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Teacher Training-Action for an Emancipatory Education: interdisciplinary, collaborative, and contextualized practices

*Formação-Ação de Professores para uma Educação Emancipadora:
práticas interdisciplinares, colaborativas e contextualizadas*

*Formación-Acción Docente para una Educación Emancipadora:
prácticas interdisciplinares, colaborativas y contextualizadas*

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Abstract

This article analyzes the implications of the Training-Action Program in Creative Schools in the continuing education process for Early Childhood Education and Elementary Education teachers in the city of Lages, Santa Catarina, Brazil. Based on a qualitative approach and action research, the study promoted thematic meetings on interdisciplinarity as a way to encourage collaborative, contextualized pedagogical practices that are committed to the realities of individuals and schools. The training developed is grounded in an emancipatory Freirean perspective, articulating dialogue, transdisciplinarity, sustainability, and human rights as structuring axes of teaching practice. The results indicate that continuing education, when conceived as a dialogical and collective space, can significantly contribute to the transformation of educational practices and to the strengthening of schools as democratic and inclusive spaces.

Keywords: Emancipatory education. Teacher continuing training. Interdisciplinarity. Training-Action Program in Creative Schools.

Resumo

O artigo analisa as implicações do Programa de Formação-Ação em Escolas Criativas no processo de formação continuada de professores da Educação Infantil e do Ensino Fundamental no município de Lages/SC. Estruturado com base em uma abordagem qualitativa e na pesquisa-ação, o estudo promoveu encontros temáticos sobre a interdisciplinaridade como forma de estimular práticas pedagógicas colaborativas, contextualizadas e comprometidas com a realidade dos sujeitos e das escolas. A formação desenvolvida fundamenta-se em uma perspectiva emancipadora de base freireana, articulando diálogo, transdisciplinaridade, sustentabilidade e direitos humanos como eixos estruturantes da prática docente. Os resultados indicam que a formação continuada, quando concebida como espaço dialógico e coletivo, pode contribuir significativamente para a transformação das práticas educativas e para o fortalecimento da escola como espaço democrático e integrador.

Palavras-chave: Educação emancipadora. Formação continuada de Professores. Interdisciplinaridade. Programa de Formação-Ação em Escolas Criativas.

Resumen

Este artículo analiza las implicaciones del Programa de Formación-Acción en Escuelas Creativas en el proceso de formación continua de docentes de Educación Infantil y Enseñanza Primaria en el municipio de Lages, Brasil. Basado en un enfoque cualitativo y en la investigación-acción, el estudio promovió encuentros temáticos sobre la interdisciplinariedad con el objetivo de fomentar prácticas pedagógicas colaborativas, contextualizadas y comprometidas con la realidad de los sujetos y las escuelas. La formación se fundamenta en una perspectiva emancipadora de base freireana, articulando el diálogo, la transdisciplinariedad, la sostenibilidad y los derechos humanos como ejes estructurantes de la práctica docente. Los resultados indican que la formación continua, concebida como un espacio dialógico y colectivo, puede contribuir significativamente a la transformación de las prácticas educativas y al fortalecimiento de la escuela como espacio democrático e integrador.

Palabras clave: Educación emancipadora. Formación continua de docentes. Interdisciplinariedad. Programa de Formación-Acción en Escuelas Creativas.

Introduction

The originality of this study lies in the articulation between the practice of interdisciplinarity and the Training-Action Program in Creative Schools. The implementation of activities that stimulate creativity, comprehensive training, and themes that reflect on interdisciplinarity and transdisciplinarity are central elements developed by this program. Educational actions, conceived from this perspective, strengthen bonds and encourage the development of practices contextualized with the experienced realities (Zwierewicz et al., 2017). When considering the foundations of emancipatory education, as proposed by Paulo Freire (2014), it is understood that teacher training must go beyond the logic of transmission and neutrality, and should engage in the critical, ethical, and transformative processes of social reality.

The Training-Action Program in Creative Schools was structured based on dialogues between Spanish and Brazilian researchers, who analyzed the implications of pedagogical work, with a focus on the works of professors Saturnino de la Torre and Marlene Zwierewicz. The organization of the program encompasses five dimensions or stages, focused on participant reflection and collaboration.

