

Transformative learning theory in lifelong learning research: A systematic review of its functions, extensions, and holistic dimensions

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Abstract: As societies face rapid technological and social change, lifelong learning has become essential for individuals to continuously adapt and reconstruct their knowledge and identities. In this context, Transformative Learning Theory (TLT) provides a critical lens for understanding how learners engage in reflection and achieve perspective transformation. Despite their conceptual alignment, the application of TLT in lifelong learning research remains fragmented, particularly with respect to its holistic dimensions. This study systematically examines how TLT is employed in the literature, focusing on its functional roles, theoretical positioning, and core components. Guided by the PRISMA framework, a systematic review of 52 peer-reviewed articles published between 2015 and 2024 was conducted. Qualitative content analysis was applied to classify studies across three analytical dimensions: functional use of TLT, theoretical positioning of holistic approaches, and components of transformation. The findings indicate that TLT is most frequently used as a core theoretical framework (73.1%), while holistic components are widely identified as explicit (82.7%), implicit (80.8%), and emancipatory (75.0%), but are not consistently integrated within individual studies. This study contributes to theory development by advancing a more integrative conceptualization of holistic transformative learning and offers implications for the design of lifelong learning environments that support multidimensional and sustained transformation.

Keywords: *Adult learning, Emancipatory learning, Holistic transformative learning, Lifelong learning, Perspective transformation, Transformative learning theory.*

1. Introduction

In an era marked by rapid technological innovation, globalization, and increasing societal complexity, the capacity for continuous learning has become a fundamental requirement for individuals and organizations alike [1]. Traditional models of education, which emphasize knowledge acquisition within formal institutional settings, are no longer sufficient to address the evolving demands of contemporary life. Instead, learning is increasingly understood as a lifelong process that spans formal, non-formal, and informal contexts, enabling individuals to adapt to changing environments and continuously reconstruct their knowledge and identities [2, 3]. Within this broader paradigm, lifelong learning has emerged as a central concept, emphasizing flexibility, adaptability, and the ongoing development of competencies across the lifespan [4, 5].

At the same time, Transformative Learning Theory (TLT) has gained significant attention as a framework for understanding the deeper processes of adult learning [6-8]. TLT conceptualizes learning as a process of critical reflection that leads to the transformation of meaning perspectives [9]. Rather than focusing solely on the accumulation of knowledge or skills, TLT emphasizes qualitative changes in how individuals interpret their experiences and understand the world [8, 10]. Transformative learning is often initiated by a disorienting dilemma that disrupts existing assumptions, prompting learners to engage in critical self-reflection and reconsider their beliefs, values, and identities [11, 12]. Through

this process, learners develop more inclusive, differentiated, and integrative perspectives, enhancing their ability to navigate complex and uncertain environments.

The relevance of TLT to lifelong learning lies in its capacity to explain not only how learning occurs but also how it leads to meaningful change. While lifelong learning highlights the continuity and breadth of learning experiences, TLT provides a theoretical lens for understanding the depth and quality of these experiences. In particular, transformative learning offers insights into how individuals reinterpret their experiences, reconstruct their identities, and engage with broader social and cultural contexts [13, 14]. This alignment suggests that TLT has strong potential to serve as a foundational framework for conceptualizing lifelong learning in a more comprehensive and integrated manner.

However, despite this conceptual alignment, existing research has often treated transformative learning and lifelong learning as parallel rather than interconnected domains. A substantial body of literature on TLT has traditionally focused on cognitive and rational aspects of learning, emphasizing critical reflection and discourse as primary mechanisms of transformation [15, 16]. Although these elements remain central, such focus has been criticized for underrepresenting the roles of emotion, embodiment, and social context in shaping learning processes. In response, more recent studies have sought to expand TLT by incorporating affective, relational, and cultural dimensions, thereby moving toward a more holistic understanding of transformation [17, 18].

Similarly, research on lifelong learning has evolved to address broader societal challenges, including technological disruption, labor market transformation, and social inequality. Contemporary perspectives emphasize the importance of adaptability, resilience, and identity development, recognizing that learning involves not only acquiring new skills but also reconfiguring one's sense of self and place in the world [4, 19]. Policy-oriented frameworks further highlight the role of lifelong learning in promoting employability, social inclusion, and sustainable development [5, 20]. Despite these advances, much of the literature continues to prioritize functional outcomes, such as skill acquisition and economic productivity, often overlooking the deeper transformative processes that underpin meaningful learning experiences.

This disconnect points to a critical gap in the literature. While TLT provides a robust framework for understanding transformative processes, its application within lifelong learning contexts remains fragmented and underexplored. In particular, there is a lack of systematic synthesis regarding how holistic dimensions of transformative learning, encompassing cognitive, experiential, and emancipatory components, are conceptualized and applied in lifelong learning research. Without such synthesis, it is difficult to develop a comprehensive theoretical framework that captures the full complexity of learning across the lifespan.

To address this gap, the present study adopts a systematic literature review approach to examine how TLT has been employed in relation to lifelong learning and how holistic approaches to transformation are positioned within the literature. Specifically, the study aims to answer three research questions: (1) how TLT is functionally used in scholarly research on lifelong learning, (2) how holistic approaches are theoretically positioned within TLT, and (3) which components of holistic transformative learning are emphasized in existing studies.

By integrating insights from a diverse body of literature, this study makes several contributions. First, it provides a comprehensive overview of how TLT is applied within lifelong learning contexts, identifying patterns and variations in its functional use. Second, it advances theoretical understanding by examining how holistic dimensions are incorporated into TLT, thereby contributing to the development of a more integrated conceptual framework. Third, it offers practical implications for educators and policymakers by highlighting the importance of designing learning environments that support not only knowledge acquisition but also critical reflection, experiential engagement, and value-oriented transformation.

Ultimately, this study seeks to position holistic transformative learning as a comprehensive and evolving framework for understanding lifelong learning in contemporary society. By bridging the gap between TLT and lifelong learning research, it contributes to a deeper and more nuanced

understanding of how individuals learn, change, and grow in increasingly complex and uncertain environments.

