FROM TEACHER EDUCATION TO STRATEGIES TO RECONNECT CURRICULAR CONTENTS CONTEXTUALLY AND GLOBALLY

DA FORMAÇÃO DOCENTE A ESTRATÉGIAS PARA RELIGAR CONTEXTUAL E GLOBALMENTE OS CONTEÚDOS CURRICULARES

DE LA FORMACIÓN DOCENTE A LAS ESTRATEGIAS PARA RECONECTAR CONTEXTUAL Y GLOBALMENTE LOS CONTENIDOS CURRICULARES

Marlene ZWIEREWICZ¹
e-mail: marlene@uniarp.edu.br

Stephanie Cristina Böhme SUCHARA²
e-mail: stesuchara@gmail.com

Regiane Sepanhaki de MORAIS³
e-mail: regianejane01@gmail.com

Myriam Esther ORTIZ-PADILLA⁴
e-mail: mortiz@unisimonbolivar.edu.co

How to reference this paper:

ZWIEREWICZ, M.; SUCHARA, S. C. B.; MORAIS, R. S. de; ORTIZ-PADILLA, M. E. From teacher education to strategies to reconnect curricular contents contextually and globally. Revista @mbienteeducação, São Paulo, v. 16, n. 00, e023040, 2023. e-ISSN: 1982-8632. DOI: https://doi.org/10.26843/ae.v16i00.1292

| Submitted: 27/08/2023 |
| Revisions required: 15/09/2023 |
| Approved: 22/10/2023 |
| Published: 30/12/2023 |

Editors: Prof. Dr. Margarete May Berkenbrock Rosito
         Prof. Dr. Alexsandro do Nascimento Santos
         Prof. Dr. Ecleide Cunico Furlanetto
         Prof. Dr. Maria Conceição Passeggi
         Prof. Dr. Maria do Carmo Meirelles Toledo Cruz
         Prof. Dr. José Anderson Santos Cruz

Deputy Executive Editor: Prof. Dr. José Anderson Santos Cruz

¹ High Valley University of Rio do Peixe (UNIARP), Caçador – SC – Brazil. Coordinator of the Professional Postgraduate Program in Basic Education (PPGEB) (Master's and Doctorate).
² State Education Network of Santa Catarina, Rio do Oeste – SC – Brazil. Master's in Basic Education from UNIARP. Teacher in the State Education Network.
³ State Education Network of Santa Catarina, Porto União – SC – Brazil. Master's in Basic Education from UNIARP. Teacher in the State Education Network.
⁴ Simón Bolívar University (UNISIMON), Barranquilla – Atlántico Department – Colombia. Coordinator of the Doctorate in Education Sciences.
ABSTRACT: Primary and continued teacher education are undoubtedly opportunities to leverage the appropriateness of teaching by means of pedagogical practices that bind curricular contents to be local and global demands. Considering the relevance of this process, this article aims to map strategies identified in the research conducted on the academic and professional level of a master’s degree. They are significant in reconnecting the contents of Basic Education to the actual local and global demands. Methodologically, a choice was made for a bibliographical review and qualitative approach to analyze master-level dissertations related to the educational area, which are accessible through the Catalogue of Theses and Dissertations maintained by CAPES. As a main contribution resulting from this study, 35 strategies have been selected in order to reconnect the curricular contents contextually and globally involving three dimensions: people, resources/activities, and surroundings. Among them, highlights are the strategies looking at the social contexts, which acknowledge the intrinsic diversity of students, appreciate collaborative work, where teaching is planned in connection with reality, and set up alternative spaces that enhance the students’ autonomy and leadership.

RESUMEN: La formación inicial y la formación continua constituyen oportunidades innegables para potenciar la pertinencia de la enseñanza, a través de prácticas pedagógicas que vinculen los contenidos del programa de estudios a las demandas locales y globales. Considerando la relevancia de ese proceso, este artículo tiene como objetivo mapear estrategias identificadas en investigaciones de maestrías académicas y profesionales relevantes para reconectar los contenidos de la Educación Básica a las demandas reales locales y globales. Metodológicamente, se ha optado por la investigación bibliográfica y un enfoque cualitativo para el análisis de disertaciones de maestrías vinculadas al área de educación y accesibles en el Catálogo de Tesis y Disertaciones de CAPES. Como principal contribución de esta investigación, se han seleccionado 35 estrategias para reconectar contextual y globalmente los contenidos del programa de estudios que involucran tres dimensiones: personas, recursos/actividades y el entorno. Entre ellas, se destacan aquellas que consideran los contextos sociales, reconocen la diversidad inherente a los estudiantes, el trabajo colaborativo, la planificación docente articulada a la realidad, además construcción de espacios alternativos que contribuyan a la autonomía y protagonismo de los estudiantes.


