Research Article

Research Trends on Leadership in Indonesian Schools: Bibliometric Analysis (2008-2024)

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Trends on Leadership in Indonesian Schools: Bibliometric Analysis (2008-2024)

Abstract. This research aims to analyze research trends regarding leadership in Indonesian schools on the Scopus database. Using the PRISMA method, the author analyzed documents to obtain 111 documents which were analyzed using the R Program and Vosviewer. From the results of the analysis that has been carried out, it can be concluded that research on Leadership in Indonesian schools

started from 2008 to 2024, with an 8-fold increase in the last six years. Malang State University ranks first with the highest contribution in research on leadership in Indonesian schools, producing 45 publications or 40.54% of the total. Cakrawala Pendidikan, published by Yogyakarta State University, holds the top position with an h-index of 3, signifying its significant impact in the field of educational research. Maulana Amirul Adha from Jakarta State University holds the top position with an h-index of 4, reflecting his significant impact in educational research. The highest citation obtained by the article (Wiyono, 2018) with a total of 47 citations. The results obtained are 20 keywords with five groups, with the words "School Principal," "Teacher," and "Servant Leadership" stand out as areas worthy of further research regarding the topic of leadership in Indonesian schools.

Keywords: Leadership, Schools, Indonesia, Bibliometrics.

Abstrak. Penelitian ini bertujuan untuk menganalisis tren penelitian mengenai kepemimpinan di sekolah-sekolah Indonesia pada database Scopus. Dengan menggunakan metode PRISMA, penulis menganalisis dokumen sehingga diperoleh 111 dokumen yang dianalisis menggunakan Program R dan Vosviewer. Dari hasil analisis yang telah dilakukan dapat disimpulkan bahwa penelitian tentang Kepemimpinan di sekolah Indonesia dimulai pada tahun 2008 hingga tahun 2024, dengan peningkatan sebesar 8 kali lipat dalam enam tahun terakhir. Universitas Negeri Malang menduduki peringkat pertama dengan kontribusi tertinggi dalam penelitian kepemimpinan di sekolah Indonesia dengan menghasilkan 45 publikasi atau 40,54% dari total publikasi. Cakrawala Pendidikan yang diterbitkan oleh Universitas Negeri Yogyakarta menempati posisi teratas dengan h-index 3 yang menandakan dampaknya yang signifikan dalam bidang penelitian pendidikan. Maulana Amirul Adha dari Universitas Negeri Jakarta menempati posisi teratas dengan h-index 4, mencerminkan pengaruhnya yang signifikan dalam penelitian pendidikan. Sitasi tertinggi diperoleh artikel (Wiyono, 2018) dengan total 47 sitasi. Hasil yang diperoleh adalah 20 kata kunci dengan lima kelompok, dengan kata "School Principal", "Teacher", dan "Servant Leadership" menonjol sebagai area yang layak untuk diteliti lebih lanjut mengenai topik kepemimpinan di sekolah Indonesia.

Kata Kunci: Kepemimpinan, Sekolah, Indonesia, Bibliometrik

INTRODUCTION

Education is experiencing good growth and plays a very important role in human life (Pambudi & Harjanto, 2020; Szymkowiak et al., 2021). As time goes by, education continues to adapt and innovate to meet the increasingly complex needs of society (Aithal & Aithal, 2023). Through education, individuals not only gain knowledge and skills, but also form the character and ethics necessary to contribute positively to society (Arshad, 2020; Crawford et al., 2023). The existence of quality education is the main foundation in creating a competent and responsible generation. In a global context, education is also a tool for reducing poverty, improving health and encouraging economic growth (Shavkidinova et al., 2023; Zafrullah & Ramadhani, 2024). Therefore, investment in education must be a top priority for every country to ensure that every citizen has the opportunity to develop and reach their maximum potential (Heng & Doeur, 2024; Ulwiyah, 2023). One of the important foundations in the formation of education is the presence of schools.

The school is an important unit in the education system, functioning as a mandatory means for every individual in the teaching and learning process (Westraad et al., 2024; Zafrullah et al., 2024). Through school, students acquire knowledge, skills, and moral values that are essential for their personal and social development (Dewi & Alam, 2020; Zhanbayev et al., 2023). In addition, schools also provide an environment conducive to intellectual and emotional growth, facilitate constructive social interactions, and encourage creativity and innovation (Greenier et al., 2023; Royston & Reiter-Palmon, 2022). The existence of schools is very important because it is the main foundation for character formation and academic achievement, which will later determine the quality of a nation's human resources (Muhajir, 2022; Tohri et al., 2022). Thus, schools are not just places of learning, but also institutions that play a crucial role in shaping the future of the next generation and, more broadly, the future of society and the country.

Schools in Indonesia continue to experience significant development every year, with various efforts to improve the quality of education carried out by the government and various stakeholders. Schools in Indonesia are always committed to being better, both in terms of facilities, curriculum and teaching quality. This allows students to get a better learning experience that is relevant to the demands of the times (Alenezi et al., 2023; Javaid et al., 2023). Innovative programs such as the use of technology in learning, increasing teacher competency, and strengthening character education are the main focus of these efforts (Buragohain et al., 2023; Effendi & Sahertian, 2023). Apart from that, support from the community and collaboration with various parties also accelerated this improvement process. Thus, schools in Indonesia are expected to produce graduates who are not only academically intelligent, but also have the skills and values needed to face global challenges in the future. A good school is a school led by good leaders.

Leaders in schools have an important role in school progress, because they are responsible for directing the vision and mission of the institution, as well as ensuring the implementation of effective strategies to achieve educational goals (Day et al., 2020; Óskarsdóttir et al., 2020). It is very important because school leaders, such as principals and administrators, act as the main decision makers who determine the policies and programs that will be implemented (Amos et al., 2021; Pont, 2020). They also serve as motivators and inspirers for teachers and staff, creating a positive work environment and supporting collaboration. Additionally, school leaders play a role in establishing good relationships with parents, communities, and other stakeholders, which is essential for obtaining additional support and resources (Flores & Kyere, 2021; Jung & Sheldon, 2020). With effective leadership, schools can face various challenges better and continue to improve the quality of education provided. Thus, the presence of competent and dedicated leaders greatly influences the success and progress of the school as a whole.

