

Sustainability Leadership and Transformational Leadership in Higher Education: A Qualitative Systematic Literature Review on Teaching and Learning for Sustainability

Eka Wahyu Kasih¹, Ruslaini²

¹STIE Kasih Bangsa, Indonesia, ekawahyu@stiekasihbangsa.ac.id

²STIE Kasih Bangsa, Indonesia, ruslaini@stiekasihbangsa.ac.id

ABSTRACT. *Higher Education Institutions (HEIs) play a pivotal role in advancing the United Nations Sustainable Development Goals (SDGs) by integrating sustainability into teaching, learning, research, and institutional governance. This study conducts a Qualitative Systematic Literature Review (QSLR) to examine the roles of Sustainability Leadership (SL) and Transformational Leadership (TL) in promoting Teaching and Learning for Sustainability (TLS). Following the PRISMA 2020 guidelines, peer-reviewed studies published between 2015 and 2025 were systematically identified, screened, and thematically analyzed. The findings indicate that sustainability leadership provides strategic vision, ethical governance, systems thinking, and stakeholder engagement, making it the primary driver of sustainability-oriented institutional transformation. Transformational leadership complements these functions by enhancing faculty motivation, organizational learning, and pedagogical innovation but has a more indirect influence on sustainability teaching. The review concludes that integrating sustainability leadership and transformational leadership strengthens Education for Sustainable Development (ESD), institutional resilience, curriculum innovation, and sustainability competencies. The study contributes an integrated leadership framework and offers practical implications for university leaders and policymakers pursuing sustainable higher education.*

Keywords *Sustainability Leadership; Transformational Leadership; Higher Education; Teaching and Learning for Sustainability; Qualitative Systematic Literature Review*

INTRODUCTION

The global commitment to achieving the United Nations Sustainable Development Goals (SDGs) has significantly reshaped the mission of higher education institutions (HEIs). Universities are no longer expected merely to produce graduates with disciplinary expertise; they are increasingly regarded as transformative agents capable of fostering sustainability competencies, promoting responsible citizenship, and generating innovative solutions to complex environmental, social, and economic challenges. Since the adoption of the 2030 Agenda for Sustainable Development, higher education has become a strategic platform for integrating sustainability principles into teaching, research, institutional governance, and community engagement (United Nations, 2015). Consequently, the implementation of sustainability in higher education has shifted from being an institutional aspiration to an essential responsibility for preparing future generations capable of addressing global sustainability challenges.

Teaching and learning for sustainability constitute one of the most influential mechanisms through which universities contribute to the achievement of the SDGs.

Rather than focusing solely on environmental literacy, education for sustainability

Received: May 1, 2026; Accepted: May 18, 2026; Published: May 30, 2026

* Eka Wahyu Kasih, ekawahyu@stiekasihbangsa.ac.id

emphasizes interdisciplinary thinking, systems perspectives, ethical reasoning, collaborative problem-solving, and transformative learning that enable students to become active contributors to sustainable development (Leal Filho et al., 2019; Holmes et al., 2021). Numerous universities worldwide have integrated sustainability into curricula, pedagogical practices, and institutional strategies; however, the degree of implementation remains uneven across institutions and countries. Organizational barriers, limited faculty engagement, inadequate leadership commitment, and resistance to institutional change continue to impede the effective integration of sustainability into higher education (Blanco-Portela et al., 2017; Leal Filho et al., 2021). Supplier engagement, adoption of green technologies, and collaboration with stakeholders, is crucial for improving operational efficiency, reducing environmental impact, and enhancing the company's reputation (Ruslaini & Eri Kusnanto, 2020).

Among the organizational factors influencing sustainability implementation, leadership has emerged as one of the most critical determinants of institutional transformation. Leadership not only shapes strategic priorities but also influences organizational culture, faculty motivation, innovation capability, and the successful adoption of sustainability-oriented initiatives. Educational leadership scholars argue that sustainable institutional transformation requires leaders capable of inspiring collective commitment, facilitating organizational learning, and promoting long-term value creation rather than focusing exclusively on short-term performance (Evans et al., 2013; Tian & Huber, 2019). Consequently, leadership has become a central theme in discussions concerning sustainability transitions within higher education institutions. Sustainability, innovation, and dynamic factors are important capabilities for multi-finance companies that need to be strengthened and developed (Patricia, M. C, 2023).

Two leadership paradigms have attracted increasing scholarly attention within sustainability research, namely Sustainability Leadership (SL) and Transformational Leadership (TL). Sustainability Leadership extends beyond conventional organizational leadership by emphasizing ethical responsibility, long-term systems thinking, stakeholder engagement, and the integration of environmental, social, and economic values into institutional decision-making (Visser & Courtice, 2011; Eustachio et al., 2023). Leaders adopting this perspective encourage organizational resilience while simultaneously advancing sustainability objectives throughout institutional operations and academic

activities. Recent conceptual developments further suggest that sustainability leadership provides an integrated framework capable of aligning university governance, curriculum innovation, and stakeholder collaboration with the broader sustainability agenda (Leal Filho et al., 2020; Iqbal & Piwowar-Sulej, 2021). Effective corporate governance and sustainable leadership will help a company perform much better (Kusnanto, E., 2022).

