Dilthey (2002), who emphasize the active role of the interpreter, the mediating function of language, and the historical horizons involved in the construction of meaning. These theoretical foundations provided a bridge between Pestalozzi's pedagogical legacy and current educational challenges.

While the study acknowledges inherent limitations of the hermeneutic approach—such as the risks of subjectivity, the relativity of interpretations, and the potential disconnection from historical context when analyzing older texts, the combination of rigorous selection criteria, source triangulation, critical review, and reflexivity significantly mitigated these risks. As a result, the findings offer a robust, coherent, and contextual understanding of Pestalozzi's pedagogical thought and its enduring relevance in modern pedagogy.

4. Results

As this is a qualitative study based on a hermeneutic approach, no statistical data or quantitative analysis were employed. Instead, the findings are grounded in the critical discussion and interpretation of Pestalozzi's pedagogical thought, recognized as a foundational figure in modern popular education and the Active School movement. The research is guided by his educational maxim—“learning with the head, the heart, and the hands”—understood as the central axis of his holistic educational proposal.

In addition to the analyses presented in the selection of bibliographic sources described in the methodological section—where a bibliometric study was carried out using graphical representations with VOSviewer—this research also examines the countries and authors with the most significant scientific contributions in the educational field. The findings highlight those authors ranked by number of citations and published articles addressing themes related to Pestalozzi. Among the 29 articles reviewed, 12 countries were identified as contributors to the publication of scientific research within the area of study.

When analyzing citation patterns, it becomes evident that academic impact does not always correlate directly with the number of publications. For instance, Brazil, with 8 articles, stands out both in terms of productivity and recognition, consolidating its position as a key reference in the field. Italy and the United States also display significant academic visibility, suggesting that their research is not only abundant but also influential in the international debate.

At a second level, countries such as Luxembourg and Spain show lower research output compared to the cases but still achieve a noteworthy number of citations, which underscores the relevance of their contributions. Similarly, countries including Australia, Croatia, Cuba, Germany, Greece, and Ukraine register a more modest participation, each with a single cited article. Although their academic impact is limited, their contributions remain relevant insofar as they expand geographical diversity and enrich the field of study.

The citation analysis reveals that academic impact is concentrated in Brazil, Italy, and the United States, while the remaining countries—despite their lower citation counts—broaden the international scope of research and contribute to the scientific dialogue from diverse perspectives (see Table 2).

Table 2. Publications and Citations by Country

Classification	Country	Articles	Classification	Country	Citations
1	Brazil	8	1	Italy	187
2	Italy	5	2	USA	378
3	USA	4	3	Brazil	125
4	Luxembourg	3	4	Spain	101
5	Spain	2	5	Cuba	41
6	Australia	1	6	Germany	37
7	Croatia	1	7	Greece	64
8	Cuba	1	8	Ukraine	32
9	Germany	1	9	Australia	86
10	Greece	1	10	Luxembourg	47
11	Ukraine	1	11	Croatia	2
12	France	1	12	France	81

Table 2 presents two different classifications: one based on the number of published articles and the other on the number of citations received, for different countries contributing to research on Pestalozzi and education. The most productive countries in terms of published articles are Brazil (8), Italy (5), and the United States (4). Regarding academic impact, measured through the number of citations received, the United States leads with 378 citations, followed by Italy with 187 citations and Brazil with 125 citations. This indicates that, beyond the number of publications, these studies have achieved significant recognition within the international academic community.

Countries such as Spain (101 citations), Cuba (41), and Germany (37) present a smaller number of publications, yet their contributions demonstrate a notable influence, showing that even more limited outputs can generate a relevant impact in the field. Likewise, nations with lower productivity such as Australia, Luxembourg, Croatia, Greece, and Ukraine contribute citations that broaden the global perspective on Pestalozzian pedagogy and its historical and contemporary application.

The distribution of publications and citations reveals that Brazil, Italy, and the United States are the main references in research on Pestalozzi and education, while the participation of other countries helps diversify and enrich the scientific output, reflecting a growing international interest and a consolidated academic impact in this field. Nevertheless, it becomes evident that Pestalozzi’s educational work is scarcely studied and known in Latin America, and in Ecuador it is almost unknown. For this reason, based on these results, it is considered essential to deepen the analysis of his contribution as a major precursor of modern pedagogy.