Introduction

The alignment of pedagogical practices with the real demands of students and their connection to global emergencies has guided studies whose theoretical foundation is grounded in the triad of 'complex thinking,' 'transdisciplinarity,' and 'eco-formation.' Publications by Almeida (2018) and Liz, Zwierewicz, and González Velasco (2020) exemplify this triangulation, and Behrens' studies (2015) link the first two concepts.

Whether or not associated with eco-formation, studies like those mentioned above have contributed to deepening theoretical reflections, analyzing practical possibilities, and disseminating initiatives developed in different Brazilian institutions. This interconnection between theory and practice is also valued by authors discussing teacher education, such as Nóvoa (2019), who advocates for its relevance in the metamorphosis of pedagogical practice.

Nóvoa's perspective (2019) contributes to overcoming what Behrens (2007) defines as an encyclopedic approach to teaching. Therefore, it is necessary for educators to employ strategies that connect curricular content to both the students' reality and global emergencies, including those leading to documents such as the 2030 Agenda for Sustainable Development (ONU, 2016).
Considering the significance of this process for current education, this article aims to map strategies identified in academic and professional master's research relevant to reconnecting Basic Education content with authentic local and global demands.

We opted for a bibliographic review and a qualitative approach to consolidate this work. Thus, dissertations available in the Catalog of Theses and Dissertations of the Coordination for the Improvement of Higher Education Personnel (CAPES) were analyzed. The selection followed specific criteria, requiring that the works be defended between 2020 and 2022. For this analysis, the support of the MaxQDA software was chosen.

In addition to the introductory and concluding sections, the text is organized into three sections: the first discusses the initial and continuing education of teachers, outlining perspectives to transition from fragmented and decontextualized initiatives to possibilities for reconnecting knowledge; the second methodologically delimits the study, indicating conditions for the selection of research to be analyzed with the aim of mapping strategies for reconnecting curricular content to real local and global demands; the third presents and discusses the research results.

Initial Education and Continuing Education: Perspectives for Reconnecting Knowledge

Historically, initial teacher education and continuing education have experienced moments marked by advancements and stagnations, highlighting the need to overcome certain practices and create new ones. As Gatti (2017, p. 733, our translation) argues, "[...] curricular dynamics in teacher education [...] need to reinvent themselves [...]"; hence, the objective is to identify conditions for pedagogical practices epistemologically based on alternatives that value their connection to local and global reality. To this end, amidst concepts, findings, and positions, this section provides considerations to highlight the relevance of initial and continuing education in pedagogical practices committed to reconnecting curricular content both contextually and globally.

Conceptually, initial education is understood as the period in which the foundations for the construction of professional knowledge, or pedagogical knowledge, are established, evolving throughout one's career (IMBERNÓN, 2011). It is, therefore, a complex process permeated by multiple dimensions.

In this context, at the turn of the 20th to the 21st century, the trend in initial education persisted in technical rationality, prioritizing the training of professionals to act in accordance...
with norms derived from scientific knowledge (ROSA, 2006, p. 22). According to the author, this education is characterized as advocating for practice development towards the end and focused on applying the theory studied during the undergraduate program.

Regarding continuing education, different conceptual perspectives exist. One of them links it to the logic of technical rationality, defining it as an alternative for the transfer of knowledge produced especially in universities, without concern for the experience lived by teachers in their work environment (COSTA, 2004).

Due to not stemming from problematic situations within their contexts, the results become insignificant for practical changes, favoring only improvement and qualification, ultimately contributing solely as a process of accumulating courses necessary to achieve a quantitative point total [...] (SANSOLOTTI; COELHO, 2019, p. 209, our translation).

Imbernón (2010) challenges this perspective by stating that continuing education should involve teachers' practice. According to him:

Continuing education should support, create, and enhance a real reflection of individuals on their teaching practice in educational institutions and other institutions, enabling them to examine their implicit theories, their operating scheme, their attitudes, establishing a constant process of self-assessment of what is done and why it is done [...] (IMBERNÓN, 2010, p. 47, our translation).

In this sense, continuing education can be conceived as a condition that positions the teacher as the subject of their formation, constituting "[...] a collaborative process among teachers and within the community, spanning the school, developing different methodologies and strategies, emphasizing dialogue, exchange of experiences, investigation, analysis, and construction [...]" (SANSOLOTTI; COELHO, 2019, p. 212, our translation).