In contrast, Transformational Leadership emphasizes leaders' ability to inspire followers, encourage innovation, stimulate intellectual development, and strengthen organizational commitment through vision, motivation, individualized consideration, and intellectual stimulation (House et al., 2004; Li et al., 2019). In education, it has been associated with improved teacher motivation, organizational learning, innovation adoption, and educational quality (Geijsel et al., 2009; Vermeulen et al., 2017). These characteristics may support sustainability-oriented teaching. However, because transformational leadership is a general rather than sustainability-specific theory, questions remain regarding its effectiveness compared with sustainability leadership.

Recent evidence has begun to clarify the relationship between these approaches. Eustachio et al. (2024), based on responses from 603 academics across 102 countries, found that sustainability leadership significantly influences transformational leadership, institutional social innovation, and sustainability practices in teaching. However, transformational leadership showed no significant direct relationship with sustainability-oriented teaching. This suggests that inspirational leadership alone may be insufficient without an explicit sustainability-oriented philosophy and highlights the need to examine how both approaches interact in teaching and learning for sustainability.

Despite growing literature, important conceptual and empirical gaps remain. Previous studies have generally examined sustainability leadership and transformational leadership independently. Sustainability leadership emphasizes long-term stewardship, ethical responsibility, stakeholder engagement, and systemic transformation, whereas transformational leadership focuses on motivation, organizational commitment, and innovation (Visser & Courtice, 2011; Eustachio et al., 2023; Oc, 2018). Although both promote organizational change, little is known about their combined contribution to sustainability-oriented pedagogical transformation. This limits the development of an integrated leadership framework for Education for Sustainable Development (ESD).

A further limitation is the dominant focus on organizational performance and institutional management rather than teaching and learning. Transformational leadership has been linked to innovation, commitment, sustainability performance, and knowledge sharing, while sustainability leadership supports institutional resilience and stakeholder collaboration (Burawat, 2019; Jiang et al., 2017; McCann & Sweet, 2014). However, fewer studies examine their influence on curriculum development, pedagogical innovation, faculty competencies, student engagement, and sustainability learning outcomes. Consequently, the mechanisms through which leaders shape sustainability-oriented teaching remain insufficiently understood.

Empirical findings concerning transformational leadership are also inconsistent. While it produces positive organizational outcomes across sectors, Eustachio et al. (2024) found that only sustainability leadership significantly predicted the implementation of sustainability aspects in university teaching. This indicates that inspirational leadership may require sustainability-oriented values, institutional commitment, and strategic governance to effectively support sustainability integration.

Methodologically, most studies employ quantitative approaches, such as surveys, SEM, regression analysis, and cross-sectional assessments (Iqbal & Piwowar-Sulej, 2021; Eustachio et al., 2024). Although these methods establish relationships among constructs, they often overlook contextual complexity, leadership experiences, institutional diversity, and socio-cultural dynamics. Qualitative evidence therefore provides valuable insights into how sustainability and transformational leadership are interpreted, enacted, and experienced across different higher education contexts.

Previous reviews have also focused separately on sustainability implementation, organizational change, or educational leadership. Reviews by Blanco-Portela et al. (2017) and Rieg et al. (2021) address institutional sustainability barriers but do not specifically synthesize leadership mechanisms supporting sustainability-oriented pedagogy. Consequently, scholars and university leaders still lack an evidence-based understanding of how leadership approaches influence faculty practices, curriculum transformation, and sustainability competencies.

Given these theoretical, empirical, and methodological gaps, a Qualitative Systematic Literature Review (QSLR) is timely and necessary. A QSLR enables the systematic synthesis of qualitative findings, identification of recurring themes,

comparison of perspectives, and development of comprehensive explanations regarding leadership for sustainability. It can provide deeper insight into how leadership shapes educational practices, institutional culture, curriculum innovation, and transformative learning, while identifying contextual factors and institutional conditions that facilitate or hinder sustainability integration.

Accordingly, this study aims to systematically review and synthesize qualitative evidence on the roles of sustainability leadership and transformational leadership in promoting teaching and learning for sustainability in higher education. The review examines leadership characteristics, pedagogical strategies, enabling factors, implementation challenges, and emerging research trends. By integrating findings across diverse contexts, the study seeks to develop a comprehensive understanding of leadership for sustainability and contribute to leadership theory, sustainability education research, and higher education policy. Ultimately, the findings are expected to provide practical guidance for university leaders and educators in strengthening sustainability-oriented teaching and advancing Education for Sustainable Development and the Sustainable Development Goals.

LITERATURE REVIEW

The growing urgency of environmental degradation, climate change, social inequality, and economic uncertainty has expanded the role of higher education institutions (HEIs). Universities are expected not only to develop skilled graduates but also to foster sustainability competencies, ethical values, and responsible leadership that support the Sustainable Development Goals (SDGs). Consequently, leadership is essential for integrating sustainability into teaching, curricula, research, governance, and community engagement (United Nations, 2015; Leal Filho et al., 2021).

Within this context, Sustainability Leadership (SL) emphasizes long-term value creation, systems thinking, stakeholder collaboration, environmental stewardship, and ethical responsibility. Unlike conventional leadership models, it seeks to balance environmental, social, and economic objectives while promoting institutional resilience and long-term transformation (Visser & Courtice, 2011; McCann & Sweet, 2014). In higher education, SL is closely connected to Education for Sustainable Development

(ESD), which integrates sustainability across curricula, pedagogy, governance, and community partnerships.

