

How Has Research on Leadership and Communication in Education Evolved Over Time, and What Are Its Future Directions? A Bibliometric Analysis

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ABSTRACT

This study maps how research on leadership and communication in education has developed over time and identifies emerging directions for scholarship and practice. Bibliographic records were retrieved from Scopus using a TITLE-ABS-KEY search strategy and refined through predefined eligibility criteria, yielding 480 journal articles for analysis. Performance indicators were used to examine publication and citation trajectories, while science-mapping techniques (co-authorship, co-citation, bibliographic coupling, and keyword co-occurrence) were applied using bibliometrix/Biblioshiny and VOSviewer to reveal the field's intellectual and thematic structure. Results show a marked acceleration of output and influence in recent years and an increasingly interdisciplinary knowledge base spanning school leadership, higher education, and professional/clinical education. Conceptual mapping positions leadership and communication as central bridging constructs linking dominant themes of collaboration and communication competencies, professionalism and practice-based learning, technology-mediated (e-)leadership, and crisis-responsive communication, with COVID-19 acting as a catalyst for sensemaking and resilience-oriented work. The study highlights geographical concentration in knowledge production and proposes a future agenda focused on multi-context comparisons, hybrid leadership communication, and capacity-building interventions aligned with quality, equity, and adaptability.

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*Penelitian ini memetakan bagaimana penelitian tentang kepemimpinan dan komunikasi dalam pendidikan berkembang dari waktu ke waktu serta mengidentifikasi arah baru bagi kajian akademik dan praktik. Data bibliografis diperoleh dari Scopus menggunakan strategi pencarian TITLE-ABS-KEY dan disaring melalui kriteria kelayakan yang telah ditetapkan sebelumnya, sehingga menghasilkan 480 artikel jurnal untuk dianalisis. Indikator kinerja digunakan untuk mengkaji perkembangan publikasi dan sitasi, sedangkan teknik pemetaan sains, meliputi ko-penulisan, ko-sitasi, *bibliographic coupling*, dan ko-kemunculan kata kunci, diterapkan menggunakan bibliometrix/Biblioshiny dan VOSviewer untuk mengungkap struktur intelektual dan tematik bidang kajian ini. Hasil penelitian menunjukkan adanya percepatan yang nyata dalam jumlah publikasi dan pengaruhnya dalam beberapa tahun terakhir, serta basis pengetahuan yang semakin interdisipliner yang mencakup kepemimpinan sekolah, pendidikan tinggi, dan pendidikan profesional/klinis. Pemetaan konseptual menempatkan kepemimpinan dan komunikasi sebagai konstruk penghubung utama yang mengaitkan tema-tema dominan, seperti kolaborasi dan kompetensi komunikasi, profesionalisme dan pembelajaran berbasis praktik, kepemimpinan berbasis teknologi atau *e-leadership*, serta komunikasi responsif terhadap krisis, dengan COVID-19 sebagai katalis bagi kajian yang berorientasi pada pemaknaan dan resiliensi. Penelitian ini menyoroti adanya konsentrasi geografis dalam produksi pengetahuan dan mengusulkan agenda penelitian masa depan yang berfokus pada perbandingan multi-konteks, komunikasi kepemimpinan hibrida, serta intervensi pengembangan kapasitas yang selaras dengan kualitas, kesetaraan, dan kemampuan beradaptasi.*

Kata Kunci: analisis bibliometrik; kepemimpinan pendidikan; komunikasi; pemetaan sains; VOSviewer



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1. INTRODUCTION

With the rising complexity of educational systems in the 21st century, the significance of effective leadership and communication within educational institutions has been magnified (Neo, 2025; Vasil et al., 2019). There was a time when educational organizations were seen as on static administrative structures, they are now dynamic knowledge-business centres requiring adaptive leadership and conveyed directional communication in response to ever-continuing change (Kearney et al., 2022; Scott et al., 2025). Here, leading is about not just making decisions and setting a vision, but also sharing information with all the right stakeholders such as teachers, students, administrators, and educational communities.