Regardless of whether it is initial education or continuing education, it is essential to overcome what Behrens (2007, p. 441, our translation) defines as an encyclopedic approach in teaching, which, according to the author, has historically accompanied teachers, carrying "[...] as its greatest legacy the gap between theory and practice and the reproduction of knowledge." Therefore, the production of formative alternatives that allow them to be close to:

[...] an educational paradigm capable of collaborating not only with the use of a vast amount of information by students – which becomes more accessible and diversified through different media every day – but also with favoring pedagogical practices that mobilize them to identify problems and collaboratively work on their resolution, stimulating their resilience in facing adversities while appropriating curricular knowledge (ZWIEREWICZ; ZANOL; HORN, 2020, p. 233-234, our translation).
The authors advocate for a "[...] paradigm that articulates the knowledge developed so far in an atomized way so that this interconnection allows for a deeper understanding of reality [...]" (ZWIEREWICZ; ZANOL; HORN, 2020, p. 234, our translation). This justifies the importance of investing in teacher education that considers the situational conditions of professional practice with a clear understanding of its purposes (GATTI, 2017).

Considering these premises, Nóvoa (2022, p. 62, our translation) states, "It is not just about addressing practical issues or professional preparation in the technical or applied sense, but about understanding the complexity of the profession in all its dimensions [...]". In the same direction, Imbernón (2016) emphasizes that, in addition to updating and teaching, education needs to contribute to teachers' collaborative and context-connected learning. This is achieved through the creation of conditions, planning, and environments that foster collaborative work.

In other words, it involves overcoming the atomized and mechanistic view of education stemming from the Newtonian-Cartesian paradigm that has affected sciences broadly and, consequently, education, schools, and pedagogical practice (ERNS; DONATO; DIAS, 2015), emphasizing a disjunctive and reductionist thought.

As a result of this type of thinking, the planet has been experiencing consecutive crises caused by this dualistic and fragmented conception of reality, which disregards the complexity of the relationships between humans and the Earth (BEHRENS, 2015). Hence, the importance of consolidating an educational paradigm that collaborates "[...] to understand and explain the increasingly complex reality progressively [...]" and that mobilizes teachers in the search for "[...] new methodologies that lead to knowledge production and can address complex thinking" (ERNS; DONATO; DIAS, 2015, p. 98, our translation). Therefore, such education mobilizes the reconnecting potential of pedagogical practice by committing to relevant knowledge, which constitutes one of the seven indispensable pieces of knowledge for the so-called education of the future, according to Morin (2011).

Addressing relevant knowledge, Morin (2011, p. 33, our translation) asserts that "[...] the planetary era needs to situate everything in the planetary and complex context." For him, context is what gives meaning to knowledge, and thus, "[...] information and data must be situated in their context to make sense." As an example, the author remarks, "For a word to make sense, it needs the text, which is the context itself, and the text needs the context in which it is enunciated [...]" (MORIN, 2011, p. 34, our translation).

However, Morin (2011, p. 34, our translation) emphasizes that relevant knowledge is not limited only to the context but also refers to the global, being the "[...] set of various parts
linked to it in an inter-retroactive or organizational way..." Consequently, the author argues that "[...] it is necessary to reassemble the whole to know the parts effectively."

Building on this understanding of the importance of the global perspective, Morin discusses the concept of multidimensionality and argues that relevant knowledge must be recognized. This concept refers to the idea that both societies and individuals are shaped through multiple dimensions that need to be considered; societies comprise various aspects such as historical, economic, sociological, and religious, just as "[...] the human being is, at the same time, biological, psychic, social, affective, and rational [...]" (MORIN, 2011, p. 35, our translation). Therefore, relevant knowledge cannot ignore such composition.

Still discussing multidimensionality, the author refers to complex units, advocating the need for relevant knowledge to confront complexity precisely because it constitutes "[...] the union between unity and multiplicity [...]" (MORIN, 2011, p. 36, our translation). As a result, he reinforces the importance of education promoting general intelligence to understand the complex, the context, the multidimensional, and the global, an intelligence capable of operating and organizing the "[...] mobilization of comprehensive knowledge in each particular case" (MORIN, 2011, p. 36, our translation).

Therefore, relevant knowledge implies the reconnection of knowledge among themselves and with the local and global reality. Conversely, the separation between various fields, such as Economics, Sociology, Psychology, History, and Human and Natural Sciences, hinders the proper conception of global and fundamental problems. This requires, according to the author, a reform of thought, especially due to the existence of "[...] an increasingly broad, deep, and serious inadequacy" where, on the one hand, knowledge is "disjointed, divided, compartmentalized, and, on the other, realities or problems" are "increasingly multidisciplinary, transversal, multidimensional, transnational, global, and planetary" (MORIN, 2011, p. 36, our translation).