4.1. From Knowledge to Being: Head, Heart, and Hands Pestalozzi’s Contribution to Modern Pedagogy

As previously noted, Pestalozzi’s pedagogical thought cannot be reduced to a purely technical or intellectual form of instruction. His educational proposal is oriented toward the holistic formation of the human being, understood as an integrated whole composed of three essential and interrelated

dimensions: thought (the head), affectivity (the heart), and action (the hands). These dimensions should not be interpreted as isolated compartments but rather as interconnected perspectives of a humanity in constant pursuit of autonomy (Soëtard, 1994; García Izaquita, 2013).

From this perspective, the “head” represents the human capacity for reflection—the ability to think, understand, and formulate ideas in response to the surrounding world. The “heart” symbolizes the affective and relational sphere, which enables individuals to establish meaningful connections with others through sensitivity and empathy. The “hands,” in turn, embody the practical dimension, through which the individual acts upon, transforms, and is transformed by reality (García Izaquita, 2013).

The value of this educational triad lies in its capacity to foster the development of an autonomous personality. Reason gives meaning and universality to human experience; sentiment offers authenticity and depth; and the interplay between the two generates an inner strength that drives the individual to become a free and responsible subject. This formative process does not occur in isolation but rather in constant dialogue with society—a society that both shapes and is shaped by the individual (Soëtard, 1994).

Within this process, both the family and the school play fundamental roles. Parents and teachers are tasked with guiding children through the complex journey from desire to ethical responsibility, supporting their processes of individuation and socialization. This guidance reveals the profound moral responsibility of the educator, who may either facilitate or hinder the unfolding of personal autonomy (García Izaquita, 2013).

To fulfill this mission, the educator must be capable of maintaining a constant balance among intellectual, emotional, and practical dimensions—overcoming the traditional paradigm that fragments knowledge into disconnected disciplines focused exclusively on cognition. Pestalozzi’s proposal calls for a living pedagogy, one committed to the development of fully realized human beings and oriented toward the cultivation of their freedom (Soëtard, 1994).

According to Pestalozzi, “there is within the human being a central point, the very core of existence, from which radiate the ‘circles of knowledge,’ that is, human wisdom, which should guide all the forces of truth. The human apprehension of the self (inner perception) is not merely an act of intellectual perception — of consciousness bending over itself” (Silva, 2021, p. 108).

Thus, Pestalozzi’s method should not be understood as a mere set of techniques but rather as an integral pedagogical attitude—one that recognizes and nurtures the individual’s capacity to construct their own path. As Pestalozzi affirms, education is not about shaping human beings from the outside, but about accompanying them in forming themselves from within, in coherence with who they are and who they aspire to become. This perspective aligns with Max-Neef’s notion of human development, understood as the expansion of each person’s capacities and life choices (UNDP, 1999).

The value and continued relevance of Pestalozzi’s pedagogy reside precisely in its emphasis on autonomy as an ethical and pedagogical horizon. Freedom, far from being an abstraction, is constructed day by day, beginning in childhood. It requires a school that is not merely an extension of the home or an instrument of social reproduction, but a pedagogical space with its own meaning—where autonomy is cultivated reflectively, empathetically, and practically (García Izaquita, 2013, p. 54).

Para Silva (2021), “la percepción pestalozziana se conecta con su propuesta de educación integral en el sentido de que todas las potencialidades del individuo deben ser desarrolladas de manera armoniosa, sin desestimar ningún aspecto de la totalidad humana; existe una unidad orgánica y viva en el ser humano como sujeto y objeto del universo. El niño, a través de la educación, se apropia de

su propio espíritu como resultado del desarrollo de sus facultades físicas, intelectuales y morales, en las que el lenguaje desempeña un papel crucial" (p. 109).

In this context, the teacher's role cannot be limited to the transmission of content. Their true mission is to create conditions that foster autonomous learning, critical thinking, and the construction of a personal life project. This mission can only be fulfilled if the teacher exercises their own autonomy—by engaging in research, transforming their practice, and recognizing that each student learns in a unique way, with individual rhythms and styles (Kamii, 1990).

