Review Article

Educational leadership's role in fostering innovation and entrepreneurship in education: A narrative literature review

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ABSTRACT

In recent years, educational leadership has come under increased scrutiny due to rising expectations and demands for accountability. Despite the proliferation of leadership models, there remains a notable gap in comprehensive reviews that connect progressive leadership theories with fostering innovation and entrepreneurship in education. This narrative literature review aims to identify pertinent theories of educational leadership—such as instructional, distributed, and transformational leadership—and explore their potential applications in driving innovation and entrepreneurship within educational settings. The objective is to assess how these leadership approaches can cultivate creativity, encourage risk-taking, and champion entrepreneurship to enhance educational outcomes. This review draws from databases like 'Taylor and Francis Online,' 'ResearchGate,' 'Elsevier,' and search platforms such as 'Google Scholar' and 'ERIC.' Eight key elements critical for leaders to promote an entrepreneurial culture were identified, including goal-setting, fostering collaboration, and adopting risk-taking approaches. By highlighting these elements, this review addresses the need to reassess leadership theories to align with the evolving demands of modern education, thus offering unique insights into bridging leadership with innovation and entrepreneurship.

1. Introduction

In the swiftly evolving education landscape, innovation and entrepreneurship have become essential drivers of transformation. Educational leaders are pivotal in steering their institutions (Jagnandan et al., 2024) with their capacity to inspire and support innovation and entrepreneurship, which significantly influence the quality and relevance of education (Fios, Marzuki, Ibadurrahman, Renyaan, & Telaumbanua, 2024). This narrative review explores how leadership can guide innovation and entrepreneurship within educational settings since studies on the interplay among the educational, organizational culture, leadership styles, and educational innovation have been mainly theoretical, and a gap needs to be filled in that sense (Kumar et al., 2024). The introduction outlines the relationship between educational leadership and learning environments and then examines how leadership intersects with innovation and entrepreneurship. Finally, it will map out the gaps in the current literature and the objectives of this review.

Leadership is under increased scrutiny due to the expanding responsibilities and accountability that come with the role (Hitt & Tucker, 2016; Jagnandan et al., 2024). Effective leadership not only creates conducive learning environments but also has the potential to drive innovative and entrepreneurial initiatives within educational settings. The connection between leadership and these emerging themes is particularly relevant today (Jagnandan et al., 2024), given the dynamic educational challenges, technological advancements, and economic pressures that demand more innovative and entrepreneurial educational approaches (Hitt & Tucker, 2016). Several leadership models, including instructional, distributed, and transformational leadership, have emerged, each offering unique strategies to foster these approaches (Daniëls, Hondeghem, & Dochy, 2019). The increasing trend towards entrepreneurship on college campuses, driven by students' interest in initiating new ventures, underscores a growing need for entrepreneurship education. The COVID-19 pandemic, with its resulting innovations, has further highlighted the necessity for educational leaders to integrate new approaches that support entrepreneurship (Cochran & Kuratko, 2023). As educational environments face accelerated changes (Groenewald et al., 2024), including the rapid pace of technological developments, leaders must champion creativity and innovation to navigate these shifts effectively (Aulet, 2021).

This narrative paper offers a comprehensive review of these educational leadership theories. Although innovation-creativity is seen as the building block of businesses and relevant research has grown intensively

in the past years, only 7.3% of academic studies emphasize the connection between leadership and innovation-creativity; hence, the need to shed light on this fusion (Figueiredo, Chimenti, Cavazotte, & Abelha, 2022) and to contribute to the literature by examining the interdependence among leadership, innovation-creativity, and entrepreneurship. In addition, the findings of this review contribute to the literature and theory of educational leadership, particularly by emphasizing the role of leadership in education to promote both innovation-creativity and entrepreneurship in education (Astuty, Ikhsan, & Aryanto, 2024; Fios et al., 2024).