2. Literature Review

2.1. Transformative Learning Theory

TLT, originally developed by Mezirow [9], conceptualizes adult learning as a process of critical reflection that leads to a transformation of meaning perspectives [21, 22]. Central to TLT is the notion that individuals interpret experiences through existing frames of reference, which can be revised through reflective discourse and rational examination [23]. Transformative learning is often initiated by a disorienting dilemma that challenges previously held assumptions, prompting learners to engage in critical self-reflection and ultimately adopt more inclusive and integrative perspectives [11, 12, 24].

Subsequent scholarship has expanded TLT beyond its initial cognitive-rational emphasis. Critics have argued that Mezirow's framework underrepresents the roles of emotion, embodiment, and social context in learning processes. In response, scholars have incorporated affective, relational, and cultural dimensions into transformative learning, emphasizing that transformation is not solely an individual cognitive process but also a socially situated and emotionally mediated experience [15, 16]. This shift has led to a more holistic understanding of transformation, integrating cognitive, experiential, and emancipatory elements.

Furthermore, contemporary research highlights the applicability of TLT across diverse contexts, including higher education [7, 25, 26], community development [6, 21], and professional learning [27, 28]. Transformative learning has been associated with identity development, empowerment, and social change, positioning it as a critical framework for understanding lifelong learning processes [14, 29-31]. Recent studies have also explored the role of dialogue, narrative, and experiential learning as mechanisms facilitating transformation, suggesting that learning environments play a crucial role in enabling critical reflection and perspective change [17, 18].

Overall, TLT has evolved from a predominantly cognitive theory to a multidimensional framework that captures the complexity of adult learning. Its continued development reflects an ongoing effort to reconcile individual transformation with broader social and cultural contexts, making it particularly relevant for examining holistic approaches to lifelong learning.

2.2. Lifelong Learning

Lifelong learning has emerged as a central concept in contemporary education, reflecting the need for continuous learning across the lifespan in response to rapid social, economic, and technological change [2, 3]. It is broadly defined as all learning activities undertaken throughout life to improve knowledge, skills, and competencies in personal, civic, social, and employment-related contexts [32, 33]. This perspective expands learning beyond formal education, encompassing non-formal and informal learning processes embedded in everyday life [34, 35].

Early conceptualizations of lifelong learning emphasized its role in human development and social participation. Jarvis [36] conceptualizes lifelong learning as a continuous process of meaning-making through experience, highlighting the interaction between individuals and their social environments. Similarly, Field [37] argues that lifelong learning is closely linked to social capital, as learning activities foster networks, trust, and civic engagement. These perspectives underscore that lifelong learning is not merely an individual pursuit but a socially situated process shaped by institutional and cultural contexts.

More recent scholarship has framed lifelong learning as essential for adaptability and resilience in knowledge-based societies [38-40]. As individuals encounter changing labor markets and technological disruptions, lifelong learning supports continuous skill development and identity reconstruction [4, 19, 41]. In addition, policy-oriented approaches emphasize their role in promoting employability, inclusion, and sustainable development, positioning lifelong learning as a key driver of both individual and societal well-being [5, 20, 42].

Overall, lifelong learning provides a comprehensive framework for understanding learning as an ongoing, context-dependent process that integrates formal, non-formal, and informal dimensions. Its alignment with transformative learning perspectives further highlights its importance in fostering critical reflection, personal growth, and social change.

3. Method

This study adopts a systematic literature review (SLR) design to examine how TLT has been applied and conceptualized in the context of lifelong learning. The review is guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework, which provides a structured and transparent approach to identifying, screening, and synthesizing relevant literature [43]. PRISMA is widely recognized as a rigorous methodological standard for systematic reviews, ensuring replicability, methodological clarity, and comprehensive reporting across research stages.

Systematic literature reviews have been increasingly adopted in social science research as a robust method for synthesizing fragmented knowledge and advancing theoretical development [44]. Unlike traditional narrative reviews, SLRs follow explicit procedures for search, selection, and analysis, thereby reducing bias and enhancing the reliability of findings [45]. In particular, PRISMA has been acknowledged as an effective framework for qualitative and interdisciplinary research, as it allows for systematic integration of diverse evidence while maintaining transparency in decision-making processes [43].

The PRISMA methodology consists of four sequential stages: identification, screening, eligibility, and inclusion. Following this framework, the present study conducted comprehensive searches across multiple academic databases using combinations of key terms such as “transformative learning,” “transformational learning,” “lifelong learning,” “lifelong education,” “holistic,” and “integrated.” To ensure breadth and relevance, Boolean operators (AND, OR) and keyword variations were employed, and supplementary searches were conducted through reference lists and prior review studies.

Inclusion criteria required that studies explicitly employ TLT as a central theoretical framework in the abstract, introduction, or conclusion, and that they address lifelong learning as a primary research focus. Only peer-reviewed journal articles published in English between 2015 and 2024 were considered. Exclusion criteria eliminated studies that referenced TLT or lifelong learning only peripherally, as well as articles from unrelated disciplines (e.g., engineering, computer science, or medical fields) that did not align with the conceptual scope of adult and lifelong learning research.

The final set of selected studies was subjected to qualitative content analysis using NVivo 15. Coding procedures were guided by three analytical dimensions corresponding to the research questions: (1) the functional role of TLT (e.g., core theoretical framework, supporting lens), (2) the theoretical positioning of holistic approaches (e.g., endorsement, supplementation, expansion, new proposal), and (3) the components of holistic transformative learning (e.g., cognitive, experiential, and emancipatory dimensions). This coding approach enabled systematic comparison across studies and facilitated the identification of patterns in how TLT is conceptualized and applied in lifelong learning contexts.

The PRISMA 27-item checklist was used to guide reporting, and a flow diagram was constructed to document the study selection process. By integrating systematic search procedures with qualitative content analysis, this methodological approach ensures a rigorous and comprehensive synthesis of existing literature on transformative learning and lifelong learning.

