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Identifying Trends in School Administration in the New Era (2000-2023)

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Abstract

Considering the expansion and increase of School Administration articles in the world scientific community, Reviewing and analyzing the literature in this area is the goal of this study. The study used a descriptive methodology. It includes all scientific articles indexed in the Science Direct citation database from 2000 to 2023. After filtering the papers, 2670 were examined using VOSviewer software to examine and show the data. The research findings indicate that the number of articles has increased since 2004, and The year with the highest percentage of pieces was 2023. Also, between journals with 2125 "Procedia - Social and Behavioral Sciences" 436 articles were ranked first. Also, 5 clusters were identified, and the subjects of leadership, education, professional development, higher education, teachers, school leadership, teacher education, and school improvement had diversity and as "education policy," "job satisfaction," "motivation," "development," "human capital" was the previous subjects of this field. This research concluded that areas such as; "COVID-19", "teacher self-efficacy," "technology integration," accountability," "and "professional learning community" were hot and new.

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Introduction

School administration is critical to the success of educational institutions (Prastiawan et al., 2020; Salendab & Cruspero Dapitan, 2021) because it includes a wide range of tasks such as resource management, policy implementation, teacher support, student welfare, parent and community participation, and data-driven decision making (Öz & Arastaman, 2022; Rehman & Arif, 2023; Abbaspour et al., 2023). Effective school administration offers strong leadership, effectively manages resources, and guarantees adherence to rules and curricular norms (LİMON & AYDIN, 2020; Vallejo et al., 2022). It also provides professional development opportunities, mentorship programs, and a collaborative work atmosphere to instructors (Kutsyuruba & Douglas Walker, 2020; Yirci, Karakose, Kocabas, Tülübaş, & Papadakis, 2023). They place a premium on student well-being and discipline, developing rules that foster a safe, inclusive, and supportive learning environment. In addition, they involve parents and the community in the educational process, building strong relationships and collaborations. Data-driven decision-making assists in identifying areas for improvement and guiding instructional tactics, resulting in evidence-based interventions and personalized student assistance. Finally, competent school management is critical for preparing students for a successful future.

School administrators play an essential role in the twenty-first century, embracing innovation and harnessing technology to improve learning experiences (Chang, 2019; Rizk, 2020). They enable instructors to successfully incorporate technology, providing students with digital literacy skills for success in the workplace (Falloon, 2020; Statti & Torres, 2020). Effective school administration develops a culture of inclusion and equality, ensuring all students have equal access to quality education and growth opportunities (Óskarsdóttir et al., 2020; Shaeffer, 2019). Administrators support culturally sensitive policies and provide an atmosphere where students from all backgrounds can thrive (Guo-Brennan & Guo-Brennan, 2020; O'Leary et al., 2020). They also stimulate open communication and collaboration with parents, families, and the larger community, resulting in a more holistic and richer educational experience. School management is critical in defining the future of education and educating today's students to become leaders of tomorrow. By delving into the many facets of this crucial topic, we may discover the enormous value that competent school administration contributes to the educational landscape of the twenty-first century. In the meantime, a few scientific articles have been published in this field, and a limited number are mentioned.

Theoretical Foundations

In school administration, scientometric research is essential to

advance knowledge and practice by offering insightful information. This method makes it possible to evaluate research production methodically, spot patterns and gaps in the literature, enhance decision-making procedures, and foster teamwork (Aboelmaged et al., 2023; Khalef & El-Adaway, 2022). Researchers and policymakers can obtain insights on developing themes, issues, and research interests by examining publishing patterns and keywords used in research articles. This information is essential for setting the course for further studies, coordinating research goals, and filling in significant gaps in the body of knowledge on school administration. Moreover, scientometric research contributes to better decision-making by offering evidence-based information that directs curriculum creation, teacher preparation, resource distribution, and policy design choices. This guarantees that choices have the potential to improve educational practices and are supported by thorough research.

In addition, the study makes it easier to find cooperative networks and alliances in school management, which promotes information sharing and creative solutions to problems in education. Furthermore, by evaluating citation metrics like the number of citations and the h-index of certain researchers or institutions, scientometric studies verify the influence and importance of research (Kunosic & Zerem, 2021; Sohrabi et al., 2014) in school administration. This validation helps researchers and institutions show stakeholders and funders the effect of their work and raises the credibility of research in the area.

Therefore, the purpose of this article is to analyze the subject of school administration with scientometric method by addressing the following research questions:

RQ1. What is the annual growth trend of published scientific articles?

RQ2. Which scientific journals have published the most articles?