Leadership in schools has attracted the attention of many researchers, encouraging them to conduct in-depth studies on this topic. This phenomenon shows how important the role of leadership is in the educational context and how its influence can be felt in various aspects of school operations and performance. So, the author feels interested in carrying out bibliometric analysis to see existing research trends in this field. Bibliometric analysis allows the authors to identify publication patterns, frequently discussed topics, and the contribution of researchers and institutions to the development of school leadership science. By understanding these research trends, the author hopes to reveal the direction of development of leadership studies in schools, find research gaps that have not been widely explored, and provide recommendations for further research. This not only enriches the existing literature, but also provides valuable insights for educational practitioners in implementing effective and innovative leadership strategies in schools.

METHOD

This research aims to look at research trends regarding leadership in Indonesian schools using bibliometric analysis. Bibliometric analysis is a method used to measure and analyze various aspects of scientific publications, such as the number of articles, authors, institutions, and frequently used keywords (De-Marchis & Shchebetenko, 2024; Tosun, 2024). This method allows researchers to identify publication patterns, evaluate the impact of particular research, and understand the development and direction of research in a particular field (Kamboj et al., 2024; Kaushal et al., 2024). By using bibliometric analysis, this research hopes to reveal trends and dynamics of leadership research in Indonesian schools, provide a comprehensive picture of how this topic has been studied and understood, and identify areas that require further research. The results of this analysis can be a guide for educational researchers and practitioners in developing more effective and evidence-based leadership strategies in Indonesian schools. Before carrying out the analysis, the author first selected documents using the PRISMA method.

Figure 1. Document Elimination Flow using the PRISMA Method
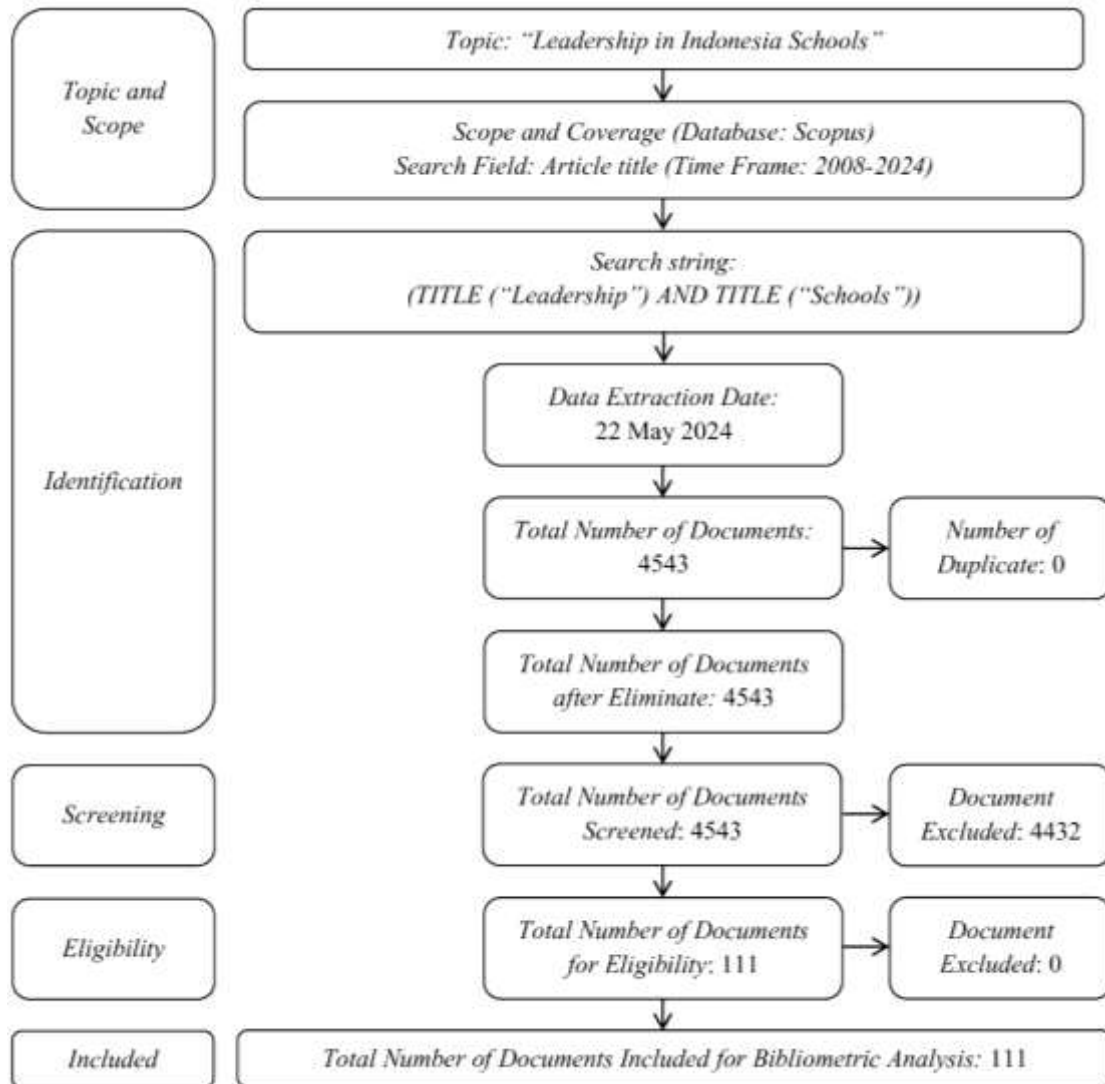
By using the keywords (TITLE ("Leadership") AND TITLE ("Schools")) in the Scopus database, 4543 documents were obtained at the Identification stage. A total of 4432 documents were discarded at the Screening stage because researchers were only limited to "Social Sciences", only the type of article, and the location was only in Indonesia. After setting restrictions, 111 documents were obtained at the Eligibility stage and survived until the Included stage. After getting the final document, the researcher then analyzed it using R Program and Vosviewer to interpret all the data that had been analyzed.