This article analyzes the implications of the Training-Action Program in Creative Schools in the continuing education process of Early Childhood and Elementary Education teachers working in the Municipal Education System in the city of Lages, Santa Catarina, Brazil. The analysis is based on the participation of teachers in study meetings on interdisciplinarity, organized from the perspective of continuing education (Freire, 2021). Continuing education, in this context, is understood as an ongoing process of critically analyzing the world and educational practice, which also constitutes a path to strengthening teacher autonomy and a commitment to human rights and social justice.

The reflections presented herein derive from a Master's research study conducted in the Graduate Program in Education (PPGE) at the Universidade do Planalto Catarinense – UNIPLAC (Waltrick, 2023), whose participating teachers work in the municipal education system of Lages/SC.

The research was organized from the perspective of action research, with the active involvement of teachers throughout the investigative stages. Study meetings were organized through the Training-Action Program, aiming at promoting collaborative and interdisciplinary pedagogical proposals. Such actions focus not only on improving pedagogical practices, but also on forming critical subjects, aware of their role in building a fairer, more democratic and sustainable society, in accordance with the principles of emancipatory education.

Within the scope of interdisciplinarity, in this paper, it is understood as an attitude of those involved in the educational process toward knowledge (Fazenda, 1995; 2012, 2013). Thus, thinking interdisciplinarily implies recognizing the need to reconnect concepts and people in the face of a multidimensional reality, overcoming the fragmentation of disciplines and compartmentalized teaching. Based on the complex thinking of Edgar Morin (2004; 2015a), it is emphasized that overcoming the compartmentalization of knowledge is an essential condition for the training of individuals capable of facing contemporary challenges, such as sustainability, diversity, and human rights.

To this end, proposing reflections on the presence of interdisciplinarity in the school context encourages teachers to rethink their pedagogical practices, taking into account dialogue, collaboration, and collectivity in educational practice. It also contributes to the understanding of human diversity, the multidimensionality of lived reality, and the understanding of current contexts. Therefore, this article is aligned with the principles of transdisciplinary and emancipatory education by valuing the collective construction of knowledge, the recognition of the plurality of subjects, and social transformation as a formative horizon.

It is structured into sections that include theoretical reflections on the Training-Action Program in Creative Schools and interdisciplinarity, a description of the methodological approach, aspects related to the thematic meetings, with the results, discussions, and final considerations presented in the last section.

Principles and Stages of the Training-Action Program in Creative Schools

The Training-Action Program in Creative Schools was structured based on dialogue and knowledge exchange between Spanish and Brazilian professors and researchers. Its principles were conceived by professors Saturnino de la Torre and Marlene Zwierewicz, who prioritize discussions and reflections on the themes of creativity, transdisciplinarity, and the comprehensive development of individuals. These principles are aligned with a concept of liberating education, which values the active engagement of individuals, the collective construction of knowledge, and a commitment to social transformation (Freire, 2014; 2021).

The activities in the program began in 2009 through discussions by the Research and Didactic Advisory Group (*Grupo de Pesquisa e Assessoramento Didático - GIAD*) at the University of Barcelona (UB), with the participation of Brazilian professionals. In 2013, the first proposals were developed in the state of Santa Catarina, and over the past few decades, several papers and research studies have emerged with relevant reflections on teacher training focused on this topic (Salaman; Silva, 2023; Almeida, 2018; Zwierewicz *et al.*, 2017).

The actions developed by the Training-Action Program in Creative Schools seek to consolidate work opportunities focused on teacher training, aiming to overcome the fragmentation of knowledge and the teaching and learning process decontextualized from reality. Furthermore, the program seeks to:

[...] encourage participants to identify the potential and needs of the local context, without underestimating global demands, and foster intervention and the appreciation of innovative initiatives designed and developed during the training period (Horn, 2021, p. 52).

The Program aims at promoting a training process committed to a critical understanding of the world, human rights, social justice, and sustainability, guided by a perspective of comprehensive, supportive teacher training that is committed to concrete reality (Freire, 2014; Morin, 2015a).

From an epistemological perspective, the program bases its actions on the ecosystem paradigm, transdisciplinarity, and eco-training as essential elements for organizing creative actions that drive practices connected to lived reality. Regarding the multidimensionality of reality, Morin (2015a) helps understand that several factors, influences, and conditions characterize the life of each individual in the societies that make up the world.

