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## THE EVOLUTION OF INSTRUCTIONAL LEADERSHIP: A 10-YEAR BIBLIOMETRIC PERSPECTIVE

Cammellia Othman<sup>1</sup>, Abdul Halim Busari<sup>2\*</sup>

<sup>1</sup> Faculty of Cognitive Sciences and Human Development, University Malaysia Sarawak, Malaysia  
Email: 21010297@siswa.unimas.my

<sup>2</sup> Faculty of Cognitive Sciences and Human Development, University Malaysia Sarawak, Malaysia  
Email: bhalim@unimas.my

\* Corresponding Author

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### Abstract:

The study aimed to examine past study publication trends for instructional leadership over 10 years (2014 - 2024). Bibliometric analysis was conducted through the searching method on the Scopus database. The search string for the Scopus database was conducted systematically. A total of 2094 published articles were analysed using Microsoft Excel, Scopus Analyser and VOSviewer. Our analysis employed advanced bibliometric techniques including annual publication trends, greatest number of articles, most popular subject area, top ten authors, most co-authorship influential countries, collaboration networks based on the co-authorship and popular keywords. The analysis revealed that the study of instructional leadership displays an increasing trend annually. This bibliometric analysis identifies Hallinger, P. and Shaked, H. as key contributors to the instructional leadership literature, authoring 37.98% of the publications and significantly influencing the development of foundational theories. The study also reveals a predominant focus on social sciences which constitute 63.54% of the research, thereby linking instructional leadership with educational policy and management. Additionally, extensive international collaborations are evident, particularly among scholars from the United States, United Kingdom, Australia, China and Canada. Commonly cited keywords such as transformational leadership, school improvement and student achievement underscore their importance in ongoing instructional leadership discussions. This study not only maps the intellectual territory but also illustrates the evolving focus areas and collaborative patterns, providing valuable insights for researchers and policymakers aiming to enhance instructional leadership frameworks globally.

**Keywords:**

Instructional Leadership, Educational Leadership, Bibliometric Analysis, VOSviewer

**Introduction**

Instructional leadership has emerged as a critical component in shaping effective schools and improving student outcomes (Rasidi et al., 2020; Pan et al., 2023). As a form of leadership that focuses on curriculum, instruction, and assessment, instructional leadership has gained significant attention from researchers and practitioners alike. To better understand the evolution and trends in instructional leadership research, a bibliometric analysis is a valuable tool. Bibliometric analysis is a quantitative method that uses statistical and mathematical techniques to analyze the publication patterns and citation networks within a specific field of study (Pan et al., 2023; Karakus et al., 2024). By examining factors such as publication trends, author productivity, citation impact and keyword co-occurrence, bibliometric analysis can provide insights into the intellectual structure and thematic foci of a research domain. In the context of instructional leadership, a bibliometric analysis can help identify influential authors, seminal works, and emerging research themes, as well as highlight potential areas for future investigation (Karakus et al. 2024).

Several recent studies have employed bibliometric techniques to explore various aspects of educational leadership, including teacher leadership (Pan et al. 2023) and the relationship between leadership styles and teacher satisfaction (Sihite et al. 2023). However, a comprehensive bibliometric analysis specifically focused on instructional leadership is still lacking (Rasidi et al., 2020; Karakus et al., 2024). This study aims to fill this gap by conducting a thorough bibliometric analysis of the instructional leadership literature, covering a wide range of publications from various databases. In order to assess the evolution, this research examines the papers on the study of instructional leadership since the year 2014 to 2024. The following are the seven research questions that guide this examination of the instructional leadership research papers for this study. They include:

**RQ1:** What are the research trends for instructional leadership according to the year of publication?

**RQ2:** Who writes the greatest number of articles?

**RQ3:** What is the most popular subject area in this research?

**RQ4:** Who is the top 10 authors based on citation by research?

**RQ5:** What are the most co-authorship influential countries?

**RQ6:** What are the collaboration networks based on the co-authorship?

**RQ7:** What are the popular keywords related to the study?

By achieving these objectives, this study contributes to a deeper understanding of the current state of instructional leadership research and provides an foundation for future research directions. The findings of this bibliometric analysis are expected to have significant implications for researchers, educators and policymakers interested in instructional leadership (Karakus et al. 2024). By highlighting influential works and emerging trends in the field, this study can guide future research efforts and inform the development of effective instructional

leadership practices in schools. Additionally, the insights gained from this analysis can be used to inform professional development programs for aspiring and practicing instructional leaders, ensuring that they are equipped with the knowledge and skills necessary to drive school improvement and student success.