For this review, "innovation" refers to the processes applied when implementing new ideas, and "entrepreneurship" denotes the mindset and actions associated with creating new business opportunities within educational contexts (Hughes, Lee, Tian, Newman, & Legood, 2018).

1.1. Theoretical underpinning

We use multidisciplinary theories to conceptualize our narrative review: educational leadership theories driving success and making an impact on the effectiveness of the educational institution, such as transformational leadership with its visionary influence through change (Bass, Avolio, & Goodheim, 1987), instructional leadership theory renowned for its direct effectiveness on students' achievement and the institution as a whole (Fisher, Frey, Smith, & Hattie, 2020), and distributed leadership theory suggesting implicit coordination targeting the improvement of the organizational capacity of the educational setting (Leithwood, Mascall, & Strauss, 2009). Furthermore, the innovation-creativity theory drives this review as it examines how this catalyst fuels the competitiveness of the institution by assisting it to rise to the international level, primarily through digitalization and/or use of artificial intelligence for instance (Saleem, Al-Breiki, & Asad, 2024), in addition to the theory of diffusion of innovation anchored in the process of diffusing a specific innovative practice (for instance, AI) through certain channels over some time to particular members of a social entity (Rogers, Singhal, & Quinlan, 2014).

1.2. Background on educational leadership

Educational leadership is a transactional and interactional process between leaders and staff that occurs within groups and aims to achieve shared objectives (Northouse, 2021; Ruben & Gigliotti, 2017). The evolution of educational leadership over recent decades has introduced several theories, with instructional leadership, distributed leadership, and transformational leadership being the most prominent (Daniels et al., 2019). Leadership's role in fostering innovation in schools is crucial, particularly in enhancing student learning and adapting organizational structures to support creative and entrepreneurial initiatives (Day, Sammons, & Gorgen, 2020; Harris & Jones, 2020; Li, Bhutto, Nasiri, Shaikh, & Samo, 2018).

1.3. Research aim

This review seeks to provide an overview of how educational leadership can drive innovation and entrepreneurship to achieve educational advancement. Mapping existing literature highlights the evolution of leadership theories and practices influencing current educational environments. This review will identify gaps in the literature and suggest directions for future research, particularly in advancing the expertise of educational leaders in fostering innovation and entrepreneurship. The study raises the following questions.

1. How has educational leadership evolved over the past two decades?
2. In what ways can educational leadership foster innovation and entrepreneurship in educational settings?

2. Methods

2.1. Narrative review

This review utilizes a narrative approach to synthesize and evaluate existing literature on educational leadership, innovation, and entrepreneurship. Narrative reviews effectively integrate diverse and broad literature, allowing for identifying trends, gaps, and key themes within a field (Oxman et al., 1994). This approach was selected over other systematic methods due to its flexibility and appropriateness in handling the wide-ranging nature of the topics under review, where the aim is to provide a comprehensive overview rather than a quantitative synthesis.

2.2. Search strategy

Specific terms were used to structure the literature search, including "defining educational leadership," "innovation in education," and "entrepreneurship in education." The search employed Boolean operators (AND, OR) to combine keywords and filters such as publication years (2000–2023 for educational leadership and 2017–2023 for innovation and entrepreneurship), language (English), and type of publication (peer-reviewed articles, academic journals). This ensured a targeted approach to gathering relevant studies and facilitated reproducibility.

2.3. Databases used

The literature search was conducted using the following databases and search engines: Taylor and Francis Online, ResearchGate, Elsevier, Google Scholar, and ERIC. These sources were chosen for their comprehensive coverage of scholarly articles and academic papers relevant to educational leadership, innovation, and entrepreneurship. Each database was selected based on its significance to the research topic, ensuring access to a diverse range of high-quality studies.

2.4. Inclusion and exclusion criteria

The inclusion criteria focused on studies that.

1. Addressed educational leadership, innovation in leadership, or entrepreneurship in leadership.
2. Were published from 2000 to 2023 for educational leadership and from 2017 to 2023 for innovation and entrepreneurship, reflecting the evolving nature of these fields.
3. Were peer-reviewed or reviewed by experts in the related educational field.