RQ3. Which types of articles constitute the largest volume of publications?

RQ4. What are the most effective keywords in this field?

RQ5. How are keywords clustered based on thematic maps?

RQ6. What are the old and new scientific fields based on thematic maps?

Literature Review

Gümüş et al. (1960) article "Science Mapping Research on Educational Leadership and Management in Turkey: A Bibliometric Review of International Publications" comprehensively evaluates the issue. The authors employ scientific mapping tools to visualize the knowledge structure and relationships in Turkey's literature on educational leadership and management. This thorough grasp of research subjects, key authors, and the general growth of the field is helpful for researchers, policymakers, and educators seeking insights into this discipline's international research environment.

Kovačević & Hallinger's (2019) paper "Leading School Change and Improvement: A Bibliometric Analysis of the Knowledge Base (1960-2017)" was published in the Journal of Educational Administration. To discover trends, patterns, and the influence of research on this subject, the authors undertake a bibliometric study of academic publications from 1960 to 2017. The analysis reveals significant topics, influential authors, and notable publications, providing unique insights into the growth and influence of research on driving school reform and improvement. This article is an excellent resource for academics, educators, and policymakers interested in progressing school reform and improvement knowledge.

Hallinger & Kovačević (2019) paper "A Bibliometric Review of Research on Educational Administration: Science Mapping the Literature, 1960 to 2018" reviews educational administration research from 1960 to 2018. The authors map academic articles using bibliometric analysis to discover significant themes, influential authors, and noteworthy trends in the discipline. The research provides insights into the evolution and effect of educational administration research, emphasizing diverse subfields and issues. It offers essential tools for academics, policymakers, and educators who want to comprehend current research and propose future paths.

Hallinger et al. (2021), in "Science mapping the knowledge base in educational leadership and management: A longitudinal bibliometric analysis, 1960 to 2018," investigate the evolution of the knowledge base in this discipline from 1960 to 2018. The study examines a database of 22,492 papers published in 21 Scopus-indexed journals across six decades using descriptive trend analysis, citation analysis, co-citation analysis, and visualization approaches. The authors note a transition in contributions from Anglo-American male researchers till 2000 to a more diversified representation of gender and geographic origins. The assessment highlights four generations of EDLM scholarship and numerous new "schools of thought" in the discipline. The field's conceptual framework has shifted from "administration" to "leadership for learning."

Yirci et al.'s (2023)' study, "A Bibliometric Review of the Knowledge Base on Mentoring for the Professional Development of School Administrators," explores the current knowledge base on mentoring for school administrators. The writers analyze diverse research publications to find patterns, trends, and significant authors. They offer insights into study subjects, publishing trends, and cooperation networks, emphasizing essential issues such as mentoring's impact on leadership development, mentors' roles in professional advancement, and the efficacy of various mentoring approaches.

This scholarly research digs at the ever-changing subject of educational leadership and the different trends that impact the school administration environment. School administration is critical for the efficient operation and advancement of educational institutions. However, the fast-changing landscape needs a thorough awareness of the most recent trends to successfully respond to the changing requirements of students, instructors, parents, and the community. The research will examine various school administration trends, such as technology integration, data-driven decision-making, inclusive practices, community involvement, and innovative leadership methods. The goal is to provide educational leaders, policymakers, and practitioners with the knowledge and insights they need to make sound decisions and implement effective policies. The research will also look at existing research, case studies, and practical examples to better understand school administration and how it affects schools' and individuals' overall performance and well-being. The writers advocate for keeping an open mind, questioning norms, and engaging in meaningful debates to develop educational leadership and favorably influence students and the larger educational community.

A scientometric analysis is a valuable method for determining critical publications in school management, analyzing research impact, detecting research trends, and guiding policy choices (Serenko, 2013; Xu et al., 2021). It directs educators and administrators to valuable resources by assisting them in identifying the most influential publications (C. Wang et al., 2021). Scientometric studies also make it possible to analyze general patterns in school management research, which helps decision-makers base their choices on best practices supported by empirical data. Citation counts, partnerships, and publishing locations are helpful tools for assessing the effect of research and aiding stakeholders in appreciating the importance and pertinence of individual studies (Csomós, 2018; Vîiu, 2018). Policymakers may use this information to help them make evidence-based decisions to enhance educational systems and results. Furthermore, scientometric analysis facilitates networking and cooperation between researchers, educators, and administrators by identifying active researchers and institutions. Therefore, this research was carried out to draw a thematic map of published articles in the field of School Administration and identify trend topics.

