

Ecojustice in Pre-Service Teacher Education: A Thematic Literature Analysis

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Abstract: Integrating ecojustice into pre-service teacher education is critical to addressing the intertwined challenges of environmental degradation and social inequality. Yet its integration faces persistent sociocultural, institutional, and epistemological barriers that leave many teacher candidates underprepared to address these issues in their classrooms. This study employs a thematic literature analysis of recent empirical and conceptual research to examine how ecojustice is framed and practiced in pre-service teacher education, with a particular focus on the Canadian context. Findings identify both promising pedagogical approaches—including experiential learning, culturally responsive pedagogy, and Indigenous knowledge systems—and persistent challenges such as fragmented curricula, limited institutional support, and sociocultural resistance. By synthesizing these insights, the paper contributes to bridging the gap between ecojustice theory and practice and proposes a framework for embedding ecojustice more fully into pre-service teacher education. The study underscores the importance of context-sensitive and inclusive approaches that prepare future educators to engage with the urgent ecological and social responsibilities of the 21st century.

Keywords: Ecojustice, Pre-service Teacher Education, Thematic Literature Analysis, Experiential Learning, Indigenous Knowledge, Ecopedagogy, Critical Pedagogy

Introduction

Ecojustice education, positioned at the intersection of sustainability and social justice, seeks to address the intertwined nature of ecological and social crises, advocating for ethical responsibility and equity in education (Martusewicz, 2018; Misiaszek & Torres, 2019). Despite its growing theoretical resonance, ecojustice remains conceptually fragmented and practically marginalized in teacher education. Many pre-service teachers graduate with limited knowledge of ecojustice, leaving them underprepared to address the complex challenges of climate change, biodiversity loss, and social inequality in their classrooms (Young & Malone, 2023; Burroughs & Bellino, 2024). This persistent gap underscores the urgency of embedding ecojustice as a foundational component of pre-service teacher education.

Building on this urgency, the present study situates ecojustice within the Canadian context while drawing on global perspectives to provide a comparative lens. In doing so, it highlights the need for a more cohesive framework that bridges theory and practice, enabling pre-service teachers to engage meaningfully with ecojustice principles. By synthesizing insights from experiential learning, culturally responsive pedagogy, and Indigenous knowledge systems, this paper contributes to ongoing debates about how to prepare educators for the interconnected environmental and social responsibilities of the 21st century.

This paper contributes to the literature by synthesizing these theoretical perspectives and advancing a practical framework for integrating ecojustice principles into teacher education programs. It examines how experiential learning, culturally responsive pedagogy, and Indigenous knowledge systems intersect with ecojustice and argues that addressing these intersections is crucial for equipping future educators to tackle complex socio-environmental challenges. In doing so, the paper aims to bridge the gap between ecojustice theory and its implementation in pre-service teacher education.

Furthermore, the lack of a cohesive framework for ecojustice integration across diverse educational settings contributes to fragmented understandings among pre-service teachers (Guerrero, 2022). In some cases, educational programs focus on environmental sustainability without fully integrating social justice components, which limits the holistic impact of ecojustice education (Young & Malone, 2023; Hindhede, 2024a). Additionally, limited incorporation of Indigenous knowledge, which offers critical ecological insights, highlights another gap in current teacher training (Acharibasam & McVittie, 2023). This research seeks to bridge these gaps by examining effective approaches for integrating ecojustice principles into pre-service teacher education in Canada. It analyzes both theoretical frameworks and practical methods to improve ecojustice teaching across various educational settings.

Positionality Statement

My interest in ecojustice education is shaped by a combination of scholarly engagement and professional experience working with pre-service teachers. Influenced by critical pedagogy (Freire, 1970), systems thinking (Capra, 1996), holistic education (Miller, 2019), ecofeminist and ecological perspectives (Shiva & Mies, 1993; Goleman, 2010), and ecological ethics (Leopold, 1949; Macy & Johnstone, 2012), I approach this work from a critical–interpretivist stance that views knowledge as socially situated and embedded within cultural, ecological, and institutional contexts.