Studies were excluded if they.

1. Focused mainly on teacher leadership.
2. Concentrated on specific local contexts or programs, which posed a risk to generalizability.
3. Predominantly dealt with research methods, measurement scales, or research models without substantive discussion of leadership, innovation, and entrepreneurship.

2.5. Sources and types of data

Various search engines and databases were consulted to gather relevant studies, such as Google Scholar, ERIC, Taylor and Francis, ResearchGate, and Elsevier. Google Scholar is one of the world's largest scientific bibliographic databases and is a good source for retrieving various scholarly literature, including theses, articles, journals, and books. ERIC is an online digital library and database with a comprehensive collection of peer-reviewed literature or literature reviewed by experts in the field to ensure the relevance and quality of the data. Subjects are mainly in the education field, and they are varied, such as

educational leadership, educational technology, special education, methods of teaching, and many more. Another used database was Taylor and Francis, an academic publisher with an online database offering a rich collection of journals, articles, and books in various disciplines such as science, social sciences, technology, and many more. ResearchGate is a specialized academic social network platform for researchers' collaboration by sharing scientific and academic research, attracting three times more views on recent articles than older ones (Thelwall & Kousha, 2017). Elsevier is a prominent academic publishing business with an online platform to provide researchers, scholars, and students access to widely varied scholarly content. The main reason behind choosing these sources and this methodology is the fact that in recent years, there has been an increase in citations of academic social networks documents, which indicates that there is a shift to papers in journals compared to other types of publications, giving these platforms higher attraction for the academic community (Prieto-Gutierrez, 2019).

2.6. Data evaluation

Selected articles were evaluated using established frameworks to assess study quality and relevance. Criteria included the clarity of research questions, robustness of methodology, and the extent to which findings contributed to understanding the intersection of leadership, innovation, and entrepreneurship. Bias reduction techniques, such as cross-referencing sources and triangulating data, were employed to ensure comprehensive and balanced synthesis.

2.7. Main topics and research questions

This review addresses the following main topics.

- The status of educational leadership over the last two decades.
- Innovation in education.
- Entrepreneurship in education.
- How educational leaders can foster innovation and entrepreneurship.
- Barriers to implementing innovation and entrepreneurship in educational settings.

2.8. The corresponding research questions are

1. How has educational leadership evolved, especially in the last two decades?
2. In what ways can leadership foster innovation and entrepreneurship in education?

The narrative review approach was specifically chosen to address these questions by providing a broad conceptual overview, synthesizing existing theories, and identifying gaps for future research directions (see Table 1).

Moreover, the number of selected articles is shown in Tables 2 and 3.

Table 1
Databases to consider when performing the literature search.

Name of Database	How to access	Internet Site	Pay Site
Taylor and Francis online	Online database and publisher	https://taylorandfrancis.com/	Yes
ResearchGate	Online search software	https://www.researchgate.net/search	No
ERIC -Educational Resources Information Center	Online search software	https://eric.ed.gov	No
Elsevier	Online research publisher	https://www.elsevier.com/en-xm	Yes
Google Scholar	Online search engine	www.googlescholar.com	No

Search terms associated with the relevant data for each RQ, number of hits, and number of selected related articles are also featured in Tables 2 and 3 The search terms stemmed from theories of education. All the search terms were used to search for the three interconnected topics: leadership, innovation, and entrepreneurship in education. The search words that represent all the selected articles are found in Tables 2 and 3 At least 30 articles per search term were carefully read. Then, the relevance of the articles narrowed down depending on the content of the abstracts, and further reading led the author to go deeper into more focused and relevant articles. The studies that have been chosen are marked by an asterisk in the reference list. References that have no asterisk are listed as snowballing. At the start, the selected articles were carefully read to understand the history of educational leadership in the last two decades. Then, to answer RQ2, the narrative had to include an overview of innovation and entrepreneurship in education. Only peer-reviewed or reviewed by experts' articles were used. The articles related to RQ2 covered a range from 2017 to 2023 because this narrative paper aims to summarise the latest and most up-to-date data regarding the role of educational leadership in fostering innovation and entrepreneurship. This does not apply to RQ1 because it links to the background of educational leadership and the leading emerging leadership styles across history.