Methodology

The mixed present study is applied and conducted using social network analytic tools and scientific methodologies (Rahmati & Karimi, 2022). Based on the visualization of co-occurrence networks, the current descriptive-applied article was conducted in scientometrics. It can build, visualize, and evaluate a bibliography based on a network among

the documents of several scientific publications (Tamala et al., 2022). The Science Direct scientific database data were gathered to create an extensive and interdisciplinary citation profile (Karimi et al., 2022) using the network drawing feature in VOSviewer and Excel software.

ScienceDirect is a reliable article resource with more than a million peer-reviewed scientific publications on various topics and follows a strict peer-reviewing procedure to guarantee excellent academic standards (Morrison, 2007; Tober, 2011). It provides access to prestigious articles, including Elsevier journals, and sophisticated search and discovery capabilities (Fiedler et al., 2018). Access to full-text papers facilitates researchers' ability to evaluate, reference, and expand upon prior findings. Because ScienceDirect can be accessed from anywhere, so it is an invaluable tool for academic and scientific endeavors. This database is an invaluable resource for scholars and researchers because of its vast collection, availability of full-text content, access to prestigious journals, sophisticated search capabilities, and general accessibility.

The statistical population and research publications were published in this scientific database between 2000 and 2023. (on 3 November 2023). At first, 5177 articles were identified with the help of the keywords "School administration," or "education leadership," "admins of school," "admins of education," "education administer," "education management," or "school leadership" or "education authority", and in the next place, a large number of articles, They were removed due to lack of connection, Similar, identical, plural, and singular words were merged. The field of social studies was chosen due to the affinity of the discussion, limiting them to Social Sciences (2,465), Psychology (527), Arts and Humanities (513), and the final number of articles reached 2670. Lastly, 25 RIS files were extracted and loaded into the VOS Viewer program using the expert option.

Bibliographic research is seeing an increase in the use of VOS Viewer software. Van Eck and Waltman created this program to make it simple to produce and see bibliometric maps that are simple to understand (van Eck & Waltman, 2009; Waltman et al., 2010). Three more visualization options are available in VOS Viewer: network, overlay, and density visualization. The researchers employed network visualization to group the data according to co-words, co-authorship, or place of origin; it also displays published subjects and associated keywords. Furthermore, it is color-coded based on how well-liked and comparable the study is. When a term is frequently used in several studies, the color of the line connecting them also varies in the color index; conversely, if the color is bright, it indicates little relationship between them (Tamala et al., 2022).

Findings

A) Data analysis

Fig 1. The growth trend of scientific productions in the field of School Administration during the years 2000-2023 in the Science Direct citation profile shows that the number of articles was low at the beginning, and this trend started to rise from 2004, and the amount of attention to it has significantly increased in recent years. The lowest share of scientific productions is in 1999, with 22 articles, and the highest is in 2023, with 312 articles.