Finally, in the twenty-first century—characterized by technological acceleration, cultural diversity, and global ethical challenges—it is imperative to rethink teacher education considering Pestalozzi's ideal. Teachers must be conceived as autonomous professionals capable of fostering human-centered learning processes, and committed to knowledge, equity, and social development (Drucker, 1993; García Izaquita, 2013).

5. Discussion

This study adopts a hermeneutic perspective to critically analyze Pestalozzi's educational principles, highlighting both their enduring relevance and the limitations in applying them to contemporary educational contexts.

Despite his historical and pedagogical significance, Pestalozzi's thought has been subject to criticism. One major critique concerns his idealism: his proposals were often perceived as utopian, rooted in humanistic optimism, and difficult to implement in contexts of poverty and social inequality. Critics have argued that he relied excessively on the innate goodness of the child and the transformative power of education, without fully accounting for social and structural constraints that could limit the effectiveness of his methods.

Another limitation is the lack of systematic structure in his work. His writings are largely reflective and experiential rather than organized into a coherent pedagogical method, which complicates their direct application in contemporary classrooms. This gap is evident in his attempts to implement educational projects at Stans, Burgdorf, and Yverdon, where organizational and administrative challenges hindered sustained success.

Pestalozzi's reliance on the familial model has also been critiqued. Emphasizing the domestic environment, with the mother as central figure, proves difficult to replicate in larger schools or urban-industrial settings and may reinforce traditional gender roles. Additionally, while his holistic approach—head, heart, and hands—prioritized integral development, it often limited advanced academic instruction, potentially leaving students underprepared for industrialized societies or higher-level scientific knowledge.

Philosophical ambiguity is another point of critique, as his thought oscillated between humanistic Christianity, Rousseauian naturalism, and social reformist ideas, making it difficult to define a single coherent philosophical foundation. Some contemporaries regarded him more as a moralist than a scientific pedagogue, raising questions about the theoretical and practical applicability of his proposals.

Nevertheless, these critiques do not diminish his importance as a precursor of modern pedagogy. Pestalozzi maintained that education should cultivate the full potential of the human being, fostering intuitive engagement with the world, and emphasizing the family's role in moral development while prioritizing "humanity" over rigid social structures. His pedagogy was closely linked to the socioeconomic dynamics of his time, aiming to prepare both the elite and the working class for emerging industrial transformations, thereby empowering students to navigate and thrive within evolving social and productive systems (Medeiros Neta, 2024).

This study provides a balanced interpretation, demonstrating that while certain aspects of Pestalozzi's proposals require adaptation, many remain relevant, particularly in promoting holistic education, active learning, and attention to the child's affective and social dimensions. The analysis contributes to the field by contextualizing his legacy, highlighting both enduring contributions and the limitations to consider when translating his principles into contemporary practice.

5.1. The Relevance of His Pedagogical Thought

Pestalozzi's work remains foundational for understanding the development of modern popular pedagogy and the Active School. His educational vision emphasized a holistic approach to childhood learning, where play, natural activities, and manual work were central—not merely as didactic tools but as essential for developing motor and cognitive skills, particularly in early stages such as drawing and writing (Barrutia Barreto et al., 2021).

He proposed active methodologies grounded in practice and flexibility, respecting each child's pace and capabilities, and conceived education to foster autonomy and balanced human development (Barrutia Barreto et al., 2021). Early childhood education was a particular focus, emphasizing play, spontaneity, language, and affective experiences rooted in maternal care (Ruiza et al., 2004).

Pestalozzi's legacy includes respect for individual development, use of play as a medium for learning, manual activities, integration of movement and singing, and the importance of early affective experiences, along with advocating for educational access for vulnerable populations (Barrutia Barreto et al., 2021). His pedagogical thought also inspired practical methods linking intellectual, physical, and manual development, pioneering cross-curricular approaches (García-Izaquita, 2013; Barrutia Barreto et al., 2021).

Ultimately, his goal was the formation of fully developed human beings capable of active social participation, redefining education as a process that integrates moral, emotional, and practical dimensions (Rengifo-Ortiz, 2018; Almeida-Aguiar, 2017; Andrade-López et al., 2019). The triad "hand, heart, and head" encapsulates his vision of holistic education, promoting intellectual growth, sensitivity, and ethical action. Londoño (2017) emphasizes that these dimensions are inseparable and must be addressed holistically to provide truly human education, fostering knowledge, empathy, and competent ethical agency (Barrutia Barreto et al., 2021).