3.1. Identification

The identification stage followed the PRISMA 2020 framework to ensure a comprehensive and systematic search of relevant literature [43]. A total of five major academic databases, Scopus, JSTOR, ERIC, ProQuest, and Google Scholar, were searched to capture multidisciplinary research on transformative learning and lifelong learning. Additionally, supplementary records were identified through reference lists of previously published studies and relevant review articles.

The search strategy employed combinations of keywords, including “transformative learning,” “transformational learning,” “lifelong learning,” and “lifelong education,” applied to title, abstract, and keyword fields. Boolean operators (AND, OR) were used to refine and expand the search scope. The search was restricted to publications between 2015 and 2024, written in English, and published as peer-reviewed journal articles within the education and social science domains. Additionally, only open-access (OA) articles were included to ensure full-text availability and transparency in the review process.

The initial search yielded 987 records from databases, with an additional 43 records identified through other sources, resulting in a total of 1,030 records. After applying database-level filters (year, language, and journal article type), 330 records remained across sources; subsequent duplicate removal and preliminary eligibility screening reduced this number to 304 records for the PRISMA retrieval and screening stages.

3.2. Screening

During the screening stage, records were assessed based on title, abstract, and keyword relevance. Of the 304 records sought for retrieval, 26 records were excluded due to inaccessibility, non-journal formats, incomplete data, or lack of open-access availability, leaving 278 records for screening. Screening criteria focused on whether studies explicitly addressed transformative learning and lifelong learning within relevant academic fields. A total of 169 records were excluded at this stage because they did not sufficiently engage with either TLT or lifelong learning as central constructs, or because they were outside the scope of education and social sciences. As a result, 109 studies advanced to the full-text eligibility assessment stage. A detailed breakdown of the screening and eligibility process across databases is presented in Table 1.

Table 1.

Database-specific screening outcomes and reasons for exclusion across PRISMA stages.

Database	Records Retrieved	Not Journal Articles	Not Accessible	Not Related to TLT or LLL	Not Matching Aims & Objectives
Scopus	35	1	2	5	18
JSTOR	143	19	0	109	15
ERIC	40	1	0	31	8
ProQuest	30	0	0	14	16
Google Scholar	13	1	2	10	0
Other Sources	43	0	0	0	0
Total	304	22	4	169	57

3.3. Inclusion

Full-text articles were evaluated against predefined inclusion and exclusion criteria derived from the study’s three research questions. Inclusion required that studies explicitly employ TLT as a central theoretical framework in the abstract, introduction, or conclusion, while also addressing lifelong learning (or lifelong education) as a primary topic. Exclusion criteria eliminated studies that referenced TLT or lifelong learning only peripherally, as well as those conducted in unrelated disciplines such as computer science, engineering, sports, or medical research. During full-text assessment, 57 articles were excluded due to a lack of alignment with the study’s aims and objectives. Ultimately, 52 articles were included in the final systematic review. The study selection process is illustrated in Figure 1.

3.4. Data Extraction and Synthesis

Data extraction was conducted using a structured coding framework aligned with the study's research questions. Each selected article was systematically reviewed and coded based on metadata and analytical dimensions, including study area, theoretical use, research type, methodology, and author regional background.

The extraction process focused on three core dimensions:

RQ1: Functional use of TLT (e.g., core theory, supporting theory, superficial use, critical/oppositional)

RQ2: Theoretical positioning of holistic approaches (e.g., endorsement, supplementation, expansion, new proposals)

RQ3: Components of holistic transformative learning (e.g., explicit, implicit, emancipatory)

Qualitative content analysis was conducted using NVivo software to ensure systematic organization and consistency of coding. This approach enabled the identification of patterns, relationships, and conceptual structures across the literature.

Consistent with systematic review methodology, this study synthesizes findings at a meta-level, integrating insights from individual studies to develop a coherent conceptual understanding of holistic transformative learning [44, 46]. This synthesis contributes to theory development by identifying gaps, patterns, and emerging directions in the literature. The coding schemes presented in Tables 2–4 summarize the structured categories and analytical codes employed during data extraction, ensuring transparency and consistency in classifying study characteristics and theoretical dimensions. The coding framework for holistic components (Table 4) was grounded in Yang's [47] holistic theory of adult learning, which conceptualizes learning as comprising multiple knowledge dimensions, explicit, implicit, and emancipatory, providing a structured basis for categorizing the multidimensional aspects of transformative learning [47]. Coding was conducted iteratively, with category definitions refined through constant comparison across studies to enhance internal consistency. To strengthen analytical rigor, coding decisions were systematically reviewed to ensure conceptual clarity and reliability across the dataset. Because some studies exhibited overlapping theoretical roles, multiple codes were allowed; therefore, frequency counts may exceed the total number of included studies.

Table 2.
Coding Framework for Study Characteristics.

Category	Code	Description
Study Area	HE	Higher Education
	NIE	Non-formal or Informal Education
	GE	General Education
	AL	Adult and Lifelong Education
	SS	Social Science
	MS	Medical Studies
	AM	Arts and Music
	NS	Natural or Industrial Science
	ETC	Other fields
Theoretical Use	CT	Core Theory
	ST	Supporting Theory
	SU	Superficial Use
	C/O	Critical or Oppositional Use
Research Type	EMP	Empirical Study
	THE	Theoretical Study
Method	Qual	Qualitative
	Quan	Quantitative
	Mixed	Mixed Methods
	Com	Comparative Study
Author Region	EU	Europe
	NA	North America

	AS	Asia
	AF	Africa
	SA	South America
	OC	Oceania

Table 3.
Theoretical Positioning of Holistic Approaches to TLT.

Code	Category	Description
Endo	Endorsement	Supporting and applying Mezirow's TLT without major modification
Sup	Supplement	Extending TLT by incorporating additional dimensions (e.g., emotional, social)
Ext	Expansion	Applying TLT to new contexts or domains
NP	New Proposal	Proposing alternative or revised theoretical frameworks

Table 4.
Coding Scheme for Holistic Components of Transformative Learning.