RESULTS AND DISCUSSION

First, the author carried out an analysis by running an R program to view bibliometrics using the biblioshiny syntax, by looking at main information, publication trends, productive affiliations, productive sources, productive authors, and documents with the highest citations.

Figure 2. Main Information

Research on leadership in Indonesian schools came from 51 of the best sources, with a total of 111 documents produced. There was a significant increase in the number of publications with a total Annual Growth Rate of 13.88%. In addition, this research involved 332 authors, of which 17.12% were international authors. This shows that the topic of leadership in Indonesian schools is receiving increasing attention, both at the national and international levels. The participation of international authors signals global collaboration and recognition of the importance of this research in the broader educational context. The consistent growth in the number of publications also reflects the increasing interest and need to understand and develop effective leadership practices in Indonesian schools.

Publication Trends

Table 1. Publication Trends

Year	Articles	Percentage
2008	1	0.90%
2009	-	-
2010	-	-
2011	-	-
2012	-	-
2013	-	-
2014	1	0.90%
2015	-	-
2016	2	1.80%
2017	3	2.70%
2018	5	4.50%
2019	14	12.61%
2020	20	18.02%
2021	18	16.22%

2022	19	17.12%
2023	20	18.02%
2024	8	7.21%
Total	**111**	**100%**

Source: R Program

From Table 1, from 2008 to 2018 the number of publications was only 12 or 10.81%, reflecting that attention to leadership research in Indonesian schools in that period was still relatively low and had not become the main focus among academics. Meanwhile, in the period 2019 to 2024, the number of publications increased by 8 times or by 99 publications, indicating that this topic is increasingly receiving significant attention. This increase shows that there is greater awareness of the importance of leadership in the educational context in Indonesia, as well as a drive to explore and understand more deeply how effective leadership can improve the quality of education. This drastic increase also reflects developments in education policy and increased support for research in this field, both from the government and educational institutions.

The Productive Affiliation

Table 2. Top 10 the Higher Affiliation

Rank	Affiliation	City	Total
1st	Universitas Negeri Malang	Malang	45(40.54%)
2nd	Universitas Negeri Jakarta	Jakarta	21(18.92%)
3rd	Universitas Negeri Medan	Medan	14(12.61%)
4th	Universitas Pakuan	Bogor	9(8.11%)
5th	Universitas Negeri Surabaya	Surabaya	7(6.31%)
6th	Universitas Pendidikan Ganesha	Singaraja	7(6.31%)
7th	Universitas Negeri Yogyakarta	Yogyakarta	6(5.41%)
8th	Tulungagung State Islamic Institute	Tulungagung	4(3.60%)
9th	Universitas Ahmad Dahlan	Yogyakarta	4(3.60%)
10th	Universitas Halu Uleo	Kendari	4(3.60%)

Source: R Program

Universitas Negeri Malang ranks first with the highest contribution in research on leadership in Indonesian schools, producing 45 publications or 40.54% of the total. This highlights the significant role of this university in the field of research. The second rank is held by Universitas Negeri Jakarta with 21 publications or 18.92%, also demonstrating a strong commitment to developing leadership studies in the education sector. Contributions from various other universities, including Universitas Negeri Medan, Universitas Pakuan, Universitas Negeri

Surabaya, Universitas Pendidikan Ganesha, Universitas Negeri Yogyakarta, Tulungagung State Islamic Institute, Universitas Ahmad Dahlan, and Universitas Halu Uleo, show that this research effort is widely supported by many institutions across different cities. This reflects a broad national collaboration and the collective impact of research conducted by various campuses, which overall contributes to the understanding and development of effective leadership practices in Indonesian schools.

The Productive Source

Table 3. Top 10 the Higher Source

Rank	Journal Name	SQ	Publisher	Country	h	TC	NP
1st	Cakrawala Pendidikan	Q3	Universitas Negeri Yogyakarta	Indonesia	3	56	6
2nd	Eurasian Journal of Educational Research	Q3	Ani Publishing	Turkey	3	28	7
3rd	International Journal of Evaluation and Research in Education	Q3	Institute of Advanced Engineering and Science	Indonesia	3	15	4
4th	Cypriot Journal of Educational Sciences	-	Birlesik Dunya Yenilik Arastirma ve Yayincilik Merkezi	Cyprus	2	7	3
5th	European Journal of Educational Research	Q2	Eurasian Society of Educational Research	Netherlands	2	13	3
6th	International Journal of Innovation, Creativity and Change	-	-	Australia	2	7	10
7th	International Journal of Scientific and Technology Research	-	-	India	2	10	8
8th	Pegem Egitim ve Ogretim Dergisi	-	Pegem Akademi Yayincilik Egitim Danismanlik	Turkey	2	4	3

					h	TC	NP
			Hizmetleri Ticaret A.S.				
9th	SAGE Open	Q1	SAGE Publications Inc.	United States	2	40	2
10th	Universal Journal of Educational Research	-	Horizon Research Publishing	United States	2	12	5

Source: R Program

The ranking reveals that Cakrawala Pendidikan, published by Universitas Negeri Yogyakarta, holds the top position with an h-index of 3, signifying its significant impact in the field of educational research. Following closely is the Eurasian Journal of Educational Research by Ani Publishing from Turkey, also boasting an h-index of 3. While each journal varies in terms of publisher and country of origin, they all play crucial roles in disseminating scholarly works and advancing knowledge in the realm of education. Despite differences in geographical locations and publishing platforms, these journals collectively contribute to the academic discourse by providing platforms for researchers to publish their findings, thereby enriching the educational research landscape on a global scale.