My previous research and teaching have involved experiential, culturally responsive, and land-based approaches, including attention to Indigenous perspectives (Davidson & Davidson, 2018). These experiences inform my understanding of ecojustice as relational and context dependent. I recognize that my academic background and personal experiences, including earlier work on ecoliteracy (Ozgun, 2018), may shape the questions I prioritize and the interpretations I generate. To mitigate potential bias, I used reflexive memoing, iterative comparison, and an explicit audit trail throughout data extraction and analysis.

This positional stance does not assume a singular or prescriptive model of ecojustice education. Rather, it reflects an effort to remain attentive to diverse voices, local contexts, and multiple knowledge systems while examining how ecojustice is conceptualized and practiced across pre-service teacher education programs. My intention is to support transparency in the analytic process and acknowledge the interpretive nature of qualitative synthesis.

Statement of the Problem

The limited integration of ecojustice into teacher education curricula highlights a critical gap. Without addressing this gap, teacher education risks perpetuating narrow, technocratic understandings of environmental responsibility that are divorced from questions of social justice. Scholars argued that environmental justice is unattainable without addressing social inequality, and vice versa (McKimm & McLean, 2020). As environmental and social justice concerns become increasingly urgent, scholars and educational policy frameworks have called for pre-service teachers to embed ecojustice principles into their classroom practices (Martusewicz, 2018; Young & Malone, 2023). However, inconsistencies in curricula and the absence of cohesive frameworks hinder teachers' ability to address these issues effectively. Although teacher education plays a vital role in addressing these challenges, many pre-service teachers graduate without fully understanding the intersection of environmental and social justice, leaving them unprepared to integrate ecojustice into their classrooms (Martusewicz, 2018). Traditional Western epistemologies that reduce human connections to nature further obstruct this integration by reinforcing hierarchical thinking that separates ecological and social concerns (Robinson et al., 2023). While ecojustice is gaining theoretical recognition, its practical implementation remains inconsistent due to fragmented curricula and institutional barriers (Burroughs & Bellino, 2024; Guerrero, 2022).

The escalating urgency of climate change, biodiversity loss, and systemic inequities underscores the need for a robust framework that embeds ecojustice principles in pre-service teacher education programs. This study therefore explores strategies for embedding ecojustice in Canadian pre-service teacher education to prepare future educators to engage students with interconnected ecological and social justice issues. Guided by these concerns, this study is framed around three interrelated research questions: What barriers do educators face in promoting ecojustice within teacher education? How can ecojustice concepts be effectively integrated into pre-service programs to overcome these barriers? And how do cultural contexts influence the promotion of ecojustice in diverse educational settings?

Methodology

This study is grounded in a critical–interpretivist methodology informed by ecojustice and critical pedagogy. Knowledge is understood as socially situated and ethically entangled with ecological and cultural contexts; thus, inquiry aims not only to describe literature but to interrogate how educational structures reproduce or resist socio-ecological inequities (Freire, 1970; Martusewicz, 2018). A constructivist orientation underpins the synthesis: meanings are co-constructed through iterative reading, coding, and theorizing, with reflexivity guiding analytic decisions given the author's positionality. This methodological stance justifies an approach that connects conceptual arguments to implications for pre-service teacher education, emphasizing practical transformation alongside theoretical clarity.

Research Method Design

Building on this methodology, a thematic literature analysis was employed as the research method to identify, compare, and synthesize patterns across studies of ecojustice in pre-service teacher education. The Thematic Analysis Grid (Anderson et al., 2015) and the adaptation for literature reviews by Hoare et al. (2024) structured data extraction, coding, and cross-study comparison.

Sources, Search Strategy and Core Search String (Adapted per database):

Peer-reviewed journals in education and allied fields were targeted across major databases: ERIC (EBSCO), Scopus, Web of Science, Education Source (EBSCO), and Google Scholar (hand-search for forward/backward citations). Searches covered 2020-2025 to reflect contemporary discourse while including foundational works.

