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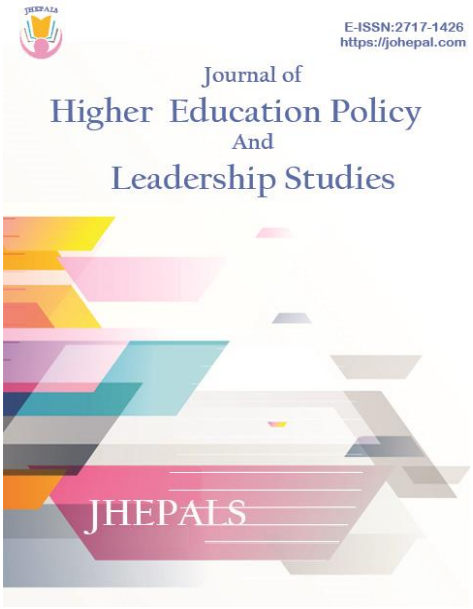

A Critical Review of Pedagogical Approaches for Enhancing Leadership Capacity and Efficacy in Higher Education

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Abstract

This study critically examines pedagogical strategies for fostering leadership capacity and efficacy in higher education. A Literature search was conducted, identifying 29 studies between 2014 and 2024. Experiential learning enhances adaptability and decision-making through practical experiences, such as internships and service-learning. Mentoring encompasses traditional, peer, and reverse mentoring models that foster emotional intelligence, inclusivity, and self-efficacy, addressing equity challenges in leadership education. Collaborative learning strengthens intercultural competence and teamwork through structured group projects, whereas reflective practices, such as journaling and debriefing, deepen self-awareness and critical thinking in leadership training. Despite their effectiveness, these strategies face challenges in terms of scalability, cultural adaptability, methodological limitations, and inconsistent institutional support. To address these gaps, this study introduces the Leadership Learning and Development Framework that combines these pedagogical approaches within a structured and adaptive leadership education framework. It promotes hybrid learning models, leveraging technology-driven solutions such as AI-powered mentoring and virtual simulations to enhance accessibility and engagement. The findings have implications for curriculum design, faculty development, and institutional leadership programme, ensuring that leadership education evolves to meet the demands of complex, global professional environments.

Keywords: Experiential Learning; Mentoring; Collaborative Learning; Reflective Practices; leadership Efficacy; Higher Education

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Introduction

Leadership capacity in higher education encompasses the ability to acquire, apply, and continuously refine the knowledge, skills, and attitudes necessary for effective leadership (Spendlove, 2007; National Education Association, 2021). Beyond mastering fundamental competencies, such as strategic planning, effective communication, and decision-making, leadership capacity also requires adaptability and the ability to foster innovation in addressing institutional challenges (Harvey & Jones, 2021; Maduforo et al., 2024). It involves cultivating a culture of collaboration, inspiring teams, and integrating evidence-based practices to achieve institutional goals within the evolving landscape of higher education (Holt et al., 2013; Bertrand, 2019).

The development of leadership capacity is aligned with experiential learning and reflective practices, which emphasize self-awareness and interpersonal effectiveness, both of which are fundamental for transformative leadership in complex academic environments (Harvey & Jones, 2021; Alomair, 2015). By embedding these pedagogical approaches in leadership education, institutions can cultivate leaders equipped to navigate the multidimensional challenges inherent in higher education.

Leadership capacity is closely related to leadership efficacy, which refers to leaders' confidence in their ability to apply leadership skills, strategies, and decision-making processes to influence and guide their teams toward shared goals. Leadership efficacy reflects a leader's belief in their ability to inspire teams, address organizational challenges and foster a collaborative and innovative institutional culture. It serves as both a driver and an outcome of leadership development, encompassing self-awareness, adaptability, and resilience in achieving impactful results in dynamic academic settings (Hannah et al., 2008; Montas-Hunter, 2012; Versland, 2016).

Enhancing leadership efficacy necessitates well-structured developmental experiences, including targeted training programs, opportunities for real-world applications, and reflective practices. Such experiences enable leaders to refine their competencies, build confidence, and develop resilience (Bryman, 2007; Versland, 2016). As leaders cultivate greater self-efficacy, they are better positioned to confront challenges, foster collective success, and drive institutional progress in the higher education sector (Hannah et al., 2008; Ahmed et al., 2022).

Despite the recognized importance of these skills, a gap remains in understanding how pedagogical approaches effectively cultivate leadership capacity in dynamic educational environments. Given the evolving nature of leadership education, this study aims to critically analyze existing research on various pedagogical approaches to determine their effectiveness in enhancing leadership capacity and efficacy in higher education contexts. Specifically, this study seeks to achieve the following objectives:

1. Identify the key pedagogical approaches in higher education to develop leadership capacity and efficacy.
2. Propose a structured pedagogical framework to guide educators and institutions in developing more effective leaders.
3. Examine how these approaches contribute to leadership capacity and efficacy among students.
4. Identify the gaps and limitations in the current research on leadership pedagogy.

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Pedagogical Approaches & Leadership Capacity/ Efficacy

By systematically examining the theoretical framework, conceptual framework, empirical evidence, and best practices, this study will potentially be able to provide valuable insights for educators and policymakers seeking to optimise leadership pedagogy and prepare next-generation leaders for the evolving demands of higher education institutions.

Theoretical Framework

This section presents a framework drawing from the core dimensions of the leadership learning framework, experiential learning theory, self-efficacy and social cognitive theory.

Leadership Learning Framework

The leadership learning framework (LLF) identifies six core dimensions that facilitate leadership learning i.e. knowledge, development, training, observation, engagement, and metacognition (Devies & Maia, 2024; Guthrie & Jenkins, 2018, 2024). Leadership knowledge encompasses theoretical foundations acquired through coursework, readings, and seminars, emphasizing frameworks such as transformational and servant leadership. Development involves continuous growth through mentoring, self-directed learning, and feedback mechanisms that shape the leadership identity. Training imparts practical skills, such as communication, conflict resolution, and decision-making, through structured workshops and simulations. Observation provides insights by analyzing exemplary leaders, shadowing professionals, and reviewing leadership case studies. Engagement ensures hands-on learning through real-world leadership roles, projects, and community initiatives. Finally, metacognition fosters reflective learning through journaling, self-assessment tools (e.g., StrengthsFinder and, Myers-Briggs), and mindfulness practices. Together, these dimensions create a dynamic bridge between theory and practice, facilitating comprehensive leadership learning (Guthrie & Jenkins, 2018, 2024).