## Literature Review

Instructional leadership has been a topic of growing interest in educational research with numerous studies examining its relationship to various aspects of school performance and teacher satisfaction. A bibliometric analysis of the literature on this subject can provide valuable insights into the development and intellectual structure of this field of study. The search results reveal several recent studies that have employed bibliometric methods to explore the research on instructional leadership. A study by Gumus et al. (2018) used bibliometric analysis and keyword occurrence assessment to examine the relationship between leadership styles and teacher satisfaction in education management research. Another study by Harris et al. (2019) utilized bibliometric science mapping to explore the research development status and intellectual structure of instructional leadership.

In the context of Malaysia, a review of the contemporary literature on instructional leadership was conducted by Hallinger and Lee (2014), which assessed the recent research base in the country. This review found that there was a growing body of empirical studies on instructional leadership in the Malaysian education system, particularly in the post-PIPP 2006-2010 and PPPM 2013-2025 eras (Rasidi, et al., 2020). A more recent bibliometric analysis specifically focused on the literature related to principal leadership within the realm of education in Malaysia. Principals in Malaysia were found to exhibit a mix of transformational and instructional leadership styles, emphasizing the significance of their roles in fostering teacher efficacy, creating a positive school climate, and ultimately impacting student academic performance (Harris et al., 2017; Si-Rajab et al., 2019; Abdullah et al., 2019; Hafiza Hamzah et al., 2021). This study provided a thorough examination of the contemporary research in this area, identifying trends, methodologies, and key focus areas.

Overall, the search results indicate that bibliometric analyses have been employed to gain a deeper understanding of the instructional leadership research landscape, both globally and within the Malaysian context. These studies have highlighted the growing body of empirical work in this field, as well as the need for continued exploration of the factors that influence instructional leadership and its impact on educational outcomes (Sihite et al., 2023; Hsieh et al., 2023; Harris et al., 2019).

## Methodology

The search for articles within the Scopus database was conducted in June 2024. Recognized as the most comprehensive and highly indexed database with the greatest rate of data citation compared to others (Burnham 2006), Scopus also boasts the largest collection of searchable citations and abstracts in literature (Ahmi et al. 2019). The publication search focused on publication trends, greatest number of articles, most popular subject area, top ten authors, most co-authorship influential countries, collaboration networks based on the co-authorship and popular keywords. The Scopus database was queried using terms like TITLE-ABS-KEY ( "instructional leadership" OR "educational leadership" ) AND PUBYEAR > 2013 AND PUBYEAR < 2025 AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) AND ( LIMIT-TO ( LANGUAGE

, “English” ) OR LIMIT-TO ( LANGUAGE , “Malay” ) ) covering the period from 2014 to 2024.

A search of the Scopus database produced a total of 2094 documents. The exported files consisted predominantly of journal articles and were saved in two distinct formats: comma-separated values (.csv) and research information systems (.ris). The (.csv) files were subjected to an in-depth descriptive analysis using Microsoft Excel. In the meanwhile, a visual network depiction of the study was made possible by processing the .ris files with VOSviewer software (Jan Van Eck & Waltman, 2022; Wong, 2018). Widely utilized for visualizing and analyzing scientific literature, the tool specializes in creating intuitive network visualizations, clustering related items, and generating density maps. Its versatility allows for the examination of co-authorship, co-citation and keyword co-occurrence networks, providing researchers with a comprehensive understanding of research landscapes. The interactive interface, coupled with continuous updates, ensures efficient and dynamic exploration of large datasets. VOSviewer's ability to compute metrics, customize visualization, and its compatibility with various bibliometric data sources make it a valuable resource for scholars seeking insights into complex research domains.

## Result and Finding

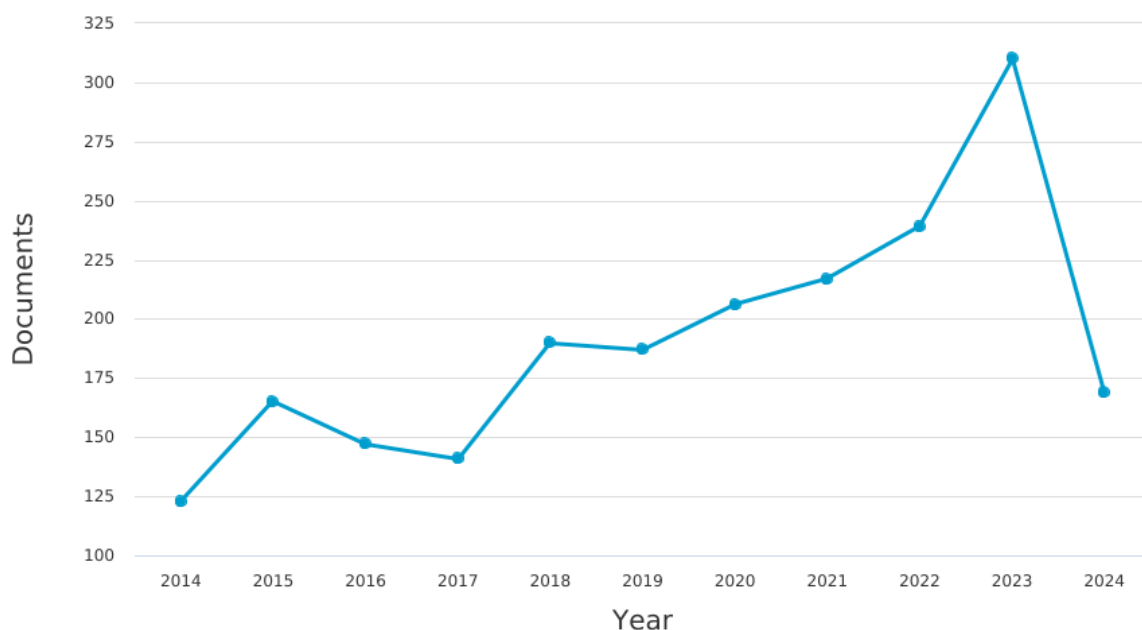
### ***RQ1: What Are The Research Trends For Instructional Leadership According To The Year Of Publication?***