In the face of such demand, the relevance of knowledge produced by an open rationality that contextualizes and conceives human, social, and natural multidimensionality becomes evident (SÁ, 2019). For Sá, relevant knowledge is complex knowledge because it "[...] encompasses life, embraces the object of study, the fact, and the phenomenon...," as "There is nothing or thing or fact that can be understood in the light of Complex Thinking in isolation. This is because there is nothing isolated in the universe" (SÁ, 2019, p. 20-21, our translation).

This knowledge is valued when, in the school context, pedagogical practices mobilize complex thinking and become dynamic through transdisciplinary and ecoforming perspectives.
This is because such practices enable the overcoming of decontextualized teaching by approaching possibilities guided by the reconnection between knowledge and its connection to local and global reality. Therefore, the study of isolated facts does not make much sense, as they are insufficient to understand the whole. Hence, it is necessary to overcome fragmentation and eliminate barriers for knowledge to be articulated, that is, it is "[...] necessary to root physical, and equally biological, knowledge in a culture, in a society, in a history, in humanity [...]" (MORIN, 2019, p. 139, our translation).

It is in this rooting that transdisciplinarity gains meaning, as it does not underestimate the value of curriculum components but connects them by linking their knowledge to reality (ALMEIDA; ZWIEREWICZ; CARREÑO-SAUCEDO, 2019). This occurs because transdisciplinarity requires not only the articulation between disciplines but also encompasses the local contextualization and global connection of knowledge. Beyond addressing issues related to curricular knowledge, this process transcends them by connecting learning to life.

When dynamically implemented in conjunction with complex thinking, transdisciplinarity promotes pedagogical practices oriented towards overcoming what Sá (2019, p. 19, our translation) defines as "[...] a fragmented, disjunctive, and separating view of the human being in relation to nature and society." This perspective is potentiated when, in the educational context, both concepts are linked to ecoformation, precisely because it constitutes a formation "[...] built at the origin of direct relationships with the material environment: the non-humans, the elements, matter, things, the landscape" (SILVA, 2008, p. 101, our translation).

Ecoformation is concerned with the demands of the current reality, especially those resulting from behaviors oriented towards "[...] obtaining significant individual benefits in the short term, without understanding their consequences for others or future generations" (MALLART; MALLART-SOLLAZ, 2023, p. 70, our translation). According to the authors, this behavior is "[...] a result of the habit of attending only to what is closest, spatially and temporally, and disregarding the foreseeable future consequences of our actions" (MALLART; MALLART-SOLLAZ, 2023, p. 70, our translation).

As an alternative to this type of behavior, ecoformation contributes to "[...] establishing the theoretical premises of basic ecological units that reconnect man to nature [...]," enhancing "[...] the relationship with the natural environment as an essential process of consolidating the human condition" (SILVA, 2008, p. 101, our translation). In this sense, it strengthens the reciprocal relationships between individuals and the environment, making the formative contact
with things, objects, and nature also "[...] formative of other connections, especially human connections [...]"}, making it clear that "[...] the object of education related to the environment is not the environment itself, but the relationship of man with it" (SILVA, 2008, p. 101, our translation). Such concepts justify this research, which is committed to reconnecting content through actions dedicated to this process.

Methodology

Considering that the objective of this study was to map strategies identified in academic and professional master's research to reconnect the content of Basic Education to real local and global demands, a literature review was chosen. Prodanov and Freitas (2013) state that, as the name implies, the literature review consists of analyzing scientific works on a specific subject or those that provide theoretical and methodological foundations for research. Moreover, it is emphasized that other research sources relevant to the work in question can also be considered, in addition to articles published in national and international journals, books, monographs, theses, and dissertations.

However, as is the case with this study, Gil (2019, p. 65, our translation) warns, "Although some type of work of this nature is required in almost all studies, there are research projects developed exclusively from bibliographic sources [...]" which is the option adopted in this research. Regarding the approach, qualitative research was prioritized due to its potential to contribute to the understanding of particularities and subjectivities that cannot be quantified and, therefore, "[...] corresponds to a deeper space of the relationships of processes and phenomena that cannot be reduced to the operationalization of variables" (MINAYO, 2010, p. 23, our translation).

It differs from quantitative research, as it "[...] does not use a statistical instrument as the basis of the analysis process of a problem [...]" because "[...] It does not intend to enumerate or measure units or homogeneous categories" (RICHARDSON, 2017, p. 79, our translation). Thus, according to Sampieri et al. (2013, p. 382, our translation), it "[...] is primarily based on the collection and analysis process itself," corresponding to the intentionality that motivated the present research.