Experiential Learning Theory

Experiential learning is central to leadership development because it connects direct experiences with structured reflection, reinforcing adaptability and continuous improvement. Kolb's (1984) experiential learning theory (ELT) identifies four iterative stages i.e. concrete experience, reflective observation, abstract conceptualization, and active experimentation. Leadership development follows this cycle by exposing individuals to real-world challenges, such as conflict resolution and team leadership, which are then critically analyzed to extract insights. These insights inform leadership approaches tested in new contexts, ensuring an ongoing process of refinement and growth (Kolb, 1984).

Reflection plays a pivotal role in experiential learning because it transforms experiences into actionable knowledge. Matsuo and Nagata (2020) extended Kolb's model by incorporating critical reflection and emotional regulation, emphasizing the ability to discard outdated leadership practices and embrace innovative solutions. Structured reflective methods, including journaling, debriefing sessions, and peer feedback, further deepen this learning process. Research highlights how structured reflection enhances decision-making, self-awareness, and leadership adaptability, ultimately preparing individuals for complex professional environments (Healey & Jenkins, 2000).

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Self-Efficacy and Social Cognitive Theory

Self-efficacy theory (SET), a key component of social cognitive theory (SCT), posits that confidence in one's ability to lead is developed through mastery experiences, social modeling, and feedback (Bandura, 1997, 2012). Mastery experiences (gradual exposure to increasingly complex leadership challenges) are the most effective way to build self-efficacy. Role-playing exercises, simulations, and guided mastery programs enhance leaders' ability to handle adversity while strengthening their resilience and adaptability (Bandura, 2004; Latham & Saari, 1979).

Social modeling further supports leadership development by demonstrating successful strategies through the observation of peers, mentors, and role models (Gist, 1989). Exposure to effective leadership behavior reinforces self-belief in one's capacity to replicate success. Additionally, structured feedback mechanisms, such as 360-degree assessments and coaching, provide essential insights that drive personal and professional growth (Latham & Budworth, 2006). By integrating these dimensions, leadership training programs foster confidence and competence, ensuring that individuals can effectively navigate organizational challenges (Bandura, 1997; Latham & Frayne, 1989).

Conceptual Framework

The leadership development framework (LDF), as shown in figure 1, integrates diverse pedagogical approaches, aligning theoretical insights with applied learning approaches. The core approaches include experiential learning, mentoring, collaborative learning, and reflective practices. Each approach is supported by intermediary factors such as inclusivity, cultural competence, and technological integration, which influence outcomes such as leadership capacity and efficacy.

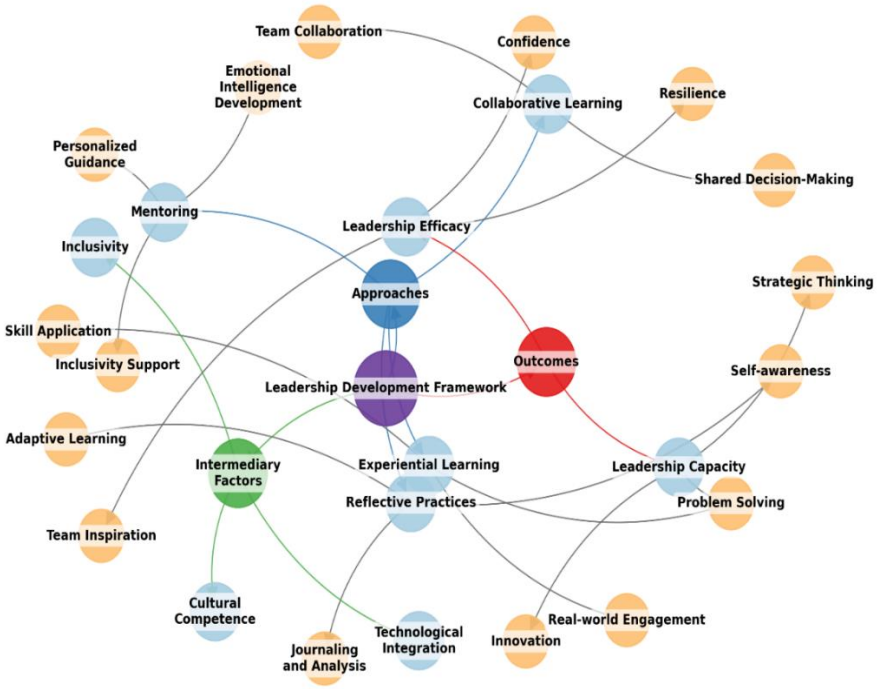

Figure 1. Leadership Development Framework

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Pedagogical Approaches & Leadership Capacity/ Efficacy

Experiential Learning: Bridging Theory and Practice

Experiential learning is a transformative approach that effectively connects theoretical knowledge with practical application, as demonstrated in Kolb's (1984) experiential learning cycle. This cycle comprises four iterative stages (concrete experience, reflective observation, abstract conceptualization and active experimentation), which enable learners to engage actively in hands-on activities, reflect on their experiences, derive insights, and apply their knowledge to real-world scenarios (Morris, 2020). This approach fosters critical leadership and problem-solving skills by integrating active involvement and contextual learning.

A notable application of experiential learning is service learning, which combines community service with academic instruction. For instance, in a Preventive Dentistry project, students performed oral health examinations and educated children, deepening their understanding of oral health while addressing societal challenges. These initiatives exemplify how experiential learning improves learning outcomes and fosters social responsibility (Pang et al., 2024). Similarly, in fields such as public health and medicine, experiential learning prepares students for complex professional environments by directly engaging with community needs.