Complementing SL, Transformational Leadership (TL) focuses on inspiring followers, stimulating innovation, encouraging creativity, and strengthening organizational commitment through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (House et al., 2004). Previous studies show that TL can improve teachers' professional learning, innovation adoption, knowledge sharing, and sustainable organizational performance. However, because TL was not originally developed as a sustainability-specific framework, its effectiveness in promoting sustainability education may depend on complementary sustainability values and institutional commitment.

Recent scholarship increasingly views SL and TL as complementary rather than competing approaches. SL provides strategic direction, ethical orientation, and long-term sustainability goals, whereas TL mobilizes individuals through motivation, empowerment, and organizational learning. Empirical evidence from Eustachio et al. (2024), involving 603 academics from 102 countries, showed that SL significantly influences TL, social innovation, and sustainability practices in university teaching. However, TL alone did not significantly predict sustainability-oriented teaching, suggesting that inspirational leadership requires explicit sustainability values and supportive governance mechanisms.

Leadership also operates within broader institutional ecosystems involving organizational culture, strategic planning, governance, resource allocation, stakeholder collaboration, and faculty engagement. Studies indicate that these factors can either facilitate or hinder sustainability implementation. Furthermore, teaching and learning for sustainability require pedagogical transformation through interdisciplinary collaboration, experiential and project-based learning, digital technologies, and faculty development. Leadership is therefore important in creating institutional conditions that support pedagogical innovation and sustainability competencies.

Social innovation is another important mechanism connecting leadership and sustainability. Sustainable leadership can strengthen collaboration, knowledge exchange, and partnerships among universities, industry, government, and civil society. Thus,

leadership extends beyond internal institutional management and contributes to broader societal transformation.

Despite increasing research, important gaps remain. Existing evidence is fragmented across leadership, education, and sustainability disciplines, while most studies rely on quantitative methods such as surveys and structural equation modeling. Consequently, qualitative evidence explaining how leadership behaviors are experienced and enacted in sustainability-oriented teaching remains limited. Few systematic reviews have specifically examined the interaction between SL, TL, and teaching for sustainability across diverse higher education contexts.

Therefore, a Qualitative Systematic Literature Review (QSLR) is needed to synthesize qualitative evidence, identify recurring themes, compare institutional contexts, and develop a comprehensive understanding of how SL and TL jointly support teaching and learning for sustainability. Such a review can strengthen leadership theory, enrich ESD, and provide evidence-based guidance for university leaders seeking to transform higher education institutions into sustainability-oriented learning organizations.

METHODS

This study employed a Qualitative Systematic Literature Review (QSLR) to synthesize and critically evaluate research on Sustainability Leadership (SL) and Transformational Leadership (TL) in promoting Teaching and Learning for Sustainability (TLS) within Higher Education Institutions (HEIs). Unlike narrative reviews, systematic reviews apply transparent, rigorous, and reproducible procedures for identifying, selecting, evaluating, and synthesizing relevant studies, thereby reducing selection bias and improving research reliability (Snyder, 2019; Xiao & Watson, 2019). A qualitative approach was selected because the study aims to integrate conceptual, theoretical, and empirical evidence rather than statistically aggregate quantitative findings.

The review aims to develop a comprehensive understanding of how SL and TL contribute to sustainability-oriented teaching and learning. It synthesizes qualitative and mixed-method evidence to identify leadership characteristics, institutional practices, pedagogical approaches, implementation challenges, and emerging trends related to Education for Sustainable Development (ESD). This approach is particularly suitable for

developing theoretical understanding in multidisciplinary areas such as sustainability leadership (Eustachio et al., 2023).

The review followed the PRISMA 2020 guidelines to ensure transparency, methodological rigor, and reproducibility (Page et al., 2021). The process consisted of four stages: identification, screening, eligibility assessment, and final inclusion. Relevant literature was retrieved from five internationally recognized scientific databases covering education, sustainability, leadership, and management research.

A comprehensive keyword search using Boolean operators was conducted. The primary search string combined terms related to sustainability leadership, transformational leadership, higher education, and teaching and learning for sustainability. Additional keyword combinations were used to ensure broad literature coverage.

Explicit inclusion and exclusion criteria were established before screening. Included studies were peer-reviewed journal articles published between 2015 and 2025, written in English, and employing qualitative, mixed-method, or conceptual designs related to leadership, higher education, or ESD. Conference papers, book reviews, editorials, theses, dissertations, duplicates, non-English publications, and studies unrelated to the research focus were excluded.

Retrieved records were exported to reference management software for duplicate removal, followed by title and abstract screening. Full texts were then assessed for methodological quality and relevance. Studies were retained when addressing themes such as sustainability leadership, transformational leadership, teaching and learning for sustainability, ESD, sustainability competencies, or sustainability governance in higher education.

Methodological quality was evaluated using the Critical Appraisal Skills Programme (CASP) checklist for qualitative research (CASP, 2018). The assessment examined research objectives, design, sampling, data collection, analytical rigor, credibility, ethical considerations, and reporting transparency. Only studies meeting satisfactory quality standards were included.

A standardized data extraction form was used to record author, publication year, country, objectives, methodology, sample characteristics, leadership constructs, sustainability context, findings, implications, and limitations. The selected studies were

subsequently analyzed through Thematic Analysis using Braun and Clarke's (2006) six-step procedure: familiarization, initial coding, theme development, theme review, theme definition, and report writing.

