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The Critical, Narrative and Conceptual Formulation of Lifelong Learning in Contemporary Education and Workplaces

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Abstract

Lifelong learning (LLL) has become a central global priority due to rapid technological change, evolving labour markets, digital transformation, and increasing educational inequalities. This paper presents a combined critical, narrative, and conceptual reviewed literature (2020–2026) on lifelong learning across multiple populations including teachers, university learners, older adults, disabled individuals, incarcerated women, expatriate professionals, and youth. The reviewed studies largely adopt quantitative cross-sectional approaches, with limited longitudinal and experimental designs. The Narrative synthesis highlights key determinants of LLL such as motivation, curiosity, self-reflection, self-directed learning, self-regulated learning, technology integration, and institutional support. Critical analysis reveals gaps in methodological rigor, equity perspectives, and conceptual clarity, especially the dominance of individual-level explanations over structural barriers. A conceptual framework is proposed positioning LLL as an ecosystem shaped by (a) individual psychological resources, (b) learning design and pedagogical strategies, and (c) socio-institutional and policy conditions. Implications for education systems, workplaces, adult education providers, and policymakers are discussed, followed by practical recommendations for enhancing inclusive lifelong learning pathways.

Keywords: *lifelong learning, adult education, self-directed learning, employability, project-based learning, policy, digital transformation*

1. Introduction

Lifelong learning is increasingly viewed not only as a personal competency but also as a societal necessity. The modern world demands continuous skill updating due to digitisation, demographic ageing, changing work environments, and crises such as pandemics. Lifelong learning has thus evolved from a philosophical ideal into a strategic tool for employability, social inclusion, and empowerment.

However, the literature indicates that while LLL is widely promoted, access to meaningful learning remains uneven across social groups. Disparities persist based on socioeconomic status, education level, disability, institutional support and digital access. This creates tension between the rhetoric of “learning for all” and the reality of stratified participation.

This review examines recent reviewed research (2020–2026) to critically assess how LLL is conceptualised, what predicts it, and what barriers remain across diverse contexts.

2. Objectives of the Review

This paper aims to:

1. Narratively summarise contemporary evidence on LLL determinants, outcomes, and contexts.
2. Critically evaluate methodological and conceptual patterns in LLL research.
3. Develop a conceptual understanding/framework for LLL from an ecosystem perspective.
4. Present implications for education, workplace learning, and policy.
5. Provide recommendations to strengthen inclusive and effective lifelong learning practices.

3. Critical, Narrative and Conceptual Approach

This is a critical, narrative and conceptual review based on the compiled empirical and theoretical studies provided in the reviewed literature (2020–2026). The review includes quantitative, qualitative, and mixed-method studies across multiple settings. The analysis proceeded through:

- Thematic organisation of findings,
- Cross-study comparison,
- Critical evaluation of methodological limitations,
- Generation of conceptual synthesis.

4. Narrative Review of Key Themes

4.1 Psychological and Motivational Foundations of Lifelong Learning

A recurring theme is that LLL is strongly linked to internal learner characteristics such as curiosity, openness, intrinsic motivation, and reflective capacity. Åström et al. (2025) found self-reflection and trait curiosity as strong predictors of positive attitudes toward LLL, with intrinsic motivation also contributing.

Similarly, teachers' LLL tendencies relate to professional attitudes, life satisfaction, and job satisfaction (Korkman & Sapancı, 2025; Yıldırım & Çatak, 2025). These findings frame lifelong learning as psychologically driven and identity-oriented—where individuals who see themselves as evolving learners are more likely to engage in continuous development.

Critical reflection: While motivation-focused models are valuable, they risk overlooking structural realities: people may want to learn but be blocked by financial cost, time scarcity, disability, or institutional neglect.

4.2 Self-Directed and Self-Regulated Learning as Mechanisms of LLL

Self-directed learning (SDL) and self-regulated learning (SRL) appear as central mechanisms converting LLL intention into meaningful learning outcomes.