The choice of a transdisciplinary approach is not limited to the articulation between fields of knowledge, it seeks to build bridges between academic knowledge, experiential knowledge, and popular knowledge, in an attitude that recognizes the diversity of individuals and educational contexts (Nicolescu, 1999; Fazenda, 2012).

Thus, the principles of the program demonstrate the emerging need to consider a contextualized, collaborative, and comprehensive educational process that involves both students and teachers in the construction of knowledge. This demonstrates that the interrelationship between people and disciplines enables a more meaningful educational process, capable of overcoming the fragmentation of science and disciplinary fields.

Because our education taught us to separate, compartmentalize, and isolate, rather than unite knowledge, the whole of it constitutes an unintelligible puzzle. [...]. The inability to organize dispersed and compartmentalized knowledge leads to the atrophy of the natural mental disposition to contextualize and globalize (Morin, 2000, p. 42-43).

Training-Action in Creative Schools aims at fostering actions that contribute to the redefinition of pedagogical practices among the participating teachers, considering the multidimensionality of the realities

present in school spaces. Thus, the starting point of the activities proposed by the program emerges, above all, from themes and discussions arising from the actual lived context (Zwierewicz *et al.*, 2017).

Dialogue, as well as the exchange of experiences and knowledge, transforms these moments into unique and constructive experiences, both for professional training and personal development. This process is anchored in Freire's dialogicity, which recognizes teachers as historical subjects capable of acting on reality and transforming it through education (Freire, 2021).

Guided by the principles of the program, the development of proposals is organized into five stages, which seek to streamline activities and promote greater participant involvement in the training process. Each stage promotes reflection, appreciation of prior knowledge, engagement, and motivation, based on the individual and collective experiences of each participant. The stages include: connection, projection, strengthening, interaction, and pollination, systematized in Table 1.

Table 1 – Stages of the Training-Action Program in Creative Schools

Stages	Description
Connection	This is the starting point for the actions of the program and aims at having an impact on participants. It uses strategies to help teachers situate their practices, identifying and valuing the innovations implemented prior to the start of the training, as well as the challenges yet to be faced. The theoretical foundations that guide the program and the methodological and evaluative possibilities are also discussed.
Projection	This refers to the time dedicated to planning activities aimed at reducing the gap between what is desired and what is actually achieved. At this stage, the project directions to be developed are defined, and its practice helps to expand creativity and encourage the overcoming of linear, fragmented, and decontextualized teaching.
Strengthening	It increasingly encourages teacher participation in study meetings with the purpose of expanding theoretical and practical knowledge, driving necessary changes. Various professionals from different fields of knowledge collaborate to propose solutions to the possibilities and issues raised in the previous stages.
Interaction	It fosters socialization and the construction of actions created from the training. It is a fundamental step to enhance teachers' creativity through the exchange of ideas shared by participants.
Pollination	It encourages the dissemination of results achieved throughout the stages of the program. It is a space that values participants and their proposals. Based on the ideas developed during the training, it also encourages other contexts to reframe their practices based on what was shared.

Source: Zwierewicz *et al.* (2017, p. 1851); Almeida (2018, p. 55).

The stages of the Program for Training-Action in Creative Schools, according to Zwierewicz *et al.* (2017), enhance innovative actions and attitudes in teacher training processes. By connecting with local needs, participants are encouraged to develop opportunities for reflection on pedagogical practices and to strengthen existing concepts and knowledge, with the goal of finding solutions to identified challenges.

From the initial stages, interaction among participating teachers stimulates creativity, dialogue, and the exchange of knowledge. Thus, after the Training-Action meetings, it becomes possible to pollinate the results obtained through reflection, sharing them with other educational spaces. The moments experienced in the program aim to promote a movement: "[...] of innovative, collaborative, and much more meaningful learning, supported by a climate of well-being and satisfaction, which implies valuing the best in each individual, without underestimating the collective or surrounding needs [...]" (Horn, 2021, p. 46).

The principles and stages of the Training-Action Program in Creative Schools represent a concrete opportunity to rethink teacher training, aligning pedagogical practices with the multidimensional reality of contemporary times. These reflections align with the perspectives of Nóvoa (2019), who emphasizes the importance of dialogue and interaction among teachers as a path to rebuilding educational actions through partnerships between individuals and disciplinary knowledge.