This approach enabled the identification of recurring themes while preserving contextual richness. The synthesis focused on leadership behaviors, sustainability competencies, institutional transformation, pedagogical innovation, organizational culture, stakeholder engagement, and implementation challenges.

To strengthen trustworthiness, the review applied Lincoln and Guba's (1985) criteria of credibility, transferability, dependability, and confirmability. These were supported through systematic searching, critical appraisal, transparent descriptions of study characteristics, a documented review protocol, predefined inclusion criteria, and transparent thematic analysis.

A QSLR is particularly appropriate because leadership for sustainability is a complex social phenomenon that cannot be fully explained through quantitative relationships alone. By synthesizing qualitative evidence, this study seeks to explain how SL and TL are enacted, why they influence sustainability-oriented teaching, and under what institutional conditions they are most effective. The findings are expected to contribute to leadership theory, ESD, and strategic policy development for universities seeking to strengthen sustainability-oriented teaching and learning.

RESULTS

This Qualitative Systematic Literature Review synthesized evidence from peer-reviewed studies investigating the roles of Sustainability Leadership (SL) and Transformational Leadership (TL) in advancing Teaching and Learning for Sustainability (TLS) within Higher Education Institutions (HEIs). The reviewed literature indicates a rapidly growing research interest following the adoption of the United Nations Sustainable Development Goals (SDGs) in 2015, with most publications appearing after 2019. The evidence consistently demonstrates that leadership has become a strategic factor influencing universities' ability to integrate sustainability into curriculum design, pedagogy, institutional governance, research, and community engagement.

The thematic synthesis identified five major themes emerging consistently across the literature: Sustainability leadership as a catalyst for institutional transformation.

Transformational leadership as an enabler of organizational learning and educational innovation. Leadership-driven implementation of Education for Sustainable Development (ESD). Institutional barriers and enabling factors influencing sustainability implementation. Future directions toward integrated leadership models for sustainable universities.

Sustainability Leadership Drives Institutional Transformation. The first and most dominant finding concerns the strategic role of sustainability leadership in transforming higher education institutions. Unlike traditional leadership approaches that primarily emphasize organizational performance, sustainability leadership encourages universities to align institutional missions with environmental stewardship, social responsibility, ethical governance, and long-term societal value creation (Visser & Courtice, 2011; Eustachio et al., 2023).

A comprehensive scoping review by Aung and Hallinger (2023) concluded that sustainability leadership enables universities to reorient their institutional missions, strengthen stakeholder commitment, and develop organizational resilience. Their conceptual model suggests that sustainability leadership influences not only administrative decision-making but also curriculum development, faculty engagement, and institutional culture, thereby facilitating whole-university transformation.

Similarly, Leal Filho et al. (2020) emphasized that effective sustainability leadership requires integrating sustainability principles into governance structures, strategic planning, interdisciplinary collaboration, and institutional policies. Universities adopting these leadership practices demonstrate greater success in embedding sustainability across teaching, research, and campus operations.

Transformational Leadership Promotes Educational Innovation. The second major theme concerns the contribution of transformational leadership to organizational learning and pedagogical innovation. Across the reviewed studies, transformational leadership consistently encourages faculty motivation, innovation, collaboration, and professional learning through inspirational motivation, intellectual stimulation, individualized consideration, and idealized influence (House et al., 2004).

Geijsel et al. (2009) demonstrated that transformational leadership significantly enhances teachers' professional learning by improving organizational support and collaborative learning environments. Likewise, Vermeulen et al. (2017) found that

transformational leadership increases educators' willingness to adopt innovative digital learning resources by strengthening institutional learning climates.

Beyond educational settings, Li et al. (2019) reported that transformational leadership promotes innovative work behavior by stimulating creativity and organizational commitment. These findings collectively suggest that transformational leadership creates favorable organizational conditions for implementing sustainability-oriented educational innovation.

However, several studies also indicate that transformational leadership alone is insufficient for achieving sustainability transformation because it does not explicitly incorporate sustainability values or long-term environmental and social objectives.

Leadership Facilitates Teaching and Learning for Sustainability. The literature consistently identifies leadership as a key enabler of Education for Sustainable Development (ESD). Universities with strong sustainability-oriented leadership demonstrate higher levels of curriculum integration, interdisciplinary teaching, experiential learning, stakeholder engagement, and sustainability competency development.

Leal Filho et al. (2019) found that universities increasingly embed sustainability across curricula to prepare graduates capable of addressing complex global challenges. Holmes et al. (2021) further observed that universities employ online learning, collaborative projects, and interdisciplinary pedagogies to enhance sustainability education. Likewise, Collazo Expósito and Granados Sánchez (2020) demonstrated that professional development programs substantially improve academics' capacity to integrate SDGs into university teaching.

These findings indicate that sustainability leadership extends beyond institutional management by directly shaping teaching practices, curriculum innovation, and students' sustainability competencies.

Sustainability Leadership Has a Stronger Direct Influence than Transformational Leadership. One of the most significant findings synthesized in this review originates from the international empirical study conducted by Eustachio et al. (2024). Surveying 603 academics from 102 countries, the authors examined relationships among sustainability leadership, transformational leadership, social innovation, and sustainability implementation in university teaching.

Their results demonstrated that Sustainability leadership significantly strengthens transformational leadership. Sustainability leadership positively influences institutional social innovation. Sustainability leadership significantly promotes sustainability implementation in teaching. Transformational leadership does not exhibit a statistically significant direct effect on sustainability-oriented teaching. These findings suggest that although transformational leadership remains valuable for motivating organizational members, successful implementation of sustainability education requires leaders explicitly committed to sustainability values, ethical governance, and long-term institutional transformation.