In recent decades, researchers have shown growing interest in the intersection of leadership and communication in education (Angelakis et al., 2024; Bass et al., 2025; Yang et al., 2019). This study has orientated on tests of different models of leadership, including instructional leadership, transformational leadership and distributed leadership, addressing their interplay with communication behaviour in schools, higher education or education in general (Bronstein & Fitzpatrick, 2015; Pierce & Komives, 2024; Yusof et al., 2020). Hence, communication has emerged as a key mechanism in leadership, affecting everything from cultures of teamwork among teachers to student engagement and institutional effectiveness. However, while interest in this topic has grown rapidly, the literature is siloed across disciplines, methodologies, and educational context.

The rapid development of digitally-driven technologies, coupled with the increasing complexity of global issues such as educational inequity, organizational evolution and crisis management have also reconceptualized leadership and communication practices in education (Gummadi, 2025; Schelling & Rubenstein, 2021). This necessitates a broader view of how the disciplines in this field have progressed historically, what dominant themes continue to stick around over time and where future areas of research within the field are going to emerge.

Although there is a lot of empirical and theoretical research on the intersection of leadership and communication in educational contexts, limited systematic effort has been conducted to delineate its intellectual structure and evolution. Common literature reviews yield narrative results but they fail to evaluate the larger trends of knowledge production, collaborative networks and thematic evolution. On the other hand bibliometric analysis provides a scientific and a quantitative approach for scrutinizing large volumes of publication documents,

assisting in detecting research trends, influential papers, prominent authors, and emerging areas (Arruti & Paños-Castro, 2025; Donthu et al., 2021; Singh et al., 2024).

Hence, the objective of this study is to perform a holistic bibliometric analysis of research concerning on leadership and communication in education. In particular, it aims to (1) analyze the temporal evolution of scientific publications, (2) identify the most prolific authors, journals and countries in this field of research, (3) map the intellectual structure and thematic structure of this domain in health informatics literature, and (4) explore existing trends and gaps for future studies. This research study offers a systematic synopsis of the past, present and future direction in the field of this area to better understand as well as explaining how leadership and communication research ambiguity related leadership, education and futures-transformation will affect its restructured nature.

2. METHOD

2.1 Review design

This study uses a bibliometric review design to investigate the trend in research on leadership and communication in education. Bibliometric analysis: A quantitative research tool that helps to discover patterns about output, citation structures, authorship and subject-matter characteristics over time (Abdullah, 2022; Arruti & Paños-Castro, 2025; Donthu et al., 2021). Compared with conventional narrative reviews, this method provides a less biased, more transparent and reproducible way to collate extensive amounts of academic literature. It is performed in a systematic manner to find, screen and select relevant publications so that the dataset analyzed remains consistent and uniform.

The study design combines multiple analytical perspectives to give you the best coverage of the domain under investigation. It integrates performance analysis in order to determine the productivity and impact of publications with science mapping techniques for identifying the intellectual or conceptual structure of the field. We also take a temporal perspective and investigate how scientific research has evolved over time enabling the identification of past developments, ongoing trends and future trajectories. The study hopes to provide a systematic and comprehensive view of research on leadership and communication in education over time and possible future directions for research along this line, through this combined lens.

2.2 Data sources and search strategy

The bibliographic records were retrieved from Scopus, selected for its broad coverage of peer-reviewed journals and robust metadata for bibliometric mapping (Baas et al., 2020; Schotten et al., 2017). The search was executed in the Scopus TITLE-ABS-KEY field using the following query:

TITLE (leader AND communication*) AND TITLE-ABS-KEY (school OR education OR teacher) AND PUBYEAR > 2009 AND PUBYEAR < 2027*

2.3 Data sources and search strategy

Table 1. Inclusion–exclusion criteria

Criterion	Inclusion	Exclusion
Publication year	> 2015	≤ 2015
Document type	Journal article	Conference papers, reviews, book chapters, editorials, notes, letters, and other non-article document types
Scopus subject area	Social Sciences	Non–Social Sciences subject areas
Language	English	Non-English publications

2.4 Screening and dataset refinement

All records were exported from Scopus and screened against the predefined eligibility criteria. Of the 4,751 records identified at the search stage, 480 journal articles met the inclusion criteria and were retained for subsequent bibliometric and science-mapping analyses. The final dataset was then processed for descriptive performance indicators and network-based mapping (co-authorship, co-citation, bibliographic coupling, and keyword co-occurrence).