This author also emphasizes that the desired transformations in teacher training can emerge precisely from moments of experience exchange among teachers themselves. In this sense, coordinating activities from the Training-Action perspective—overcoming decontextualized study models—aims to: "[...]

prevent continuing education from being limited to lectures that, when delivered in isolation, offer little value to education professionals" (Zwierewicz *et al.*, 2017, p. 1855).

Therefore, the program provides principles and stages that mobilize teachers in their reflections and articulate themes that are relevant to the concrete realities of their contexts. By providing such experiences, new ways of thinking about contemporary education are opened up, promoting integrated experiences between people, knowledge, and educational practices.

The work possibilities from the perspective of the Training-Action Program in Creative Schools are varied and encompass different themes and proposals, with the goal of promoting contextualized practices and overcoming knowledge fragmentation. Furthermore, the program strengthens emotional bonds, the exchange of knowledge and creativity as drivers of collaboration and a sense of belonging.

Interdisciplinary Thought and its Interrelation with Education

Reflections on interdisciplinary thought have grown stronger in recent years. These discussions emerge, above all, in contrast to educational models supported by traditional and modern thought. Furthermore, establishing a practice permeated by interdisciplinarity implies seeking the integration of knowledge, from a perspective of interrelationship between people and disciplinary fields. This is an ethical, political, and pedagogical approach to knowledge, as Paulo Freire (2014) teaches us, since breaking with the fragmentation of knowledge also means breaking with historical mechanisms of exclusion, silencing, and inequality present in schools.

Before approaching interdisciplinary thought and pedagogical practices, it is necessary to understand the paths that formed this way of thinking, highlighting its epistemological and conceptual aspects. In this sense, interdisciplinarity emerges as a possibility of understanding knowledge from a perspective contrary to disciplinary fragmentation and the separation of scientific fields. "[...] Interdisciplinarity is a natural and internal requirement of the sciences, in the sense of a better understanding of the reality they reveal to us. It imposes itself both on human education and on the needs of action, especially that of educators" (Fazenda, 2012, p. 91).

Interdisciplinary thinking is understood as a possibility of integrating knowledge, generating a new form of relationship between disciplinary fields and the subjects involved. For Barros (2019), the prefix "inter" highlights the idea of reciprocity between different elements; that is, mutually connected scientific fields, establishing meaningful relationships of exchange and perception between them. Therefore,

[...] In terms of interdisciplinarity, there would be a relationship of reciprocity, mutuality, or, better said, a regime of co-ownership and interaction, which will enable dialogue between stakeholders, depending basically on an attitude whose primary focus will be the establishment of intersubjectivity. Interdisciplinarity, then, depends basically on a change in attitude toward the problem of knowledge, replacing a fragmented conception of the human being with a unitary one (Fazenda, 1995, p. 31).

Therefore, interdisciplinarity is structured as a possibility for a change in attitude toward knowledge, breaking with the models institutionalized by modern scientific tradition. It is organized as a path to overcome the rigidity imposed by disciplinary fragmentation (Pires, 1998), promoting connections between people, experiences, and pedagogical practices, in line with the multiplicity of relationships in the scientific and social spheres. This intentionality present in interdisciplinary thinking implies an active stance in the construction of knowledge and a critical awareness of the transformations necessary for contemporary reality. As Freire (2021) reminds us, "reading the world always precedes reading the word" — that is, knowing is a situated and transformative act, which requires educators to adopt a dialogical, critical, and sensitive stance toward the complexity of life.

For Fazenda (1995; 2012), interdisciplinary thinking is rooted in the people who produce knowledge and drive social transformations. In this sense, interdisciplinarity goes beyond the intersection of disciplines,

as it opens paths to a more pluralistic, relational, and reality-focused science. This is why it articulates so powerfully with emancipatory education: both call for the development of holistic individuals, capable of acting with ethical responsibility, social commitment, and environmental awareness.

These paths of thought are formed through dialogue between individuals and fields of knowledge, anchored in lived reality. Thus, educational practices approach interdisciplinary thinking, especially when they seek to overcome the fragmentation of knowledge and the over-specializations present in various scientific fields.

In this regard, Morin (2000) points out that educational models are still largely based on reductionist and fragmented perspectives inherited from modern rationalism and positivism. The French author warns of the urgent need to promote a reform of thought, in order to articulate pedagogical proposals with the challenges of the contemporary context.

