Leadership Journey in School: A Bibliometric Analysis of Instructional Leadership from 1941 to 2022

Paul Arjanto
Universitas Negeri Malang, Indonesia, https://orcid.org/0000-0002-8776-0437

Ibrahim Bafadal
Universitas Negeri Malang, Indonesia, https://orcid.org/0000-0002-9058-5713

Adi Atmoko
Universitas Negeri Malang, Indonesia, https://orcid.org/0000-0001-5026-0909

Asep Sunandar
Universitas Negeri Malang, Indonesia, https://orcid.org/0000-0003-3292-7655

Abstract: Leadership in educational settings, especially in schools, has a long history. Instructional leadership is a leadership style that is seen to increase school effectiveness. This study aims to map bibliographic data on instructional leadership over the past eight decades (1941-2022). The quantitative research approach to analyzing bibliographic information using bibliometric analysis was sourced from the Scopus database, which initially amounted to 951 documents, then became 717 documents after the screening process. Hallinger P. is the author with the most co-authorship networks, and the United States is the most co-authorship network on instructional leadership. The article "The Impact of Leadership on Student Outcomes: An Analysis of the Differential Effects of Leadership Types" by Robinson, V. M. J. (2008) is the article with the highest number of citations, and Hallinger P. is the author with the highest number of citations. The author's co-citation visualization of instructional leadership reveals 4 clusters: 1) measuring the instructional leadership, 2) school effectiveness and improvement, 3) the role of the school principal, and 4) leadership for school restructuring, performance, and achievement. The keyword network visualization for instructional leadership reveals 4 clusters: 1) the impact of instructional leadership on school climate, 2) the application of instructional leadership in school settings, 3) the relationship of instructional leadership with the concept of educational leadership in general, and school principals in particular, 4) instructional leadership efforts in developing professional and leadership teachers and teaching and learning processes that ultimately improve accountability. Future research about instructional leadership focuses more on teacher efficacy, school climate, principal preparation, and teacher professional learning.

Keywords: Instructional Leadership, Bibliometric Analysis, School Principal, School Effectiveness, School Climate

Citation: Arjanto, P., Bafadal, I., Atmoko, A., & Sunandar, A. (2023). Leadership Journey in School: A Bibliometric Analysis of Instructional Leadership from 1941 to 2022. In M. Koc, O. T. Ozturk & M. L. Ciddi (Eds.), *Proceedings of ICRES 2023-- International Conference on Research in Education and Science* (pp. 172-191), Cappadocia, Turkiye. ISTES Organization.

Introduction

Instructional leadership has a positive impact on schools. Effective instructional leadership can create an excellent school (Bafadal et al., 2021); by supporting that facilitates learning for all school community (Hallinger & Hosseingholizadeh, 2020); explaining the vision and mission of the school, guiding teachers in curriculum preparation, and creating a safe and comfortable environment for learning to influence the teaching and learning process in schools and classrooms to improve for all students (Hallinger et al., 2020). Research shows that instructional leadership can create effective learning and teaching activities to create excellent schools. The principal's practice as a learning leader has a significant effect on learning outcomes and student achievement (Jalapang & Raman, 2020), improving student learning outcomes (Robinson et al., 2008) and developing teacher professions and competencies to enhance the quality of learning in schools (Brauckmann et al., 2016; Bush, 2015). The principal works with the teacher and provides feedback on the teaching and learning process in the classroom (Stewart, 2006), in the way the principal exerts his influence on the learning process of students through the practice of teachers (Hallinger & Hosseingholizadeh, 2020). Learning and teaching activities are the main focus and elements that distinguish instructional leadership from other leadership models. Curriculum and teaching management, monitoring and evaluating teacher performance and student development, identifying learning and teaching difficulties, and developing corrective strategies that have an impact on improving learning are requirements of instructional leadership (Alanoglu, 2022); effective school management will create a healthy child or student and a conducive learning environment (Sunandar et al., 2022). Thus, the positive impact of learning leadership carried out by the principal affects teachers, students, and school community. The principal is a dreamer of learning in the school. Principals who take on the most important roles as learning leaders are considered effective principals in the 21st century (Hallinger, 2011). In addition, instructional leadership focuses on the principal's concentration on the teaching and learning process and avoiding time-consuming administrative or managerial tasks (Brewster & Klump, 2005); the principal encourages teachers to make decisions according to student achievement or develop students, not just administrative matters (Stronge et al., 2008). A systematic review reveals that instructional leadership has emerged as one of the most influential models to guide research, policy, and practice in school leadership (Hallinger et al., 2020).

The concept of instructional leadership came to the fore because scholars identified the factors that influence the creation of effective schools. Initially, this concept appeared in the United States based on the evidence that leadership can positively impact student learning outcomes (Bush, 2015) and improve the effectiveness and efficiency of learning in schools (Spears, 1941). Path-goal theory by House forms the basis of an instructional

leadership approach. It is based on the idea that the leader sets goals for subordinates, guides and supports them to achieve the goals already set (House, 1996). Instructional leadership is a form of directive leadership centered on educational activities and transforming schools (Hallinger & Murphy, 1985). It is a blend of expertise and charisma that builds a culture and is oriented toward the school's vision, mission and goals (Alanoglu, 2022). Instructional leadership is directed at the teaching and learning process that results in interaction between teachers and students to achieve curriculum goals (Sim, 2011) in the form of actions taken or delegated by the principal to promote a quality learning process in the school (Mestry et al., 2013). Instructional leadership is a behavior demonstrated by the principal, which directly or indirectly affects teaching and learning (Çalik et al., 2012); to improve teacher performance in curriculum delivery through the learning process (Chabalala & Naidoo, 2021). Therefore, instructional leadership is the principal's ability to lead the school by performing roles and actions that are very important to develop the curriculum, improve teacher competence, and create a positive learning climate for students.