Code	Component	Description	Indicators
EX	Explicit (Cognitive)	Knowledge based on cognition, beliefs, and rational reflection	Concepts, theories, beliefs, logical reasoning, critical thinking
IM	Implicit (Experiential)	Knowledge derived from experience and practice	Behavior, practice, tacit knowledge, intuition, lived experience.
EM	Emancipatory (Value-based)	Knowledge related to values, ethics, and transformation	Emotions, empowerment, ethics, spirituality, identity

A detailed overview of the included studies and their coding across analytical dimensions is provided in Figure 1 (see Supplementary Materials for the full dataset).

3.5. Risk of Bias Assessment

This review adopted a qualitative risk-of-bias assessment approach aligned with systematic review guidelines for interpretive and theory-driven synthesis, which is particularly appropriate for heterogeneous bodies of qualitative and theoretical research. Bias was assessed across three dimensions. First, selection bias was minimized through the use of multiple databases, clearly defined inclusion and exclusion criteria, and a structured PRISMA-based screening procedure. Second, publication bias was addressed by incorporating studies from diverse journals and supplementing database searches with additional sources, including backward reference tracking. Third, conceptual bias was evaluated by examining the extent to which each study explicitly engaged with TLT and lifelong learning as central constructs, thereby excluding studies with only peripheral or rhetorical use of these concepts.

To enhance analytical rigor, coding decisions were applied consistently across all included studies using a predefined coding framework and were iteratively refined through constant comparison. Rather than assigning numerical quality scores, studies were assessed in terms of conceptual clarity, theoretical integration, and alignment with review objectives. This approach aligns with prior systematic reviews of qualitative and theoretical literature, where interpretive validity and transparency are prioritized over formal scoring procedures.

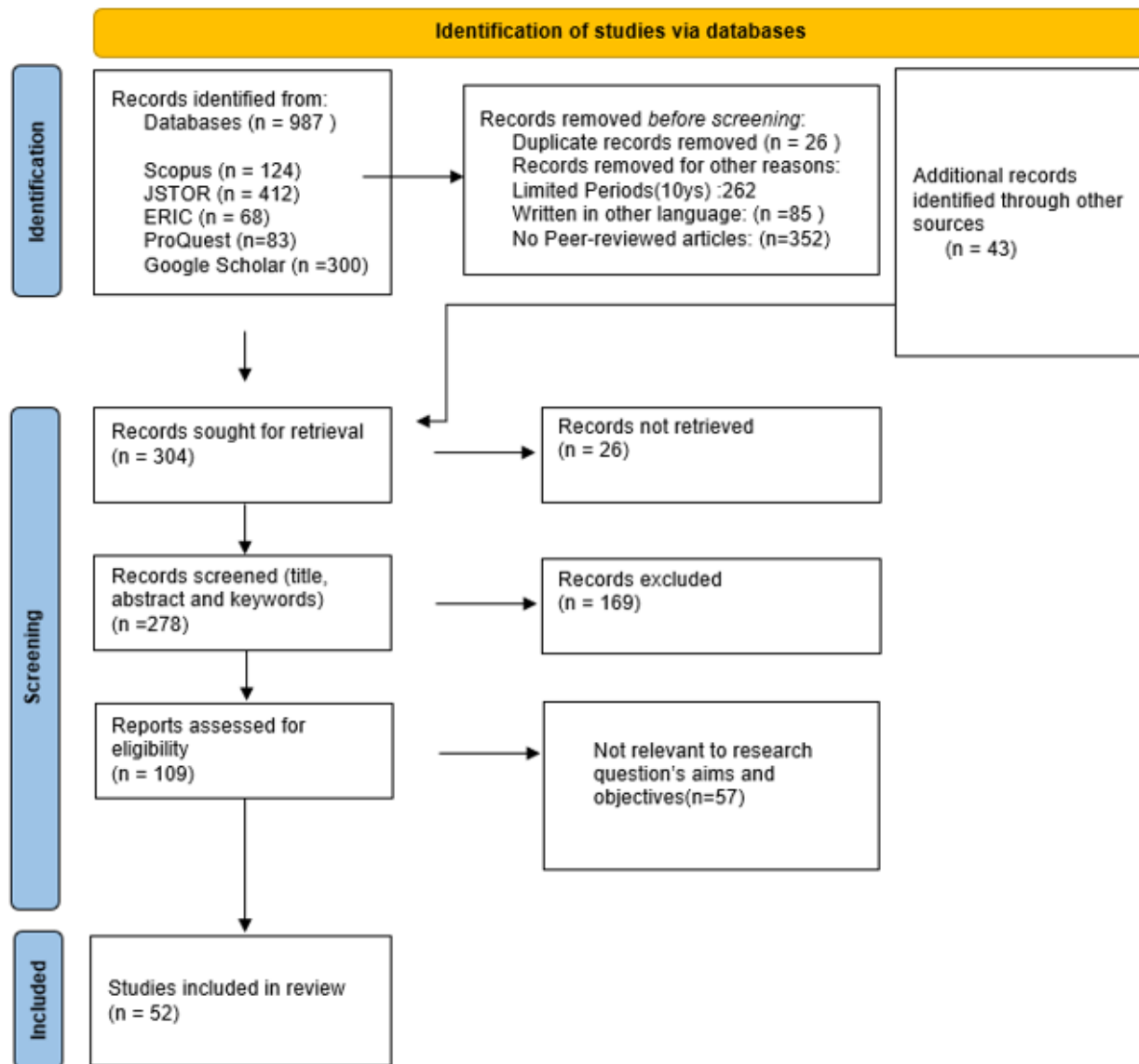


Figure 1.
PRISMA flow diagram of the study selection process.

3.6. Data Analysis

The analysis combined descriptive and qualitative synthesis techniques. First, descriptive statistics summarized the distribution of studies across categories, including theoretical use, methodological approaches, and regional contexts. Second, qualitative thematic analysis examined how TLT is conceptualized, applied, and extended in relation to lifelong learning.