Specifically regarding the analyzed research, the selection was made through access to the Catalog of Theses and Dissertations of CAPES5 and occurred in five stages: i) selection of

---

research using the descriptors 'teacher education,' 'pedagogical practice,' and 'relevant knowledge,' identifying 167,622 studies; ii) identification of works defended between 2020 and 2022, resulting in 10,516 studies; iii) among the 10,516 studies identified, a selection was made of dissertations linked to programs in the broad area of Human Sciences, with the field of knowledge being Education, resulting in 1,820 studies; iv) from the 1,820 studies, the following selection included those available in the central library, resulting in 58 studies; v) out of the 58 dissertations, the final selection prioritized those whose titles suggested a connection of the research with effective actions carried out in the school context.

The use of the criteria adopted in the stages has, among the justifications, the intention of bringing the study closer to the results of recently defended master's research in the Brazilian context. This preference allows the analysis of the conditions created amid the crisis caused by SARS-CoV-2, that is, in a period that highlighted the relevance of pedagogical practices attentive to the demands of the context and committed to a global emergency.

For these reasons, in addition to analyzing the objectives of the selected research, their theoretical concepts were mapped, and the relationship of these concepts with the results of each study was examined. This process was carried out with the assistance of the MaxQDA software, which allowed the identification of analysis categories that served as a basis for contextualizing strategies highlighted in the research and reconnecting the content of Basic Education to authentic local and global demands.

Results and Discussion

Among the 9 selected research studies, 4 are affiliated with the State University of Campinas (UNICAMP), 4 with the Federal University of Santa Maria (UFSM), and 1 with the University of Uberaba (UNIUBE) (Table 1). Regarding the year of the dissertations, 2 were defended in 2021 and 7 in 2020, a year in which the pandemic was at its most critical stage.
Table 1 – Data from Selected Research Studies

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Title</th>
<th>Program</th>
<th>Year</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valéria de Araújo Lima</td>
<td>Afetividade e ensino de Matemática: a prática pedagógica de uma professora dos anos iniciais</td>
<td>Education</td>
<td>2020</td>
<td>State University of Campinas (UNICAMP)</td>
</tr>
<tr>
<td>Mellina Silva</td>
<td>Os tempos e os espaços da leitura e da escrita na educação infantil</td>
<td>Education</td>
<td>2020</td>
<td>State University of Campinas (UNICAMP)</td>
</tr>
<tr>
<td>Juliana Vaz Paiva</td>
<td>O currículo como construtor do desenvolvimento humano em sua integralidade: inovações e transformações</td>
<td>Education</td>
<td>2021</td>
<td>Federal University of Santa Maria (UFSM)</td>
</tr>
<tr>
<td>Ester Fannya Lucas Melo de Deus</td>
<td>Desenvolvimento da linguagem oral de crianças da Educação Infantil: implicações pedagógicas</td>
<td>Education</td>
<td>2020</td>
<td>University of Uberaba (UNIEBE)</td>
</tr>
<tr>
<td>Rafael Salles Gonçalves</td>
<td>A Arte inspira, cria e contagia: produção de sentidos e aprendizagens de professores provocados pela criação literária e audiovisual</td>
<td>Education</td>
<td>2020</td>
<td>Federal University of Santa Maria (UFSM)</td>
</tr>
<tr>
<td>Luciéli Sodré de Moura</td>
<td>Reescrevendo novos horizontes e possibilidades para a educação infantil a partir do amar e brincar</td>
<td>Education</td>
<td>2020</td>
<td>Federal University of Santa Maria (UFSM)</td>
</tr>
<tr>
<td>Filipi Michels Almansa</td>
<td>Robótica educacional na formação continuada de professores: inovação nas práticas educativas da educação básica</td>
<td>Education</td>
<td>2021</td>
<td>Federal University of Santa Maria (UFSM)</td>
</tr>
<tr>
<td>Tatiana Fadel</td>
<td>A escrita do professor sobre o texto do aluno: notas em um duplo lugar</td>
<td>Education</td>
<td>2020</td>
<td>State University of Campinas (UNICAMP)</td>
</tr>
<tr>
<td>Thais Batista Siqueira</td>
<td>(Re)descobrindo o prazer de ler: o incentivo à prática de leitura entre estudantes do Ensino Fundamental 2</td>
<td>Education</td>
<td>2020</td>
<td>State University of Campinas (UNICAMP)</td>
</tr>
</tbody>
</table>

Source: Developed by the authors.

The initial analysis detected the most frequent terms in the research objectives: 'teachers,' 'practices,' and 'development' (Figure 1). The top three most frequent terms indicate a set of concerns in the research related to the surveyed professionals and the implications of their actions. This finding can be illustrated by Moura's (2020) research objective, which aimed to investigate the importance of love and play for the comprehensive development of children, using the studies of Humberto Maturana and Gerda Verden-Zöller as theoretical support.
From teacher education to strategies to reconnect curricular contents contextually and globally

**Figura 1** – Most Frequent Terms in the Research Objectives

[Image of a diagram showing terms such as leitura, educação, professores, alunos, formação, aproximando o desenvolvimento, práticas, linguagem, etc.]