The Productive Author

Table 4. Top 10 the Productive Author

Rank	Author	Affiliation	City	h	TC	NP
1st	Maulana Amirul Adha	Universitas Negeri Jakarta	Jakarta	4	5	6
2nd	Imron Arifin	Universitas Negeri Malang	Malang	4	5	7
3rd	Ibrahim Bafadal	Universitas Negeri Malang	Malang	4	8	4
4th	Juharyanto	Universitas Negeri Malang	Malang	4	5	3
5th	Sultoni	Universitas Negeri Malang	Malang	3	3	3
6th	Anak Agung Gede Agung	Universitas Pendidikan Ganesha	Singaraja	2	5	10
7th	Sandra Ingried Asaloei	Universitas Sam Ratulangi	Manado	2	2	8
8th	Burhannudin Sofian	Universitas Ahmad Dahlan	Yogyakarta	2	3	3
9th	Ali Imron	Universitas Negeri Malang	Malang	2	4	2
10th	Ristapawa Indra	STKIP Pesisir Selatan	Pesisir Selatan	2	5	5

The ranking indicates that Maulana Amirul Adha from Universitas Negeri Jakarta holds the top position with an h-index of 4, reflecting his significant impact in educational research. Imron Arifin, Ibrahim Bafadal, and Juharyanto, all from Universitas Negeri Malang, also share the highest h-index of 4, highlighting their substantial contributions to the field. Notably, Universitas Negeri Malang is prominently represented with multiple authors, showcasing its dominance and strong research culture. Other contributors, such as Anak Agung Gede Agung from Universitas Pendidikan Ganesha, Sandra Ingried Asaloei from Universitas Sam Ratulangi, Burhannudin Sofian from Universitas Ahmad Dahlan, Ali Imron from Universitas Negeri Malang, and Ristapawa Indra from STKIP Pesisir Selatan, also play vital roles. Each of these authors, despite their diverse affiliations, significantly contributes to advancing educational research, underscoring the collaborative and widespread nature of scholarly efforts in Indonesia.

Document with the Highest Citation

Table 5. Top 10 Documents with the Highest Citation

Rank	Citation	Title	Total Citations
1st	(Wiyono, 2018)	The effect of self-evaluation on the principals' transformational leadership, teachers' work motivation…	47
2nd	(Raihani, 2008)	An Indonesian model of successful school leadership	40
3rd	(Gunawan & Adha, 2021)	The Effect of Instructional, Transformational and Spiritual Leadership on Elementary School…	33
4th	(Arifin et al., 2018)	Islamic Crash Course as a Leadership Strategy of School Principals in …	24
5th	(Juharyanto et al., 2020)	"Gethok Tular" as the leadership strategy of school principals to strengthen multi-stakeholder forum role in improving the quality of ….	16
6th	(Arifin & Adha, 2021)	Dominance One-Roof Schools Principal Excellent Leadership in the …	15
7th	(Bafadal & Arifin, 2020)	The Use of Conventional Communication Technology as Effective Principal Leadership Strategy in …	14

|			
8th	(Mulyani et al., 2020)	Increasing School Effectiveness Through Principals'leadership and Teachers'teaching Performance...	12
9th	(Jawas, 2017)	The influence of socio-cultural factors on leadership practices for instructional improvement ...	10
10th	(Ilyas, 2020)	Gender role stereotyping and entrepreneurial intention ...	9

Source: R Program

The highest citation obtained by the article (Wiyono, 2018) with a total of 47 citations discussed the effects of self-evaluation on the transformational leadership of school principals, teacher work motivation, team work effectiveness, and school improvement. This article shows how important the principal's ability to reflect and self-evaluate is in improving overall school performance. Meanwhile, an article (Raihani, 2008) with 40 citations describes successful school leadership models in Indonesia, which provides valuable insight into the strategies implemented to achieve success in the Indonesian educational context.

Other articles also discuss topics relevant to school leadership. For example, (Gunawan & Adha, 2021) explored the effects of instructional, transformational and spiritual leadership on the performance of elementary school teachers, while (Arifin et al., 2018) highlighted the Islamic crash course strategy as a principal's leadership effort in strengthening school organizational culture. Other topics discussed include school principals' leadership strategies in strengthening the role of multi-stakeholder forums in remote areas (Juharyanto et al., 2020), the dominance of one-stop school principals' superior leadership in the digital era (Arifin & Adha, 2021), and the use of technology conventional communication as an effective leadership strategy (Bafadal & Arifin, 2020). All of these articles contribute significantly in providing insights and strategies to improve the effectiveness of school leadership in Indonesia, enriching literature and practice in the field of education.

Focus Research and Keyword Novelty

After analyzing it using the R Program, the next step is for the author to carry out an analysis using Vosviewer to see the focus of the research and the novelty of the keywords.

Figure 3. Keyword Grouping
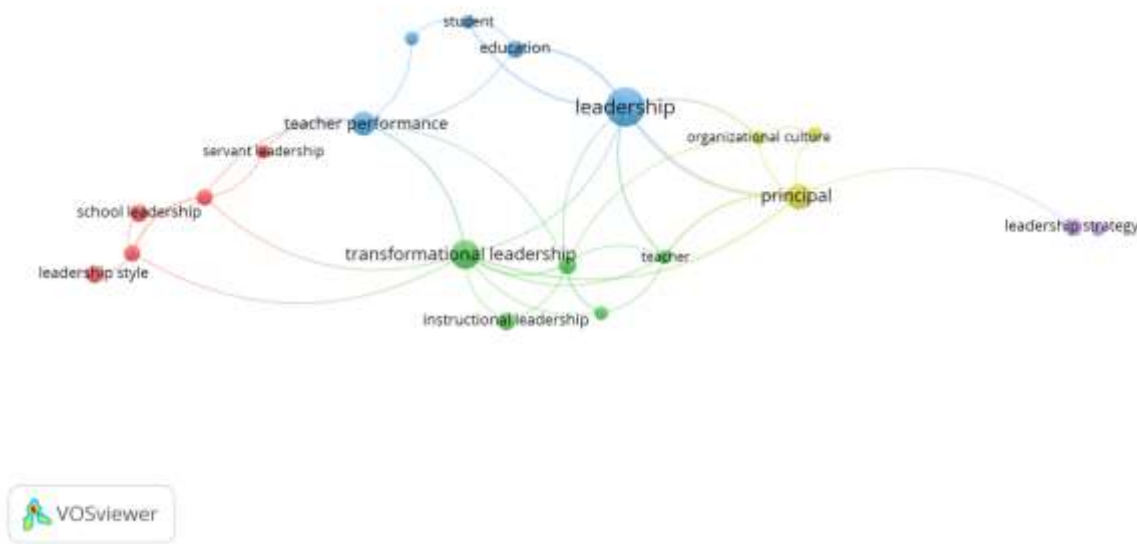
With Keyword Occurrence ≤ 3, the results obtained are 20 keywords with five groups. Next, the author gives the group name according to the grouping between keywords.