Blended learning, which integrates synchronous and asynchronous interactions, strengthens experiential learning. By combining online and face-to-face methods, students can engage in simulations and collaborative projects that mirror real-world challenges, promoting emotional and cognitive engagement (Heilporn et al., 2021). This adaptability proved invaluable during the COVID-19 pandemic, when educators created virtual experiential opportunities, such as remote labs and simulations, ensuring learning continuity in constrained settings (Oliveira et al., 2021).

A critical aspect of experiential learning is reflective practice, which allows students to connect their experiences to theoretical frameworks and derive meaningful insights. Assessments prioritize evaluating students' ability to synthesize knowledge and solve real-world problems, fostering adaptability and lifelong learning skills that are crucial for leadership (Morris, 2020; Pang et al., 2024). This method is versatile across various disciplines. In healthcare, it includes patient interactions; in business, internships, and case studies; and in STEM, laboratory experiments and fieldwork provide real-world testing opportunities (Morris, 2020; Oliveira et al., 2021).

Mentoring: Building Leadership and Inclusivity in Higher Education

Mentoring is a cornerstone approach to developing leadership skills and fostering inclusivity in higher education (Darwin & Palmer, 2009). Contemporary approaches to mentoring include traditional models and innovative practices such as e-mentoring, which connects mentors and mentees across geographical and temporal boundaries. By leveraging digital platforms, e-mentoring provides career guidance, skill development, and emotional support, particularly in remote or off-site contexts (Tinoco-Giraldo et al., 2020).

Cognitive coaching, which emphasizes introspection and self-directed learning, has proven effective in fostering leadership development. This method supports the alignment of individual aspirations with institutional goals, enhancing personal accountability and organizational success (Hakro & Mathew, 2020). Faculty-student relationships play a vital role in mentoring, with collaborative research and extracurricular activities enriching students' academic and professional journeys (Cordie et al., 2020; Raposa et al., 2021).

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Innovative models such as reverse mentoring, where students mentor faculty, challenge traditional paradigms by bridging cultural and generational gaps. Such practices foster inclusivity and mutual understanding (Cain et al., 2024). Additionally, targeted mentorship programme for underrepresented groups, such as Latino faculty, address challenges such as cultural taxation and discrimination, enhancing institutional diversity (Salinas et al., 2020).

The shift to online mentoring, accelerated by the COVID-19 pandemic, introduced both challenges and opportunities. Effective online mentoring requires clear communication and competency in digital tools to maintain impactful relationships (Pollard & Kumar, 2021). However, the digital transition underscores the potential of technology-integrated mentorship frameworks to prepare individuals for evolving professional environments.

Collaborative Learning: Building Leadership and Teamwork in Higher Education

Collaborative learning is a foundational pedagogical approach that develops leadership and teamwork by leveraging socio-constructivist frameworks and technological tools like Moodle, Blackboard, and social media. These platforms facilitate knowledge sharing and group projects, cultivating leadership and critical thinking skills (Salam & Farooq, 2020; Herrera-Pavo, 2021). Social media further enhances creativity and academic performance, creating dynamic environments for leadership development (Ansari & Khan, 2020).

Collaborative learning environments foster engagement through interactivity and shared decision-making, which are essential for leadership in multicultural contexts (de Hei et al., 2020; Qureshi et al., 2023). Active learning strategies. such as group discussions and project-based learning. enhance critical thinking and decision-making skills, supported by formative assessments that reveal leadership potential within group dynamics (Meijer et al., 2020).

Instructors play a pivotal role in these environments by guiding interactions, modeling leadership behaviors, and ensuring equitable participation (Herrera-Pavo, 2021). Challenges, such as balancing diverse skill levels and fostering meaningful participation, can be addressed through structured group compositions and clear guidelines (Qureshi et al., 2023).

Reflective Practices: Enhancing Leadership Development in Higher Education

Reflective practices foster self-awareness, critical thinking, and adaptability in leadership education. Strategies such as simulation-based learning immerse students in complex scenarios and enhance decision-making and critical reflection (Chernikova et al., 2020). Authentic assessments, including case studies and role-plays, integrate theory with practice, compelling students to engage deeply with leadership dynamics (Sokhanvar et al., 2021).

Holistic frameworks encourage students to reflect on their values and leadership philosophies, fostering their professional growth (Farrell, 2020). Digital tools, such as e-portfolios, provide accessible platforms for reflective learning, enhancing engagement and tracking progress (Chernikova et al., 2020).

Peer collaboration and mentorship further support reflective practice by enabling constructive feedback and personalized growth (Sokhanvar et al., 2021). Reflective journaling helps students critically evaluate their experiences and align them with their career objectives (Farrell, 2020).

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Methodology

This study employs a systematic critical review approach to identify, analyze, and synthesize research on pedagogical approaches to enhance leadership capacity and efficacy in higher education. This approach ensures comprehensive coverage of the theoretical frameworks, empirical evidence, and research gaps. The review draws from ten major academic databases (JSTOR, ERIC, SpringerLink, Taylor & Francis Online, SAGE Journals, Wiley Online Library, ScienceDirect, ResearchGate, and ProQuest), which were chosen for their extensive peer-reviewed processes.

The search strategy included keywords such as leadership capacity in education, leadership efficacy pedagogy, experiential learning for leadership, and higher education leadership development. The Inclusion criteria focused on peer-reviewed journal articles, doctoral dissertations, editorials, books, and book chapters published between 2014 and 2024, prioritizing theoretical and empirical contributions to higher education. Studies outside this scope, non-peer-reviewed materials, and articles that lacked empirical depth were excluded. Data collection followed a structured multi-phase process: initial screening of titles and abstracts for relevance, detailed full-text review for methodological rigor, and systematic removal of duplicates. Variables such as pedagogical approaches, leadership learning, leadership development, capacity, efficacy, effectiveness, gap, limitations, challenges, and outcomes and their related terms were extracted and categorized.