The analysis specifically focused on identifying: 1) patterns in the functional role of TLT across studies, 2) variations in the theoretical positioning of holistic approaches, and 3) the integration of cognitive, experiential, and emancipatory components.

By integrating these dimensions, the study provides a comprehensive understanding of how transformative learning is evolving toward a more holistic framework within lifelong learning research. This analytical approach aligns with established systematic review methodologies that emphasize both aggregation and interpretation of evidence to support theory development [44, 45].

4. Results

This section presents the findings of the systematic literature review based on 52 peer-reviewed studies published between 2015 and 2024. Guided by the three research questions, the results are organized around the functional use of TLT, the theoretical positioning of holistic approaches, and the emphasized components of holistic transformative learning.

4.1. Functional Roles of TLT (RQ1)

Analysis of the reviewed studies indicates that TLT is predominantly employed as a core analytical framework in lifelong learning research. As shown in Table 5, 38 studies (73.1%) utilized TLT as the primary theoretical lens guiding research design, interpretation, and pedagogical implications. These studies typically conceptualized learning as a process of critical reflection, identity reconstruction, and perspective transformation embedded in professional, community, and personal contexts. Core-theory applications were particularly evident in studies addressing organizational change, digital transitions, and professional development. For example, research on digital literacy and organizational learning framed cognitive conflict and dialogic engagement as mechanisms of transformation [48], while pandemic-related parenting studies analyzed how disciplinary discourses shaped adult learning and self-regulation [49]. In higher education and arts-based contexts, transformative learning was operationalized through threshold concepts and reflective practice, reinforcing its explanatory function in curriculum design [50]. Eight studies (15.4%) employed TLT as a supporting theoretical framework, integrating it with complementary perspectives such as critical discourse analysis, social-practice theory, and experiential learning. In these cases, TLT contributed interpretive depth without serving as the exclusive analytical structure. For instance, discourse-oriented studies combined Foucauldian perspectives with transformative reflection to examine learning within power relations [51], while professional learning research integrated TLT with developmental models [52]. Seven studies (13.5%) were classified as exhibiting superficial use, where TLT was referenced in introductory sections but weakly connected to empirical analysis. Although such studies acknowledged transformation rhetorically, they relied primarily on alternative frameworks in data interpretation. One study adopted a critical or oppositional stance, using TLT as a comparative reference to expose limitations in self-directed learning theory [53]. Overall, RQ1 findings demonstrate that TLT continues to function primarily as a foundational explanatory model in lifelong learning research. The dominance of core-theory applications suggests sustained theoretical coherence, while supporting and critical uses indicate selective adaptation and contestation.

Table 5.
Functional Roles of TLT in Reviewed Studies.

Functional Category	Description	Studies	Percentage
Core Theory (CT)	TLT as primary analytical framework	38	73.1%
Supporting Theory (ST)	TLT combined with other theories	8	15.4%
Superficial Use (SU)	TLT cited without analytical integration	7	13.5%
Critical/Oppositional (C/O)	TLT critically examined	1	1.9%

4.2. Theoretical Positioning of Holistic Approaches (RQ2)

RQ2 examined how holistic approaches are positioned in relation to TLT. As shown in Table 6, extension was the most prevalent positioning strategy, appearing in 39 studies (75.0%). Extension-oriented research retained core transformative concepts while applying them to emerging learning contexts such as digital platforms, migration education, community activism, and interdisciplinary learning. For example, typological analyses expanded TLT by systematizing diverse transformation forms [29], while studies on adult agency reframed transformation through participatory and relational processes [54]. Digital learning research adapted reflective practices to online environments, demonstrating contextual flexibility [55]. Supplementary positioning appeared in 11 studies (21.2%), where scholars augmented TLT with affective, relational, or cultural frameworks. These studies argued

that cognitive reflection alone cannot adequately explain lifelong learning. Research integrating emotional intelligence, spirituality, and social justice perspectives exemplified this approach [56, 57]. Supplementation thus functioned as a strategy for enhancing theoretical completeness. Endorsement was observed in 12 studies (23.1%), primarily within institutional and professional education contexts. These studies defended classical TLT, emphasizing rational discourse and premise reflection as sufficient foundations for holistic development [58]. Emotional and social dimensions were treated as implicit components of reflective practice. New proposal positioning was the least frequent (13.5%) and appeared mainly in culturally grounded and arts-based research. These studies challenged Western rationalism and proposed relational, embodied, or indigenous models of transformation [59, 60]. Although limited in number, they contributed to theoretical pluralism. Many studies were multi-coded, reflecting hybrid positioning. Extension frequently co-occurred with supplementation or endorsement, indicating that scholars tend to preserve TLT while incrementally expanding its scope. This pattern suggests that holistic transformative learning is developing through cumulative adaptation rather than radical paradigm replacement.

Table 6.
Positioning of Holistic Approaches within TLT.

Positioning Category	Description	Studies	Percentage
Endorsement (End)	Support classical TLT	12	23.1%
Supplement (Sup)	Add new dimensions	11	21.2%
Extension (Ext)	Apply to new contexts	39	75.0%
New Proposal (NP)	Propose alternative models	7	13.5%

4.3. Emphasized Components of Holistic Transformative Learning (RQ3)

RQ3 investigated which components of holistic transformative learning are emphasized in the literature. Table 7 shows that explicit (cognitive) components appeared in 43 studies (82.7%), implicit (experiential) components in 42 studies (80.8%), and emancipatory (value-oriented) components in 39 studies (75.0%). Thirty-one studies (59.6%) integrated all three dimensions. Explicit components were most systematically operationalized. Many studies focused on belief revision, meaning restructuring, and critical thinking as indicators of transformation [61, 62]. Structured reflection, dialogic learning, and conceptual clarification were frequently emphasized. Implicit components were prominent in research on professional identity, community learning, and informal education. Studies highlighted experiential participation, tacit knowledge, and narrative construction as drivers of change [63, 64]. These findings underscore the importance of embodied and relational learning processes. Emancipatory components were emphasized in socially engaged research. Studies addressing inequality, inclusion, and civic participation framed transformation as empowerment and ethical reorientation [65, 66]. Emotional and spiritual development were also highlighted in arts-based and narrative pedagogies [67, 68]. Importantly, integrative studies demonstrated how cognitive, experiential, and value dimensions interact dynamically. Volunteer education, leadership training, and community programs often combined reflective analysis, practical engagement, and moral commitment [8, 14, 69]. This integrative pattern reflects an emerging consensus that sustainable lifelong learning requires multidimensional development.