Rank	Color Group	Group Name	Keywords
1st	Red (5 items)	Innovative Leadership Approaches in Indonesian Schools	Job Satisfaction, Leadership Style, Motivation, School Leadership, Servant Leadership
2nd	Green (5 items)	Enhancing School Dynamics in Indonesia	Instructional Leadership, Organizational Commitment, School Principal, Teacher, Transformational Leaders
3rd	Blue (5 items)	Advancing Educational Leadership in Indonesia	Education, Leadership, Student, Teacher Leadership, Teacher Performance
4th	Yellow (3 items)	Cultivating Effective School Leadership	Organizational Culture, Principal, School Performance

5th	Purple (2 items)	Innovative Leadership Approaches for Remote Areas	Leadership Strategy, Remote Area

Source: Vosviewer

Figure 4. Group Names According to Keyword Cluster Grouping
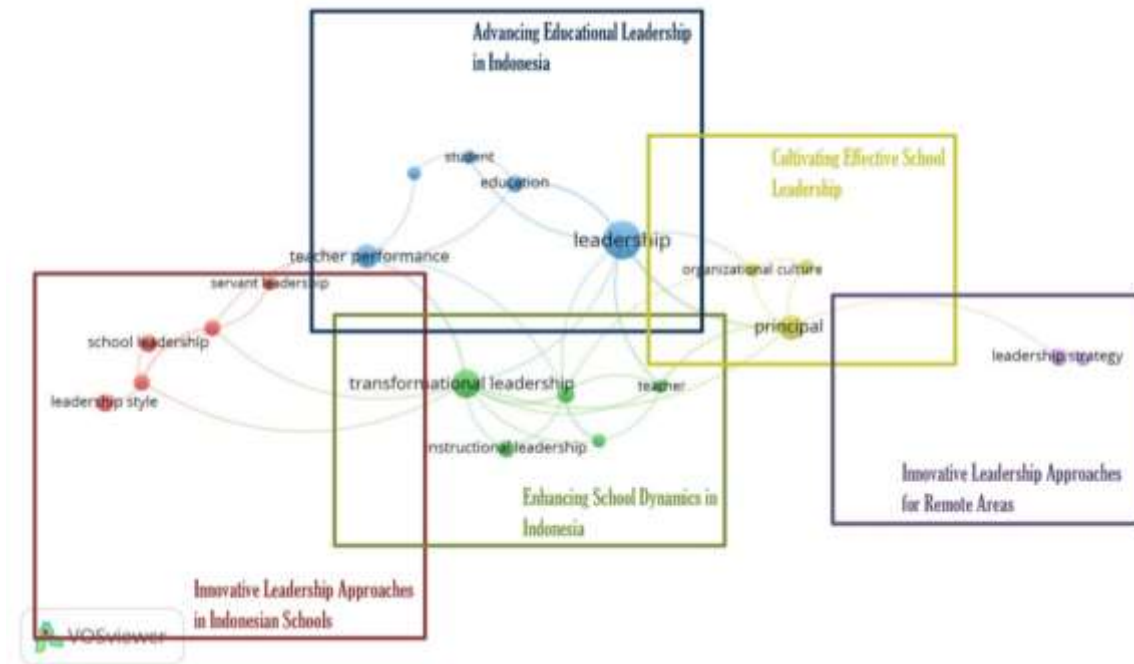
The cluster entitled "Innovative Leadership Approaches in Indonesian Schools" covers various important aspects related to leadership in the educational context in Indonesia. In this cluster, research focuses on innovative ways school leaders use to improve job satisfaction, leadership style, motivation, and overall school leadership effectiveness. This approach involves adopting diverse leadership styles, including servant leadership, which emphasizes service to others as a top priority (Bavik, 2020; Lo et al., 2020). Research in this cluster aims to identify best practices that can be applied to create a school environment that supports teacher professional growth, increases work motivation, and ultimately, improves the quality of education (Amtu et al., 2020; Jiang et al., 2021). By exploring the relationship between leadership style and factors such as job satisfaction and motivation, this cluster provides valuable insights for school leaders and policy makers to design more effective strategies in managing and leading educational institutions in Indonesia.

The cluster entitled "Enhancing School Dynamics in Indonesia" covers various important aspects related to leadership in the educational context in Indonesia. In this cluster, research focuses on the role of instructional and transformational leadership carried out by school principals to increase organizational commitment

and teacher performance. This approach highlights how principals can influence and inspire teachers to achieve higher educational goals, as well as create a dynamic and supportive school environment (Ariyani & Zuhaery, 2021; Johari et al., 2021). By implementing effective leadership strategies, principals can increase teachers' dedication to their institutions and strengthen collaboration among staff (Day et al., 2020; Meyer et al., 2023). Research in this cluster aims to explore best practices that can be implemented to increase the effectiveness of school leadership, increase organizational commitment, and ultimately, improve the quality of education in Indonesia. By exploring the relationship between school leadership, organizational commitment, and teacher performance, this cluster provides valuable insights for school leaders and policy makers in designing more effective and sustainable leadership strategies.