Morin proposes rethinking and reforming the way we relate to scientific knowledge and, consequently, to pedagogical practices. Thus, "the reform of thought will generate a thinking of context and complexity. It will generate a thinking that connects and confronts uncertainty" (Morin, 2021, p. 92).

This reform of thought is structured based on two essential perspectives for the development of interdisciplinary actions in educational practices. The first point is the reconnection of knowledge, as proposed by Morin (2004), establishing connections between knowledge with a view to an education focused on the contemporary world. The second point is dialogue, based on Freire's conception, which understands language as a mediator between pedagogical action and social transformation (Freire, 2014).

Morin's proposal for reconnecting knowledge is directly linked to the idea of a contextualized education, capable of dealing with the multiple realities that make up today's society. From this perspective, teachers and students are called to overcome disciplinary fragmentation in school practices, articulating scientific fields in an integrated manner. To this end, it is necessary to promote: "[...] a mode of knowledge that reconnects. It is not enough to simply say 'it is necessary to reconnect' to effectively reconnect. Reconnecting requires concepts, conceptions, and what I call reconnection operators" (Morin, 2015b, p. 109), making it essential to incorporate the fundamental principles of complexity, such as the holographic, the recursive, and the dialogical.

This reconnection of knowledge, guided by a perspective of human and integral development, also involves articulation with values such as empathy, collective responsibility, care for life, and planetary solidarity — founding principles of both sustainability and human rights in education.

Reconnecting disciplinary knowledge therefore requires an active and critical stance toward educational processes, recognizing their centrality in the development of children and young people. It is important to emphasize that this proposal does not deny the existence of disciplines but rather proposes new ways of understanding and articulating them, fostering the construction of broader and more humanized meanings.

The second essential point is the establishment of dialogue as a mediator and enabler of interdisciplinarity in the contemporary educational context. Incorporating dialogicity means providing opportunities for debate, reflection, and educational work from an integrative and contextualized perspective. After all, "[...] If it is by saying the word 'pronouncing' the world that men transform it, dialogue imposes itself as a way men gain meaning as men" (Freire, 2014, p. 109, emphasis added).

Dialogue strengthens bonds and creates legitimate spaces for the exchange of knowledge and experiences, fundamental to the emergence of new pedagogical practices. It also fosters reflections capable of mobilizing sentiments for change and action in the face of issues that permeate teacher training today. In this sense, dialogue is not limited to a method, it constitutes an ethic of listening and co-responsibility, essential to building a democratic and inclusive school.

The interrelationship between educational processes and interdisciplinarity strengthens bonds between people in the pursuit of significant transformations in education. In his reflections, Fazenda (1995) emphasizes that more than articulating content, projects, or proposals, it is necessary to articulate subjects — real people with their singularities, experiences, and affections.

Therefore, designing an educational project from an interdisciplinary perspective requires considering the integration between disciplinary fields, the connection between educational processes, and, above all, the strengthening of human relationships. Teachers and students who engage in this perspective recognize dialogue as a way to reintegrate dispersed knowledge into pedagogical practices.

Dialogue and the reconnection of knowledge, as presented in these reflections, constitute possible paths for articulating educational processes and the perspective of interdisciplinarity. This is a multifaceted approach, open to ideas, observations, and experiences that allow us to understand the paths of education today. An emancipatory education requires this articulation between science, ethics, and sensitivity, and calls for teaching practices open to the complexity of life and social transformation.

Therefore, to overcome the fragmented and disciplinary models still present in schools, it is necessary to rethink educational pathways and pedagogical attitudes, in order to value and humanize the subjects and educational processes (Reikawieski; Simão; Tomio, 2022).

Methodological Approach

This paper uses qualitative research perspective as its methodological approach. This proposition understands that the processes constituting the methodological approaches of a paper consider, in addition to the data collected, the paths and possibilities that constitute the analyses and the people involved. Thus, the objective is to analyze the presence and implications of the Training-Action Program in Creative Schools in the training of elementary school teachers.

Therefore, studies based on qualitative research value reflections and discussions on the themes addressed, as well as curiosity and observations raised throughout the analysis, as the research focuses "[...] on the process that is occurring and also on the product or outcome. Researchers are particularly interested in understanding how things occur [...]" (Creswell, 2007, p. 202). This appreciation of the process is especially relevant when it comes to emancipatory training initiatives, since knowledge is not something that is transmitted, but something that is constructed dialogically and collectively (Freire, 2014).