A qualitative research design was utilized, incorporating thematic analysis to systematically categorize and interpret the findings of the selected studies. This method provides an in-depth understanding of how various pedagogical approaches contribute to leadership development. Thematic analysis structures findings around primary pedagogical approaches, evaluating their effectiveness in enhancing leadership capacity and efficacy, leadership learning and development, and scalability challenges. This study is based solely on secondary data, emphasizing conceptual clarity and empirical rigor without primary data collection. Reliability was ensured through a double-coding strategy to mitigate researcher bias and an external panel of group of scholars reviewed the inclusion and exclusion criteria for clarity. Cross-validation with existing literature reviews further ensured the consistency and validity of the results.

Ethical considerations were addressed by exclusively using publicly available, peer-reviewed literature, ensuring no involvement of human participants. While the study is strong, its limitations include its focus on English-language publications and a 10-year timeframe covering 29 studies, potentially excluding seminal works in other languages or outside this period. Despite these constraints, the systematic methodology provides a strong foundation for analyzing pedagogical approaches to leadership development in higher education.

Results and Findings

Pedagogical Approaches in Enhancing Leadership Capacity and Efficacy among Students

The integration of the LLF, ELT, and SET within the LDF creates a leadership learning and development framework (LLDF). LLF dimensions provide a foundation for learning, while ELT

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ensures a continuous cycle of experiential engagement and reflection. SCT reinforces leadership confidence and resilience, ensuring that individuals internalize and apply leadership principles effectively. The LLDF, as shown in figure 2, proposes a structured pedagogical framework, demonstrating how these pedagogical approaches interact with leadership learning dimensions to enhance leadership capacity and efficacy. This advocates the necessity for multidimensional leadership education approaches that combine theoretical knowledge with applied learning methodologies to foster competent and adaptive leaders in diverse professional settings. The interconnected nature of these dimensions demonstrates how leadership education is an iterative and evolving process in which theory and practice continuously reinforce each other.

Knowledge as the Foundation of Leadership

Leadership development begins with the acquisition of theoretical knowledge. Foundational principles from leadership theories, such as transformational and servant leadership, provide frameworks for effective decision-making and ethical practice. Studies have highlighted that a strong academic foundation equips individuals with the cognitive tools to analyze challenges, develop strategic solutions, and navigate complex environments (Wynne et al., 2024; McCoy, 2024). Servant leadership, which prioritizes the needs of others and fosters community well-being, aligns closely with service-learning initiatives that promote collective success (Snell et al., 2014). Transformational leadership, which inspires and motivates others toward shared goals, enhances leaders' ability to foster a vision for change and problem-solving in diverse environments (Molderez & Fonseca, 2018).

Emotional intelligence (EI) is a critical factor in effective leadership, improving decision-making, empathy, and communication skills (Mattingly & Kraiger, 2019). The integration of these theoretical perspectives ensures that leaders develop a well-rounded approach to guide teams and manage challenges.

Observation and Learning from Exemplary Leadership

Observational learning plays a crucial role in leadership development. Exposure to effective leadership in action through structured programs, case studies, or workplace experiences allows students and emerging leaders to internalize best practices. School-business partnerships, as explored by McCoy (2024), provide real-world exposure and help students understand leadership dynamics through firsthand observation. Similarly, digital school leaders who engage with technological advancements develop greater confidence and adaptability in their leadership roles (Shepherd, 2017).

Catalyst for Leadership Growth through Mentoring

Mentorship is a critical pedagogical tool for enhancing leadership skills, particularly in navigating complex environments such as healthcare. By fostering tailored guidance, mentorship helps individuals refine their personal approaches and integrate systemic perspectives into their leadership practices. For example, mentorship in global health leadership programme develops adaptability and decision-making skills, enabling leaders to address dynamic challenges effectively (Rodríguez et al., 2021). Mentors often act as "Sherpas," transferring nuanced insights and fostering experiential learning among their mentees (Rodríguez et al., 2021).

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Pedagogical Approaches & Leadership Capacity/ Efficacy

Peer mentoring plays a significant role in creating supportive environments for shared learning and reflective growth. Programme focusing on peer mentoring enhance confidence and professional growth through trust-based collaborative interactions (Reid, 2008). In nursing education, peer mentoring has been shown to improve teaching approaches and leadership confidence by fostering mutual feedback and collaboration (Rosenau et al., 2015). This reciprocal dynamic underscore the capacity of mentorship to nurture leadership skills and create an empowering learning atmosphere.

Experiential Learning in Leadership Development and Professional Readiness

Real-world engagement is vital for fostering leadership confidence and professional readiness, as demonstrated by numerous studies and initiatives. Experiential learning, including internships and service-learning opportunities, allows students and professionals to bridge theoretical knowledge with practical applications, enhancing their preparedness for professional roles. For example, Wynne et al. (2024) emphasized that effective professional practice requires not only technical and clinical knowledge but also strong interpersonal and ethical decision-making skills, which are best developed through hands-on experiences. Similarly, Petrie-Wyman et al. (2020) highlight the value of early internships in exposing students to real-world challenges, enabling them to cultivate critical, ethical leadership skills and practical business acumen. The integration of career-readiness programme further underscores the importance of experiential learning. As McCoy (2024) explored, school-business partnerships offer students mentorship, internships, and industry exposure, effectively aligning academic learning with workforce demands. Azzarello et al. (2021) corroborate this by finding that alumni perceive hands-on experiences and group work as significant contributors to their readiness for life and leadership roles, advocating for curricula that incorporate real-world challenges to prepare students for future success.

This approach extends beyond students to include educational leaders. Berube (2020) notes that school administrators can utilize career readiness programme to align educational outcomes with industry expectations, fostering a culture of practical readiness among students. Shepherd (2017) observed that digital school leaders who engage directly with technological advancements demonstrate increased confidence in leading digital transformations, further illustrating the positive impact of experiential engagement on leadership development.

Service-learning projects provide a practical framework for applying leadership theories to address contemporary challenges. Previous studies have emphasized the importance of reflective practices within these projects, allowing students to critically analyze their experiences and refine their leadership approaches (Ash & Clayton, 2009; Guthrie & McCracken, 2010). This iterative process of action and reflection ensures that students apply theoretical principles and adapt them to real-world contexts, thus enhancing their leadership efficacy.