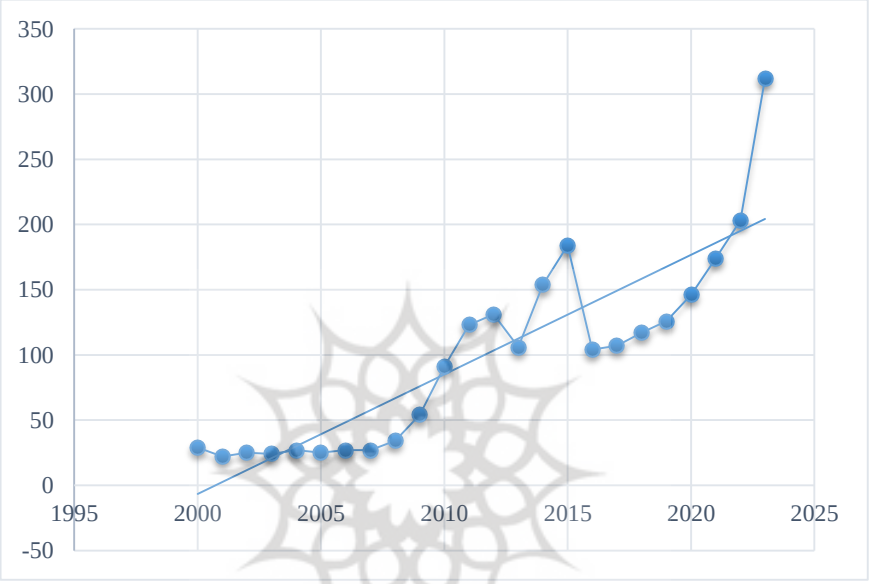

Fig 1. The growth trend of scientific productions

The findings of the second part show that in order of magazines: The list of publications includes 436 from Procedia - Social and Behavioral Sciences, 331 from Teaching and Teacher Education, 224 from International Journal of Educational Development, 133 from International Journal of Educational Research, 101 from the International Encyclopedia of Education (Fourth Edition), 89 from Studies in Educational Evaluation, 79 from Economics of Education Review, 59 from Nurse Education Today, 53 from Computers & Education, 50 from Management Education, 44 from Archives of Psychiatric Nursing, 43 from Children and Youth Services Review, 32 from Journal of School Psychology, 31 from Leadership Quarterly, 29 from The Journal of Academic Librarianship, 28 from Technological Forecasting and Social Change, 27 from International Journal of Nursing Studies, 27 from Educational Research Review, 24 from Higher Education Policy, 23 from Computers in Human Behavior, 23 from Social Sciences & Humanities Open, 21 from the International Encyclopedia of the Social & Behavioral Sciences (Second Edition), and 15 from Thinking Skills and Creativity.

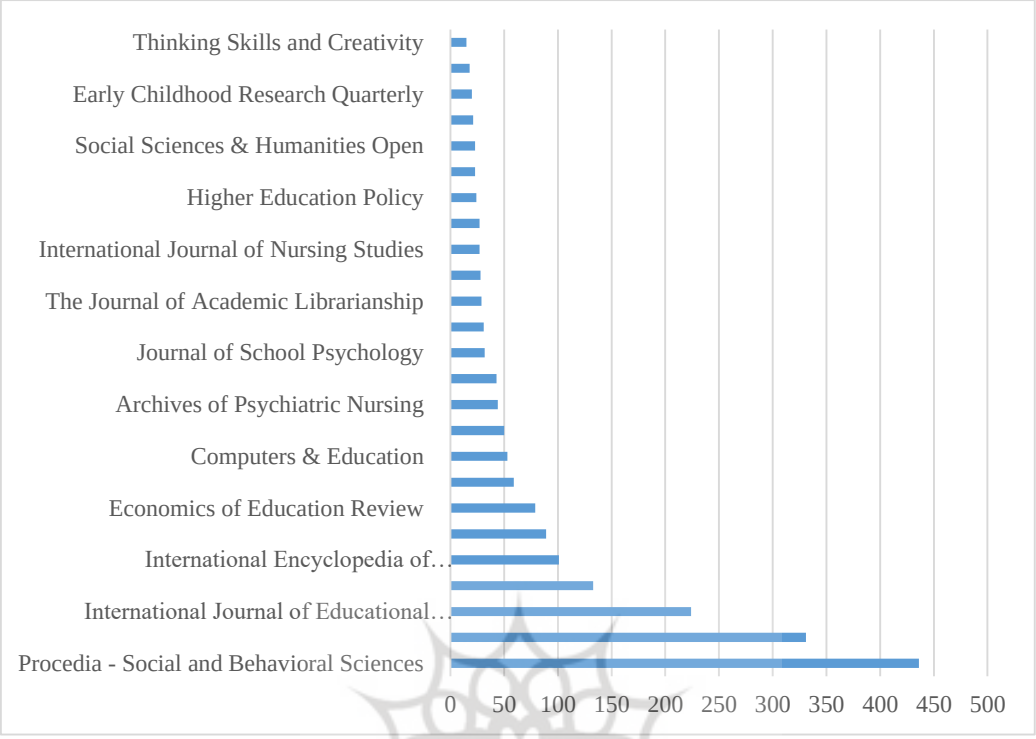

Fig 2. The frequency of articles published in various publications

The analysis of the types of articles published 69 review articles, 2125 research articles, 130 book chapters, 89 conference abstracts, 53 book reviews, 53 case reports, four correspondence, 15 discussions, 44 editorials, two errata, one mini-reviews, five news, 25 short communications had the highest number.