2.9. Findings

To address the research questions, a narrative review focused on the definition of educational leadership, its evolution over the past decades, innovation in education, and entrepreneurship in education. This review aims to synthesize current literature on these theories and demonstrate how leadership can foster innovation and entrepreneurship in education (Ferrari, 2015; Oxman, 1994). This section is organized to address the first research question: How did educational leadership evolve, particularly in the last two decades?

2.10. Evolution of educational leadership

Educational leadership involves an influencing process underpinned by specific values and beliefs, generating a "vision" for the institution, which leaders communicate to staff and stakeholders (Bush & Glover, 2003, pp. 213–217). Bush and Glover (2003, pp. 213–217) identify three dimensions of leadership: (1) leadership impacts the structuring and organizing within the institution; (2) leadership relates to organizational values, driving people to commit to these ideals; and (3) vision is a critical component of effective leadership.

Educational leadership became prominent with the emergence of the scientific management theory in the 20th century, aiming to improve business sector outputs (Lunenberg, 2003). Scholars adapted these concepts for educational institutions, recognizing their distinct characteristics. By the end of the behavioral era in the 1980s, models such as instructional leadership, distributed leadership, and transformational leadership were developed to guide educational administration (Bush, 2003). Research on school effectiveness suggested that solid leadership is a hallmark of excellent schools (Bridges, 1982; Dougherty, 1981; Murnane, 1981; Purkey & Smith, 1983; Ralph & Fennessey, 1983). Effective school leaders identify and analyze the institution's educational needs, allocate resources appropriately, and maintain operations, thus contributing significantly to developing academic leadership models (Grissom & Loeb, 2011).

2.11. Instructional, distributed, and transformational leadership models

The instructional leadership model emphasizes setting up a learning culture, supervising instructional programs, and fostering an environment that promotes learning (Hallinger & Murphy, 1985). Initially principal-centered, it became more democratic and inclusive (Gumus & Akcaoglu, 2013; Neumerski, 2013). Distributed leadership, as explained

Table 2
Overview of hits and selected articles per database per main search words related to research question 1 regarding educational leadership theories.

RQ1: Educational Leadership	Google Scholar Hits	Scanned	Selected	RQ1: Educational Leadership	ERIC Hits	Scanned	Selected	RQ1: Educational Leadership	ResearchGate Hits	Scanned	Selected
Principal effectiveness	5, 110, 000 articles	30	1	Successful school leadership	2724 articles	30	1	School leadership	102 articles	32	3
Theories of educational leadership	4,230,000 articles	30	1	Leaders' practices found to influence students	31,240 articles	30	1	Distributed leadership	100 articles	30	1
Effective schools	4,370,000 articles	30	3	Transformational leadership	11, 751 articles	30	1	leadership models in educational research	101 articles	31	2
Instructional leadership theory	1,130,000 articles	30	2								
RQ1: Educational Leadership	Taylor and Francis Hits	Scanned	Selected	RQ1: Educational Leadership	Elsevier Hits	Scanned	Selected				
Educational leadership	100 articles	30	2	Educational leadership	432 journals	30	1				
Distributed leadership	297,128 articles	30	1								
School leadership	492,315 articles	30	1								