Reflective Practice and Metacognition Tools for Self-Awareness

Reflective journaling and metacognition are essential tools for cultivating self-awareness, emotional intelligence, and leadership development. Reflective journaling allows leaders to critically analyze their thoughts, actions, and decisions, uncovering their strengths and

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addressing areas for improvement (Moodie, 2016). This structured self-reflection fosters a deeper understanding of leadership identity and enhances the ability to navigate challenges.

Metacognition, the process of thinking about one's thinking, equips leaders to regulate their cognitive approaches during problem-solving and decision-making (Biwer et al., 2020). By reflecting on their past experiences, leaders gain broader perspectives and develop adaptive strategies for complex scenarios (Harry-Nana & Bosch, 2020). These practices promote continuous learning and improvement, fostering authentic and servant leadership styles by encouraging introspection regarding values and actions (Samul, 2024).

Regular Engagement in reflective journaling and metacognitive practices has broader organizational benefits, including improved collaboration and higher employee commitment. Leaders who adopt these tools are better equipped to address challenges and foster a culture of growth within their organizations, thereby aligning personal growth with team success. Additionally, service-learning projects provide a practical framework for applying leadership theories to address contemporary challenges. Previous studies emphasize the importance of reflective practices within these projects, allowing students to critically analyze their experiences and refine their leadership approaches (Ash & Clayton, 2009; Guthrie & McCracken, 2010).

Controlled Environment for Leadership Training through Simulation

Simulations offer highly effective and controlled environments for refining leadership approaches, fostering critical thinking, and enabling adaptability without real-world risks. Mixed reality simulations, particularly in leadership training, create immersive scenarios in which participants can experiment with strategies, bridging the gap between theory and practice (Piro & O'Callaghan, 2021). For instance, simulations in business education enhance decision-making and team management by mirroring real-world challenges while fostering the adoption of new leadership identities through transitional learning or liminality (Tiwari et al., 2014; Piro & O'Callaghan, 2021).

In fields such as negotiation and conflict resolution, simulations provide a safe space for testing strategies, learning from mistakes, and refining approaches based on outcomes and feedback (Susskind & Corburn, 2000). They are equally impactful in teacher training, where they help educators master strategies for diverse classroom scenarios skills that are transferable to leadership contexts for managing team dynamics (Dieker et al., 2014). The immersive and interactive nature of simulations significantly enhances engagement, cognitive learning, and behavioral adaptability, making them a versatile tool for leadership education (Vlachopoulos & Makri, 2017).

A critical component of simulation-based learning is the debriefing process, where participants reflect on strategies, compare outcomes, and identify areas for improvement, reinforcing effective practice (Susskind & Corburn, 2000). The flexibility of simulations enables customization for specific leadership goals, such as ethical decision-making and crisis management, making them universally applicable across disciplines (Tiwari et al., 2014; Vlachopoulos & Makri, 2017). Ultimately, simulations provide transformative learning experiences that refine leadership approaches in risk-free environments, positioning them as indispensable tools for leadership education.

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Engagement in Collaborative and Group Projects

Students who engage in collaborative community projects can effectively apply leadership theories to develop empathy and practical leadership skills. Service-learning initiatives, as described by Gallagher and McGorry (2015), serve as powerful platforms for students to integrate theoretical knowledge with practical applications. These projects provide experiential learning opportunities that emphasize civic engagement, teamwork, and problem-solving, fostering the development of both character and leadership skills. The integration of academic coursework with community service allows students to practice leadership by addressing real societal challenges (Gallagher & McGorry, 2015).

The application of leadership theories, such as servant leadership and transformational leadership, can deepen the impact of these initiatives. Servant leadership, which emphasizes meeting the needs of others and fostering community well-being, aligns closely with the goals of service learning. Students can embody this theory by prioritizing the needs of their community partners and focusing on collective success rather than on individual achievements. As noted by Snell et al. (2014), service learning projects empower students to identify and address genuine community needs while building collaborative partnerships. This approach nurtures empathy as students immerse themselves in diverse social contexts and learn to view challenges from multiple perspectives.

Transformational leadership, which inspires and motivates others to achieve shared goals, is equally relevant in this setting. Through collaborative projects, students can cultivate their capacity to inspire peers and community members and foster a shared vision for change. According to Molderez and Fonseca (2018), experiential learning activities encourage students to envision sustainable solutions and creatively work within their teams to achieve them. This process not only enhances students' problem-solving skills but also strengthens their ability to lead effectively in diverse settings.

Group projects are transformative tools for leadership development, simulating real-world scenarios that require resource management, conflict resolution and collective decision-making. These projects emphasize collective leadership models, allowing participants to adopt fluid leadership roles according to situational demands. This approach enhances adaptability and prepares leaders for virtual and cross-functional team dynamics, where traditional hierarchies may not apply (Eva et al., 2021).

Practical experience during group projects also builds interpersonal leadership skills by fostering trust, accountability, and motivation within diverse teams. Leadership assessments from student projects demonstrate that collaborative networks and role flexibility significantly improve both technical and interpersonal competencies, equipping participants for team-oriented challenges in professional settings (Pongpaichet et al., 2022). By bridging theoretical concepts with actionable skills, group-based learning is a cornerstone of leadership education.

The synthesis provides a comprehensive understanding of how pedagogical approaches: experiential learning, mentoring, collaborative learning, and reflective practice can be systematically structured to develop effective leaders. These approaches cultivate essential skills, such as innovation, problem-solving, and strategic thinking. Holistic leadership development begins with theoretical knowledge, which serves as the foundation for leadership principles and decision-making. Observation enhances understanding by

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providing exemplary role models, whereas mentoring acts as a catalyst for leadership growth by offering guidance and experiential wisdom. Experiential learning bridges theory with the real world, preparing individuals for professional readiness through hands-on experiences. Reflective practice and metacognition foster self-awareness and critical thinking, enabling leaders to evaluate their decisions and refine their strategies.