The cluster entitled "Advancing Educational Leadership in Indonesia" covers various key aspects related to leadership in the educational context in Indonesia. Research in this cluster focuses on the role of educational leadership, both from the side of school principals and teachers, in improving student and teacher performance. By highlighting the importance of teacher leadership, this research examines how teachers who have leadership skills can contribute to improving the overall teaching and learning process and creating a more effective school environment (Cann et al., 2021; Kilag et al., 2023; Shen et al., 2020). In addition, this cluster also explores how effective leadership can motivate teachers to achieve better performance and support overall student development. This research provides valuable insights into strategies and best practices that can be implemented to optimize the role of leadership in education, as well as their impact on student learning outcomes and teacher performance. Thus, this cluster not only enriches the literature on educational leadership in Indonesia but also offers practical guidance for school leaders and policy makers to improve the overall quality of education.

The cluster entitled "Cultivating Effective School Leadership" covers various important aspects related to organizational culture, the role of school principals, and school performance in the educational context in Indonesia. Research in this cluster focuses on how school principals can build and maintain a positive organizational culture to improve school performance. By emphasizing the importance of an inclusive, collaborative and achievement-oriented school culture, this research examines various leadership strategies used by school principals to create a conducive learning environment (Sarwar et al., 2022). Additionally, this cluster explores the relationship between principal leadership, organizational culture, and school performance outcomes, including student academic achievement and teacher instructional effectiveness (Kalkan et al., 2020; Shen et al., 2021). This research provides valuable insights into best practices in managing schools and

strengthening organizational culture to achieve optimal results. Thus, this cluster offers practical guidance for school leaders and policy makers in efforts to improve the quality of education through strengthening organizational culture and effective leadership.

The cluster entitled "Innovative Leadership Approaches for Remote Areas" focuses on innovative leadership strategies that are relevant for remote areas in Indonesia. Research in this cluster examines a variety of effective leadership approaches that school leaders in remote areas can implement to overcome the unique challenges they face (Leithwood, 2021). Highlighting the importance of adaptation and creativity in the context of remote environments, this cluster examines strategies that can help principals lead effectively in situations that may have limited resources and accessibility (Zahari et al., 2024). This research not only provides insight into how leadership can be applied effectively in remote geographical contexts, but also offers concrete solutions for improving the quality of education in these areas. Thus, this cluster has the potential to make a significant contribution to improving access and quality of education throughout Indonesia, especially in remote and isolated areas.

After grouping keywords, the author then looks for new keywords in the Overlay Visualization menu in Vosviewer.

Figure 5. Overlay Visualization
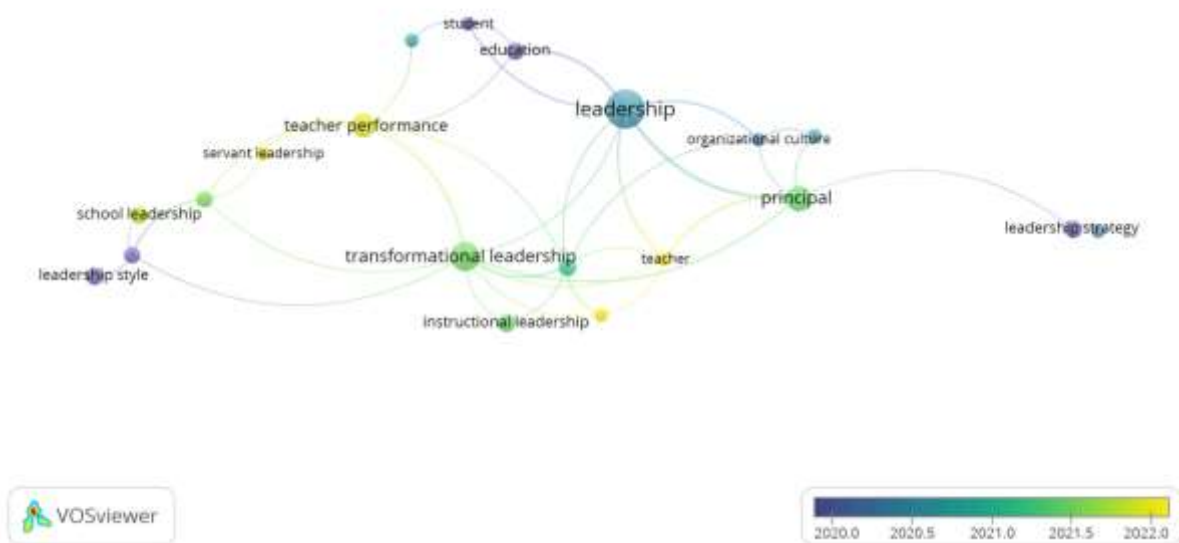
The interpretation results highlight that the use of yellow in 2022 indicates that the keyword is newly used in the context of leadership research in Indonesian schools, providing an important signal for further research. Keywords such as "School Principal," "Teacher," and "Servant Leadership" stand out as areas worthy of further research regarding the topic of leadership in Indonesian schools. By focusing on the role of principals, teachers, and the concept of servant leadership, future research could explore the dynamics of leadership in Indonesian schools, providing deeper insight into how leaders and educators can influence the overall quality of education. Thus, these recommendations can be a valuable starting point for researchers to further explore and investigate key aspects of leadership in the educational context in Indonesia.

CONCLUSION

From the results of the analysis that has been carried out, it can be concluded that research on Leadership in Indonesian schools started from 2008 to 2024, with an 8-fold increase in the last six years. Malang State University ranks first with the highest contribution in research on leadership in Indonesian schools, producing 45 publications or 40.54% of the total. Cakrawala Pendidikan, published by Yogyakarta State University, holds the top position with an h-index of 3, signifying its significant impact in the field of educational research. Maulana Amirul Adha from Jakarta State University holds the top position with an h-index of 4, reflecting his significant impact in educational research. The highest citation obtained by the article (Wiyono, 2018) with a total of 47 citations. The results obtained are 20 keywords with five groups, with the words "School Principal," "Teacher," and "Servant Leadership" stand out as areas worthy of further research regarding the topic of leadership in Indonesian schools.

REFERENCES

Aithal, P. S., & Aithal, S. (2023). Stakeholders' Analysis of the Effect of Ubiquitous Education Technologies on Higher Education. *International Journal of Applied Engineering and Management Letters (IJAEML)*, *7*(2), 102–133.