3. RESULTS

3.1 Descriptive performance (publication and citation trends)

Figure 1 summarises the temporal dynamics of research output on leadership and communication in educational contexts. Overall, the trend indicates a gradual increase in publication activity over time, with a more pronounced rise in the most recent years, suggesting that the intersection of educational leadership and

communication has become an increasingly visible research domain. The citation trajectory broadly follows the growth in publication volume, indicating that newer work is being integrated into the scholarly conversation as the field expands. In addition to temporal patterns, Figure 2 highlights the geographical distribution of contributions by country, showing that the literature is internationally dispersed but concentrated in a subset of countries that act as major hubs of knowledge production in this domain.

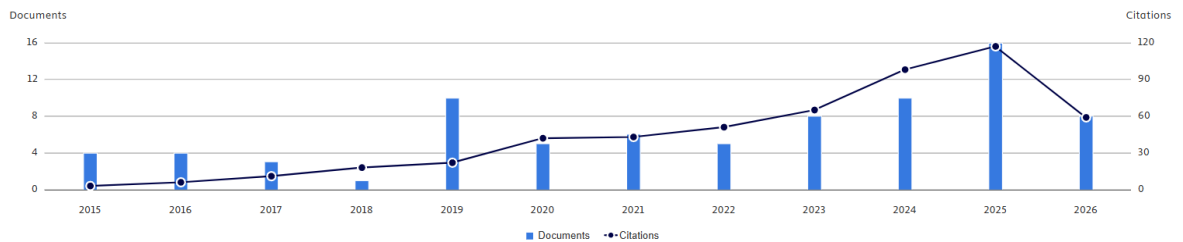
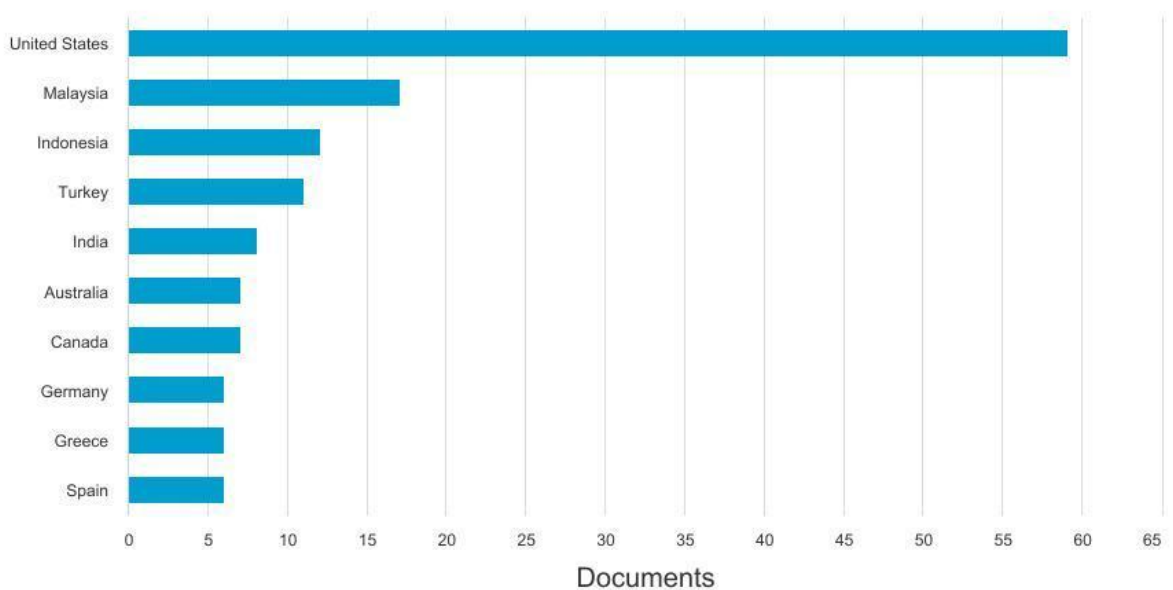


Figure 1 *Publication and Citation Trend overtime*

Documents by country or territory



Compare the document counts for up to 15 countries/territories.