Based on the graph (Figure 1), the number of publications related to instructional leadership shows a general upward trend from 2014 to 2024, with some fluctuations. The publication count starts at around 125 documents in 2014, rising to a peak of approximately 310 documents in 2023. There's a notable increase between 2017 and 2018, jumping from about 150 to nearly 200 documents. The growth continues steadily from 2019 to 2023 with each year showing higher publication numbers than the last.

However, there's a significant drop in publications for 2024, decreasing to about 170 documents. This sharp decline is likely due to the data being incomplete for the current year, as the graph is dated 2024 and the year may not have concluded at the time of data collection. The overall trend suggests growing interest and research activity in instructional leadership over the past decade with the field gaining momentum from 2018 onwards. This increase may reflect greater emphasis on educational leadership practices, policy changes or increased funding for research in this area.

## Documents by year

Scopus



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**Figure 1: Plotting Document Publication By Years*****RQ2: Who Writes The Greatest Number Of Articles?***

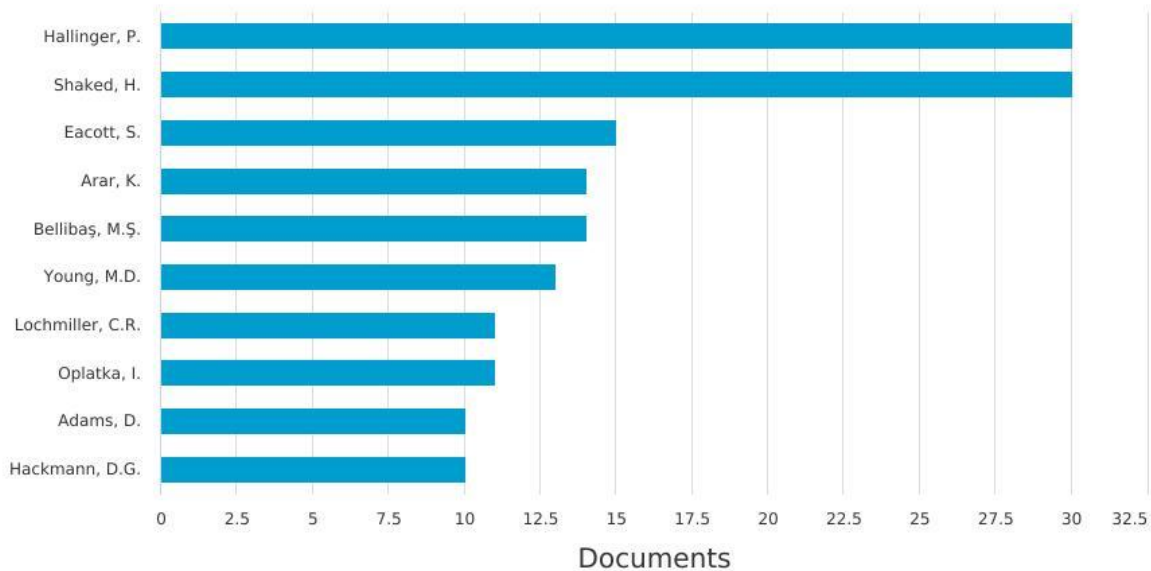
Based on the provided Figure 2 and Table 1, which presents the top 10 authors in the field of instructional leadership according to the Scopus analysis, we can observe a significant concentration of publications among a few key researchers. The data reveals that Philip Hallinger and Haim Shaked are the most prolific authors in this domain, each contributing 30 documents and accounting for 18.99% of the total publications among the top 10 authors. This places them at the forefront of research in instructional leadership, suggesting their substantial influence on the field's development and discourse.