by Spillane (2005), involves shared leadership responsibilities among staff and leaders to achieve common goals. This model gained renewed prominence during the COVID-19 pandemic when leadership practices became remote and distributed (Harris & Jones, 2020). Research suggests that certain implementations of distributed leadership can positively impact school and student outcomes (Harris, Jones, & Ismail, 2022). Transformational leadership, introduced by Burns (1978), motivates employees through idealistic leadership, intellectual stimulation, and individualized consideration (Bass & Avolio, 1994; Sunaengish et al., 2021). It emphasizes raising employee motivation and achieving collective goals through leadership-follower interaction. Furthermore, such style of school management may enhance trust in the principal and allow staff to view the leader as a mmoderator as the study shows (Kılınç, Polatcan, Savaş, & Er, 2024). In addition, transformational leadership can encourage loyalty on the part of the employees and self-improvement on the part of the leader as it often manifests through a positive processing of envy that may occur at work when discrepancies rise among subordinates and their supervisors (Aftab, Saleem, & Belwal, 2024).

2.12. Innovation in education

Innovation in education is driven by technological advancements and globalization, which have altered the demands of the workforce and necessitated continuous educational evolution (Poutanen & Kovalainen, 2023). Innovations, such as AI and other general-purpose technologies, are gradually reshaping various fields, including education (Arntz, Gregory, & Zierahn, 2019). Institutions are increasingly expected to foster creativity and adapt to rapidly evolving environments (Serdyukov, 2017). Innovations can improve student learning and the qtecuality of instruction, making education more student-centered (Findikoglu & Ilhan, 2016). Additionally, the theory of innovation diffusion helps guide the introduction and gradual integration of new practices especially in the digitalized domain, such as the utilization of digital artificial intelligence to share knowledge with stakeholders of a specific type of business (Saleem et al., 2023).

2.13. Entrepreneurship in education

An entrepreneurial mindset involves searching for, assessing, and utilizing opportunities, characterized by creativity, resilience, and calculated risk-taking (Bosman & Fernhaber, 2018; De Carolis & Litzky, 2019). Entrepreneurship education aims to inspire students to think and act entrepreneurially, though its implementation varies due to local, financial, and contextual constraints (Kuratko, Fisher, Bloodgood, & Hornsby, 2017; Nabi, Liñán, Fayolle, Krueger, & Walmsley, 2017, 2018). The success of entrepreneurship education in fostering entrepreneurial competencies remains a debated topic, highlighting the need for structured approaches and partnerships between educators and researchers (Gianesini, Cubico, Favretto, & Leitão, 2018).

2.14. Educational leaders fostering creativity and innovation

Educational leaders play a pivotal role in fostering creativity and innovation. They create environments that encourage risk-taking and problem-solving, essential for innovation (Hughes et al., 2018). Transformational leadership, in particular, is linked to fostering a culture of creativity and innovation, as it emphasizes intellectual stimulation and individualized support (Shanker, Bhanugopan, Van der Heijden, & Farrell, 2017). Effective leaders facilitate collaboration, motivate staff, and support innovative initiatives within educational institutions (Abo-Shabana, Tantawi, & Ragheb, 2018; Kirkley, 2017).

2.15. Summary of findings

Key findings suggest that effective educational leadership in fostering innovation and entrepreneurship includes.

1. Creating an entrepreneurial culture with clear goals and vision (Kirkley, 2017; Minna, Elena, & Timo, 2018).
2. Promoting collaboration and empowering stakeholders (Abo-Shabana et al., 2018; Bisanz, Hueber, Lindner, & Jambor, 2019; Johansen, 2018; Kirkley, 2017; Sommarström et al., 2020).
3. Supporting and motivating teachers to innovate and communicate the value of entrepreneurship education (Abo-Shabana et al., 2018; Bisanz et al., 2019).
4. Establishing student-centered, hands-on, and cross-curricular programs and engaging in curricular reform (Kirkley, 2017).
5. Building networks and promoting entrepreneurship education (Abo-Shabana et al., 2018; Minna et al., 2018).
6. Adopting risk-taking approaches and accepting failure as part of learning (Hadjielias et al., 2021).
7. Encouraging problem-solving and fostering curiosity (Lackéus, 2020).