Simulations provide a controlled environment for leadership training, allowing individuals to experiment with different strategies without real-world risk. Active engagement in collaborative group projects strengthens teamwork, adaptability, and the ability to navigate complex social dynamics of the group. Through synthesizing these elements, the LLDF underscores the importance of adaptive and context-sensitive leadership education in contemporary academic and professional settings. These interconnected approaches collectively build confidence, resilience, and leadership effectiveness, equipping individuals to thrive in diverse real-world contexts.

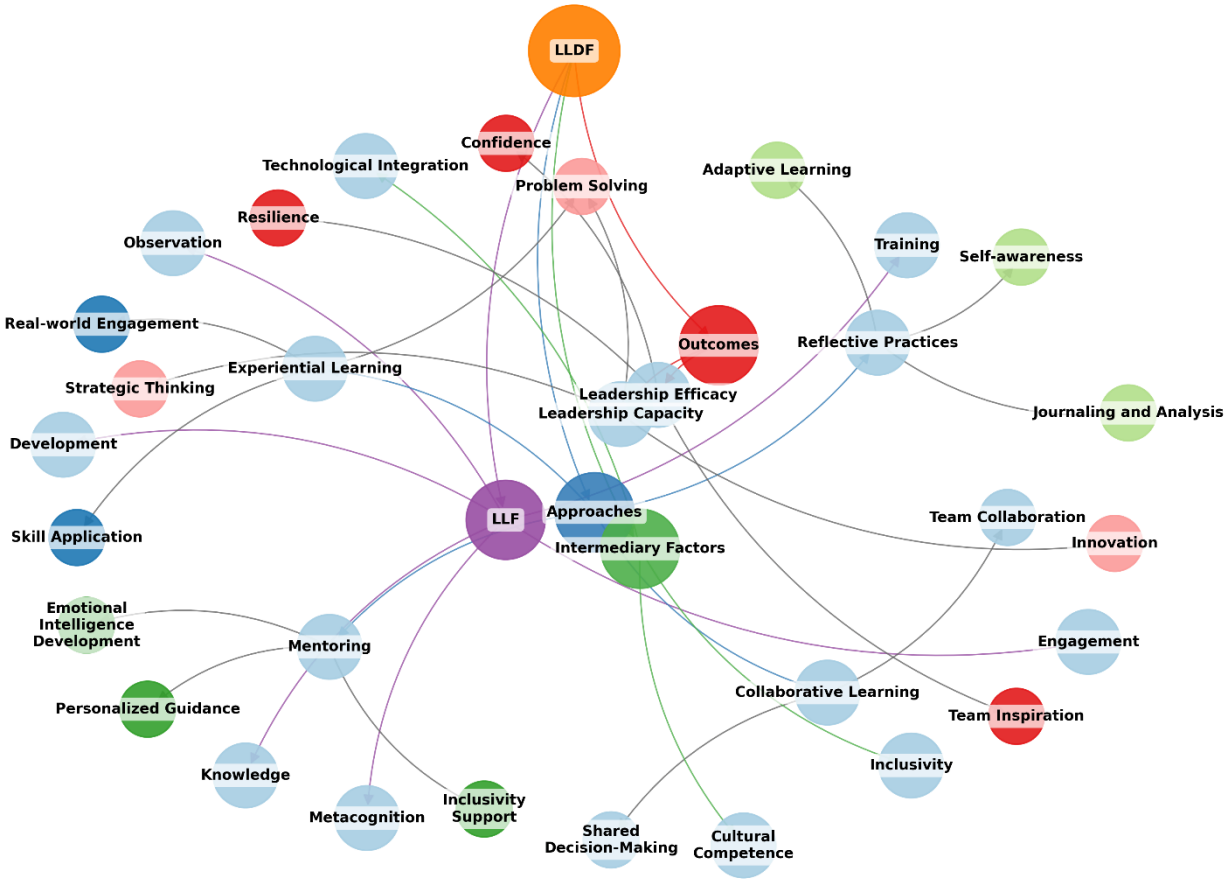

Figure 2. Leadership Learning and Development Framework

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Discussion

This study's findings underscore a strong alignment between pedagogical approaches and the LLDF, which comprises three interrelated dimensions: leadership development, observation, and engagement. These dimensions synergistically contribute to enhancing leadership efficacy and capacity in higher education. Leadership development is primarily facilitated through mentoring, reflective practices, and experiential learning. Mentoring across traditional, peer, and reverse formats serves to foster self-efficacy, emotional intelligence, and adaptability, foundational attributes of effective leadership (Cain et al., 2024; Hakro & Mathew, 2020). Cognitive coaching, a refined mentoring technique, supports sustainable professional development by promoting introspection and alignment between personal values and leadership principles (Hakro & Mathew, 2020). Reflective practices, including journaling and structured debriefings, complement mentoring by encouraging critical self-assessment, enabling individuals to identify developmental needs and construct a leadership identity (Chernikova et al., 2020; Sokhanvar et al., 2021).

The observation dimension emphasizes learning through the modeling of effective leadership behaviors. Social learning theories suggest that individuals acquire skills and knowledge by observing credible role models. Within mentoring relationships, mentees benefit from observing mentors' leadership styles and practices (Bandura, 1997; Pollard & Kumar, 2021). Peer mentoring further enhances observational learning through mutual feedback and collaborative engagement (Rosenau et al., 2015). Experiential learning mechanisms, such as internships and service-learning, provide direct exposure to authentic leadership environments, allowing students to witness and analyze leadership in practice, bridging theory with application (Pang et al., 2024).

The engagement dimension encompasses active participation in leadership tasks, including managing teams, solving complex challenges, and initiating projects. Experiential and simulation-based learning approaches are particularly effective in this domain. Case-based simulations have demonstrated significant potential to enhance participants' strategic thinking and self-efficacy (Maduforo et al., 2024). However, empirical gaps remain concerning the long-term sustainability of these gains (Harvey & Jones, 2021). Service-learning activities foster leadership engagement by embedding students in community settings where they apply theoretical knowledge to real-world issues, thereby strengthening decision-making, empathy, and collaboration skills (Gallagher & McGorry, 2015; Snell et al., 2014). Simulations offer a risk-free environment to test and refine leadership strategies and critical decision-making (Piro & O'Callaghan, 2021; Chernikova et al., 2020).