Following these leading authors, we see a gradual decrease in publication numbers and percentages among the remaining researchers. Scott Eacott occupies the third position with 15 documents (9.49%), followed closely by Khalid Arar and Mehmet Şükrü Bellibaş, both with 14 documents (8.86% each). The list continues with Michelle D. Young (13 documents, 8.23%), Craig R. Lochmiller and Izhar Oplatka (11 documents each, 6.96%) and concludes with Donnie Adams and Donald G. Hackmann (10 documents each, 6.33%). This distribution illustrates a diverse yet concentrated group of scholars who are significantly contributing to the body of knowledge in instructional leadership with their combined efforts shaping the field's research landscape.

## Documents by author

Compare the document counts for up to 15 authors.

Scopus



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Figure 2: The Greatest Number Of Article By Authors

Table 1: Number Of Document And Percentages By Authors

Author Name	Number of Document	Percentages (%)
Hallinger, P.	30	18.99
Shaked, H.	30	18.99
Eacott, S.	15	9.49
Arar, K.	14	8.86
Bellibaş, M.Ş.	14	8.86
Young, M.D.	13	8.23
Lochmiller, C.R.	11	6.96
Oplatka, I.	11	6.96
Adams, D.	10	6.33
Hackmann, D.G.	10	6.33

**RQ3: What Is The Most Popular Subject Area In This Research?**

Based on the Figure 3 and Table 2 provided, the bibliometric analysis of instructional leadership reveals a clear dominance of the Social Sciences field in this area of research. With 1952 documents, representing 63.54% of the total, Social Sciences stands out as the primary discipline contributing to the study of instructional leadership. This substantial majority indicates that instructional leadership is primarily viewed and researched through the lens of social science methodologies and theories. The second most prominent field is Business, Management and Accounting, with 547 documents (17.81%), suggesting a significant interest in instructional leadership from organizational and administrative perspectives.

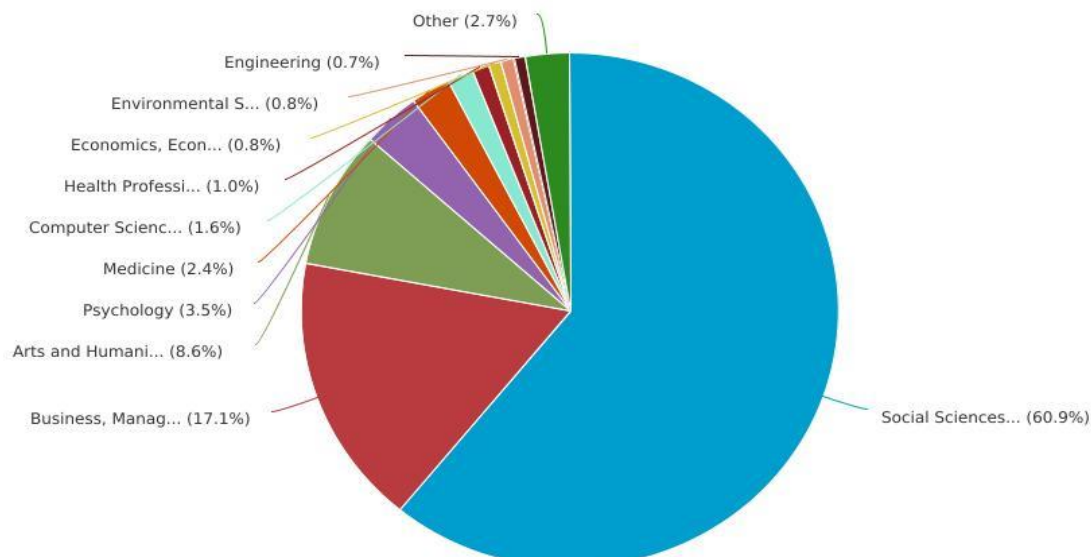
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The distribution across other disciplines provides insights into the multidisciplinary nature of instructional leadership research. Arts and Humanities (9.02%) and Psychology (3.65%) contribute notable proportions, indicating the relevance of cultural, historical and psychological aspects in understanding instructional leadership. The presence of Medicine (2.51%), Computer Science (1.66%) and Health Professions (1.01%) in the list, although with smaller percentages, suggests that instructional leadership has applications or implications in these fields as well. Interestingly, while Economics, Econometrics and Finance (0.81%) has a minor presence, Environmental Science shows no contribution (0%), which might indicate a potential gap or unexplored area in relating instructional leadership to environmental concerns or sustainability in education.