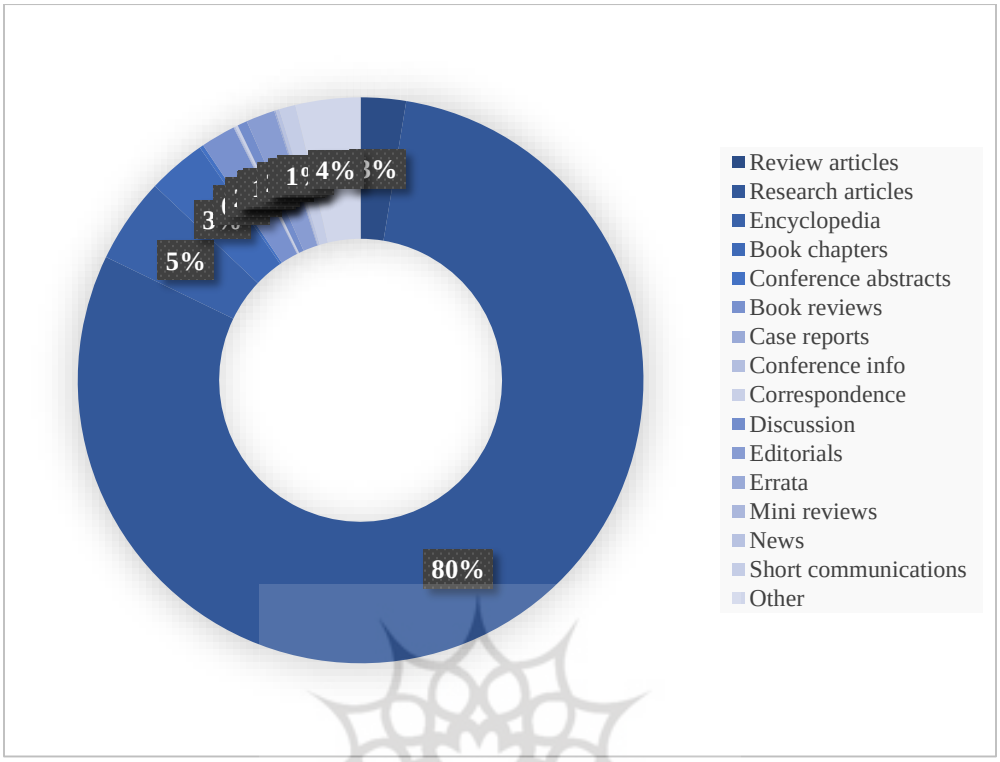

Fig 3. A variety of published articles

The most significant and frequently occurring keywords among all terms are likewise displayed in Table 1. These terms showed the highest frequency of use: leadership, education, professional development, higher education, teachers, school leadership, teacher education, and school improvement.

Table 1. Frequency of the most critical and frequent keywords

Keyword	Co-occurrence	Link
Leadership	101	210
Education	93	164
Professional development	74	128
Higher education	65	66
Teachers	49	116
School leadership	48	98
Teacher Education	39	72
School improvement	37	71
Covid-19	27	52
Educational policy	27	57
China	26	47
Schools	26	67

Job satisfaction	25	30
Teacher	25	50
Gender	24	38
Teacher learning	24	51
Accountability	23	55
Distributed leadership	23	62
International Education	23	59
Management	23	49
Student achievement	23	42
Collaboration	22	44
Development	22	58
Learning	22	60
School	22	54
Inclusive education	20	44
Professional learning	20	38
Sustainability	20	29

Three maps—network visualization, density visualization, and excessive visualization—showcase the software's analytical findings.

B) Network visualization

Thirteen repetitions of the current connections between the articles on this subject were made, resulting in 69 nodes, each shown as a circle and associated with a particular topic. Meanwhile, the wider the circle gets, the more closely that collection is connected to other collections. It is evident by analyzing the shapes of the lines connecting the circles that these lines represent the relationship between the sets; the more robust the connection, the thicker the line. There are 484 linkages and 5 clusters in the research network.

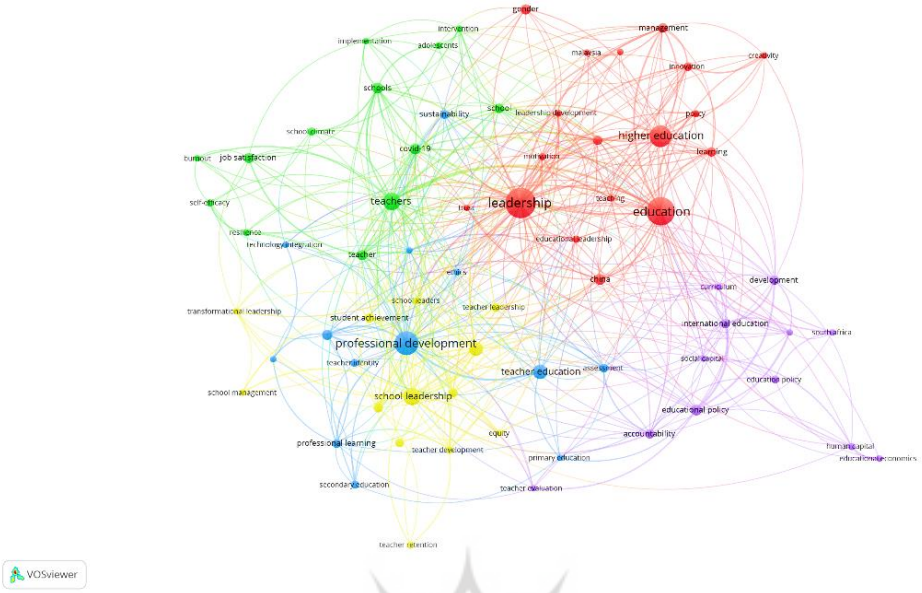

Fig 1: Clusters formed in the field of School Administration (network visualization)