Core search string for the literature review was formulated to capture relevant studies across databases by combining terms related to ecojustice and teacher preparation: it included (“ecojustice” OR “eco-justice” OR “environmental justice education” OR “ecopedagogy”) AND (“pre-service” OR preservice OR “teacher education”).

Inclusion/Exclusion Criteria

The inclusion criteria focused on empirical or conceptual studies addressing ecojustice, ecopedagogy, or environmental justice education within pre-service teacher education contexts. Only peer-reviewed journal articles published between 2020 and 2025 were considered, with select foundational works prior to 2020 included to provide theoretical grounding. Eligible studies were required to be written in English and to explicitly engage with at least one of the focal areas of this study, such as pedagogical approaches, institutional challenges, theoretical frameworks, gaps, or emerging trends. Both primary research and systematic or thematic reviews, as well as conceptual papers with clear implications for teacher education, were included.

The exclusion criteria eliminated studies that did not align with the population, topic, or analytical focus of this review. Research focusing exclusively on in-service teachers, K–12 classroom interventions, or general higher education without a pre-service teacher education component was excluded. Studies addressing environmental sustainability in purely technical or instrumental ways—such as energy audits or recycling programs—without an explicit ecojustice or justice-oriented framing were also removed. Opinion pieces, editorials, book reviews, and other non-peer-reviewed materials, including grey literature such as theses or reports, were excluded to maintain academic rigor. Additionally, works that mentioned ecojustice only superficially, without substantive conceptual or empirical engagement, were omitted. Duplicate or republished studies were excluded in favor of the most comprehensive versions available.

Screening and Selection

A systematic screening and selection process was applied to ensure transparency and rigor in identifying relevant sources. This process involved several stages—identification, screening, eligibility assessment, and final inclusion. Figure 1 presents an overview of how the records were progressively refined, illustrating the path from the initial search results to the final set of studies included in the thematic analysis.

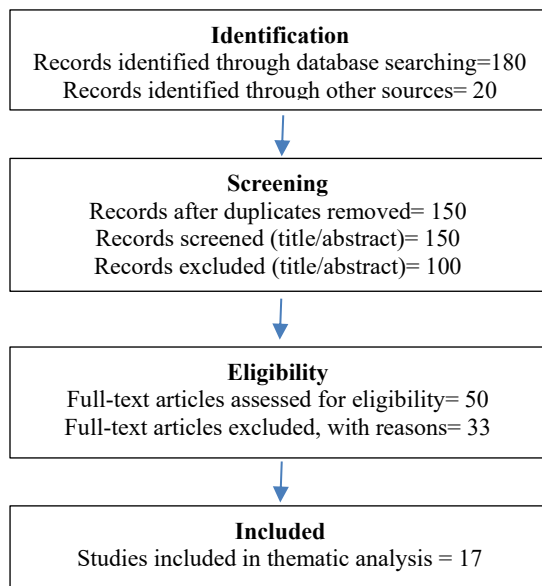


Figure 1. Flow of literature for thematic analysis

According to Figure 1, identification yielded 180 records through database searching and an additional 20 from citation tracking and hand searches. After de-duplication, 150 records remained. Titles and abstracts of these 150 records were screened against the inclusion criteria, resulting in the exclusion of 100 studies. The full texts of 50 articles were assessed for eligibility, of which 33 were excluded with reasons (e.g., lack of pre-service teacher focus, absence of ecojustice framing). Ultimately, 17 studies met all criteria and were included in the thematic analysis.

Data Extraction and Coding

For each included study, a grid captured: bibliographic data; context (country/setting); participant profile; ecojustice orientation; pedagogical approach; reported barriers; methodological features; and key findings/claims. The grid operationalized comparability across heterogeneous designs.