Table 3

Overview of hits and selected articles per database per main search words related to research question 2 regarding leadership fostering innovation and entrepreneurship in education.

RQ2: How can leadership foster innovation and entrepreneurship in education?	Google Scholar Hits	Scanned	Selected	RQ2: How can leadership foster innovation and entrepreneurship in education?	ERIC Hits	Scanned	Selected	RQ2: How can leadership foster innovation and entrepreneurship in education?	ResearchGate Hits	Scanned	Selected
Innovation in education	132,000 articles	31	2	creative problem solving, effects of creativity	8740 articles	30	1	Innovation in education	100 articles	30	1
Entrepreneurship in education	24,600 articles	30	4	entrepreneurship education in schools	233, 667 articles	30	1	leadership, creativity, and innovation	100 articles	30	1
leadership, creativity, and innovation	18,902 articles	32	3								
entrepreneurship education	41, 001 articles	31	4								

RQ2: How can leadership foster innovation and entrepreneurship in education?	Taylor and Francis Hits	Scanned	Selected	RQ2: How can leadership foster innovation and entrepreneurship in education?	Elsevier Hits	Scanned	Selected
the role of leadership in innovation	198, 777 articles	30	0	Innovation in education	111,263 articles	30	1
why is leadership important to creativity?	166,151 articles	30	1	how to manage creativity	15,547 articular	30	1
				Entrepreneurship education	12,696 articles	30	1
				innovation and organizational performance	90,366 articles	30	2
				creativity in innovation activities	13, 771 articles	30	1
				the impact of creativity and risk taking in innovative education	3, 480 articles	30	1

3. Discussion

3.1. Theoretical contributions

This narrative review contributes to the literature in several ways. First, it examined the evolution of leadership especially in the recent era and found out that the literature emphasizes mainly three leadership styles (instructional, distributed, and transformational). Second, it delves into the details of linking leadership and innovation-creation showing the relationship that links them, which was overlooked in many studies before (Figueiredo et al., 2022). Therefore, it highlights the interconnectedness between educational settings, leadership styles, and innovation, in addition to entrepreneurship. Third, this review identifies the most relevant works in the most prominent scientific platforms and sources, based on keyword searches and phrases relevant to the subject. Fourth, it highlighted the existing gap in literature concerning the triad of leadership, innovation, and entrepreneurship in education because unlike previous works such as exploring the mindset, the beliefs, and the traits of entrepreneurial leadership (Subramaniam & Shankar, 2020), the know-how of cultivating such mindsets in students (DeCoito & Briona, 2023), or the effect of leadership on fostering innovation (Figueiredo et al., 2022), it synthesizes the relationship between the style of leadership and both fields of innovation-creativity and entrepreneurship (Graciano et al., 2022).

This study summarized the relationship between educational leadership and promoting innovation, creativity, and entrepreneurship in academic settings.

3.2. RQ 1: how did educational leadership evolve, especially in the last two decades?

Several articles were reviewed and scanned for the first part of this review. Still, only those that met the inclusion and exclusion criteria were utilized to gather sufficient information for the contextual background of the evaluation. Analysis revealed that interest in educational leadership has significantly increased over the past two decades, with numerous leadership styles emerging. This study highlights the prevalence of three primary leadership styles: instructional, distributed, and transformational. Initially, instructional leadership was perceived and practiced as a principal-centered strategy; however, it evolved to become more democratic, focusing primarily on goal-setting, program implementation, and ensuring that followers align with the institution's objectives (Gumus & Akcaoglu, 2013; Neumerski, 2013). Transformational leadership emphasizes motivating and inspiring followers through individual considerations and intellectual stimulation. Distributed leadership, which gained prominence during the COVID-19 pandemic, promotes autonomy by involving employees in decision-making and holding them accountable for their actions. While these three models differ in implementation and approach, they share a common goal of achieving institutional objectives through collective decision-making or hierarchical directives. Influential educational leaders accurately identify organizational needs, understand the individual needs of their followers, and utilize innovative and creative resources to guide the institution toward its goals (Abo-Shabana et al., 2018; Grissom & Loeb, 2011; Kirkley, 2017; Minna et al., 2018).