While mentoring is a valuable pedagogical tool, it faces challenges related to mentor availability and consistency in mentor quality (Alomair, 2015). Reflective learning demands high levels of learner engagement and institutional support to be effective. Collaborative learning enhances engagement by promoting co-constructed knowledge and joint leadership development, preparing learners for diverse, team-oriented professional contexts (Qureshi et al., 2023).

The analysis highlights the importance of integrating diverse pedagogical strategies to create a comprehensive approach to leadership development. Although each approach (experiential learning, mentoring, reflective practices, and collaborative learning) offers distinct advantages, their combined implementation can result in cumulative benefits. For

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instance, combining experiential learning with structured mentoring allows learners to contextualize experiences within a reflective framework. Similarly, collaborative learning supported by reflective practices reinforces team-based leadership growth through individual and group self-assessment. Nonetheless, the empirical investigation of such hybrid models is limited, pointing to the need for future research to evaluate their effectiveness systematically.

The LLDF provides a structured guide for designing leadership curricula and instructional strategies in higher education. While the framework demonstrates potential in enhancing leadership development, further empirical validation across varied educational settings is warranted for broader generalizability.

Critical Analysis of Pedagogical Approaches

Experiential learning grounded in Kolb's ELT, effectively merges theoretical and practical instruction. The cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation cultivates essential leadership competencies (Morris, 2020; Pang et al., 2024). Internships and service-learning serve as applied contexts for developing problem-solving and ethical decision-making skills. Service-learning, in particular, integrates academic learning with societal contribution, enhancing students' empathy, confidence, and adaptability (Gallagher & McGorry, 2015). However, disparities in access especially between urban and rural or well-resourced and underfunded institutions pose challenges to equitable implementation (Pang et al., 2024; Wynne et al., 2024). Additionally, insufficient research explores how experiential learning can respond to global and societal leadership challenges.

Mentoring supports leadership development through inclusivity, guidance, and emotional support. Formats such as e-mentoring and reverse mentoring provide flexible, scalable solutions while addressing intergenerational learning needs (Cain et al., 2024; Raposa et al., 2021). Cognitive coaching promotes introspective development over time (Hakro & Mathew, 2020). Despite these benefits, e-mentoring may lack the depth of in-person relationships (Pollard & Kumar, 2021), and the long-term impact of mentoring remains underexplored (Tinoco-Giraldo et al., 2020).

Collaborative learning fosters intercultural competence, team-based leadership, and academic engagement (Salam & Farooq, 2020; Ansari & Khan, 2020). The use of digital platforms like WebCT and social media supports global collaboration. However, challenges such as group imbalances and uneven participation hinder optimal outcomes, and the absence of standard evaluation frameworks limits the assessment of effectiveness (Meijer et al., 2020; Qureshi et al., 2023).

Reflective practices facilitate the development of emotional intelligence, adaptability, and leadership identity. Tools such as digital journals, simulation debriefs, and e-portfolios support self-evaluation and continuous learning (Chernikova et al., 2020; Sokhanvar et al., 2021). When integrated with simulations, these methods enhance strategic reflection in controlled environments (Piro & O'Callaghan, 2021). Despite their promise, the subjective nature of reflective assessments and limited integration with other pedagogies reduce their scalability and consistency (Farrell, 2020; McGarr, 2021).

Many studies on leadership pedagogy are constrained by methodological limitations. Small, homogenous samples hinder generalizability, and qualitative designs though rich in

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detail often lack empirical rigor (Tinoco-Giraldo et al., 2020; Hakro & Mathew, 2020). Mixed-method research remains underutilized, limiting comprehensive insights. Furthermore, a predominance of Western-centric research neglects cultural and contextual variables relevant to leadership development in non-Western settings (Ahmed et al., 2022; Cain et al., 2024).

This discussion affirms the necessity of integrating experiential learning, mentoring, reflective practices, and collaborative learning to holistically enhance leadership efficacy and capacity in higher education. Each pedagogical strategy aligns with a specific dimension of the LLDF and, when strategically combined, fosters the development of adaptable, inclusive, and competent leaders. Addressing methodological and contextual limitations, promoting hybrid pedagogical models, and ensuring equitable access are essential for advancing leadership education. Future research should investigate long-term impacts, especially within underrepresented and non-Western contexts, and focus on developing standardized evaluation tools. Through such efforts, leadership pedagogy can evolve to meet the complex demands of a globalized and dynamic higher education landscape.

Gaps in Leadership Pedagogy and Priorities for Future Research

Table 1 synthesizes underexplored areas in leadership education and proposes targeted research directions. It serves as a roadmap for advancing empirical and interdisciplinary scholarship in leadership pedagogy. The field of leadership pedagogy can evolve to better equip students for the complexities of modern professional environments.

Table 1.
Summary of research gaps and future directions in leadership pedagogy

Gap in Leadership Pedagogy	Proposed Research Focus	Key References
Lack of research on long-term career impact	Conduct longitudinal studies tracking leadership and career outcomes	Ahmed et al., 2022; Versland, 2016
Focus on Western contexts, limited cultural applicability	Expand leadership research to non-Western and multicultural settings	Cain et al., 2024; Maduforo et al., 2024
Insufficient interdisciplinary applications	Examine leadership in STEM, healthcare, and other professional fields	Pang et al., 2024; Wynne et al., 2024
Limited research on hybrid pedagogical models	investigate the efficacy of hybrid and integrative instructional approaches	McGarr, 2021; Heilporn et al., 2021
Scalability and accessibility challenges	Develop inclusive and scalable leadership education frameworks	Pang et al., 2024; Pollard & Kumar, 2021
Limited inclusion of emerging technologies	Explore AI-driven mentoring and virtual simulation platforms	Pollard & Kumar, 2021; Tinoco-Giraldo et al. (2020)
Barriers for underrepresented groups	Evaluate diversity-oriented leadership interventions and access strategies	Salinas et al., 2020; Heilporn et al. (2021)

Educational Implications and Evidence Informed Strategies

Table 2 presents evidence-informed strategies employed in global higher education to enhance leadership learning across cognitive, emotional, and contextual dimensions. Each strategy aligns with the LLDF, demonstrating applied pedagogical innovation.