The coding process combined a priori themes (derived from research questions and ecojustice scholarship) with inductive codes that emerged during analysis. Initial codes included current approaches, institutional barriers, curricular fragmentation, teacher knowledge gaps, sociocultural resistance, Indigenous knowledge, methodological gaps, and emerging trends. As the studies were reviewed, additional codes (e.g., policy–practice mismatches, assessment constraints, community partnership models) were added. Coding followed an iterative constant comparison approach: excerpts were reviewed multiple times, clustered into higher-order categories, and refined through memoing. This balance of deductive structure and inductive flexibility ensured the final themes were both theoretically grounded and empirically responsive.

Thematic Analysis and Synthesis

Coded segments were clustered into higher-order themes via constant comparison, yielding four integrative themes aligned to the paper’s structure: (1) current approaches, (2) common challenges, (3) gaps and limitations, (4) emerging trends. Thematic matrices contrasted findings by region (Canada, Latin America, Australia, U.S.), program type, and methodology (qualitative/quantitative/mixed), enabling analytic triangulation and revealing convergences/divergences across contexts.

Research Context and Target Population

The urgency of this issue is particularly evident in regions such as Canada and Greenland, which are warming at twice the global average rate (Demant-Poort & Berger, 2021). Climate change disproportionately affects marginalized communities, intensifying existing social inequalities (Robinson et al., 2023). Within Canada, the decentralized education system produces varied curricula and standards across provinces, creating inconsistencies in how

environmental and social justice are addressed in teacher education (Burroughs & Bellino, 2024). Moreover, while Indigenous knowledge is increasingly recognized in Canadian policy discourse, it remains insufficiently integrated into pre-service teacher education programs (Davidson & Davidson, 2018). These dynamics shape the context in which future educators are prepared, revealing both opportunities and gaps in embedding ecojustice principles.

The target population for this study is pre-service teachers in Canada, who are at a pivotal stage in their professional formation. Many enter the profession with limited preparation to address the intertwined nature of ecological and social issues (Young & Malone, 2023). At the same time, international scholarship in Latin America, Australia, and the United States highlights innovative ecojustice practices that can provide comparative insights for the Canadian context (Guerrero, 2022; Misiaszek & Torres, 2019). This combination of local challenges and global perspectives underscores the need for a robust, context-sensitive framework to equip future educators with the knowledge and competencies to engage meaningfully with ecojustice.

Findings and Discussion

This section presents the findings of the thematic analysis, which identified four major themes across the reviewed studies: (1) current approaches, (2) common challenges, (3) gaps and limitations, and (4) emerging trends. Table 1 summarizes these themes, highlighting representative studies and key insights. The subsections below expand on each theme in turn, integrating relevant literature with analytical commentary.

Table 1. Thematic Analysis Grid: Ecojustice in Pre-Service Teacher Education

<i>Theme</i>	<i>Codes / Keywords</i>	<i>Representative Studies</i>	<i>Key Insights</i>
<i>Current Approaches</i>	Experiential learning, critical pedagogy, ecopedagogy, place-based education, Indigenous knowledge	Guevara-Herrero et al. (2024); Guerrero (2022); Hindhede (2024a, 2024b); Burroughs & Bellino (2024); Young & Malone (2023); Greenwood & Smith (2008); McKenzie (2008); Robinson et al. (2023)	Diverse pedagogies link theory to practice. Experiential and place-based learning foster real-world application; critical pedagogy builds reflexivity; ecopedagogy critiques anthropocentrism; Indigenous knowledge deepens ecological interdependence.
<i>Common Challenges</i>	Institutional barriers, curricular fragmentation, inadequate teacher training, sociocultural resistance	Burroughs & Bellino (2024); Guerrero (2022); Hindhede (2024a); Young & Malone (2023)	Ecojustice integration is hindered by rigid curriculum standards, lack of institutional support, limited faculty expertise, and cultural/political resistance. Ecojustice often remains peripheral.
<i>Gaps & Limitations</i>	Regional imbalance, methodological gaps, short-term focus, theory–practice disconnect, neglect of policy	Misiaszek (2020); Hindhede (2024b); Burroughs & Bellino (2024); Guerrero (2022); Stevenson (2008)	Research is regionally uneven (mostly Global North); relies heavily on qualitative, short-term case studies; limited longitudinal or mixed-methods work; weak links to practice and policy.
<i>Emerging Trends</i>	Indigenous knowledge integration, ecopedagogy, culturally responsive pedagogy, community partnerships	Acharibasam & McVittie (2023); McKenzie (2008); Misiaszek & Rodrigues (2023); Misiaszek & Torres (2019); Young & Malone (2023)	Growing emphasis on Indigenous ecological perspectives, justice-centered ecopedagogy, and community-based, culturally responsive practices signals movement toward holistic, inclusive ecojustice.