Source: Developed by the authors.

The subsequent terms, 'students,' 'approach,' 'education,' 'reading,' and 'language,' express conditions for mapping strategies in master's research to reconnect the content of Basic Education with real local and global demands. As an example, the study by Silva (2020), which aimed to investigate the times and spaces that reading and writing occupy in the universe of early childhood education, stands out.

Continuing the analysis, the most frequent terms in the research results were identified. The emphasis on 'school,' 'students,' 'teachers,' and 'children' highlights the centrality of elements related to the educational institution, its recipients, and the professionals responsible for facilitating pedagogical practice (Figure 2).

**Figure 2** – Most Frequent Terms in the Research Results

[Image of a diagram showing terms such as educação, leitura, aula, escola, professores, alunos, crianças, atividades, escrita, processo, desenvolvimento, etc.]

Source: Developed by the authors.

Terms that appeared subsequently, such as 'reading,' 'activities,' 'writing,' and 'practice,' suggest the existence of the multidimensionality of conditions involved in teaching practice.
This issue will be further analyzed later after comparing the most frequent terms in the objectives and the results.

In the intersection of the most frequent terms in the objectives and results, terms like 'students,' 'teachers,' 'education,' 'development,' 'reading,' and 'practice' emerge. Therefore, in this study, they constitute the categories for the in-depth analysis of the research results concerning the identification, in the selected studies, of strategies that contribute to reconnecting the curriculum content to the context and global demands. To this end, excerpts related to one or more of these terms were compiled, organizing them into three dimensions—people, resources, and environments—and associating them with reflections from authors that underpin the present study.

It is worth noting that such compilation does not imply that in the research, the findings were treated as strategies to work on Basic Education content in a contextualized and globally connected manner. However, the analysis of these studies allows the identification of fundamental strategies for reconnecting curriculum content.

**Strategies Linked to Individuals for Reconnecting Curriculum Content**

Several possible strategies to reconnect curriculum content to local and global realities are identified in the analyzed research. This article records a portion of them to illustrate the existence of different paths that do not exclude each other but rather enhance reconnection.

From Lima's study (2020), the involvement of school professionals in activities developed by students stands out. This involvement includes interviews conducted with school staff, listening practices carried out by teachers to gather ideas and hypotheses from students, granting students the freedom to ask questions, and fostering collaborative work. It is under conditions like these that Morin (2019) defines as pertinent knowledge, and according to Sá (2019), it is produced by an open rationality that contextualizes and conceives the human, social, and natural multidimensionality.

In Silva's study (2020), potential strategies were identified, such as valuing students' curiosity, recognizing social, family, and school contexts, providing freedom of expression using, for example, analogies, valuing students' demands, and offering teacher training that addresses these demands. These conditions reaffirm the importance of listening, as Lima (2020) advocates, and the relevance of pedagogical practices guided by transdisciplinarity. This approach links teaching to what is beyond and through the disciplines, as argued by Nicolescu.
(2018), demonstrating a commitment to overcoming educational paradigms centered on
decontextualization and the distancing of the curriculum from global emergencies
(ZWIEREWICZ et al., 2016).

Similarly, these strategies echo the concerns of Imbernón (2016) when he asserts that,
beyond updating and teaching, professional development must contribute to teachers learning
collaboratively and being connected to reality. They also highlight the importance of creating
conditions that foster such collaborative work. Therefore, they align with the need to overcome
teacher training proposals that, according to Costa (2004), focus on the transfer of knowledge
and lack connections with the experiences professionals encounter in their work environment,
isolating themselves from what Sansolotti and Coelho (2019) define as problematic situations
within their contexts.

In Paiva's study (2021), possibilities were observed for stimulating collaborative work
and aligning pedagogical practices with students' demands, considering the broad and complex
social context in which knowledge exists. Furthermore, Deus (2020) refers to the
encouragement of social interaction experiences, Moura (2020) emphasizes fostering affection
in relationships and valuing students as unique individuals with their singularities, while
Siqueira (2020) elucidates the significance of empowering students' protagonism.

Conditions like these reaffirm what is understood from Morin's (2019) convictions
about the inadequacy of studying isolated facts since knowledge must be rooted in a context, in
society, and its history. Moreover, Morin (2011) advocates for the need to stimulate an
intelligence capable of understanding reality and organizing available information to tackle
complexity as a condition to foster protagonism instead of simply reproducing historically
produced knowledge.