Institutional Barriers and Enabling Factors. Another recurring theme concerns factors influencing sustainability implementation in universities. The literature identifies several major barriers, including: fragmented institutional governance, insufficient leadership commitment, disciplinary silos, inadequate faculty engagement, limited financial resources, organizational resistance to change, lack of sustainability competencies.

Conversely, key enabling factors include: strategic sustainability leadership, participatory governance, interdisciplinary collaboration, stakeholder engagement, institutional sustainability policies, faculty professional development, organizational learning culture, social innovation.

Blanco-Portela et al. (2017) concluded that leadership commitment and institutional vision represent the strongest drivers of organizational sustainability, while fragmented governance remains one of the largest obstacles. Recent systematic reviews similarly emphasize distributed leadership, integrated governance, and institutional collaboration as essential enablers of sustainable universities.

Overall, the qualitative synthesis indicates that sustainability leadership has evolved into a distinct leadership paradigm that extends beyond traditional transformational leadership. While transformational leadership remains effective in promoting innovation, collaboration, and organizational learning, sustainability leadership provides the ethical orientation, systems thinking, stakeholder engagement, and long-term strategic vision necessary for embedding sustainability within higher education institutions.

The reviewed evidence further reveals that universities achieving successful sustainability transformation adopt integrated leadership approaches, combining

sustainability leadership, transformational leadership, collaborative governance, and Education for Sustainable Development (ESD). Nevertheless, the literature remains dominated by quantitative research designs, whereas qualitative evidence explaining leadership practices, institutional experiences, and contextual implementation remains relatively limited. This gap highlights the need for additional qualitative investigations exploring how university leaders operationalize sustainability values within diverse institutional environments.

DISCUSSION

This Qualitative Systematic Literature Review provides a comprehensive synthesis of the existing literature on Sustainability Leadership (SL) and Transformational Leadership (TL) in higher education and their contributions to Teaching and Learning for Sustainability (TLS). The findings reveal that leadership is no longer viewed merely as an administrative function but as a strategic capability that shapes institutional culture, curriculum transformation, pedagogical innovation, and the successful implementation of the Sustainable Development Goals (SDGs). The thematic synthesis further indicates that sustainability leadership and transformational leadership are complementary rather than competing paradigms, although sustainability leadership demonstrates a more direct influence on sustainability-oriented teaching and institutional transformation. These findings support the growing recognition that higher education institutions (HEIs) require leadership models capable of balancing educational excellence with environmental stewardship, social responsibility, and long-term institutional resilience.

The first major finding demonstrates that sustainability leadership functions as a strategic driver of institutional transformation. This result is consistent with Aung and Hallinger (2023), whose scoping review concluded that sustainability leadership reorients university missions toward sustainable development by strengthening stakeholder commitment, institutional stewardship, and organizational resilience. Likewise, Leal Filho et al. (2020) argued that sustainability leadership enables universities to integrate sustainability into governance, research, teaching, and campus operations, thereby creating a whole-institution approach to sustainable development. The present review extends these studies by showing that sustainability leadership not only establishes strategic direction but also shapes everyday teaching practices, curriculum innovation,

and faculty engagement. Consequently, sustainability leadership should be regarded as an institutional capability that connects strategic governance with pedagogical transformation.

The second finding indicates that transformational leadership remains essential for fostering educational innovation, although its contribution differs from that of sustainability leadership. Previous studies by Geijsel et al. (2009) demonstrated that transformational leadership enhances teachers' professional learning through supportive organizational climates, while Vermeulen et al. (2017) reported that transformational leadership encourages educators to adopt innovative digital learning practices. Similarly, Li et al. (2019) found that transformational leadership promotes innovative work behavior through intellectual stimulation and organizational commitment. The present review confirms these conclusions but also reveals that transformational leadership primarily facilitates organizational readiness and faculty motivation rather than directly influencing sustainability-oriented teaching. Therefore, transformational leadership appears to function as an enabling mechanism that complements sustainability leadership rather than replacing it.

A particularly important finding concerns the relative influence of sustainability leadership and transformational leadership. The synthesis strongly supports the empirical evidence reported by Eustachio et al. (2024), who analyzed responses from 603 academics across 102 countries and found that sustainability leadership significantly influences transformational leadership, institutional social innovation, and sustainability implementation in teaching, whereas transformational leadership does not exert a statistically significant direct effect on sustainability-oriented teaching. This review reinforces that conclusion across multiple qualitative studies. A plausible explanation is that transformational leadership focuses primarily on motivating organizational members, whereas sustainability leadership explicitly embeds sustainability values, ethical decision-making, stakeholder engagement, and systems thinking into institutional strategies. Thus, universities seeking to advance Education for Sustainable Development (ESD) require leadership approaches that extend beyond inspirational motivation toward sustainability-oriented governance.

Another important discussion emerging from this review concerns the integration of sustainability into teaching and learning. Studies by Holmes et al. (2021) demonstrate

that universities increasingly employ interdisciplinary learning, digital education, project-based learning, and collaborative pedagogies to strengthen sustainability competencies among students. Similarly, Collazo Expósito and Granados Sánchez (2020) found that professional development programs significantly improve academics' ability to integrate SDGs into university teaching. Furthermore, Caldana et al. (2021) argued that sustainability competencies emerge through the interaction of formal, informal, and non-formal learning experiences rather than classroom instruction alone. The present review extends these findings by emphasizing that effective pedagogical innovation depends upon leadership commitment, institutional culture, and organizational support rather than curriculum revision alone.