Themes were generated through thematic analysis of N studies using the Thematic Analysis Grid method (Anderson et al., 2015; Hoare et al., 2024). Representative studies are included as illustrative examples of each theme.

Current Approaches

Ecojustice in pre-service teacher education has been advanced through a diverse range of pedagogical approaches that connect theory with practice. A consistent theme across the literature is the emphasis on *experiential learning*, which immerses pre-service teachers in direct engagement with ecological and social issues. Guevara-Herrero et al. (2024) explored community-driven ecojustice initiatives among Spanish pre-service teachers, where participants addressed local problems such as pollution and social inequality. Similarly, Guerrero (2022) reported that engaging with local communities in Latin America inspired lesson plans that integrated environmental and social concerns. These findings highlight the value of experiential learning in bridging theoretical concepts with real-world practice and underscore the importance of fieldwork and community projects in pre-service teacher education.

Another widely recognized strategy is *critical pedagogy*, rooted in Freire's (1970) concept of questioning systemic oppression. This approach enables pre-service teachers to interrogate ecological and social injustices simultaneously. Hindhede (2024a, 2024b) examined the use of children's literature and reflective writing in U.S. teacher education, showing that reflective practice enhanced participants' ability to critically analyze environmental justice issues. Robinson et al. (2023) similarly demonstrated that combining cognitive and emotional learning fostered more critical engagement with ecojustice themes. Collectively, these studies affirm that critical pedagogy is a transformative tool for preparing teachers to challenge systemic inequities.

Ecopedagogy builds on this foundation by explicitly critiquing anthropocentric and market-driven perspectives. Misiaszek and Rodrigues (2023) argue that ecopedagogy is essential for resisting systems that exploit both nature and marginalized communities. Bowers (2002), a foundational theorist in ecojustice education, emphasized the need to critique cultural practices that normalize environmental exploitation. Together, these perspectives highlight how ecopedagogy empowers pre-service teachers to envision more equitable socio-ecological futures, positioning ecojustice as central rather than peripheral to education.

Place-based education also plays a critical role in connecting ecojustice to local realities. Greenwood and Smith (2008) and Young and Malone (2023) both illustrate how grounding education in specific ecological and cultural contexts fosters ecological stewardship and empowers pre-service teachers to design responsive curricula. For example, Young and Malone (2023) described sustainability audits in Australian schools that helped pre-service teachers create ecojustice lesson plans tailored to local needs. Hindhede (2024a, 2024b) similarly emphasized the accessibility of ecojustice when concepts are localized, linking global environmental issues to everyday experiences.

Finally, the integration of *Indigenous knowledge systems* has emerged as an increasingly important approach. McKenzie (2008) argued that Indigenous ecological perspectives enrich teacher education by centering reciprocity, respect, and relational accountability. Guevara-Herrero et al. (2024) demonstrated how incorporating Indigenous perspectives into lessons enhanced cultural sensitivity and relevance, affirming the value of alternative knowledge systems. This aligns with calls for Canadian teacher education programs to strengthen partnerships with Indigenous communities (Davidson & Davidson, 2018).