As seen in Fig 1, in the network visualization, the clusters formed by each are shown with specific colors. The survey of clusters in the field of science showed that cluster number one, marked with red color in the image, is the largest and the best cluster. This cluster has 18 subject categories and 267 links. Among the categories, "leadership" has the most links (49 links) with other network users; as a result, the relevant node of the cluster in question is bigger than the other nodes. With 13 members and 241 relationships, cluster number two—represented in the graphic as green—ranks second in terms of link establishment. Among all the categories, "leadership" links most (49) with other nodes.

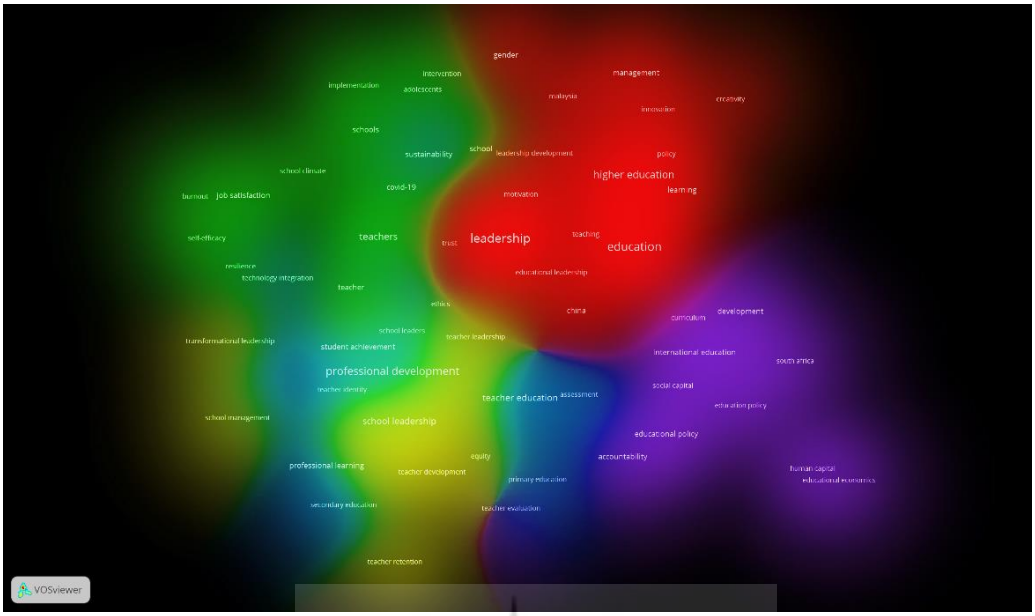

Fig 2. Domains related to clusters

In other research findings, the black background indicates the domains of all 5 clusters, which corresponds to the previous figure in terms of color and shows all eight clusters and their subsets in the form of domains.

Fig 3. Also, lighter colors indicate new, recently researched, and investigated areas, and darker colors indicate significant interest in previous years.

Table 2. Areas of interest in previous years

Word	Average	Examples[1]
Education Policy	2013	**(Damoah & Omodan, 2022; Ghosh, 2023; Gu, 2022; Thoma, 2023)**
Job Satisfaction	2015	**(Admiraal & Kittelsen Røberg, 2023; Marsh et al., 2023; Schulze-Hagenest et al., 2023; Sökmen & Sarikaya, 2022)**
Motivation	2013	**(Hornstra et al., 2023; Kai Fung & Kien Hoa Chung, 2023; Tsai et al., 2023; Verner-Filion et al., 2023)**
Development	2012	**(AGIRDAG & MUIJS, 2023; Eddy et al., 2023; Hasbi et al., 2023; Sapkota et al., 2023)**
Human Capital	2012	**(Deng & Lindeboom, 2022; Karalis Noel & Finocchio, 2022; Pastore & Jones, 2023; Trude et al., 2021)**

1. Some examples have been chosin after 2018.

In addition, the findings of the research based on Table 2 show that the areas that have received significant attention in the previous years were areas such as "education policy," "job satisfaction," "motivation," "development," and "human capital."