Strategies Linked to Resources and Activities to Reconnect Curricular Contents

Among the possible strategies associated with resources and activities to reconnect
curricular contents to local and global realities, Lima's study (2020) stands out for using
concrete materials and playful resources. Silva (2020), on the other hand, referred to interaction
with digital devices (computers, tablets, cell phones), the appreciation of writings/documents
routinely used by students in activities outside the school, and the exploration of resources that
students and/or the school possess, such as backpacks and the institution's name on uniforms or
entrance signs. Paiva (2021) points out possibilities such as lesson planning aligned with reality
and considering research and curriculum organization beyond the topics covered in the disciplines.

Deus (2020) highlights the value of conducting meaningful activities, and Gonçalves (2020) emphasizes cinema as a strategy for stimulating imagination and creative involvement. Similarly, Moura (2020) refers to activities that stimulate the imagination to relate to reality and engage with the world, as well as valuing a sensitive education linked to love and play. Almansa (2021) highlights the integration of educational technologies into pedagogical practices and formation linked to planning, while Fadel (2020) emphasizes dialogue as a condition for evaluation processes.

Therefore, it is observed that the presented strategies are diverse and linked to different conditions that enhance the integration of curricular knowledge. This integration occurs through resources that are part of students' reality but can also be exclusively available in schools. Relating this finding to teacher training reinforces the importance of the reflection proposed by Nóvoa (2022), which emphasizes not only considering practical issues but also understanding the complexity of the process. This implies recognizing how the diversity of resources and activities contributes to integrating knowledge among themselves and their connection to reality.

Strategies Linked to the Environment to Reconnect Curricular Contents

As a strategy linked to the environment to reconnect curricular contents to local and global realities, Lima's study (2020) highlights the organization of physical space in a way that favors collaborative work. Silva (2020) emphasizes the value of exploring the school environment, not restricting teaching and learning processes to the classroom, organizing the used spaces and the materials available, and structuring time for exploring spaces and activities. Additionally, Paiva (2021) suggests the construction of alternative spaces for teaching and learning processes, Gonçalves (2020) underscores the importance of rethinking learning spaces, and Moura (2020) suggests organizing spaces that value autonomy and freedom.

Conditions like these can enhance complex thinking, especially by allowing a connection of curricular contents to what is beyond them, as envisioned in transdisciplinarity, as discussed by Nicolescu (2018). Furthermore, in the diversity of spaces, education encourages contact with nature, potentially contributing to other relationships, especially human relationships, as Silva (2008) advocates.
Synthesis of Strategies to Contextually and Globally Connect Curricular Contents

In the analysis of related studies, strategies that teachers can use in any modality or stage of education aimed to connect curricular contents in a contextualized and comprehensive manner were identified. In Table 1, these strategies are grouped, constituting pathways for bringing pedagogical practices closer to the real demands of students and integrating them with emerging global issues.

Table 2 – Strategies to Contextually and Globally Connect Curricular Contents

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Strategies</th>
</tr>
</thead>
</table>
| People    | – Listening practices carried out by teachers for students' ideas and hypotheses  
– Freedom of expression  
– Freedom for students to ask questions  
– Valuing students' curiosity  
– Valuing students' demands  
– Articulating pedagogical practices to students' demands  
– Valuing students as unique individuals  
– Valuing students' protagonism  
– Education programs that meet teaching demands  
– Involvement of school professionals in activities developed by students  
– Encouraging collaborative work  
– Valuing social, family, and school contexts  
– Encouraging experiences of social interaction  
– Encouraging affection in relationships |
| Resources  | – Use of concrete materials and playful resources  
– Interaction with digital devices  
– Valuing writings/documents routinely used by students in activities outside of school  
– Exploration of resources that students and/or the school possess  
– Teaching planning articulated with reality  
– Encouragement of research  
– Organization of the curriculum in themes beyond those planned in disciplines  
– Conducting meaningful activities  
– Cinema as a strategy to stimulate imagination and creative involvement  
– Activities that stimulate the imagination as a way of relating to reality and connecting with the world  
– Valuing a sensitive education articulated with love and playful  
– Integration of educational technologies into pedagogical practices  
– Education linked to planning  
– Interaction as a condition for assessment processes |
| Environment| – Exploration of the school environment  
– Diversity of available materials  
– Organization of physical space to favor collaborative work  
– Personalized organization of used spaces  
– Organization of spaces that value autonomy and freedom  
– Organization of time for the exploration of spaces and activities  
– Construction of alternative spaces for teaching and learning processes, rethinking learning spaces |

Source: Developed by the authors.
Despite the distribution of strategies across three dimensions, it is observed that some of them assume a multidimensional characteristic. Therefore, this quality reaffirms the epistemological perspective of this study on education with a reconnecting and non-fragmenting basis of the conditions that involve pedagogical work. According to Zwierewicz, Zanol, and Horn (2020), this viewpoint prioritizes training that collaborates to overcome the atomized way of organizing knowledge by prioritizing an interconnection that allows for a deeper understanding of reality.