### Documents by subject area

Scopus



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**Figure 3: Type Of Document By Subject Area**

**Table 2: Number Of Document And Percentages By Subject Area**

Subject Area	Number of document	Percentages (%)
Social Sciences	1952	63.54
Business, Management and Accounting	547	17.81
Arts and Humanities	277	9.02
Psychology	112	3.65
Medicine	77	2.51
Computer Science	51	1.66
Health Professions	31	1.01
Economics, Econometrics and Finance	25	0.81
Environmental	0	0.00

**RQ4: Who Is The Top 10 Authors Based On Citation By Research?**

Based on the Table 3 provided, this bibliometric analysis reveals significant trends in research on instructional leadership within educational settings. The most cited work in this field is a 2016 study by Day, Gu, and Sammons, published in Educational Administration Quarterly, which has garnered 429 citations. This study examines how successful school leaders utilize both transformational and instructional strategies to impact student outcomes. The second most cited work with 348 citations is a 2018 paper by Hallinger published in Educational Management Administration and Leadership, which focuses on bringing context to the forefront of leadership studies. These top two papers highlight the importance of understanding both leadership strategies and the contextual factors that influence their effectiveness in educational settings.

The table also demonstrates a concentration of highly cited works published between 2014 and 2020, indicating that research interest in instructional leadership has been particularly active in recent years. Notable themes emerging from these top-cited works include the impact of leadership on student achievement, the role of teacher collaboration and self-efficacy and the importance of supportive school cultures. Additionally, there is a focus on systematic reviews and theoretical frameworks as evidenced by the works of Gumus et al. (2018) and Hitt et al. (2016), suggesting a drive to consolidate and synthesize the growing body of knowledge in this field. The presence of studies from various global contexts including China and multicultural perspectives indicates the international relevance and diverse applications of instructional leadership research in education.

**Table 3: Number Of Document And Percentages By Subject Area**

Authors	Title	Year	Source title	Cited by
Day C.; Gu Q.; Sammons P.	The Impact of Leadership on Student Outcomes: How Successful School Leaders Use Transformational and Instructional Strategies to Make a Difference (Day, Gu, and Sammons 2016)	2016	Educational Administration Quarterly	429
Hallinger P.	Bringing context out of the shadows of leadership (Hallinger 2018)	2018	Educational Management Administration and Leadership	348
Gumus S.; Bellibas M.S.; Esen M.; Gumus E.	A systematic review of studies on leadership models in educational research from 1980 to 2014 (Gumus et al. 2018b)	2018	Educational Management Administration and Leadership	249
Hitt D.H.; Tucker P.D.	Systematic Review of Key Leader Practices Found to Influence Student Achievement: A Unified Framework (Hitt and Tucker 2016)	2016	Review of Educational Research	226



Goddard R.; Goddard Y.; Kim E.S.; Miller R.	A theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and collective efficacy beliefs in support of student learning (Goddard et al. 2015)	2015	American Journal of Education	205
Liu Y.; Bellibaş M.Ş.; Gümüş S.	The Effect of Instructional Leadership and Distributed Leadership on Teacher Self-efficacy and Job Satisfaction: Mediating Roles of Supportive School Culture and Teacher Collaboration (Liu, Bellibaş, and Gümüş 2020)	2020	Educational Management Administration and Leadership	154
Liu S.; Hallinger P.	Principal Instructional Leadership, Teacher Self-Efficacy, and Teacher Professional Learning in China: Testing a Mediated-Effects Model(Liu and Hallinger 2018a)	2018	Educational Administration Quarterly	146
Santamaría L.J.	Critical Change for the Greater Good: Multicultural Perceptions in Educational Leadership Toward Social Justice and Equity (Santamaría 2013)	2013	Educational Administration Quarterly	140
Shatzer R.H.; Caldarella P.; Hallam P.R.; Brown B.L.	Comparing the effects of instructional and transformational leadership on student achievement: Implications for practice (Shatzer et al. 2014)	2014	Educational Management Administration and Leadership	131
Hallinger P.; Chen J.	Review of research on educational leadership and management in Asia: A comparative analysis of research topics and methods, 1995–2012 (Hallinger and Chen 2014)	2014	Educational Management Administration and Leadership	125