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Table 2.
Pedagogical strategies advancing leadership learning and development

Key Strategy	Illustrative Examples	Impact
Real-World Engagement	Community-based projects and structured internships (Brimmo et al., 2022).	Bridges theoretical constructs with practical application, fostering adaptability and contextual problem-solving skills.
Technology Integration	Virtual simulations, e-portfolios, and AI-driven mentoring platforms (Blocker et al., 2024).	Enhances scalability and learner engagement; supports continuous, data-informed leadership development.
Hybrid Learning Models	Telemedicine simulation initiatives for leadership training in underserved regions (Blocker et al., 2024).	Promotes accessibility; integrates theory with practical, technology-enhanced learning experiences in diverse geographic contexts
Inclusivity and Mentorship	India's National Mission for Mentoring (NMM) and NISHTHA CPD program under NEP 2020 (National Council for Teacher Education, 2022; Ministry of Education, 2020); Mentored STEM research experiences for underrepresented youth (Beauchamp et al., 2022).	Facilitates equitable access to leadership development through culturally relevant, community-oriented mentoring structures. Enhances identity formation, academic persistence, and collaborative leadership capacity.
Collaborative Learning	MIT Open Learning Library using Google Workspace tools for global teamwork	Develops intercultural competence, collaborative problem-solving in resource-limited contexts.
Reflective Practices	Digital reflective journals	Cultivates self-awareness, emotional intelligence, and lifelong leadership learning

Implementation Challenges and Pedagogical Solutions for Scalable Leadership Education

Table 3 provides a structured overview of common implementation challenges in leadership education and proposes practical, research-informed solutions to enhance inclusivity, scalability, and effectiveness in diverse educational contexts.

Table 3.
Implementation Challenges and Pedagogy Solutions

Challenges	Description	Potential Solutions
Inequity in Access to Experiential Learning	Limited opportunities for internships and service-learning projects in resource-constrained environments.	Develop virtual experiential learning programmes. Strengthen partnerships with industry/community organizations. Facilitate cross-institutional resource sharing.
Scalability of Mentoring Programmes	Personalized mentoring is resource intensive; e-mentoring lacks depth of connection.	Use tiered mentoring models (peer mentors, alumni involvement). Combine in-person and virtual mentoring for blended approaches. Use AI for scalable matching.
Integration of Technology	Digital divides and lack of technical expertise hinder effective use of technological tools.	Invest in low-cost, open-source tools. Provide training for educators. Use mobile-first platforms to ensure broader accessibility.
Cultural and Contextual Relevance	Leadership models often reflect Western perspectives, limiting resonance with diverse cultural contexts.	Incorporate diverse case studies. Involve local experts in curriculum development. Develop frameworks allowing cultural adaptation of concepts.
Assessing Leadership Development Outcomes	Leadership skills are subjective and multifaceted, making evaluation challenging.	Use mixed-method assessments (qualitative and quantitative). Employ rubrics focusing on observable behaviors. Incorporate self and peer assessments.

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Pedagogical Approaches & Leadership Capacity/ Efficacy

Fostering Collaboration in Team-Based Learning	Group dynamics and lack of engagement in reflective practices hinder effective collaboration.	Provide team-building and conflict-resolution training. Use structured role-based frameworks. Communicate the benefits of reflective practices with guidance.

Conclusion

The study identifies experiential learning, mentoring, collaborative learning, and reflective practices as the most effective pedagogical approaches for enhancing leadership capacity and efficacy in higher education. Experiential learning bridges theoretical knowledge with real-world application through activities like internships, service-learning, and simulations, cultivating skills such as problem-solving, ethical decision-making, and adaptability. Tailored mentoring including traditional, peer, and reverse mentoring enhances self-efficacy, emotional intelligence, and inclusivity, particularly for underrepresented groups. Collaborative learning fosters intercultural competence and teamwork through shared decision-making in group projects, while reflective practices deepen self-awareness and critical thinking through tools like journaling and debriefing sessions. These strategies collectively address key dimensions of leadership education, including development, observation, and engagement.

The findings have significant implications for leadership education in higher education institutions worldwide. They emphasize the need to create inclusive, adaptive learning environments that prepare students for complex professional challenges. Experiential learning's versatility highlights its relevance across diverse cultural and disciplinary contexts, while mentoring programmes can address equity and inclusion gaps by empowering marginalized groups. The global applicability of collaborative learning emphasizes its role in fostering intercultural understanding, a critical component of effective leadership in increasingly diverse workforces. Reflective practices underscore the importance of self-awareness and lifelong learning, equipping students with the adaptability needed to navigate rapidly changing global contexts. These approaches collectively suggest that leadership education must evolve to balance local cultural nuances with universal leadership principles, preparing students for diverse professional environments.

To maximize the impact of leadership education, educators, programme designers, and policymakers must actively implement evidence-based pedagogical approaches and strategies that foster leadership capacity and efficacy. Institutions should not only integrate these approaches into curricula but also establish structured mechanisms for continuous assessment and improvement. Policymakers must ensure sustainable funding for initiatives that expand access to high-impact practices, particularly in underserved regions. Faculty training should be prioritized to facilitate these pedagogies effectively, leveraging technology for scalability and accessibility. Moreover, fostering international collaborations will enable knowledge-sharing and the adaptation of leadership frameworks to diverse institutional and cultural contexts. By taking deliberate and coordinated action, educators, program designers, policymakers and higher education institutions can cultivate a new generation of leaders equipped to navigate and address complex global challenges.

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This study did not involve human participants.

Originality Note

This study introduces a Leadership Learning and Development Framework (LLDF) by integrating multiple pedagogical approaches in a structured model for leadership education. It is the author's original work and proper citations are included where others' works are used.

Use of Generative AI/ AI-assisted Technologies Statement

The author(s) claimed that that there is "No Use of Generative AI/ AI-assisted Technologies" in preparing this research.

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