Alenezi, M., Wardat, S., & Akour, M. (2023). The need of integrating digital education in higher education: Challenges and opportunities. *Sustainability*, *15*(6), 4782.

Amos, O., Ephrahem, G., & Bhoke-Africanus, A. (2021). Effectiveness of school heads' financial management skills in provision of quality education in secondary school. *Journal of Education, Society and Behavioural Science*, *34*(2), 20–28.

Amtu, O., Makulua, K., Matital, J., & Pattiruhu, C. M. (2020). Improving student learning outcomes through school culture, work motivation and teacher performance. *International Journal of Instruction*, *13*(4), 885–902.

Arifin, I., & Adha, M. A. (2021). Dominance One-Roof Schools Principal Excellent Leadership in the Digital Age in Indonesia. *Eurasian Journal of Educational Research*, *93*, 199–218.

Arifin, I., Juharyanto, Mustiningsih, & Taufiq, A. (2018). Islamic crash course as a

leadership strategy of school principals in strengthening school organizational culture. *Sage Open*, *8*(3), 2158244018799849.

Ariyani, D., & Zuhaery, M. (2021). Principal's Innovation and Entrepreneurial Leadership to Establish a Positive Learning Environment. *European Journal of Educational Research*, *10*(1), 63–74.

Arshad, M. (2020). COVID-19: It's time to be Thankful to our ICT professionals. *International Journal of Information Technology and Electrical Engineering ITEE*, *9*(2), 23–31.

Bafadal, I., & Arifin, I. (2020). The Use of Conventional Communication Technology as Effective Principal Leadership Strategy in Strengthening the Role of Multi-Stakeholders Forum for School Quality Improvement. *1st International Conference on Information Technology and Education (ICITE 2020)*, 645–650.

Bavik, A. (2020). A systematic review of the servant leadership literature in management and hospitality. *International Journal of Contemporary Hospitality Management*, *32*(1), 347–382.

Buragohain, D., Punpeng, G., Jaratjarungkiat, S., & Chaudhary, S. (2023). Impact of e-learning activities on English as a second language proficiency among engineering cohorts of Malaysian higher education: A 7-month longitudinal study. *Informatics*, *10*(1), 31.

Cann, R. F., Riedel-Prabhakar, R., & Powell, D. (2021). A model of positive school leadership to improve teacher wellbeing. *International Journal of Applied Positive Psychology*, *6*(2), 195–218.

Crawford, J., Cowling, M., & Allen, K.-A. (2023). Leadership is needed for ethical ChatGPT: Character, assessment, and learning using artificial intelligence (AI). *Journal of University Teaching & Learning Practice*, *20*(3), 2.

Day, C., Sammons, P., & Gorgen, K. (2020). Successful School Leadership. *Education Development Trust*.

De-Marchis, G. P., & Shchebetenko, S. (2024). Creativity studies within the European Union: A bibliometric analysis. *Creativity Research Journal*, *36*(1), 116–137.

Dewi, E. R., & Alam, A. A. (2020). Transformation model for character education of students. *Cypriot Journal of Educational Sciences*, *15*(5), 1228–1237.

Effendi, Y. R., & Sahertian, P. (2023). Principals' academic supervision based on humanistic spiritual values to increase student achievement motivation. *International Journal of Innovation and Learning*, *34*(1), 59–80.

Flores, O. J., & Kyere, E. (2021). Advancing equity-based school leadership: The importance of family–school relationships. *The Urban Review*, *53*(1), 127–144.

Greenier, V., Fathi, J., & Behzadpoor, S.-F. (2023). Teaching for creativity in an EFL context: the predictive roles of school climate, teaching enthusiasm, and metacognition. *Thinking Skills and Creativity*, *50*, 101419.

Gunawan, I., & Adha, M. A. (2021). *THE EFFECT OF INSTRUCTIONAL, TRANSFORMATIONAL AND SPIRITUAL LEADERSHIP ON ELEMENTARY SCHOOL*

TEACHERS'PERFORMANCE AND STUDENTS'ACHIEVEMENTS.

Heng, K., & Doeur, B. (2024). Cambodia's aspirations to become a knowledge-based society: Challenges and recommendations. *Policy Futures in Education*, 14782103241234408.

Ilyas, M. (2020). Gender role stereotyping and entrepreneurial intention among Saudi females. *International Transaction Journal of Engineering Management & Applied Sciences & Technologies*, *11*(9).

Javaid, M., Haleem, A., Singh, R. P., Khan, S., & Khan, I. H. (2023). Unlocking the opportunities through ChatGPT Tool towards ameliorating the education system. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, *3*(2), 100115.

Jawas, U. (2017). The influence of socio-cultural factors on leadership practices for instructional improvement in Indonesian schools. *School Leadership & Management*, *37*(5), 500–519.

Jiang, Z., Wu, H., Cheng, H., Wang, W., Xie, A., & Fitzgerald, S. R. (2021). Twelve tips for teaching medical students online under COVID-19. *Medical Education Online*, *26*(1), 1854066.

Johari, A., Abdul Wahat, N. W., & Zaremohzzabieh, Z. (2021). Innovative work behavior among teachers in Malaysia: The effects of teamwork, principal support, and humor. *Asian Journal of University Education (AJUE)*, *7*(2), 72–84.

Juharyanto, J., Sultoni, S., Arifin, I., Bafadal, I., Nurabadi, A., & Hardika, H. (2020). "Gethok Tular" as the leadership strategy of school principals to strengthen multi-stakeholder forum role in improving the quality of one-roof schools in remote areas in Indonesia. *Sage Open*, *10*(2), 2158244020924374.

Jung, S. B., & Sheldon, S. (2020). Connecting Dimensions of School Leadership for Partnerships with School and Teacher Practices of Family Engagement. *School Community Journal*, *30*(1), 9–32.

Kalkan, Ü., Altınay Aksal, F., Altınay Gazi, Z., Atasoy, R., & Dağlı, G. (2020). The relationship between school administrators' leadership styles, school culture, and organizational image. *Sage Open*, *10*(1), 2158244020902081.