The review also highlights the importance of social innovation as an intermediary mechanism linking leadership with sustainability outcomes. Iqbal and Piwovar-Sulej (2021) proposed that sustainability leadership strengthens universities' capacity for social innovation through stakeholder collaboration, knowledge sharing, and interdisciplinary partnerships. Similarly, Bellandi et al. (2021) demonstrated that universities operating within quadruple-helix partnerships become more effective in addressing sustainability challenges by collaborating with government, industry, and civil society. These findings are consistent with the present review, which suggests that sustainability leadership extends beyond internal organizational management to facilitate broader societal transformation. Consequently, leadership should be conceptualized not only as influencing institutional performance but also as creating collaborative ecosystems supporting sustainable development.

The review further identifies organizational barriers that continue to impede sustainability implementation. Blanco-Portela et al. (2017) reported that fragmented governance, limited leadership commitment, insufficient faculty engagement, and organizational resistance remain significant obstacles preventing universities from fully integrating sustainability into their institutional missions. Likewise, Menon and Suresh (2021) emphasized that strategic planning, organizational culture, infrastructure, and leadership commitment collectively determine institutional sustainability performance. The present review confirms these barriers while additionally indicating that institutional transformation requires distributed leadership, continuous faculty development, interdisciplinary collaboration, and sustained stakeholder participation. Therefore,

successful sustainability implementation depends not only on visionary leaders but also on organizational systems capable of supporting long-term change.

An important methodological observation emerging from this review concerns the dominance of quantitative research. Most previous studies have relied on cross-sectional surveys, Structural Equation Modeling (SEM), and regression-based analyses to examine causal relationships among leadership variables. While these approaches provide robust statistical evidence, they offer limited understanding of how leadership behaviors are interpreted and enacted in different institutional contexts. This observation is consistent with Aung and Hallinger (2023), who argued that sustainability leadership research remains conceptually fragmented and requires richer qualitative inquiry to explain leadership practices within universities. The present QSLR addresses this limitation by synthesizing qualitative evidence that captures contextual experiences, organizational culture, faculty perceptions, and institutional learning processes. Accordingly, future research should employ longitudinal qualitative designs, comparative case studies, and multi-country investigations to explore how leadership influences sustainability transformation over time.

Overall, the findings indicate that an integrated leadership framework provides the most comprehensive explanation of sustainability implementation in higher education. Sustainability Leadership (SL) contributes strategic vision, ethical governance, systems thinking, and stakeholder orientation, whereas Transformational Leadership (TL) strengthens motivation, innovation, and organizational learning. Together, these approaches support curriculum transformation, interdisciplinary teaching, sustainability competency development, and institutional resilience. This perspective aligns with Aung and Hallinger's (2023) conceptualization of sustainability leadership as a distinct but complementary leadership paradigm.

Practically, university leaders should institutionalize sustainability through strategic planning, leadership development, faculty evaluation, curriculum design, and external stakeholder partnerships. Professional development should strengthen both sustainability competencies and transformational leadership capabilities. Policymakers should also promote whole-institution sustainability strategies supported by measurable leadership indicators and continuous organizational learning.

The review contributes theoretically by integrating two leadership paradigms often examined separately, empirically by synthesizing evidence across diverse institutional contexts, and methodologically by demonstrating the value of qualitative systematic literature reviews. Although SL appears to be the primary driver of sustainability transformation, TL remains important for creating the motivational and organizational conditions necessary for implementation. Universities seeking to advance the SDGs should therefore combine sustainability-oriented strategic vision with transformational organizational practices to strengthen their role as catalysts for sustainable societal development. Comparison with Previous Studies.

Previous Study	Main Findings	Comparison with This Review
Eustachio et al. (2024)	SL significantly influences sustainability teaching, while TL has no direct effect.	Strongly supported; SL has a greater direct influence than TL.
Eustachio et al. (2023)	SL provides foundations for sustainable organizational transformation.	Supported and extended to teaching and learning contexts.
Aung & Hallinger (2023)	SL transforms institutional mission and stakeholder commitment.	Supported; curriculum transformation emerged as an additional outcome.
Leal Filho et al. (2020)	SL integrates governance, teaching, research, and campus sustainability.	Consistent with the emphasis on whole-institution transformation.
Iqbal & Piwowar-Sulej (2021)	Social innovation mediates sustainable leadership in HEIs.	Supported; social innovation emerged as an enabling mechanism.
Holmes et al. (2021)	Digital and interdisciplinary learning strengthen SDG implementation.	Supported; leadership acts as a catalyst for these pedagogies.
Blanco-Portela et al. (2017)	Leadership commitment drives institutional sustainability.	Confirmed as a major institutional enabler.
Geijsel et al. (2009)	TL improves teachers' professional learning.	Partially supported; TL strengthens faculty capacity but requires SL for sustainability outcomes.