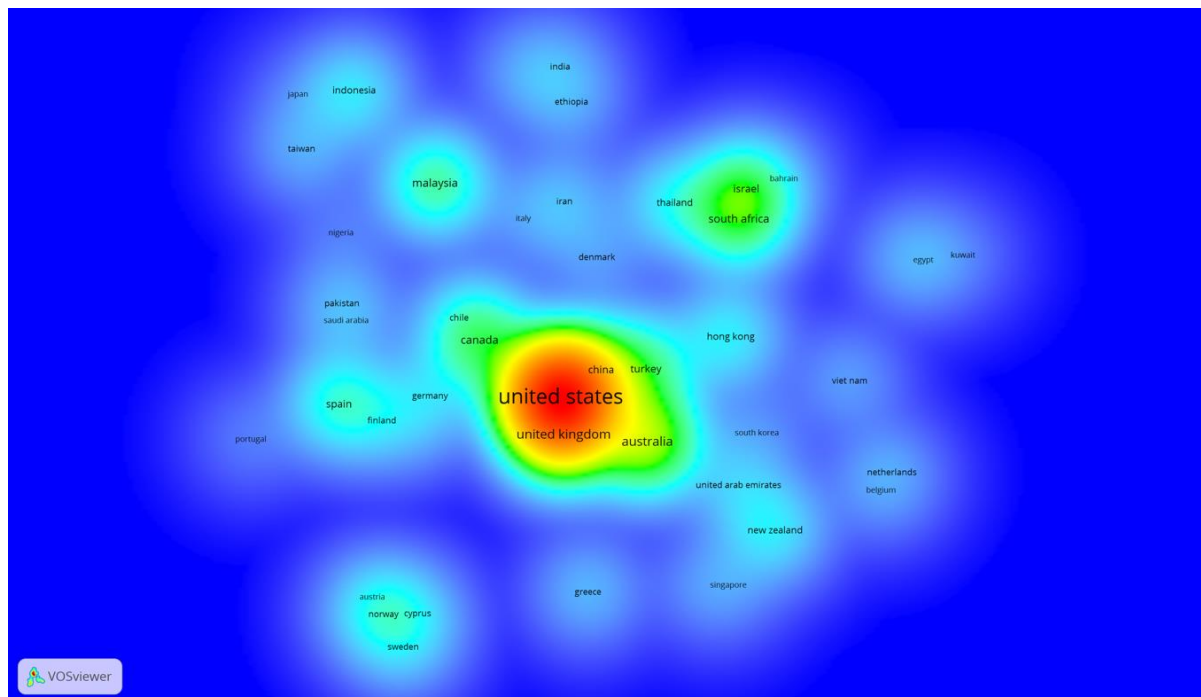
#### ***RQ5: What Are The Most Co-Authorship Influential Countries?***

The image (Figure 4) presents a heat map visualization of the most influential countries in co-authorship for research on instructional leadership based on a bibliometric analysis using Scopus data. The countries are represented by text labels with their relative influence indicated by colour intensity and positioning on the map.

The United States (US) stands out as the most dominant contributor positioned at the centre of the map with the brightest yellow-orange coloration, signifying its central role in collaborative research on this topic. Surrounding the US in proximity and with significant influence are other English speaking countries such as the United Kingdom, Canada and Australia indicated by their green to yellow coloration. This suggests a strong Anglo-American influence in the field. China and Turkey also appear to be major contributors closely associated with this core group.

Other notable participants include European countries like Germany, Spain and Finland as well as Asian nations such as Malaysia, Indonesia and Japan shown in varying shades of blue to green, indicating moderate to significant involvement in international collaborations on instructional leadership research.

The visualization reveals a global network of research collaboration with varying degrees of influence and connectivity among nations. While Western countries particularly the US and its close allies dominate the field, there is significant participation from countries across different continents. The presence of both developed and developing nations suggests a widespread interest in instructional leadership research. The proximity and colour intensity of countries like Malaysia, Israel and South Africa indicate they may be emerging as important nodes in this research network, possibly offering unique perspectives or serving as regional hubs for collaboration. The map also highlights potential areas for growth in collaborative efforts as some countries appear more isolated or less intensely coloured, suggesting opportunities for increased international partnerships in future research on instructional leadership.