Table 3. New areas investigated

Word	Average	Examples
Covid-19	2022	**(Baumer-Mouradian et al., 2022; Da et al., 2023; Hutchison et al., 2023; Starling-Alves et al., 2023; Yang et al., 2023)**
Teacher Self-efficacy	2019	**(Alkış Küçükaydın et al., 2023; Da'as, 2023; Finch et al., 2023; Paetsch et al., 2023; M. Wang & Zhang, 2023)**
Technology Integrating	2018	**(Kaya-Kasikci et al., 2023; Mourlam et al., 2020; Ninković et al., 2023; Schmitz et al., 2023)**
Accountability	2019	**(Harris et al., 2023; Henry et al., 2022; Jailobaeva et al., 2023; Ordofa & Asgedom, 2022)**
Professional Learning Community	2020	**(Brown et al., 2021; de Jong et al., 2022; Vrikki et al., 2017; Woods et al., 2016)**

The findings in Table 3 indicate new areas that have been recently researched and investigated. For example, the topics of "Covid-19", "teacher self-efficacy," "technology integrating," accountability," and "professional learning community" are new in the field of School Administration.

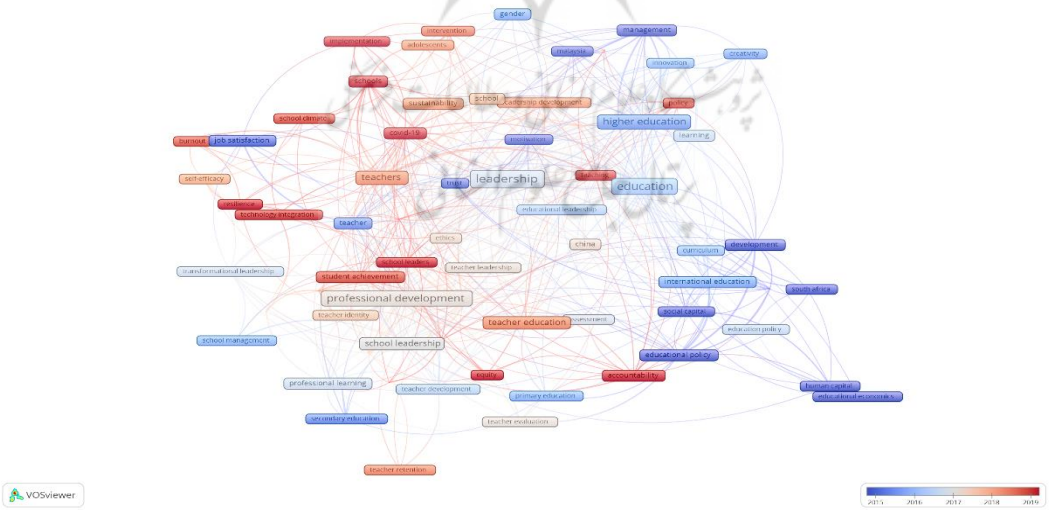

Fig 3. Co-occurrence of words in the field of School Administration (overly visualization)

As the findings of the research are shown in Figure 4 and the co-occurrence density of words in the field of School Administration, The blue (navy) colored regions show articles or subjects where no study has been done so far or where there is a research gap, and it is conceivable to perform research in the future, or where the density was likely low due to the small number of articles. Furthermore, the spacing between the words indicates their relationship, and the closer they are, the darker the area's color. The red hues show the articles and themes that need to be changed; they have the highest density and contain the most significant content in this sector.