Taken together, these approaches—experiential learning, critical pedagogy, ecopedagogy, place-based education, and Indigenous knowledge—demonstrate that ecojustice is not a singular method but a constellation of interconnected pedagogies. Collectively, they illustrate the potential of pre-service teacher education to cultivate educators who are not only ecologically literate but also socially responsive, capable of guiding future generations toward sustainability and justice.

Common Challenges

Despite the range of promising approaches, the integration of ecojustice into pre-service teacher education faces several recurring barriers. A central obstacle is the lack of *institutional support*. Burroughs and Bellino (2024), for example, examined four teacher educators at a U.S. public university and found that strict curriculum standards and minimal institutional backing obstructed ecojustice initiatives. Similarly, Guerrero (2022) observed that administrators in Colombian teacher education programs often regarded ecojustice as peripheral, reflecting a broader reluctance to prioritize justice-oriented curricula. These findings resonate with the Canadian context, where standardized competencies frequently restrict interdisciplinary approaches.

Another challenge is *curricular fragmentation*, in which environmental and social justice concerns are treated as discrete or supplementary topics rather than integrated into the core of pre-service teacher education. Hindhede (2024a) conducted interviews with educators in European programs and found that fragmented curricula hindered interdisciplinary teaching and limited opportunities for sustained ecojustice engagement. This aligns with the present study's finding that flexible curricular structures are necessary to reflect the interconnected nature of social and ecological issues.

A further barrier is the *lack of training among both pre-service teachers and teacher educators*. Guevara-Herrero et al. (2024) surveyed 30 Spanish pre-service teachers and reported that limited exposure to ecojustice concepts resulted in weak understanding and application. The study also emphasized that many teacher educators lack expertise in ecojustice, restricting their ability to mentor students effectively. These findings point to the importance of targeted professional development and institutional capacity-building.

Finally, *sociocultural resistance* remains a persistent obstacle. Guerrero's (2022) work in Latin America revealed how economic development priorities often overshadow environmental concerns, complicating ecojustice integration. Young and Malone (2023) similarly observed resistance in Australian schools, where administrators perceived ecojustice initiatives as politically charged. These studies demonstrate how cultural and political contexts shape the reception of ecojustice, underscoring the need for approaches that are both context-sensitive and culturally responsive.

Taken together, these challenges reveal the systemic and structural barriers that limit the integration of ecojustice in teacher education. Institutional constraints, curricular compartmentalization, inadequate preparation, and sociocultural resistance prevent ecojustice from moving beyond theory into sustainable practice. Recognizing these obstacles is essential for designing adaptive strategies that can prepare future educators to engage meaningfully with socio-environmental justice.

Gaps and Limitations

While the literature on ecojustice in pre-service teacher education has grown substantially, it continues to display significant gaps and limitations that restrict its impact. One major concern is the regional inconsistency of research. Most studies have been conducted in North America, Europe, or Australia (Hindhede, 2024a; Burroughs & Bellino, 2024), leaving limited evidence from Latin America, Africa, or Indigenous and rural communities (Misiaszek, 2020; Guerrero, 2022). This imbalance constrains the development of frameworks that are globally relevant while locally responsive.

Another limitation lies in the methodological narrowness of existing research. Much of the literature is grounded in qualitative case studies or short-term interventions. While these approaches provide rich insights, they limit generalizability and often fail to capture the long-term sustainability of ecojustice initiatives. The absence of longitudinal and mixed-methods studies makes it difficult to evaluate whether ecojustice practices are retained once pre-service teachers enter the profession (Burroughs & Bellino, 2024).

A further issue is the conceptual–practical disconnect. Many studies treat ecojustice primarily as a theoretical lens, without linking these discussions to concrete pedagogical practices or classroom applications (Guerrero, 2022). As a result, ecojustice often remains more of a normative aspiration than a tested educational practice. This gap is particularly significant for teacher education, where the preparation of future educators requires practical strategies alongside theoretical grounding.