Regarding the exploratory aspects of this topic, Severino (2007) points out that research constructed from this perspective is grounded in meanings, senses, and understandings. Therefore, analyses are guided by the observations of the subjects involved in the research process, valuing the knowledge constructed through experience.

In this case, the methodological organization was established through a qualitative approach using action research (Thiollent, 2011), starting from the appreciation of the pedagogical practices of the participating teachers. This perspective allowed for reflections, analyses, and proposals based on the interactions between researchers and teachers, who are active subjects in the research. This choice directly aligns with Freire's conception of research, which rejects the researcher's neutrality and proposes an engaged stance, capable of listening, learning, and transforming alongside the subjects involved (Freire, 2021).

Action research, by articulating investigation and transformative action, enables the educational process to develop as a practice of freedom. Teachers are not seen as passive recipients of knowledge, but as subjects who problematize their practices, collaborate with each other, and construct knowledge based on lived reality.

The study participants were teachers from the municipal education system of Lages, Santa Catarina, members of the Center for Excellence in Continuing Education (Núcleo de Excelência em Educação Permanente - NEEP), responsible for continuing education initiatives. The thematic meetings were designed based on the principles of the Training-Action Program in Creative Schools, developed by professors Saturnino de la Torre and Marlene Zwierewicz, and included moments of reflection, experience sharing, and the development of interdisciplinary proposals based on the real needs of the schools involved.

Data collection was organized based on observations during the thematic meetings, written records from teachers and also statements collected through conversation circles. The time dedicated to discussion

circles was a crucial tool for participant participation, as it allowed for "[...] collective participation in a debate on a given topic, enabling dialogue with participants, who express themselves and listen to their peers and themselves through reflective practice" (Moura; Lima, 2014, p. 101).

The analysis of the materials produced was based on discourse analysis, understood as a strategy that aims at interpreting the meanings attributed by participants to their practices and contexts. This methodological choice reaffirms the commitment to sensitive listening, the recognition of teachers' voices, and the construction of situated, critical, and dialogical knowledge.

The analysis of the data obtained throughout the research was based on a qualitative, critical, and interpretive approach, based on the theoretical frameworks of Flick (2009; 2013) and Moraes (2018). Furthermore, they were organized into four stages: transcription of the collected materials; careful reading of the data to identify emerging categories; scrutinizing understanding, that is, a thorough analysis of records, impressions, notes, and accounts; and, finally, discussion of the results.

By choosing discourse analysis as a means of understanding and interpreting the records obtained throughout the research, we observed the complexity of educational phenomena, as well as the interweaving of language, experience, and the context experienced by the participants. This methodological approach enables the articulation of sensitive listening and the production of knowledge, contributing significantly to critical reflection on current pedagogical practice.

This proposal considers the choice of a systematic process of understanding and categorization, supported by careful reading and dialogue of the materials obtained, always considering the context experienced by the participants and the interactions of knowledge and people throughout the research process (Flick, 2013). Furthermore, Moraes (2018) helps understand that in participatory research, discourse analysis highlights the centrality of the voices of the research subjects, thus highlighting the importance of active listening and critical mediation throughout the methodological approach.

Based on these aspects, the thematic axes that emerged throughout the analysis of the data obtained during interactions with the participating teachers were listed, including: the redefinition of teaching practice through interdisciplinarity; dialogue and collaborative work as the foundation for transforming pedagogical action; critical awareness and understanding the complexity of educational phenomena in contemporary times; and the appreciation of moments dedicated to ongoing teacher education.

Therefore, the methodological approach of this study is not limited to the description of technical procedures, it reflects an ethical and political stance regarding teacher training, public schools, and research itself. It is a methodology committed to social transformation, in line with the perspective of an emancipatory education based on dialogue, hope, and pedagogy of love (Freire, 2014).

Results and Discussions: Thematic Meetings and Collaborative Interdisciplinary Actions

There are several possibilities for incorporating the Training-Action Program in Creative Schools into ongoing teacher education activities. This perspective meets both the local and specific demands of school realities, as well as the global demands that are embedded in society in general (Zwierewicz et al., 2017). In this educational path, creativity, dialogue, and reflection underline the proposal for spaces for the construction of pedagogical knowledge.