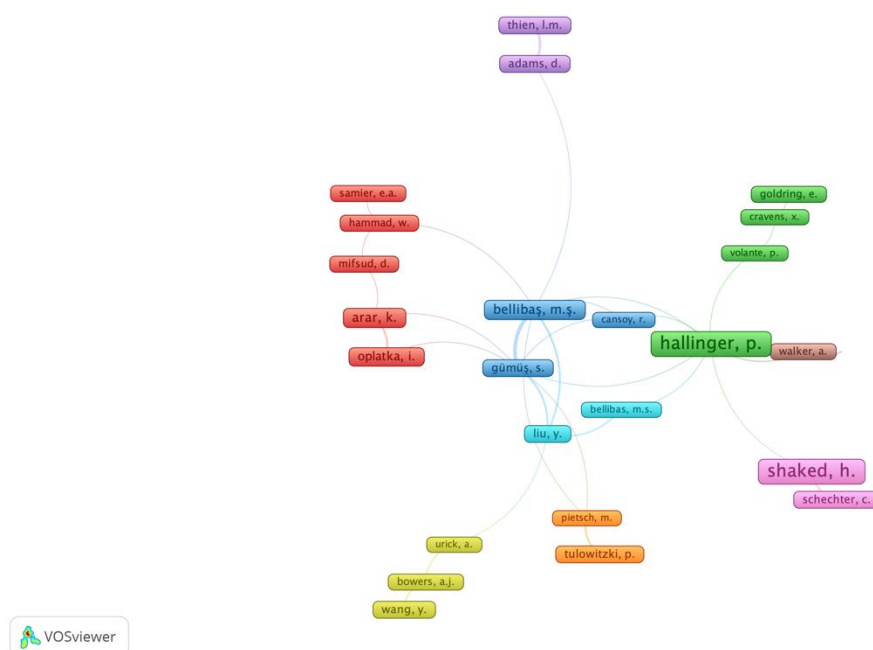


**Figure 4: The Density Visualisation Of Co-Authorship Influential Countries**

***RQ6: What Are The Collaboration Networks Based On The Co-Authorship?***

This image (Figure 5) displays a collaboration network based on co-authorship in the field of instructional leadership research. The network is visualized as a series of nodes (representing authors) connected by lines (indicating co-authorship relationships). The central and most prominent node is labelled "hallinger, p.", suggesting that this author, likely Philip Hallinger, is a key figure in this research area with numerous collaborations. Other significant nodes include "bellibaş, m.s." and "liu, y.", which are also well-connected within the network.

The network shows several clusters of collaborating authors, with some authors serving as bridges between different groups. For example, "hallinger, p." appears to connect multiple clusters, indicating a central role in fostering collaborations across different research teams or institutions. The varying colours of the nodes and connections might represent different subfields or themes within instructional leadership research. The layout of the network with some authors positioned on the periphery and others more centrally located, provides insights into the structure of collaborations in this field, highlighting both established collaborative groups and potentially emerging or less frequent partnerships.

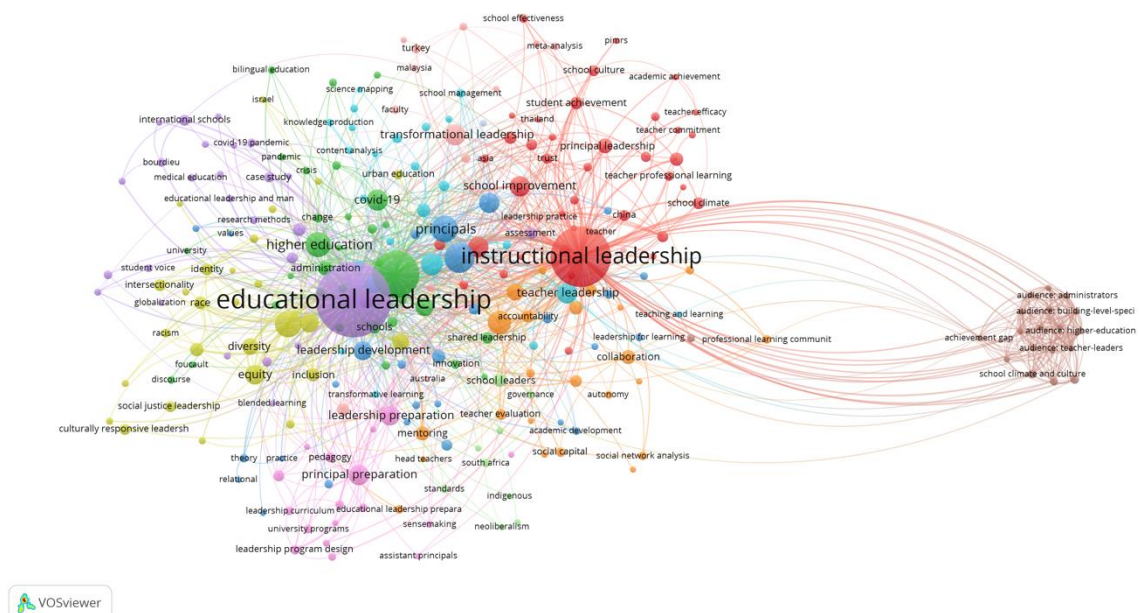


**Figure 5: Network Visualization Map Of Co-Authorship**

### ***RQ7: What Are The Popular Keywords Related To The Study?***

The image (Figure 6) illustrates a bibliometric analysis of the keyword "Instructional Leadership" within the field of educational research captured using the VOSviewer tool. This visualization maps out the interconnections and frequency of related terms within the academic literature sourced from databases like Scopus. Central to the network is "Instructional Leadership," prominently linked to related terms such as "Principal Leadership," "Teacher Leadership," and "Educational Leadership". These links suggest a significant focus on the role of leadership at various levels within educational institutions. The terms "Transformational Leadership," "Leadership Development," and "Shared Leadership" highlight diverse leadership styles and approaches being discussed within the context of education. Notably, the network extends into areas addressing contemporary educational challenges and innovations such as "Covid-19," "Diversity," and "Social Justice Leadership" indicating the expanding scope of instructional leadership discourse to include adaptive strategies and inclusive practices.