Table 7.
Emphasized Holistic Components.

Component	Description	Studies	Percentage
Explicit (EX)	Cognitive reflection, beliefs	43	82.7%
Implicit (IM)	Experience, practice, tacit knowing	42	80.8%
Emancipatory (EM)	Values, emotions, empowerment	39	75.0%
All Three Components	EX + IM + EM	31	59.6%

5. Discussion

5.1. Functional Roles of TLT in Lifelong Learning Studies

Consistent with the RQ1 coding results, the analysis indicates that TLT is most frequently mobilized as a primary organizing framework through which lifelong learning processes are interpreted, rather than as a peripheral or illustrative reference. This predominance suggests that TLT continues to function as a stabilizing theoretical anchor in the field, structuring how scholars conceptualize meaning-making under conditions of social, technological, and institutional change.

When employed as a core theoretical framework, TLT is not merely used to describe learning outcomes but to explain the mechanisms through which transformation unfolds. Across diverse contexts, transformation is consistently framed as a process linking disorienting experiences, critical reflection, and perspective shifts to broader trajectories of identity reconstruction and social participation. For instance, in organizational and digital contexts, shifts in technological environments are interpreted as triggers of cognitive disruption and dialogic engagement, positioning transformation as a response to evolving socio-technical demands [48]. Similarly, studies examining everyday life contexts, such as parenting under pandemic conditions, reveal how discursive pressures and normative expectations compel individuals to renegotiate identity and meaning structures, aligning with TLT's emphasis on contextualized transformation [49]. The incorporation of affective dimensions, particularly through neuroscience-informed perspectives, further reinforces the role of TLT as an interpretive framework capable of accommodating both cognitive and emotional processes [10].

A second notable pattern is the use of TLT to conceptualize transitional or liminal learning processes. In higher education and arts-based contexts, threshold concepts are positioned as critical junctures through which learners reorganize meaning and identity, effectively translating transformative learning into pedagogical design principles [50]. In civic and activist learning, transformation is similarly interpreted as an emergent property of engagement trajectories, where reflective processes enable sustained participation and evolving forms of agency [54]. These applications suggest that TLT increasingly functions as a conceptual bridge between individual learning experiences and broader developmental or societal processes.

Beyond its dominant role as a core framework, TLT is also employed as a supporting theoretical lens that complements other conceptual approaches. In such cases, TLT contributes interpretive depth by foregrounding reflective disruption and meaning transformation, while alternative theories account for structural, discursive, or institutional dimensions of learning [51, 52]. This pattern indicates that TLT is often integrated into multi-theoretical configurations, where it plays a specific explanatory role rather than serving as a comprehensive framework. Notably, this supporting function highlights the adaptability of TLT, allowing it to be embedded within broader analytical architectures without losing its conceptual distinctiveness.

At the same time, the presence of superficial or ambiguous uses of TLT reveals an important boundary condition in the literature. In these cases, TLT is invoked rhetorically but not systematically operationalized in research design or analysis, resulting in weaker theory-to-evidence integration. The identification of such cases, particularly those coded as SU or ambiguously positioned between ST and SU, underscores the need for clearer criteria in determining what constitutes substantive theoretical application. This distinction is analytically significant, as it differentiates between studies that meaningfully engage with transformation as an explanatory construct and those that reference it primarily for conceptual legitimacy.

Finally, a small subset of studies adopts a critical or oppositional stance toward TLT, using it as a comparative reference point to interrogate its limitations, particularly in relation to adjacent frameworks such as self-directed learning [53]. Although limited in number, these cases are theoretically important, as they position TLT not as an uncontested foundation but as a framework subject to refinement and critique within the broader landscape of adult learning theory.

Taken together, these patterns indicate that TLT operates across a spectrum of functional roles, ranging from a foundational explanatory model to a complementary interpretive lens and critical

reference point. Importantly, the dominance of core-theory applications, combined with the presence of supporting and critical uses, suggests that TLT is not being replaced but rather continuously recontextualized within lifelong learning research. This finding indicates that TLT functions not only as a theoretical lens but as a structuring logic that organizes how lifelong learning processes are interpreted across diverse contexts, thereby reinforcing its enduring relevance while also highlighting its adaptive capacity.

5.2. Theoretical Positioning of Holistic Approaches within TLT

Building on the RQ2 classification, the findings indicate that holistic approaches to TLT are not positioned as discrete or competing paradigms but rather as a layered continuum of theoretical adjustments that collectively reshape the scope of transformative learning. Across the included studies, holistic positioning unfolds along four interrelated modes: endorsement, supplementation, extension, and new proposals, each reflecting a distinct strategy for negotiating the boundaries of TLT within lifelong learning research.

Among these, extension emerges as the most dominant positioning logic, indicating that scholars primarily seek to expand rather than replace the theoretical architecture of TLT. In extension-oriented studies, the core assumptions of transformative learning, such as perspective transformation and critical reflection, are retained but recontextualized within new epistemic, social, or pedagogical domains. For instance, conceptualizations of transformation through knowledge structures and threshold concepts reinterpret transformative learning as a shift in epistemic access rather than solely as a response to disorienting dilemmas [70]. Similarly, metatheoretical frameworks position TLT as a higher-order, integrative schema capable of accommodating diverse forms of transformation, thereby extending its applicability across heterogeneous learning environments [29]. These findings suggest that extension functions as a mechanism of theoretical elasticity, allowing TLT to remain relevant in increasingly complex and plural learning ecologies.