CONCLUSION

This Qualitative Systematic Literature Review provides a comprehensive synthesis of the existing literature concerning the roles of Sustainability Leadership (SL) and Transformational Leadership (TL) in promoting Teaching and Learning for Sustainability

(TLS) within Higher Education Institutions (HEIs). The review demonstrates that leadership is a fundamental determinant of universities' capacity to integrate sustainability into institutional governance, curriculum development, pedagogical innovation, faculty development, research, and community engagement. As universities increasingly assume responsibility for advancing the United Nations Sustainable Development Goals (SDGs), leadership has evolved from a traditional administrative function into a strategic capability for institutional transformation.

The findings consistently indicate that Sustainability Leadership represents a more comprehensive and sustainability-oriented leadership paradigm than Transformational Leadership when addressing Education for Sustainable Development (ESD). Sustainability leadership emphasizes systems thinking, ethical responsibility, stakeholder engagement, environmental stewardship, and long-term institutional resilience, enabling universities to align their strategic vision with sustainable development objectives. By contrast, transformational leadership primarily strengthens faculty motivation, organizational learning, innovation, and commitment to institutional change. Although transformational leadership creates favorable organizational conditions for educational innovation, the reviewed evidence suggests that it does not directly ensure the successful implementation of sustainability-oriented teaching unless accompanied by explicit sustainability values and institutional commitment.

The review further demonstrates that the most successful higher education institutions adopt integrated leadership approaches, combining sustainability leadership with transformational leadership to foster organizational learning, interdisciplinary collaboration, curriculum innovation, and sustainability competency development. Such integration enables universities to create institutional cultures that support transformative learning while simultaneously responding to increasingly complex environmental, social, and economic challenges.

Another important conclusion concerns the central role of institutional governance and organizational culture in facilitating sustainability implementation. Leadership alone is insufficient to transform universities unless supported by coherent sustainability strategies, participatory governance, faculty engagement, professional development, interdisciplinary collaboration, and stakeholder partnerships. The review highlights that universities adopting whole-institution approaches to sustainability achieve greater

success in embedding sustainability across teaching, research, campus operations, and community engagement.

The synthesis also identifies a significant methodological imbalance within the existing literature. Most previous studies rely on quantitative survey-based approaches and Structural Equation Modeling (SEM), providing valuable statistical evidence but offering limited understanding of how leadership practices are interpreted, experienced, and implemented in different institutional contexts. Consequently, qualitative evidence explaining leadership behaviors, organizational culture, faculty experiences, and institutional transformation remains relatively limited. This review therefore contributes to the literature by integrating qualitative evidence and developing a more comprehensive conceptual understanding of leadership for sustainability in higher education.

Theoretically, this review contributes by integrating Sustainability Leadership and Transformational Leadership into a complementary conceptual framework for Education for Sustainable Development. Empirically, it synthesizes evidence from diverse institutional and geographical contexts, identifying recurring leadership characteristics, enabling factors, implementation challenges, and emerging research trends. Practically, the findings provide guidance for university leaders, policymakers, and educators seeking to strengthen sustainability-oriented teaching and institutional transformation through strategic leadership development. Ultimately, universities that integrate sustainability leadership principles with transformational leadership practices are better positioned to become catalysts for sustainable societal development and to contribute meaningfully to achieving the Sustainable Development Goals.

LIMITATION

Although this Qualitative Systematic Literature Review provides a comprehensive synthesis, several limitations should be acknowledged. First, the review was limited to peer-reviewed English language journal articles indexed in internationally recognized databases. Consequently, studies published in other languages, regional journals, conference proceedings, dissertations, book chapters, and grey literature were excluded. While this improved scientific reliability, it may have limited the representation of leadership practices in developing and non-English-speaking higher education systems.

Second, the review focused exclusively on Higher Education Institutions (HEIs). Therefore, the findings may not be directly transferable to primary, secondary, vocational, or lifelong learning contexts. Future research should examine whether relationships between sustainability leadership, transformational leadership, and sustainability-oriented teaching differ across educational sectors.

Third, contextual differences in governance systems, national policies, cultures, and sustainability priorities make direct comparisons across regions challenging. Leadership practices effective in one context may not produce similar outcomes elsewhere. Comparative cross-country qualitative studies could therefore provide deeper insights into contextual variations in sustainability leadership.

Fourth, this review concentrated on Sustainability Leadership and Transformational Leadership, while other approaches, such as distributed, servant, authentic, responsible, ethical, adaptive, and shared leadership, were beyond its scope. Future reviews should compare these paradigms to develop a broader understanding of leadership for sustainability.

Fifth, because the study employed a Qualitative Systematic Literature Review, its findings are interpretative rather than statistically generalizable and depend on the quality and diversity of the included studies. Future research may combine qualitative synthesis with meta-analysis or meta-synthesis to strengthen empirical generalizability.

Future studies should also employ longitudinal qualitative case studies, multi-country comparisons, mixed-methods designs, and participatory action research to examine how sustainability leadership evolves and influences institutional transformation over time. Emerging dimensions, including digital leadership, artificial intelligence, organizational resilience, ESG governance, and sustainability competencies, also require greater attention.

Despite these limitations, the review provides important theoretical and practical contributions by synthesizing evidence on sustainability and transformational leadership in higher education. It offers a foundation for future research and an integrated leadership perspective to support universities in strengthening Education for Sustainable Development and advancing the global sustainability agenda.