Final considerations

This study was motivated by reflections on the intrinsic difficulty of compartmentalized knowledge in disciplines, studied decontextualized, meeting students' actual demands, and committing to global needs. Thus, the urgency to overcome an educational perspective that does not establish an effective connection between knowledge and reality underlies this work.

This transformation requires a revision of teacher training itself, surpassing initiatives based on the transmission of knowledge, which strengthens professionals' motivation to persist in the reproduction of such practices with students. Similarly, this change raises the need to prioritize strategies that contribute to teachers reconnecting content to reality when working with students in their pedagogical practices.

Aiming to foster reflections on this overcoming, transitioning from teacher training to the analysis of selected dissertations through the descriptors "teacher education," "pedagogical practice," and "pertinent knowledge," this study enabled the compilation of results from works by authors addressing the need to overcome formative initiatives anchored in the transmissive and reproductive perspectives of teaching. Thus, it allowed the mapping of strategies that contribute to the integration of curricular content into contextual and global scenarios.

Composing a multidimensional perspective, these strategies were linked to circumstances involving people, resources, and activities and the environments explored for developing pedagogical practices. Thus, it is also a multiplicity of strategies that consider the contexts in which they are implemented, the valorization of individual and collective conditions indispensable for student development, forms of interpersonal relationships, the involvement of themes different from those foreseen in disciplines, and the organization of alternative spaces that contribute to student autonomy and protagonism.
Therefore, reconnection constitutes a complex condition. It is not related to the atomized and mechanistic view of training, nor does it reverberate a disjunctive and reductionist thought in the teacher's classroom performance. For this reason, this article included a discussion about teacher training, that is, by arguing that the paradigmatic perspective of such training needs to coincide with that prioritized in student training.

Specifically regarding the identified strategies, it is reiterated that the findings do not necessarily mean that the research situated them as pivotal aspects for working on content in a contextualized and globally connected manner. Nevertheless, they can be considered for this process mainly because they involve aspects related to people, resources, activities, as well as the environment in which pedagogical practice is carried out.

Furthermore, it is worth noting that the set of strategies outlines a teaching framework committed to complex thinking when implemented through transdisciplinary and ecoforming pedagogical practices. Examples of this framework include valorizing students' curiosity, promoting collaborative work rooted in dialog, and using environments that bring teaching closer to issues that effectively integrate student reality.

These types of strategies have their potential maximized in teacher training proposals that do not focus exclusively on decontextualized lectures and meetings without effective linkage. Therefore, overcoming this conception is fundamental for teachers to be able to energize pedagogical practices that establish a connection between curriculum content and the demands of reality. This formative environment is crucial in this transformation, as it is where teachers have the opportunity to discuss and plan conditions for changes in their performance.

Thus, mapping different pedagogical strategies will contribute to valuing the commitment to reconnecting curriculum content to actual demands and stimulating the development of new training proposals that value pertinent knowledge. Similarly, it is hoped that this article will encourage the development of new research to expand the discussion on strategies that contribute to overcoming the transmissive and reproductive emphases of teaching.
REFERENCES


ERNS, Romilda Teodora; DONATO, Sueli Pereira; DIAS, Flavia Brito. Pensamento complexo e transdisciplinaridade na escola: olhares de si. In: BEHRENS, Marilda Aparecida;


**CRedit Author Statement**

**Acknowledgements**: To the *Fundação de Amparo à Pesquisa* (Foundation for the Support of Research) and *Inovação do Estado de Santa Catarina* (Innovation of the State of Santa Catarina) (FAPESC) for supporting the research.

**Funding**: Research funded by the Public Call Notice FAPESC No. 29/2021 – Academic Structuring Program – Support for Laboratory Infrastructure and the Public Call Notice FAPESC No. 54/2022 – Science, Technology, and Innovation Program to Support Research Groups of the *Associação Catarinense das Fundações Educacionais* (Catarinense Association of Educational Foundations, ACAFE).

**Conflicts of interest**: I declare that I am not subject to any conflicts of interest with the authors.

**Ethical approval**: The work was not submitted to the Ethics Committee as it is bibliographic research.

**Data and material availability**: The data were compiled from freely accessible postgraduate research.

**Authors' contributions**: The first three authors contributed to the research organization, data analysis, and systematization of the results. The fourth author participated in the analysis and systematization of the results.

---

**Processing and editing**: Editora Ibero-Americana de Educação. Proofreading, formatting, normalization and translation.