A second major positioning is supplementation, where scholars explicitly address perceived limitations of classical TLT by incorporating affective, relational, and socio-cultural dimensions. In contrast to extension, which preserves the theoretical structure, supplementation intervenes at the level of explanatory completeness. Studies adopting this approach argue that cognitive reflection alone is insufficient to capture the depth and complexity of lifelong learning, particularly in contexts shaped by inequality, identity, and power relations. Comparative analyses, for example, highlight the need to integrate embodiment and social context into transformation theory, thereby enriching its explanatory capacity [53]. Empirical studies further demonstrate how social justice, relational learning, and cultural positioning mediate transformation processes, positioning “holistic” not as an additive feature but as a necessary condition for theoretical adequacy [56, 57].

In contrast, endorsement reflects a more conservative positioning, in which scholars maintain that the original formulation of TLT remains theoretically sufficient to account for holistic learning processes. Rather than introducing new constructs, these studies interpret emotional, relational, and ethical dimensions as already embedded within the process of critical reflection. From this perspective, TLT is viewed as an internally coherent framework capable of accommodating complexity through careful application rather than structural modification [55, 58]. Endorsement thus represents a position of theoretical confidence, emphasizing continuity and interpretive depth over expansion.

A smaller but conceptually significant subset of studies advances new proposals or partial reconceptualizations of TLT. These approaches challenge the implicit assumptions of classical TLT, particularly its emphasis on rationality and individual cognition, by foregrounding transformation as embodied, relational, and practice-based. In these accounts, transformation is reframed as a process of participation, agency, and ethical becoming, rather than merely a shift in internal meaning structures. This is particularly evident in scholarship grounded in activism, arts-based learning, and culturally situated education, where transformation is conceptualized as a reconfiguration of lived experience and

social engagement over time [59, 60]. Such proposals signal a move toward ontological expansion, redefining what counts as transformation in lifelong learning contexts.

Importantly, these positioning modes are not mutually exclusive. The dataset reveals frequent instances of multi-coded studies (e.g., Ext + Sup, End + Ext, Ext + NP), indicating that scholars often combine multiple strategies to adapt TLT to complex learning environments. This hybridity suggests that holistic TLT is not evolving through paradigm replacement but through cumulative and iterative modification. Rather than displacing the original theory, contemporary research tends to preserve TLT as a reference framework while incrementally extending and enriching it through complementary perspectives [71-73].

From a systematic review perspective, this pattern represents a substantive theoretical contribution. It demonstrates that holistic transformative learning should not be conceptualized as a singular theoretical alternative but as an evolving ecosystem of extensions, supplements, and reconceptualizations that remain anchored in the foundational logic of transformation. In this sense, TLT functions as a generative core rather than a fixed model, enabling ongoing theoretical innovation while maintaining conceptual coherence across lifelong learning research [43, 45]. Taken together, these findings suggest that holistic TLT is best understood as an adaptive and layered theoretical configuration that expands the explanatory boundaries of transformative learning without severing its foundational principles.

5.3. Emphasized Components of Holistic Transformative Learning

Addressing RQ3, the findings indicate that holistic transformative learning is consistently conceptualized as a multidimensional system in which cognitive, experiential, and emancipatory components are deeply interwoven rather than analytically separable. Across the reviewed studies, transformation is rarely framed as a purely cognitive shift; instead, it emerges through the interaction of reflection, lived experience, and value-oriented reorientation within lifelong learning contexts.

The explicit–cognitive component remains a central entry point for transformation, particularly in studies emphasizing meaning-making, conceptual reframing, and perspective revision. In these accounts, transformation is often initiated through structured reflection, critical inquiry, and interpretive reassessment of prior assumptions. For instance, research on instructional design and adult learning interventions highlights how learners reorganize knowledge through guided reflection and scaffolding processes, positioning cognition as a necessary mechanism for transformation [61, 62]. However, the reviewed studies consistently suggest that cognitive change alone does not fully account for transformation; rather, it operates as one dimension within a broader relational and experiential process.

The implicit–experiential dimension further extends this understanding by foregrounding the role of embodied practice, participation, and narrative identity development. Studies in this domain emphasize that transformation unfolds through engagement in real-world contexts, where learners negotiate meaning through action, interaction, and lived experience. For example, professional and personal development trajectories are frequently described as iterative processes in which transformation is enacted through practice rather than solely through reflection [63, 74]. Similarly, accounts of adult learning highlight how tacit knowledge and situated participation shape transformation over time, reinforcing the idea that learning is embedded in social routines and contexts [64, 75]. This perspective positions experience not as a secondary outcome of learning but as a constitutive medium through which transformation becomes possible.

The emancipatory value component introduces a further layer by framing transformation as an ethical and agentic process oriented toward empowerment, inclusion, and social change. In this strand of the literature, transformation is not limited to shifts in understanding but involves the reconfiguration of agency, voice, and participation in broader social structures. Studies focusing on marginalized or vulnerable populations, for instance, conceptualize transformation as the development of critical consciousness and the capacity for action within constrained contexts [65, 66]. In addition, work emphasizing emotional and spiritual dimensions highlights that affect is not peripheral but central to

how individuals construct and reconstruct meaning, positioning emotion as an epistemically significant component of learning [67, 76].

Importantly, the empirical and theoretical evidence does not support treating these three components as discrete categories. Instead, the dominant pattern across the corpus is integrative and interactional. Collaborative and dialogic practices, such as cooperative inquiry and participatory learning, illustrate how reflection, experience, and empowerment are co-constituted within shared learning processes [77, 78]. Similarly, pedagogical approaches grounded in arts, narrative, and relational engagement demonstrate that holistic transformation is enacted through mediational practices that simultaneously engage cognitive, experiential, and value-based dimensions [68, 79]. These findings suggest that transformation is best understood as a relational system rather than a sequence of independent processes.

Moreover, the reviewed literature indicates that holistic components travel across diverse learning contexts, including adult education, informal learning, community engagement, and professional development, highlighting the contextual fluidity of transformative processes [80, 81]. This reinforces the view that holistic transformative learning operates as a cross-contextual framework capable of integrating multiple forms of learning within a unified conceptual structure.