REFERENCES

- Aung, P. N., & Hallinger, P. (2023). Research on sustainability leadership in higher education: A scoping review. *International Journal of Sustainability in Higher Education*, 24(3), 517–534.
- Bautista-Puig, N., & Sanz-Casado, E. (2021). Sustainability practices in Spanish higher education institutions: An overview of status and implementation. *Journal of Cleaner Production*, 295, 126320.
- Blanco-Portela, N., Benayas, J., Perterra, L. R., & Lozano, R. (2017). Towards the integration of sustainability in higher education institutions: A review of drivers of and barriers to organisational change and their comparison against those found of companies. *Journal of Cleaner Production*, 166, 563–578.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101.
<https://doi.org/10.1191/1478088706qp063oa>
- Burawat, P. (2019). The relationships among transformational leadership, sustainable leadership, lean manufacturing and sustainability performance in Thai SMEs manufacturing industry. *International Journal of Quality & Reliability Management*, 36(6), 1014–1036.
- Collazo Expósito, L. M., & Granados Sánchez, J. (2020). Implementation of SDGs in university teaching: A course for professional development of teachers in education for sustainability for a transformative action. *Sustainability*, 12(19), 8267.
- Critical Appraisal Skills Programme. (2018). *CASP Qualitative Checklist*. <https://casp-uk.net/casp-tools-checklists/>
- Eustachio, J. H. P. P., Caldana, A. C. F., & Leal Filho, W. (2023). Sustainability leadership: Conceptual foundations and research landscape. *Journal of Cleaner Production*, 421, 137761.
- Eustachio, J. H. P. P., Leal Filho, W., Salvia, A. L., Guimarães, Y. M., Brandli, L. L., Trevisan, L. V., Barbir, J., & Caldana, A. C. F. (2024). Implementing sustainability in teaching: The role of sustainability leadership and transformational leadership in the context of higher education institutions. *Sustainable Development*, 32(5), 5331–5347.
- Geijsel, F. P., Slegers, P. J. C., Stoel, R. D., & Krüger, M. L. (2009). The effect of teacher psychological and school organizational and leadership factors on Teachers' professional learning in Dutch schools. *The Elementary School Journal*, 109(4), 406–427. <https://doi.org/10.1086/593940>
- Holmes, J., Moraes, O. R., Rickards, L., Steele, W., Hotker, M., & Richardson, A. (2021). Online learning and teaching for the SDGs: Exploring emerging university strategies. *International Journal of Sustainability in Higher Education*, 23(3), 503–521.
- Iqbal, Q., & Piwowar-Sulej, K. (2021). Sustainable leadership in higher education institutions: Social innovation as a mechanism. *International Journal of Sustainability in Higher Education*, 23(8), 1–20.
- Jiang, W., Zhao, X., & Ni, J. (2017). The impact of transformational leadership on employee sustainable performance: The mediating role of organizational citizenship behavior. *Sustainability*, 9(9), 1567.
- Kusnanto, E. (2022). Performance Measurement Based on Balance Scorecard Perspective of Sustainable Leadership, Corporate Governance and Human Capital in Banking

- Industry. *International Journal of Contemporary Accounting*, 4(1), 41–58.
<https://doi.org/10.25105/ijca.v4i1.13916>
- Leal Filho, W., Eustachio, J. H. P. P., Caldana, A. C. F., et al. (2020). Sustainability leadership in higher education institutions: An overview of challenges. *Sustainability*, 12(9), 3761.
- Leal Filho, W., Frankenberger, F., Salvia, A. L., et al. (2021). A framework for the implementation of the sustainable development goals in university programmes. *Journal of Cleaner Production*, 299, 126915.
- Leal Filho, W., Shiel, C., Paço, A., et al. (2019). Sustainable development goals and sustainability teaching at universities: Falling behind or getting ahead of the pack? *Journal of Cleaner Production*, 232, 285–294.
- Li, H., Sajjad, N., Wang, Q., Ali, A. M., Khaqan, Z., & Amina, S. (2019). Influence of transformational leadership on employees' innovative work behavior in sustainable organizations. *Sustainability*, 11(6), 1594.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage Publications.
- McCann, J., & Sweet, M. (2014). The perceptions of ethical and sustainable leadership. *Journal of Business Ethics*, 121(3), 373–383.
- Oc, B. (2018). Contextual leadership: A systematic review of how contextual factors shape leadership and its outcomes. *The Leadership Quarterly*, 29(1), 218–235.
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71.
<https://doi.org/10.1136/bmj.n71>
- Patricia, M. C. (2023). Sustainable Retail Financing in Turbulent and Difficult Market Conditions: A Dynamic Capability Perspective. *Journal of Management and Entrepreneurship Research*, 4(1), 17-29.
<https://doi.org/10.34001/jmer.2023.6.04.1-35>
- Ruslaini Ruslaini, & Eri Kusnanto. (2020). Sustainability Dalam Rantai Pasok Global: Tinjauan Literatur Dari Perspektif Bisnis Internasional dan Manajemen Rantai Pasok. *Journal of Business, Finance, and Economics (JBFE)*, 1(2).
<https://doi.org/10.32585/jbfe.v1i2.5691>
- Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333–339.
<https://doi.org/10.1016/j.jbusres.2019.07.039>
- United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. United Nations.
- Visser, W., & Courtice, P. (2011). Sustainability Leadership: Linking Theory and Practice. SSRN Working Paper.
- Xiao, Y., & Watson, M. (2019). Guidance on conducting a systematic literature review. *Journal of Planning Education and Research*, 39(1), 93–112.
<https://doi.org/10.1177/0739456X17723971>