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Figure 2 *Most Relevant Country*

3.2 Most relevant documents

Table 2 reports the most cited documents in the dataset, providing an indication of the works that have exerted the strongest citation influence within (and in some cases beyond) the leadership–communication–education interface. The top-cited paper is Cranmer & Myers (2015), “Sports teams as organizations: A

leader–member exchange perspective of player communication with coaches and teammates,” published in *Communication and Sport* (58 citations). The next most cited work is Zerfass et al. (2016). in the *Journal of Communication Management* (37 citations), followed by Hayes et al. (2021) in *Frontiers in Education* (35 citations). Several other highly cited studies address communication and leadership training in professional education settings (e.g., surgical education), as well as technology-related leadership and communication in educational organisations. Collectively, these highly cited documents suggest that leadership–communication scholarship in education is methodologically and contextually diverse, spanning schools, higher education, and professional training environments.

Table 2 Most Cited Document

No	Author	Title	Source	N. Citation
1	Cranmer & Myers (2015)	Sports teams as organizations: A leader–member exchange perspective of player communication with coaches and teammates	Communication and Sport	58
2	Zerfass et al. (2016)	Managing CEO communication and positioning: A cross-national study among corporate communication leaders	Journal of Communication Management	37
3	Hayes et al. (2021)	“Constant Communication”: Rural Principals’ Leadership Practices During a Global Pandemic	Frontiers in Education	35
4	Raley et al. (2017)	The Role of Communication During Trauma Activations: Investigating the Need for Team and Leader Communication Training	Journal of Surgical Education	25
5	Akhtar et al. (2019)	Antecedents of task performance: An examination of transformation leadership, team communication, team creativity, and team trust	Journal of Public Affairs	25
6	Udin et al. (2019)	Leadership styles and communication skills at	Organizations and	25

		Indonesian higher education: Patterns, influences, and applications for organization	Markets in Emerging Economies	
7	Gupta et al. (2023)	E-leadership and virtual communication adoption by educators: an UTAUT3 model perspective	Global Knowledge, Memory and Communication	23
8	Terek et al. (2015)	The impact of leadership on the communication satisfaction of primary school teachers in Serbia	Kuram ve Uygulamad a Egitim Bilimleri	23
9	McDonagh & McGarr (2015)	Technology leadership or technology somnambulism? Exploring the discourse of integration amongst information and communication technology coordinators	Irish Educational Studies	20
10	Fürst et al. (2022) l.	Assessing changes in the public communication of higher education institutions: A survey of leaders of Swiss universities and colleges	Studies in Communication Sciences	19

3.4 Conceptual structure: keyword co-occurrence, thematic map, and thematic evolution

To examine the conceptual structure of the field, a keyword co-occurrence analysis was conducted and summarised in Table 3. The most frequent author keywords are “leadership” (98 occurrences; total link strength = 136) and “communication” (76; total link strength = 120), confirming that the dataset is coherently anchored in the intended topic intersection. Beyond these core terms, recurrent keywords point to several substantive foci, including communication competencies (e.g., “interpersonal and communication skills,” “communication skills”), collaboration and professionalism, and education-specific contexts (e.g., “higher education,” “education”). Notably, the presence of keywords such as “covid-19” indicates that crisis-related leadership communication became a salient stream in the recent literature.