From a theoretical perspective, these findings support a shift from a component-based view of TLT toward a systems-oriented conceptualization. Rather than treating cognitive, experiential, and emancipatory dimensions as additive elements, the evidence suggests that they function as mutually constitutive mechanisms within a dynamic learning ecology. In this configuration, reflection is socially situated, experience is epistemically productive, and agency is both an outcome and a driver of transformation. This integrative logic challenges the traditional emphasis on cognition as the primary locus of transformation and instead positions holistic TLT as a multidimensional system of meaning-making.

Taken together with the findings from RQ1 and RQ2, the results indicate that transformative learning in lifelong learning contexts is evolving toward a meta-theoretical configuration characterized by structural integration rather than theoretical substitution. Future research should therefore move beyond extending individual components and instead focus on developing integrative models that explain how cognitive, experiential, and emancipatory processes dynamically interact across contexts, thereby advancing TLT as a comprehensive framework for understanding lifelong learning in complex social environments.

6. Conclusion

This systematic review examined how TLT is applied, positioned, and operationalized within holistic lifelong learning research. The findings reveal both continuity and evolution in the use of TLT, highlighting its enduring relevance and adaptive capacity.

6.1. Theoretical Implications

The findings of this study provide several important theoretical implications for the development of TLT within lifelong learning research. First, the dominance of core-theory applications confirms that TLT continues to function as a central explanatory framework for understanding adult learning processes. Across the reviewed studies, Mezirow's foundational concepts, particularly critical reflection and perspective transformation, remain widely employed to interpret identity reconstruction, meaning-making, and developmental change across diverse contexts. This persistent reliance suggests that TLT retains strong epistemic legitimacy and theoretical coherence within adult education scholarship, even as the scope of lifelong learning expands into increasingly complex social and institutional environments [9, 11].

Second, the widespread use of extension and supplementation indicates a clear shift toward addressing the limitations of purely cognitive interpretations of transformation. Scholars increasingly incorporate affective, relational, and socio-cultural dimensions into TLT, thereby expanding its

explanatory capacity. These developments reflect a broader movement toward holistic conceptualizations of learning, in which transformation is understood as an interaction among multiple dimensions rather than a solely rational process. This perspective aligns with holistic epistemological frameworks that conceptualize learning as the integration of explicit (cognitive), implicit (experiential), and emancipatory (value-oriented) knowledge domains [47]. Moreover, such integrative approaches resonate with contemporary critiques emphasizing the importance of embodiment, emotion, and social context in adult learning [15, 16].

Third, the relatively limited emergence of entirely new theoretical proposals suggests that the evolution of TLT is characterized more by refinement and adaptation than by paradigm replacement. Rather than rejecting the foundational structure of TLT, most studies embed holistic elements within the existing framework, resulting in a layered and hybrid theoretical landscape. This pattern indicates that TLT functions as a generative core that supports ongoing theoretical innovation while maintaining conceptual continuity. Taken together, these findings suggest that transformative learning is evolving toward a meta-theoretical configuration in which cognitive, experiential, and emancipatory dimensions are systematically integrated. This evolution positions TLT not as a static theory but as an adaptive and expandable framework capable of accommodating the multidimensional nature of lifelong learning in contemporary society.

6.2. Pedagogical and Practical Implications

The findings of this study offer several important implications for the design and implementation of lifelong learning environments. First, the multidimensional nature of transformative learning underscores the need for educational practices that move beyond purely cognitive instruction. Learning environments should be intentionally structured to integrate reflective, experiential, and value-oriented dimensions. In particular, pedagogical designs that incorporate critical dialogue, collaborative inquiry, and experiential activities can facilitate deeper engagement with learning processes and support sustained perspective transformation.

Second, the results suggest that reflective practice alone is insufficient unless it is embedded within relational and socially interactive contexts. Educators should therefore prioritize dialogic learning spaces where learners can engage with diverse perspectives, negotiate meaning, and reconstruct their identities through interaction. Approaches such as problem-based learning, narrative inquiry, and community-based projects are especially effective in fostering such environments.

Third, professional development programs should be designed to support not only skill acquisition but also identity development and emotional engagement. This includes integrating structured reflection, peer collaboration, and mentoring systems that enable learners to process experiences and navigate transformative change. In workplace and organizational settings, learning interventions should emphasize adaptability, critical thinking, and ethical awareness as core competencies.

Fourth, in community and informal education contexts, participatory and empowerment-oriented approaches are essential. Programs should create opportunities for learners to exercise agency, voice, and collective action, particularly for marginalized or underrepresented groups. This aligns with the emancipatory dimension of transformative learning and supports broader social inclusion.

Finally, digital learning environments must be reconceptualized as interactive and meaning-making spaces rather than content delivery platforms. Technologies should be designed to facilitate dialogue, reflection, and identity exploration through features such as discussion forums, collaborative tools, and narrative-based interfaces. Collectively, these implications emphasize that transformative learning should be understood and implemented as a holistic, relational, and context-sensitive process.

6.3. Limitations and Future Research

This study follows a general PRISMA-based systematic review approach across multiple databases rather than restricting the corpus to a predefined set of journals; however, several limitations should be acknowledged. First, although the search strategy was designed to ensure breadth and rigor, the

inclusion of only English-language, peer-reviewed journal articles may have excluded relevant studies published in other languages or formats, potentially limiting the global representativeness of the findings. Second, the qualitative coding framework, while systematically applied and iteratively refined, involves an element of interpretive judgment, particularly in areas where studies were multi-coded across functional or theoretical categories. Third, the heterogeneity of empirical, theoretical, and methodological approaches within the corpus constrained the possibility of quantitative synthesis or direct comparison across studies.

Future research should extend this review by incorporating non-English and gray literature to enhance inclusivity and contextual diversity. Additionally, further studies could operationalize holistic transformative learning through measurable constructs and test integrative models using mixed-method or longitudinal designs. Developing theoretically grounded and empirically validated frameworks will be essential for strengthening the explanatory power of TLT in lifelong learning contexts.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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