Kamboj, K. K., Kesharwani, A., Joshi, R. M., & Maheshwari, P. (2024). Bibliometric analysis of digital payment systems. *International Journal of Electronic Banking*, *4*(2), 168–192.

Kaushal, A., Kumar, S., & Kumar, R. (2024). A review on deepfake generation and detection: bibliometric analysis. *Multimedia Tools and Applications*, 1–41.

Kilag, O. K. T., Uy, F. T., Abendan, C. F. K., & Malbas, M. H. (2023). Teaching leadership: an examination of best practices for leadership educators. *Science and Education*, *4*(7), 430–445.

Leithwood, K. (2021). A review of evidence about equitable school leadership. *Education Sciences*, *11*(8), 377.

Lo, P., Allard, B., Wang, N., & Chiu, D. K. W. (2020). Servant leadership theory in

practice: North America's leading public libraries. *Journal of Librarianship and Information Science*, *52*(1), 249–270.

Meyer, A., Hartung-Beck, V., Gronostaj, A., Krüger, S., & Richter, D. (2023). How can principal leadership practices promote teacher collaboration and organizational change? A longitudinal multiple case study of three school improvement initiatives. *Journal of Educational Change*, *24*(3), 425–455.

Muhajir, A. aril. (2022). Inclusion of Pluralism Character Education in the Islamic Modern Boarding Schools during the Pandemic Era. *Journal of Social Studies Education Research*, *13*(2), 196–220.

Mulyani, H., Meirawan, D., & Rahmadani, A. (2020). INCREASING SCHOOL EFFECTIVENESS THROUGH PRINCIPALS'LEADERSHIP AND TEACHERS'TEACHING PERFORMANCE, IS IT POSSIBLE? *Jurnal Cakrawala Pendidikan*, *39*(2), 279–292.

Óskarsdóttir, E., Donnelly, V., Turner-Cmuchal, M., & Florian, L. (2020). Inclusive school leaders–their role in raising the achievement of all learners. *Journal of Educational Administration*, *58*(5), 521–537.

Pambudi, N. A., & Harjanto, B. (2020). Vocational education in Indonesia: History, development, opportunities, and challenges. *Children and Youth Services Review*, *115*, 105092.

Pont, B. (2020). A literature review of school leadership policy reforms. *European Journal of Education*, *55*(2), 154–168.

Raihani. (2008). An Indonesian model of successful school leadership. *Journal of Educational Administration*, *46*(4), 481–496.

Royston, R. P., & Reiter-Palmon, R. (2022). Leadership and creativity: What leaders can do to facilitate creativity in organizations. In *Creativity and Innovation* (pp. 305–326). Routledge.

Sarwar, U., Tariq, R., & Yong, Q. Z. (2022). Principals' leadership styles and its impact on teachers' performance at college level. *Frontiers in Psychology*, *13*, 919693.

Shavkidinova, D., Suyunova, F., & Kholdarova, J. (2023). Education is an Important Factor in Human and Country Development. *Current Research Journal of Pedagogics*, *4*(01), 27–34.

Shen, J., Ma, X., Mansberger, N., Wu, H., Palmer, L. A. B., Poppink, S., & Reeves, P. L. (2021). The relationship between growth in principal leadership and growth in school performance: The teacher perspective. *Studies in Educational Evaluation*, *70*, 101023.

Shen, J., Wu, H., Reeves, P., Zheng, Y., Ryan, L., & Anderson, D. (2020). The association between teacher leadership and student achievement: A meta-analysis. *Educational Research Review*, *31*, 100357.

Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021). Information technology and Gen Z: The role of teachers, the internet, and technology in the education of young people. *Technology in Society*, *65*, 101565.

Tohri, A., Rasyad, A., Sururuddin, M., & Istiqlal, L. M. (2022). The Urgency of Sasak Local Wisdom-Based Character Education for Elementary School in East Lombok, Indonesia. *International Journal of Evaluation and Research in Education*, *11*(1), 333–344.

Tosun, C. (2024). Analysis of the last 40 years of science education research via bibliometric methods. *Science & Education*, *33*(2), 451–480.

Ulwiyah, S. (2023). RASCH MODEL ANALYSIS ON MATHEMATICS TEST INSTRUMENTS: BIBLIOSHINY (1983-2023). *Mathematics Research and Education Journal*, *7*(2), 1–13.

Westraad, S. F., Mathews, J. F., & Munday, C. R. (2024). Creating shared spaces: A collaborative partnership model that prepares initial teacher education students for effective practice. In *Creating, Sustaining, and Enhancing Purposeful School-University Partnerships: Building Connections Across Diverse Educational Systems* (pp. 77–95). Springer.

Wiyono, B. B. (2018). The effect of self-evaluation on the principals' transformational leadership, teachers' work motivation, teamwork effectiveness, and school improvement. *International Journal of Leadership in Education*, *21*(6), 705–725.

Zafrullah, Z., & Ramadhani, A. M. (2024). The Use of Mobile Learning in Schools as A Learning Media: Bibliometric Analysis. *Indonesian Journal of Educational Research and Technology*, *4*(2), 187–202.

Zafrullah, Z., Sultan, J., Ayuni, R. T., & Uleng, A. T. (2024). Analisis Kemandirian Belajar Matematika Siswa Berdasarkan Gender dan Aspek di Sekolah Menengah Atas. *Perspektif Pendidikan Dan Keguruan*, *15*(1), 29–38.

Zahari, A. I., Manan, D. I. A., Razali, F. M., Zolkaflil, S., & Said, J. (2024). Exploring the viability of remote work for SME. *Journal of Open Innovation: Technology, Market, and Complexity*, *10*(1), 100182.

Zhanbayev, R. A., Irfan, M., Shutaleva, A. V, Maksimov, D. G., Abdykadyrkyzy, R., & Filiz, Ş. (2023). Demoethical model of sustainable development of society: A roadmap towards digital transformation. *Sustainability*, *15*(16), 12478.