Table 3 Most Frequent Keyword

No	keyword	occurrences	total link strength
1	leadership	98	136
2	communication	76	120
3	interpersonal and communication skills	32	124
4	professionalism	28	99
5	higher education	23	27
6	education	21	41
7	practice-based learning and improvement	21	93
8	medical education	16	27
9	simulation	16	34
10	systems-based practice	16	79
11	communication skills	15	13
12	collaboration	13	23
13	patient care	13	61
14	covid-19	12	9
15	surgery	12	46

The bibliometric mapping of keyword co-occurrence reveals the intellectual structure of research on leadership and communication in education, as illustrated in Figure 3. The network visualization demonstrates several interconnected clusters, indicating that the field is inherently multidisciplinary and thematically diverse. Each cluster represents a group of frequently co-occurring keywords, reflecting dominant research themes and their relationships within the broader knowledge domain.

The analysis identifies at least four major thematic clusters. The first cluster (red) is centered on leadership, which appears as one of the most prominent nodes in the network. This cluster is strongly associated with terms such as *curriculum*, *management*, *professional development*, and *medical education*, suggesting that leadership research is often framed within institutional development and capacity-building contexts (Escandell-Poveda, 2025; Jarupongputtana et al., 2022; Kusnandar et al., 2020; Zheng & Wang, 2026). The presence of *faculty development* and *undergraduate* further indicates a strong orientation toward educational improvement and human resource development within academic institutions.

The second cluster (green) is dominated by communication, which is closely linked to terms such as *collaboration*, *communication skills*, *interpersonal skills*, and *self-efficacy* (Demirdag, 2022; Polk et al., 2017; Valdes et al., 2021). This cluster highlights the role of communication as a functional and relational mechanism in

educational settings. The connections between communication and constructs such as *teamwork* and *collaboration* suggest that recent research increasingly emphasizes soft skills and interpersonal dynamics as critical components of effective educational leadership.

The third cluster (blue) reflects a strong concentration of research in medical and clinical education, with keywords such as *medical knowledge*, *patient care*, *practice-based learning*, and *professionalism* (Choi et al., 2018; Kim & Lee, 2025; Valdes et al., 2021). This indicates that a significant portion of the literature on leadership and communication is situated within healthcare education contexts. The integration of communication and leadership in this cluster suggests their importance in developing professional competencies, particularly in high-stakes environments such as clinical practice.

The fourth cluster (yellow–purple interface) represents emerging and interdisciplinary themes, including *higher education*, *sustainability*, and *innovation* (Costello & Rutherford, 2019; Gupta et al., 2023; Palmer et al., 2026). The linkage between *higher education* and *sustainability* suggests a growing interest in aligning leadership and communication practices with global challenges and sustainable development goals. Additionally, the presence of *COVID-19* in proximity to leadership and communication nodes reflects recent shifts in research focus toward crisis leadership and digital communication in education.

From a structural perspective, leadership and communication function as central bridging nodes that connect multiple clusters, indicating their foundational role across different research streams. The dense interconnections among clusters demonstrate that leadership and communication are not isolated constructs but are embedded within broader educational, professional, and organizational contexts.

well as communication coaching; it looks like there is a movement from a focus on supply-driven approaches and egocentric models (leadership power focused) to competency-based approaches that are more human-centered.

The pathways of evolution also show how earlier professional development- and interpersonal communication-related themes evolved into more detailed constructs like assessment, students, and qualitative. Indicates a transformation in method and mindset toward assessing learning outcomes, student engagements, and evidence-based education. In addition, the emergence of COVID-19 as a bridging node suggests that recent global shocks may have been reflected in research trajectories--for example concerning leader adaptability and crisis communication such as in crisis situations.

On a more general level, the thematic evolution does underscore an overall move away from broad and theoretical themes to applied, context-specific and interdisciplinary research. Leadership is still a central and relatively stable theme across both times, but now it has been considerably diversified with connections to various emerging issues ranging from sustainability (eg. This trend indicates that future studies will probably continue probing the use of adaptive leadership models, integrated communication strategies, and their contributions to addressing complex challenges in education.