3.3. RQ 2: how does leadership foster innovation and entrepreneurship?

Leadership plays a crucial role in fostering innovation by generating solutions to challenges associated with implementing new ideas, thereby advancing these concepts within institutions (Sutanto, 2017). Although creativity and innovation are closely related, they do not always follow the same trajectory (Hadjielias et al., 2021; Hughes et al., 2018). The literature consistently highlights that organizational creativity and innovation originate from individual creativity. Leadership that fosters innovation recognizes the importance of personal creativity and its

intersection with an organizational culture of collective innovation (Castillo-Vergara, Alvarez-Marin, & Placencio-Hidalgo, 2018; Fetrati, Hansen, & Akhavan, 2022; Naranjo-Valencia et al., 2017). This synergy of multiple perspectives enriches decision-making and can be incredibly potent in a distributed leadership model that values creativity and innovation. Inspirational motivation and intellectual stimulation, critical elements of transformational leadership, drive faculty to collectively work towards goals using creative approaches, thus fostering innovative solutions for longstanding challenges. This aligns with the transformational leadership style, which emphasizes a robust leader-follower connection, promoting the emergence of new ideas and achievements (Li et al., 2018). This resonates with the findings of a study that focused on the higher students' achievement and improved innovative skills that the educational staff acquired when the transformational leadership adopted cultivated a trusting relationship with the subordinates (Kılınç et al., 2024). Both creativity and innovation, while distinct, are deeply connected—creativity involves generating new ideas, and innovation is the process of bringing those ideas to life as processes, products, or services through introduction, modification, or development (Hughes et al., 2018; Naranjo-Valencia et al., 2017). Given the ever-evolving needs of education, there is a pressing need for a dynamic transformation of educational environments, emphasizing the critical role of leadership. Innovations in education can enhance learning processes and elevate instructional methods to create new, more effective educational strategies (Serdyukov, 2017).

Additionally, a positive correlation exists between perceptions of innovation and entrepreneurship (Wei, Liu, & Sha, 2019). Scholars agree that entrepreneurship enhances individual capabilities as a form of experiential learning. However, developing structured procedures, tools, and concepts to support student projects requires collaboration between educators and entrepreneurship researchers (Lackéus, 2015). However, the effectiveness of such programs is highly context-dependent, influenced by local environments, practices, and the specific leadership styles of educational institutions. This resonates with the results of a case study showing how scholo principals' use of connective pathways can support the implementation of entrepreneurship education mindset by the teachers in schools (Ho, Bryant, & Jiafang, 2024). Additionally, the effectiveness of leadership styles highlighted in this review can also be compared with another study that tested how all leadership styles can support students' achievement, and how entrepreneurship educational leadership could particularly make an impact in applying inclusive education for special needs students (Stavrou & Kafa, 2024).

Consequently, entrepreneurship programs are not guaranteed to foster entrepreneurial mindsets due to various local, financial, and personal constraints (Ahmed, Chandran, Klobas, Liñán, & Kokkalis, 2020). Thus, while entrepreneurship education aims to develop entrepreneurial skills, its success remains debatable, mainly when contextual factors are considered. Studies by Nabi et al. (2017, 2018) and Rauch and Hulsink (2015) highlight the ongoing contradictions in the outcomes of entrepreneurship education, indicating that this field is still in its developmental stages (Graciano et al., 2023).