Abou Said & Abdallah (2024) showed SDL strengthens the relationship between LLL and professional growth among university educators. Nguyen & Zarra-Nezhad (2023) also emphasised resource management, motivation, and cognitive engagement in sustaining LLL competencies.

Nguyen et al. (2024) explored SRL challenges among lifelong learners, identifying barriers such as goal-setting difficulties and time management issues. Their work highlights the need for SRL-supportive learning analytics tools.

Interpretation: The evidence suggests LLL is not only an "attitude" but a regulated practice, requiring planning, monitoring, and persistence.

4.3 Pedagogical Strategies for Building LLL Skills

LLL is increasingly shaped through innovative teaching methods, particularly Project-Based Learning (PBL) and design thinking.

Fernandes et al. (2025) found PBL improved teamwork, communication, real-world learning, and motivation among Social Education students. Nair et al. (2026) confirmed PBL positively affects engagement, knowledge retention, and especially self-efficacy, which emerged as a strong predictor of LLL skills.

Seevaratnam et al. (2023) argued design thinking supports lifelong learning through creativity, grit, and reflective collaboration.

Critical reflection: Most studies rely on self-reported perceptions rather than objective performance indicators. Future work must validate whether perceived improvements translate into long-term LLL behaviour.

4.4 Technology and Digital Learning as Enablers and Dividers

Technology appears in two opposing roles: an enabler of lifelong learning and a producer of digital inequality.

Eynon & Malmberg (2021) showed online learning engagement predicts personal and capital-enhancing outcomes, yet digital skills alone do not guarantee benefits. Hong (2024) found communication technologies help older adults through informational, emotional, and guidance support.

However, Han & El-Farabi (2025) warn online surveys may exclude those with low digital access, revealing methodological bias in digital-era studies.

Fernandes et al. (2025) reported students believed ChatGPT enhanced lifelong learning skills, while Cantaş et al. (2024) found AI anxiety was not linked to LLL levels but 21st-century skills were positively correlated.

Narrative Reflection: AI-related findings are mixed.

4.5 LLL, Employability and Career Sustainability

Several studies position LLL as essential for employability and career transitions. Han & El-Farabi (2025) found improved skills and higher employment among LLL participants. Zhang et al. (2022) demonstrated lifelong learning mediates the relationship between career competencies and career sustainability among expatriate managers.

Partsch & Landberg (2024) used the Theory of Planned Behaviour (TPB), showing subjective norms and perceived behavioural control predict LLL intentions and behaviour.

Critical reflection: While employability is a major driver, over-emphasising market-based outcomes can narrow LLL into mere workforce training, sidelining civic, personal, and emancipatory purposes.

4.6 Equity, Inclusion, and Marginalised Learners

An important strength of recent literature is the inclusion of marginalised contexts:

- Disability: Lee (2025) found participation patterns among individuals with physical disabilities are influenced by mobility and family support.
- Prison education: Monteiro et al. (2023) reported incarcerated women showed positive learner self-concept despite histories of academic failure.
- Open and distance education: Ucar et al. (2026) highlighted ODE as transformative, enabling inclusion, career shifts, and overcoming social/financial barriers.
- Policy critique: Holford et al. (2023) argued EU LLL policy has not reduced inequality and participation remains socially stratified.

These studies collectively affirm that LLL access is socially structured, not simply motivational.

5. Critical Review of Research Trends

5.1 Methodological Dominance of Cross-Sectional Designs

The table indicates most studies are cross-sectional. This limits causal claims and obscures developmental aspects of LLL. Even strong correlational findings cannot prove whether motivation causes LLL engagement or whether engagement builds motivation.

5.2 Over-Reliance on Self-Report Measures

LLL is mostly measured through scales, surveys, and perceptions. Such tools may inflate positive results due to social desirability bias. Objective measures like verified course completion, skill assessments, and behavioural learning analytics are rarely included.