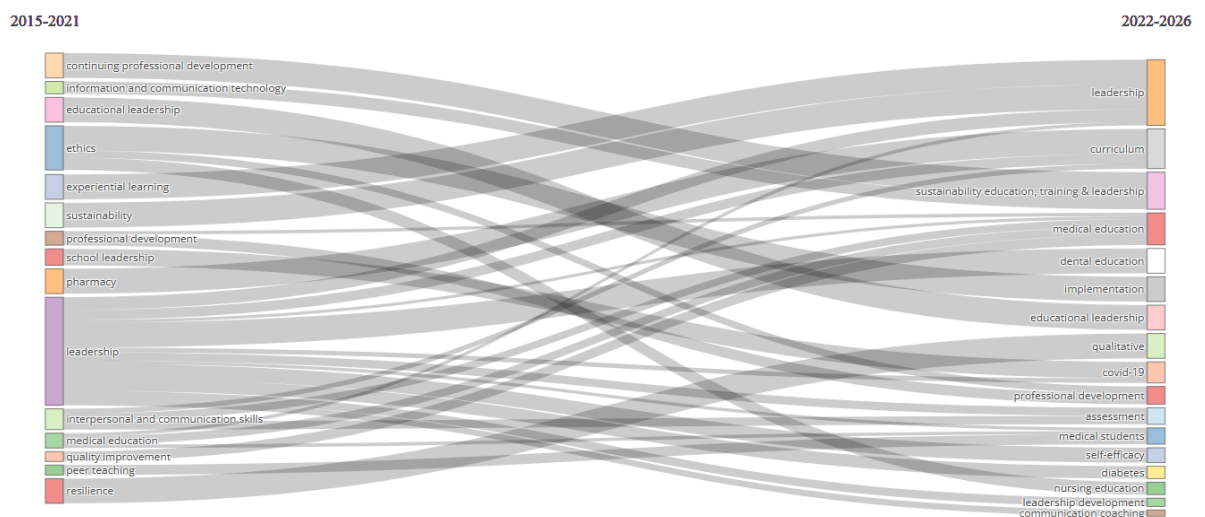


Figure 4 Thematic Evolution

4. DISCUSSION

This bibliometric overview provides an illustrative map of leadership-communication research in education since 2016 from previously diffuse literatures. Three findings stand out. The publication and citation trajectories (see Figure 1) follow a similar growth pattern over

time, however in the last few years this trajectory appears to steepen considerably signalling an ever increasing scholarly interest in communication as a constitutive capability of educational leadership within more complex and faster changing organisational contexts. Second, our most cited documents (Table 2) tell a story of a field that incorporates not only school leadership but important works within professional and clinical education, public and organisational communication, and crisis leadership. Third, based on keywords and network mapping (Table 3; Figures 3–4), the conceptual underpinning illustrates leadership and communication as bridging constructs importing numerous thematic streams, from competence-related communication skills and cooperation to FP2C, technology-mediated leadership, and crisis-responsive communication.

4.1 Principal findings and their significance

This increase in outputs and citations signals an increased interest the field has on the way educational leaders are increasingly left no option but to think about communication as a central mechanism through which they align stakeholders, build commitment, and coordinate improvement work rather than seeing it focused around an isolated "soft skill", something we noted when summarising this literature (Ghanta, 2019; Setiana et al., 2019). The concentration of country contributions (Figure 2) also provides evidence for unequal knowledge production, with only a small number of national research communities acting as knowledge hubs. This pattern is important because leadership and communication are context-sensitive constructs; when evidence is generated mainly in limited settings, then theories and recommendations may fall flat for institutions functioning in disparate cultural, linguistic, governance or resource environments.

4.2 Field crossover and theoretical influences

The citation profile (Table 2) suggests that the intellectual influences on this field are crossing boundaries rather than located within a single educational silo. This area of work presents a strong tradition tying leadership to team and organisational communication processes, connecting leaders directly to the audience as strategic actors in their public or organisational communication, and foregrounding practices of communication during disruptions (such as pandemic-era leadership). The importance of professional and clinical education among the most cited articles matches results for keywords (Table 3), with terms related to "medical education," "simulation," and other practice-oriented areas (Rawabdeh, 2025; Wang et al., 2023). This shows that a competency-based and safety-critical communication environment, where communication can be trained and measured directly to outcomes, is influencing the future directions of leadership–communication research focused on education.