Furthermore, this review identified several key attributes that contribute to fostering an educational culture of innovation and entrepreneurship. Establishing clear goals and a vision by leaders is fundamental to fostering this culture within academic institutions. By promoting a collaborative atmosphere and empowering faculty, institutions can facilitate the exchange of knowledge and experiences, driving progress toward institutional goals. This approach supports the development of an entrepreneurial culture that leverages innovation to devise solutions and adopt contemporary approaches (Abo-Shabana et al., 2018; Kirkley, 2017). It is crucial to motivate and support educators, who are pivotal in implementing innovative and entrepreneurial initiatives. Leadership should also promote student-centered, hands-on, and interdisciplinary approaches, as Kirkley (2017) and Sommarström et al. (2020) highlighted. Emphasizing risk-taking and experimentation

is vital; without embracing risk, creativity cannot transition into innovation (Hadjielias et al., 2021). Over time, a risk-taking mindset—cultivated through experiences of failure—can spark innovation (Ferreira, Coelho, & Moutinho, 2020). Therefore, tolerating risk and failure is a prerequisite for creativity, ultimately enabling the implementation of entrepreneurship education.

In summary, leadership styles significantly influence innovation, creativity, and entrepreneurship in educational contexts. Instructional, transformational, and distributed leadership models offer unique pathways to fostering these qualities, highlighting the importance of contextual adaptation and strategic alignment with institutional goals. Further research is needed to explore how these leadership characteristics can be optimized to drive educational innovation and entrepreneurship, particularly in diverse and evolving educational landscapes. Identifying effective leadership practices and contextual factors will be crucial in advancing the understanding and implementation of innovative educational strategies.

4. Conclusion

This review has highlighted that leadership is pivotal in fostering creativity, innovation, and entrepreneurship within educational settings. The main findings emphasize that instructional, transformational, and distributed leadership styles uniquely contribute to these outcomes. Instructional leadership focuses on goal-setting and program implementation; transformational leadership inspires and motivates through individual considerations and intellectual stimulation; and distributed leadership encourages collaboration and shared decision-making, which can remarkably enhance innovative and entrepreneurial efforts. Understanding the nuanced roles of these leadership styles can guide educational institutions in aligning their practices with desired outcomes in creativity, innovation, and entrepreneurship.

Entrepreneurship education's effectiveness is closely tied to the school's environment, culture, existing practices, and leadership styles. These factors are critical as they influence how leadership can foster an entrepreneurial mindset among students and staff. The local context—cultural, economic, or institutional—can either facilitate or hinder the implementation of innovative educational practices. Therefore, academic leaders must consider these elements when designing strategies to promote entrepreneurship education.

4.1. Limitations

Leadership styles if not combined with the adequate human and financial resources cannot render the sought results in promoting innovative environments in educational settings and entrepreneurship. The limitations of this review are mainly organisational, financial, and cultural as there are no guarantees for reaching innovative entrepreneurship mindsets across institutions in different environments.

4.2. Practical implications

The findings suggest that educational leaders can improve practice by embracing leadership models that foster innovation and entrepreneurship, promoting collaborative and inclusive environments, and supporting staff in implementing innovative educational practices.

4.3. Recommendations for practice

To foster environments that support innovation and entrepreneurship, educational leaders should consider adopting a distributed leadership style that empowers staff and encourages collaborative decision-making. Additionally, promoting a culture of risk-taking and experimentation is crucial; leaders should create safe spaces where failure is viewed as a learning opportunity, thereby enhancing the potential for creative and innovative outcomes. Providing targeted support and motivation to educators at the forefront of implementing these changes is also essential. Leadership should encourage practical, student-centered approaches and interdisciplinary methods to engage learners in entrepreneurial activities.

4.4. Future research directions

There remains a significant gap in the literature concerning the specific leadership characteristics and practices that most effectively drive innovation and entrepreneurship in education. Future research should focus on identifying which leadership practices are most conducive to fostering a culture of innovation in diverse educational contexts. Studies could explore how various leadership styles can be adapted to different cultural, economic, and institutional environments to maximize their impact. Additionally, research should aim to document and analyze the outcomes of specific leadership interventions to provide more precise guidance for educational leaders seeking to enhance their institutions' entrepreneurial capacity.

Ethical approval

This study is a systematic review, as such full ethical approval was not applicable.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssaho.2024.101173.

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