The training path envisioned in this work was organized based on study meetings addressing the integration of interdisciplinarity into the pedagogical work developed by 20 teachers working in Early Childhood and Elementary Education (Early and Final Years). This demand emerged from the participants' own reflections and aligns with the current need to rethink the reconnection of disciplinary knowledge from an integrated and collaborative perspective.

The proposed meetings were organized based on the five stages outlined in the Training-Action Program in Creative Schools: connection, projection, strengthening, interaction, and pollination. The actions

sought to streamline pedagogical processes and encourage participant engagement, because, "[...] by encouraging participants to identify the potential and needs of the local context, without underestimating global demands, it fosters intervention and the appreciation of innovative initiatives [...]" (Horn, 2021, p. 52).

Six study meetings were proposed. At each stage, activities were devised to strengthen the participation of the teachers involved, based on the stages of the Training-Action Program in Creative Schools, as presented in Table 2.

Table 2 – Central Themes of the Study Meetings on Interdisciplinarity

Meeting	Stage	Theme
First Meeting	Connection	Presentation of the proposal for the thematic study meetings on interdisciplinarity
Second Meeting	Projection	Understandings of the concepts of disciplinarity, multidisciplinarity, pluridisciplinarity, interdisciplinarity, and transdisciplinarity.
Third Meeting	Strengthening	Reflections on Edgar Morin's complex thinking. Possibilities for interdisciplinary work and reflections on the interdisciplinary principle in pedagogical activities in Basic Education.
Fourth Meeting	Interaction	Beginning of the development of the interdisciplinary pedagogical proposal by the participating teachers.
Fifth Meeting	Interaction	Completion of the interdisciplinary pedagogical proposal by participating teachers.
Sixth Meeting	Pollination	Presentation of the interdisciplinary pedagogical proposal and closing of the meetings.

Source: Developed by the authors (2025).

Above all, the themes chosen for the organization of the thematic meetings sought to enhance the active participation of participating teachers and promote meaningful reflections on pedagogical practices. The entire process was guided by the aspects of engagement, collaboration, and partnership established among participants, thus strengthening the paths for developing the proposed interdisciplinary activity.

Within the narratives described during the interaction, the challenges and possibilities of this educational movement and the inclusion of interdisciplinarity as a pedagogical possibility are evident: *"There are several challenges in the inclusion of interdisciplinary proposals but the more resistance and consistency there is in this practice, the more resistant teachers begin to 'normalize' it. Interaction is a key word in interdisciplinarity, for both teachers and students; I understand that planning is the moment for teacher interaction; although it is still a major challenge. However, we can consider strategies that can support this movement by guiding, demonstrating, and exemplifying it from our daily lives"* (Written Account - Participating Teacher - 13). In light of this account, we observe the importance of collective planning as a space for interaction, collaborative construction, and the identification of strategies that favor the consolidation of interdisciplinary practices in school spaces.

During the connection moments, teachers were invited to revisit their career paths and share significant educational experiences. This movement to resume practice was essential to encourage sensitive listening and to recognize, in subjects, the transformative power of lived experience – a fundamental dimension in Freire's pedagogy. The teachers' statements revealed concerns about the fragmentation of the curriculum and the gap between school content and students' realities, reinforcing the need for more integrated and contextualized actions. *"The first challenge is school culture, still marked by a traditional, extremely content-based education. The second challenge is related to the time required for collective planning, a time that is sometimes scarce in the school routine"* (Written Report - Participating Teacher - 12).

In the projection stage, the participants outlined proposals to restructure their practices, starting from generative questions formulated based on the local reality. This process directly connects with Freire's

conception that all educational practice begins with a critical reading of the world and should promote action-reflection-action (praxis), guided by transformation rather than adaptation (Freire, 2021).

The strengthening phase was marked by the expansion of theoretical and methodological frameworks, with discussions on interdisciplinarity, complex thinking, and transdisciplinary education. Here, the contributions of Edgar Morin (2000; 2015) and Paulo Freire (2014; 2021) allowed us to understand that teacher training is not limited to the technical appropriation of content, but must develop a critical awareness capable of dealing with the uncertainty, diversity, and complexity of educational phenomena. Practices that foster the articulation of knowledge, the appreciation of local culture, and the development of collective pedagogical projects were also analyzed.