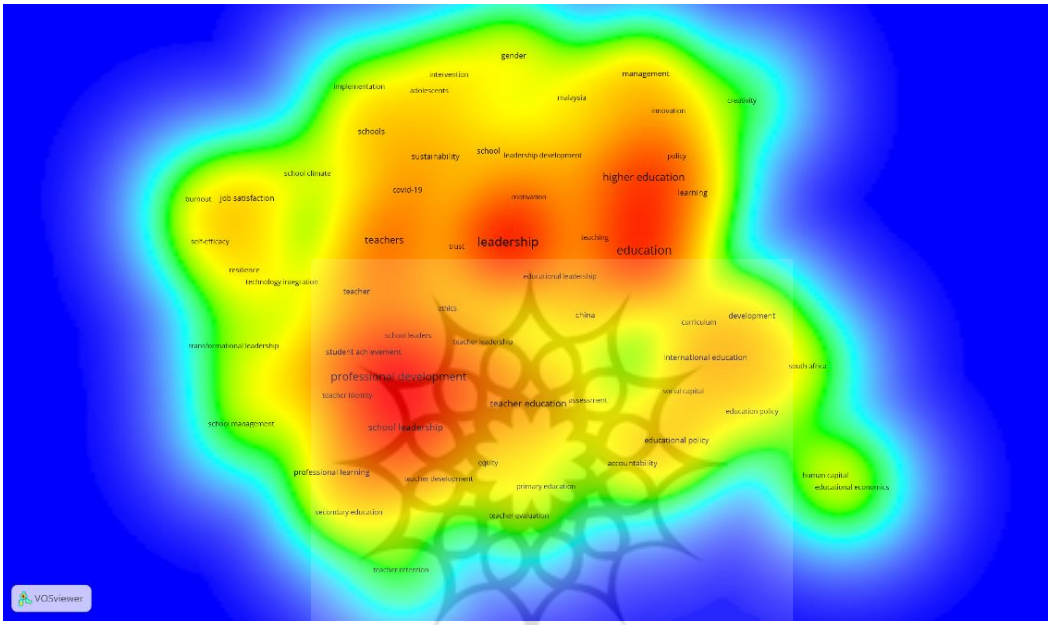

Fig 4. Hot articles in the field of School Administration (density visualization)

"Education," "higher education," "educational leadership," and "professional development" are among the most significant categories in academic writing, according to the map. These hotspots are designated as red dots on the map, and as researchers walk away from them, the number of articles reduces while they grow as they go closer. The map also illustrates dispersed regions that may represent new and separate topics of inquiry in current research, indicating a shift in focus. "Self-efficacy," "teacher development," "educational leadership," "motivation," "school leaders," "teacher retention," "education planning," "education management," "educational economics," "ethics," and "intervention" are among the most significant themes. These regions are interconnected with the entire system and may necessitate an adjustment of study focus.

Discussion and Conclusion

The current study's goal was to create a thematic map of published publications on the subject of School Administration and identify trend issues, and the analyses were based on scientific data. The findings of the first

part of the research revealed that the growth trend of scientific productions in the field of School Administration in the citation index of Science Direct using Excel software was initially low, but this trend began to rise in 2004 and in recent years the amount of attention It has dramatically increased; demonstrating researchers' interest in this field.

The findings of the second part show that the following journals hosted different ranges of School Administration articles: Procedia - Social and Behavioral Sciences, Teaching and Teacher Education, and International Journal of Educational Development, indicating that the authoritative journals of educational sciences hosted different ranges of School Administration articles. Research papers (2125) were the most popular than other sorts of study. Leadership, education, professional development, higher education, teachers, school leadership, teacher education, and school improvement were the most frequently used terms.

A study was conducted to analyze the connections between articles in a subject, resulting in 69 nodes, each represented as a circle. The wider the circle, the closer the collection is to other collections. The study found 484 linkages and 5 clusters in the research network. Cluster number one, marked with red, was the largest and best cluster, with 18 subject categories and 267 links. "Leadership" had the most links (49) with other nodes, resulting in a larger corresponding node. Cluster number two, with 13 members and 241 links, ranked second in establishing links. The research also found that the domains of all five clusters were represented by black backgrounds, indicating the domains of all eight clusters and their subsets.

School administration study has been divided into three categories: education policy, work satisfaction, motivation, development, and human capital. These locations have gotten much attention in past years. COVID-19, teacher self-efficacy, technological integration, accountability, and professional learning communities will be the focus in 2022. The study also emphasizes the significance of accountability in school administration. The conclusions of these studies contribute to a better knowledge of school management and its influence on student performance.

The findings cover various education aspects, including learning, school, teacher, policy, equity and inclusion, leadership, and well-being. It discusses instructional strategies, technology integration, formative assessment, and classroom teaching improvement. It also discusses school climate, effectiveness, management, principals and culture, teacher leadership, self-efficacy, development, evaluation, professional development, and quality. In addition, the influence of policies on educational systems, the importance of inclusive education, social justice, diversity, and equal opportunities for all students, the roles of educational leaders in driving positive change, the importance of mental health, resilience, burnout, teacher and student well-being can be attractive for researchers.

Significant changes are occurring in school management, including the use of technology, data-driven decision-making, individualized learning, collaboration and project-based learning, social-emotional learning (SEL), and involvement with the community and parents. Administrative

work, communication, and education are all improved by technology, and data-driven decision-making makes it easier to spot areas that still need work. Besides, Self-awareness and empathy are two of the qualities that are developed through SEL programs. Personalized learning strategies are being used to meet the requirements of specific students, and Active involvement is promoted through collaboration and project-based learning.

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