6. Conclusion

Pestalozzi's pedagogical thought not only transformed the education of his time but continues to influence contemporary teaching practices. His proposal, centered on the holistic development of the human being, remains highly relevant today by placing at the core of the educational process the harmonious integration of reason, affectivity, and action. This vision goes beyond the mere transmission of knowledge; it aims to educate autonomous individuals capable of critical thinking, responsible action, and meaningful relationships grounded in respect and empathy.

Those who engage in teaching are called to embrace the conviction that true education is a pathway toward inner freedom and the moral and intellectual autonomy of the learner. It is an education founded on both love and high expectations—one that recognizes the student as the protagonist of their own growth, and the teacher as an affective yet demanding guide who accompanies, rather than imposes, the process of personal construction. This task requires a harmonious integration of knowing, doing, being, and coexisting, in alignment with a pedagogy oriented toward comprehensive human development.

Pestalozzi's pedagogical ideals offer valuable insights for addressing the challenges involved in building an educational model rooted in the lived realities of diverse peoples, communities, and

cultures striving for educational justice that is coherent with their contexts. His work advocates an education that ensures equitable access, fosters meaningful learning, and promotes lifelong development through experiences that empower everyone to become the protagonist of their own knowledge. In doing so, learners are better equipped to understand their environment, reframe what they have learned, and mobilize their personal resources to confront the challenges of their time with meaning and creativity.

Thus, the findings of this research open new avenues for future inquiry into the enduring relevance of Pestalozzi's pedagogical legacy. The review reveals that most existing studies have not sufficiently explored the depth of his thought or the significance of his teachings for shaping a pedagogy that is not only more critical and effective, but also responsive to the evolving needs of new generation.

7. Suggestion

Based on the findings of this study, several recommendations are proposed to reinforce the relevance of Pestalozzi's pedagogical thought in contemporary educational contexts. First, it is advisable to explicitly incorporate the principles of active pedagogy into school curricula, particularly those related to the holistic development of the child through the triad of "head, heart, and hands." Such integration would allow for a more humanized and context-sensitive response to current educational needs, promoting meaningful learning and the balanced development of cognitive, affective, and practical dimensions.

Second, it is essential to promote ongoing teacher training programs that equip educators with active, flexible, and learner-centered methodologies. This would enable the creation of more inclusive, participatory learning environments that are closely linked to students' lived experiences.

Additionally, strengthening the relationship between educational institutions and families is recommended, in line with Pestalozzi's vision of the educational role of the mother and the home as foundational spaces in early childhood. The use of pedagogical materials focused on play, artistic expression, manual activities, and oral language could enhance learning experiences during the early years. It is also pertinent to promote educational policies that recognize the importance of holistic education from the earliest levels, fostering pedagogical models that integrate students' personal, social, and cultural development.

Finally, it is suggested that future research explore the practical application of Pestalozzi's legacy in diverse educational settings, to assess its adaptability and its impact on improving educational quality from a humanistic perspective.

Declarations

Author Contributions. The authors affirm that all ideas, data, analyses, and the writing of this article were carried out independently by them. All authors have read and approved the published version of the article.

Conflicts of Interest. The authors declare that they have no conflicts of interest.

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Ethical Approval. This study did not involve experiments with human participants or animals. Nevertheless, the authors affirm that the work was conducted in full respect of academic integrity and ethical research standards. Where applicable, all sources have been duly cited. The authors confirm that no personal data or confidential information were used, and therefore, ethical committee approval was not required.

Additionally, given the hermeneutic and qualitative nature of this study, ethical principles were carefully observed throughout the process of textual interpretation. The analysis was conducted with full respect for the original context and meaning of the authors consulted, avoiding distortions or

decontextualization of their ideas. Particular attention was paid to prevent plagiarism or misappropriation of concepts. The interpretive process aimed to maintain fidelity to the texts while providing critical and reflective reading, in accordance with established standards of qualitative and hermeneutic research.

Originality Statement. The authors declare that this manuscript is an original work, has not been published previously, and is not under consideration for publication elsewhere. All the content is the result of independent intellectual effort by the authors.

Data Availability Statement. The data can be provided by the corresponding author upon request.

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