Finally, the literature tends to overlook systemic and institutional factors, such as accreditation standards, policy frameworks, and funding structures, that shape the conditions for ecojustice integration. Stevenson (2008) notes the frequent disconnect between policy-level commitments to sustainability and the limited emphasis on ecojustice within teacher education curricula. Without addressing these broader systemic dynamics, ecojustice initiatives risk remaining isolated, short-term, and difficult to scale.

Taken together, these gaps—regional imbalances, methodological limitations, the theory–practice divide, and a neglect of institutional structures—underscore the need for more diverse, rigorous, and context-sensitive research.

Addressing these shortcomings is essential for building robust frameworks that can make ecojustice a sustainable and central component of pre-service teacher education.

Emerging Trends

Although ecojustice in pre-service teacher education remains unevenly implemented, several emerging trends highlight promising directions for future development. A central trend is the integration of Indigenous knowledge systems, which challenge Western epistemologies and provide holistic, relational understandings of human–environment interactions. Acharibasam and McVittie (2023) demonstrated how land-based pedagogies deepen pre-service teachers' ecological awareness, while McKenzie (2008) emphasized the role of Indigenous perspectives in cultivating reciprocity, respect, and relational accountability. These insights suggest that partnerships with Indigenous educators and communities can significantly enhance ecojustice education.

A second emerging direction is the growth of ecopedagogy, which extends critical pedagogy into justice-centered ecological education. Misiaszek and Torres (2019) and Misiaszek and Rodrigues (2023) argued that ecopedagogy resists anthropocentric and market-driven logics, encouraging students to imagine alternative socio-ecological futures grounded in justice. By foregrounding the links between environmental degradation and social oppression, ecopedagogy positions ecojustice as transformative rather than supplemental.

A third trend is the increasing emphasis on culturally responsive and community-based pedagogies. Guerrero (2022) and Young and Malone (2023) both documents how experiential projects—such as sustainability audits and community partnerships—help pre-service teachers connect ecojustice concepts to local realities. These practices situate ecojustice as a lived, context-specific process, increasing both cultural relevance and student engagement.

Finally, scholarship increasingly emphasizes the ethical responsibilities of higher education institutions. Misiaszek and Rodrigues (2023) argued that universities have a moral obligation to equip students with the tools to confront socio-environmental injustices. This perspective positions ecojustice not only as a pedagogical approach but also as an institutional commitment to sustainability and justice.

Taken together, these trends signal a shift toward more holistic and inclusive models of ecojustice in teacher education. By embedding Indigenous knowledge, embracing ecopedagogy, and fostering culturally responsive, community-centered practices, teacher education programs can move beyond fragmented approaches and cultivate educators who are prepared to address the interconnected challenges of ecological sustainability and social justice.

Recommendations

Based on the findings and identified gaps, this section provides context-specific recommendations for advancing ecojustice in pre-service teacher education. These recommendations are structured around practice, policy, and the recognition of potential barriers, explicitly linking to the structural and sociopolitical challenges identified earlier.

Implications for Practice

Integrating ecojustice effectively into pre-service teacher education requires pedagogical strategies that are not only theoretically robust but also responsive to institutional and cultural barriers. A key recommendation is the integration of experiential learning, culturally responsive pedagogy, and Indigenous knowledge as interconnected practices rather than isolated strategies.

For example, experiential learning projects gain greater depth when they are co-designed with Indigenous communities, grounding student engagement in relational and land-based practices (Acharibasam & McVittie, 2023). Such partnerships address earlier-identified institutional gaps by moving ecojustice beyond classroom simulations into authentic, community-driven contexts. Similarly, culturally responsive pedagogy ensures that ecojustice is not imposed as a universal model but adapted to the lived realities of local students. Young and Malone (2023) demonstrated how pre-service teachers in Australia connected sustainability audits to local cultural realities; in the Canadian context, this might involve designing lessons on issues such as urban sustainability or Indigenous land protection, where ecological and cultural knowledge intersect.