The visualization also reveals several geographic mentions (e.g., "Malaysia," "Australia," "South Africa"), pointing to a global discourse around instructional leadership with localized studies contributing to the broader narrative. The presence of specific educational aspects like "School Improvement," "Teacher Commitment" and "Student Achievement" reflects the practical outcomes associated with effective instructional leadership. Methodological terms like "Case Study" and "Meta-Analysis" indicate the types of research being conducted in this field. The network's right-hand side, with terms like "Audience: Administrators" and "School Climate and Culture" emphasizes the target groups and environmental factors that instructional leadership seeks to influence. This comprehensive mapping thus offers a multi-dimensional view of how instructional leadership is currently conceptualized and studied, providing scholars with insights into prevailing trends, gaps and potential areas for further investigation.



**Figure 6: Network Visualization Map Of Keywords' Co-Occurrence**

## Disussion And Conclusion

Over recent years, the study of instructional leadership has witnessed a notable expansion as reflected in the rising volume of published works. Initially, there was a slight dip in publications around 2014 followed by a resurgence in interest around 2016. This fluctuation might reflect shifts in academic focus or varying degrees of interest over time. By 2022, a significant peak in publications was observed likely driven by breakthroughs in research, enhanced funding opportunities or pressing global educational challenges. This rise in publications likely mirrors the evolving academic focus and the growing recognition of the significance of instructional leadership in educational settings. Research has demonstrated that instructional leadership is pivotal in establishing a conducive school learning environment and boosting teacher engagement through activities such as coaching, peer observation, and mentoring (Nwosu et al., 2022; Nogadas et al., 2024).



A bibliometric analysis reveals that the discourse on instructional leadership is predominantly shaped by a select group of scholars with Hallinger, P. and Shaked, H. emerging as the most prolific contributors. Hallinger and Murphy's model from 1985 has been instrumental in outlining the dimensions and functions of instructional leadership (Alma et al., 2017). Their work along with that of other prominent researchers like Eacott, Arar and Bellibaş has established a robust foundation for understanding the principles and practices of instructional leadership. For instance, the research conducted by in 2024 highlights the direct and indirect effects of instructional leadership on the quality of instruction (Nogadas et al., 2024). The analysis further reveals that instructional leadership is predominantly discussed within the Social Sciences suggesting its critical role in shaping educational policies, school management, and pedagogy. This emphasis underscores the significance of instructional leadership in driving educational practices and outcomes (Liu and Hallinger 2018b). Conversely, its application in Business, Management, and Accounting demonstrates the relevance of management principles in educational contexts. Other disciplines like Computer Science, Health Professions and Economics engage with instructional leadership to a lesser extent, indicating niche intersections that might offer unique perspectives.

Leading researchers such as Day C., Gu Q., and Sammons P. have made significant impacts, particularly with works linking leadership strategies directly to educational outcomes and teacher development. Additionally, scholars like Hallinger P. have highlighted the significance of considering contextual and cultural variables in educational leadership, emphasizing the importance of situational awareness in leadership practices (Halil, 2024). Visual analyses using tools like VOSviewer reveal significant international collaboration and networking within the field, with strong contributions from the United States, United Kingdom, Australia, China and Canada (Polizzi et al. 2019). This global network is not only robust in these countries but also extends to Germany, India and Malaysia, positioning them as emerging hubs for instructional leadership research. Such visualizations are crucial for identifying leading contributors and shaping future collaborative efforts or policy initiatives. Social network analysis has become crucial in identifying leading contributors and understanding the dynamics of these collaborations (Liou et al., 2015).

Furthermore, term analysis in educational research underscores the significance of 'Instructional Leadership' across various leadership levels within educational institutions. The discussions around school improvement, teacher commitment and student achievement, enriched with methodological approaches like case studies and meta-analyses, offer a comprehensive view of current academic discourse and future research trajectories. Moreover, the correlation between school leaders' capacity to address underprivileged students' needs and the academic achievement of these students highlights the critical role of educational leadership in fostering equitable learning environments (Alias et al., 2021).

In conclusion, the robust interest and diverse contributions within the field of instructional leadership reflect its vital role in advancing educational practices and outcomes globally. The academic community's focused efforts on transformative leadership practices highlight a commitment to enhancing educational settings and fostering significant academic and social achievements. Regarding instructional leadership's relevance to Sustainable Development Goal 4 (SDG 4), which focuses on quality education, the research underscores its critical role. SDG 4 focuses on inclusive and equitable quality education to create environments conducive to effective learning outcomes (Ledbetter and Manchikanti 2023). Instructional leadership

directly contributes to enhancing educational quality by fostering effective teaching strategies and school management practices. This aligns with SDG 4's aim to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. The leadership in educational institutions shapes the policies and practices that directly affect student outcomes, thus playing a pivotal role in achieving this global goal.

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