4.3 Conceptual framework: communication as a bridge across leadership, collaboration and professional practices

The co-occurrence network and keyword frequencies demonstrate a multilevel conceptual structure (or processes). At its centre, "leadership" and "communication" predominate (Table 3), but the surrounding terms suggest how the field has operationalised these constructs in practice: communication is frequently linked with "collaboration," "communication skills," and "interpersonal & communication skills," indicating that for many

studies communication was framed as a transferable skill facilitating relational coordination. A second coats professional expectations and accountability (“professionalism,” “systems-based practice”) on top, in which leadership communication is enmeshed with quality, safety, and ethical practice. The third layer shows a significant presence of leadership communication in higher education and professional education contexts, with connections made to faculty development-related efforts, curriculum work, and practice-based learning. Overall, the mapping suggests an understanding of communication as more than a byproduct of leadership; rather, it is a mediating route through which leadership can affect teamwork, professional learning, and institutional effectiveness.

4.5 Educational leadership practice and education capacity building

For practitioners, the findings highlight that communication should be treated as a leader competency (or skill) to develop rather than simply an attribute or trait of certain leaders. As illustrated in table 3, the prevalence of communication skills, collaboration and professionalism suggests that structured communication training (eg, feedback conversations, conflict navigation, team briefing/debriefing routines) may be a desirable component of a school or university leadership development programme complementing more traditional leadership content. And the visibility of crisis, and digital themes imply leaders increasingly need skills to communicate in times of uncertainty and by phone or on-screen managing problems like keeping messages consistent across channels; maintaining trust at distance; opening chances for everyone not in crises zones to take part in decision-making.

4.6 implications for future research

This mapped structure shows that future theoretical progress will likely require researchers attending directly to communication as a mechanism explicitly connecting characteristic leadership behaviours and practices (e.g., delegation, freedom, targeted feedback) with intermediate social processes of communication (e.g., trust, psychological safety, sensemaking, coordination), which in turn link to ultimate educational outcomes. Due to unequal geographical coverage of publications (figure 2), comparative and multi-context studies are also needed to assess the extent to which dominating models travel across governance systems and cultural–linguistic settings. Thirdly, increasing attention to technology-mediated and crisis-related issues suggests an almost overdue agenda for research on hybrid leadership communication, including the opportunities and dangers posed by platform governance as well as propriety AI-enabled communication and decision-support tools.

6. LIMITATIONS

Findings will depend on database coverage, query design, and document-type/language restrictions. Bibliometric indicators and network maps capture patterns of publication and citation but do not, by themselves, establish study quality or causal influence. For transparency, we will report the full search strategy, inclusion decisions, and analysis parameters.

7. CONCLUSION

This bibliometric analysis synthesises the evolution of scholarship on leadership and communication in education, showing a clear rise in publication and citation activity and an expanding, interdisciplinary knowledge base spanning school, higher education, and professional/clinical training contexts. Mapping the results shows that leadership and communication are important bridging constructs linking broadening topics like collaborative and communication competency, professionalism with practice-based learning, technology-mediated (e-)leaderships, crisis-sensitivity in communication and COVID-19 speeding up interests in sensemaking regarding organisational resilience. Moreover, the geographical concentration of contributions in a handful of countries highlights the need for further comparative multi-context research so theories and their implications can be more easily generalized across different cultural and governance contexts using quasi-experimental designs. In conclusion, the results imply that future research ought to consider communication as a more explicit form of leadership behaviour, to embrace digital and hybrid realities of today and which can contribute further evidence for prospective multicomponent interventions such as capacity-development programmes through knowledge translation initiative focusing on how leaders can be supported in helping them to continue to improve education quality, equity or adaptability amidst continuing disruption.

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