Critical reflection activities further strengthen this triad of approaches. Guided by Freire's (1970) critical pedagogy, structured reflection allows pre-service teachers to interrogate how their own positionalities, institutional structures, and community contexts shape ecojustice education. By combining hands-on practice, cultural responsiveness, and Indigenous ways of knowing, teacher education programs can foster both ecological literacy and critical consciousness in future educators.

Policy Recommendations

At the policy level, ecojustice must be positioned as a core requirement in teacher education accreditation and curriculum standards. This means explicitly identifying ecojustice-related competencies, such as the ability to design culturally responsive lessons that integrate Indigenous knowledge and address local socio-environmental issues. Without embedding these competencies into standards, ecojustice risks remaining peripheral.

Targeted funding should support community partnerships and land-based learning, responding to the financial and logistical challenges documented in earlier sections. Guerrero's (2022) study showed how partnerships with marginalized communities in Latin America provided meaningful learning experiences despite institutional barriers. In Canada, funding structures could prioritize collaborative modules with Indigenous communities, enabling pre-service teachers to learn directly from alternative ecological knowledge systems.

Policy frameworks should also create mechanisms for accountability, ensuring that ecojustice integration is not left to the discretion of individual programs or faculty members. This could include provincial guidelines requiring the inclusion of Indigenous perspectives and culturally responsive approaches in teacher education, supported by repositories of resources co-developed with Indigenous educators.

Potential Barriers

Despite these recommendations, implementation faces foreseeable barriers. Financial constraints may limit access to community-based projects, which are often resource-intensive. Cultural resistance, as observed by Guerrero (2022), may emerge in contexts where ecojustice is perceived as conflicting with local economic or political priorities. Institutional rigidity also remains a concern, with standardized curricula restricting interdisciplinary and justice-oriented approaches (Hindhede, 2024a). Addressing these barriers requires sustained advocacy and systemic reforms, including reframing ecojustice as integral to both environmental and social responsibility in education.

Integrative Outlook

The findings suggest that experiential learning, culturally responsive pedagogy, and Indigenous knowledge are most powerful when understood as *mutually reinforcing strategies*. Experiential learning provides the context for action, culturally responsive pedagogy ensures local relevance, and Indigenous knowledge grounds ecojustice in alternative epistemologies. Together, these approaches can overcome the structural, curricular, and sociocultural barriers identified earlier, equipping pre-service teachers to enact ecojustice as both a pedagogical practice and a transformative social commitment.

Conclusion

This study set out to examine how ecojustice can be embedded in pre-service teacher education by addressing three guiding questions. First, it identified *key barriers*—including institutional constraints, fragmented curricula, limited faculty expertise, and sociocultural resistance—that prevent ecojustice from moving beyond theory into sustained practice. Second, it explored *strategies for integration*, highlighting the combined value of experiential learning, culturally responsive pedagogy, and Indigenous knowledge systems as mutually reinforcing approaches that prepare educators to connect ecological and social issues in meaningful ways. Third, it examined how *cultural contexts* influence ecojustice, showing that localized and community-based practices, particularly those co-designed with Indigenous partners, are crucial for ensuring relevance and impact.

Taken together, these findings reinforce the central argument of the paper: that ecojustice must be understood not as an optional enrichment but as a *foundational framework* for pre-service teacher education. By embedding ecojustice in curriculum standards, supporting it with policy reforms and targeted funding, and equipping pre-service teachers

through integrated pedagogies, teacher education programs can address the urgent ecological and social challenges of our time.

Through this synthesis of barriers, strategies, and contextual insights, the study contributes to a growing body of work that positions pre-service teachers as agents of transformation. Advancing ecojustice in teacher education can cultivate educators who are not only ecologically literate but also critically conscious and culturally responsive, capable of preparing future generations to build a sustainable and equitable future.

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