In the interaction stage, teachers collectively developed interdisciplinary pedagogical proposals based on everyday school themes and concrete problems within school communities.

These experiences demonstrate that collaborative practice, when combined with listening, respect for diversity, and the construction of meaning, constitutes a concrete path to education in and for human rights and sustainability. In this sense, participating teacher n. 10 highlighted interdisciplinarity as the act of "*building bridges between disciplines, which have been studied in isolation for so long and have the capacity to bring about transformations in teaching and learning*" (Written Report – Participating Teacher n. 10). The proposals sought to value students' knowledge, promote dialogue between areas of knowledge, and address relevant topics such as the environment, cultural diversity, healthy eating, and empathy.

Finally, during the pollination stage, the teachers shared their work with colleagues in the municipal education system and reported on the transformations they observed in their teaching practices. This moment of socialization rekindled the feeling of being part of the educational process, of mutual recognition, and the idea that continuing education only makes sense when it generates a real impact on schools and the lives of students. Participants reported increased motivation for collective work, greater openness to dialogue with colleagues from other areas, and a broader understanding of the social function of schools, as reported below: "*In all stages and meetings, discussions about interdisciplinarity led me to the classroom, to my actions trying to identify at what moments interdisciplinarity was present in my work*" (Written Report – Participating Teacher n. 06).

The experiences during the meetings showed that Training-Action can be a privileged space for resistance and creation, where pedagogical hope is realized in dialogical, ethical, and politically committed practices for a more just, plural, and emancipatory education (Freire, 2014). The results point to the importance of investing in ongoing training that values listening, teacher authorship, the connection between theory and practice, and the collective construction of knowledge.

Final Considerations

The reflections conducted throughout the Training-Action Program in Creative Schools demonstrate the importance of investing in training processes that promote dialogue, the collective construction of knowledge, and the strengthening of pedagogical practices aligned with the realities of schools.

Based on the experiences reported by participating teachers, it was observed that interdisciplinarity, when understood as an attitude and not simply as a combination of content or methods, favors overcoming the fragmentation of knowledge and expands the possibilities for meaningful learning. This perspective requires recognizing the school as a space for listening, creation, and collective responsibility – fundamental values of an emancipatory education, which is not limited to instruction but aims at the comprehensive development of individuals (Freire, 2021).

The thematic meetings fostered the exchange of experiences, collaborative planning, and the systematization of interdisciplinary pedagogical proposals, anchored in real and emerging themes from everyday school life. The teachers' involvement, their concerns, and proposals point to the urgent need for

ongoing training that serves as a space for redefining practice, rather than a one-off action detached from concrete working conditions.

The experience gained from these meetings demonstrates that training practices based on dialogue, co-authorship, and an ethical commitment to public education strengthen bonds between teachers and expand their professional autonomy. This becomes even more relevant given the contemporary challenges faced by schools, where issues such as social inequality, cultural diversity, and the environmental crisis require transdisciplinary, integrated, and supportive educational responses.

By linking Training-Action with the development of interdisciplinary pedagogical proposals, this work reaffirms the role of schools as spaces for social transformation, where teachers and students can exercise their right to learn and teach in conditions that respect their dignity, creativity, and plurality.

Therefore, an education truly committed to human rights, sustainability, and social justice must be grounded in formative processes that recognize teachers as historical, critical subjects capable of recreating the school based on the territory they inhabit, the relationships they establish, and the dreams they share (Freire, 2014). This is the essence of the emancipatory education that is sought to be cultivated here.

The contributions proposed in this article demonstrate possibilities for collective and collaborative development among the teachers who participated in the research, highlighting a formative journey guided by the context experienced and the chosen timeframe and methodological framework. These elements are taken into consideration when proposing interdisciplinary pedagogical practices and the opportunities this work can generate among teachers.

The complexity of the formative relationships established within the fabric of contemporary education, coupled with the time required to consolidate effective interdisciplinary practices, requires extensive and reflective research capable of deeply exploring school experiences in the teaching and learning process. Therefore, the authors propose that further studies related to pedagogical practices expand theoretical analyses and teachers' practices, increasingly consider listening to different stakeholders within the school community, and investigate the effects and limits of Training-Action in different educational contexts, strengthening scientific production and the construction of knowledge committed to transforming education.

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