5.3 Limited Global and Cultural Representation

Many studies are context-specific (Turkey, Korea, Vietnam, Britain, Europe, Malaysia). Broader comparative research is needed, especially including underserved regions and rural learners.

5.4 Conceptual Ambiguity: What Counts as LLL?

Some studies treat LLL as:

- an attitude,
- an intention,
- a tendency,
- a skill set,
- a behaviour,
- or an outcome.

This conceptual inconsistency makes synthesis difficult and suggests the field requires clearer definitional and theoretical alignment.

6. Conceptual Framework: Lifelong Learning as an Ecosystem

Based on the synthesis, lifelong learning may be conceptualised as an ecosystem with three interdependent layers:

Layer 1: Individual Capacities (Micro)

- Curiosity and Openness
- Intrinsic motivation
- Self-reflection
- Self-efficacy
- Emotion regulation and Resilience

Layer 2: Learning Processes and Pedagogy (Meso)

- Self-directed and self-regulated learning support
- PBL, design thinking, authentic learning
- Assessment practices encouraging reflection
- Learning analytics dashboards and reminders

Layer 3: Structural and Policy Conditions (Macro)

- Affordability and funding
- Employer support and time allocation
- Digital infrastructure and accessibility
- Inclusion policies (disability, gender, marginalised groups)
- Credential systems (micro-credentials, modular learning pathways)

Central proposition: LLL engagement increases when these three layers align; barriers emerge when one layer is unsupported (e.g., motivated learners without financial access).

7. Implications

7.1 Educational Implications

- Higher education and teacher education must deliberately integrate LLL competencies: SRL, SDL, reflection, and digital literacy.
- Assessment should reward process, exploration, and transfer as not just memorisation.

7.2 Workplace and Professional Development Implications

- Employers must treat LLL as organisational responsibility through funded training, micro-credential incentives, and protected learning time.
- Workplace learning cultures should strengthen subjective norms and perceived behavioural control to sustain participation.

7.3 Social and Policy Implications

- Policy must shift from “LLL as individual duty” to “LLL as social right.”
- Inclusive strategies are needed for older adults, disabled learners, and socially marginalised groups.
- Investment in accessible distance education and blended learning is critical to equity.

8. Recommendations

8.1 Recommendations for Researchers

1. Increase longitudinal, experimental, and mixed-method designs.
2. Standardise conceptual definitions of LLL across studies.
3. Include objective performance indicators and behavioural measures.
4. Expand research on rural, low-income, and digitally excluded learners.

8.2 Recommendations for Educators and Institutions

1. Embed SRL and SDL scaffolds into curricula (goal-setting, planning templates, reflection journals).
2. Use PBL and design-thinking pedagogy to foster motivation and transferability.
3. Provide learner analytics dashboards and mentoring support.
4. Offer modular learning pathways and micro-credentials.

8.3 Recommendations for Policymakers and Stakeholders

1. Fund lifelong learning initiatives, especially for disadvantaged populations.
2. Ensure disability-inclusive learning environments and accessible digital systems.
3. Develop national LLL monitoring systems beyond participation rates by measuring learning quality and long-term outcomes.
4. Strengthen community-based adult education and local lifelong learning centres.

9. Conclusion

This review demonstrates that lifelong learning research increasingly highlights psychological foundations (curiosity, reflection, motivation), learning mechanisms (SDL/SRL), and innovation in pedagogy (PBL, design thinking). Yet critical analysis reveals that lifelong learning is often framed as a personal responsibility while structural barriers remain under-examined. The dominance of cross-sectional, self-report studies limits deeper causal understanding and weakens evidence for long-term impacts. A stronger ecosystem-based perspective is required—one that recognises LLL as a product of individual capacities, pedagogical design, and socio-institutional support. Strengthening lifelong learning must therefore combine learner empowerment with inclusive policy, accessible learning systems, and supportive workplace cultures.

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