There have been many publications about instructional leadership research conducted in various countries recently such as in di Azerbaijan (Sindhvad et al., 2022) factors influencing instructional leadership capacity; Israel (Shaked et al., 2021) sociocultural norms that make up the principal's instructional leadership; U.S. and Belgium (Urick et al., 2022) instructional leadership influence opportunity to learn; Turkey (Bellibaş et al., 2022) linking instructional leadership to teacher practices; Kuwait (Alsaleh, 2022) the influence of heads of departments' instructional leadership, cooperation, and administrative support on school-based professional learning; Maldives (Shafeeu, 2022) the Effect of Instructional Leadership on Student Achievement; Malaysian (Awang et al., 2022) influence of virtual instructional leadership on teachers' commitment, (Fred & Singh, 2021) instructional leadership practices in under-enrolled rural schools; China (Liu et al., 2022) instructional leadership related to teacher self-efficacy and student academic performance; Indonesia (Nurabadi et al., 2022) digital principal instructional leadership in new normal era (Puruwita et al., 2022) instructional leadership practices and teachers' job performance at high-performing vocational schools, (Anselmus Dami et al., 2022) principal self-efficacy for instructional leadership in the perspective of principal strengthening training; South Africa (Mestry & Govindasamy, 2021) perceptions of school management teams and teachers of the principal's instructional leadership role in managing curriculum changes, (Malinga et al., 2021) instructional leadership capacity of secondary school science heads of department; Sweden (Liljenberg, 2021) professional development practice to enhance principals' instructional leadership-enabling and constraining arrangements; and many more documents about instructional leadership since it was first published in 1941 until 2022 in international journals indexed by Scopus. However, no document examines instructional leadership using bibliometric analysis. This study aims to map bibliographic data on instructional leadership for the last eight decades (1941-2022).

Method

The authors use a quantitative research approach to analyze bibliographic data related to the literature collection on instructional leadership. The bibliometric analysis aims to explore clearly defined bodies of knowledge

(Kuzhabekova, 2021; Zupic & Čater, 2015), to highlight broad trends in knowledge production and dissemination (Hallinger & Kovačević, 2019), and to identify thematic research trends, and (co)citation analysis to locate the most highly cited researchers (McGinity et al., 2022). The bibliometric analysis leverages the capabilities of the VOSviewer software program to analyze a more significant number of documents when compared to previous review research (Hallinger & Kovačević, 2022). VOSviewer is a program we developed for constructing and viewing bibliometric maps (Van Eck & Waltman, 2010). Thus, bibliometric analysis with VOSviewer is considered appropriate for reviewing documents to reflect on the accumulated knowledge of instructional leadership after 80 years since it was first published.

Identification of documents

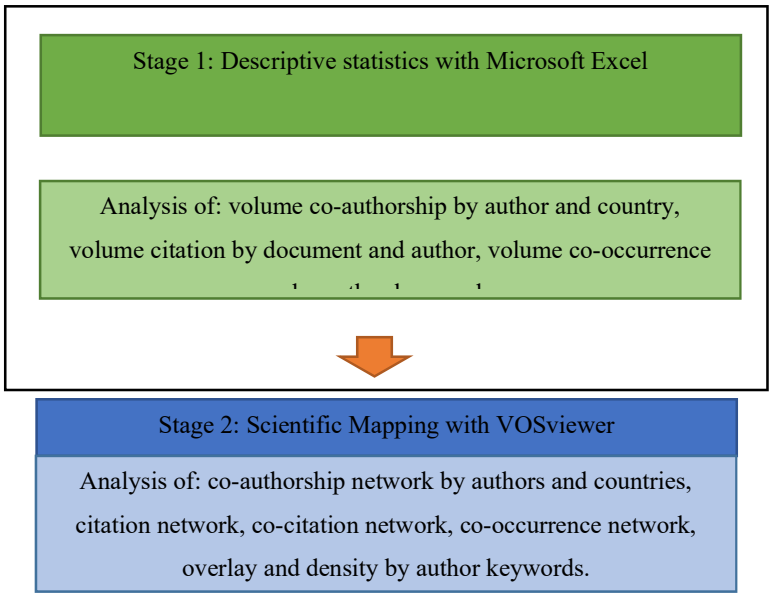
The Scopus index is used to identify published documents about instructional leadership. Authors use keywords TITLE-ABS-KEY ("instructional leadership"). The search yielded 951 published documents on instructional leadership from 1941 to 2022. The author uses the Scopus filter to limit only 'articles' to the document type, "final" to the publication stage, "journal" to the source type, "English" to the language to change the search keywords to TITLE-ABS-KEY ("instructional leadership") AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SRCTYPE , "j")). This led to the elimination of 231 documents. Thus, the final database consists of 720 articles. The bibliographic data is exported from Scopus to MS Excel in CSV format. The database consists of 720 rows corresponding to the document that has gone through the filter process and 54 columns of bibliographic data that describe the features of the document. Then, the author manually checks the database exported from Scopus so that it finds some unqualified documents. Four documents are unqualified because the author data and publication year are unclear, and three documents are unqualified because the document type, publisher, and ISSN are unclear, so 717 documents are obtained for bibliometric analysis.

Data analysis

The author performs two stages of analysis. The first research stage uses descriptive statistics to describe trends related to the volume of co-authorship by author and country, citation by document and author, co-occurrence by author keywords. Descriptive analysis is performed with Microsoft Excel. The second stage of analysis is using VOSviewer version 1.1.18 to displaying maps constructed using multidimensional scaling techniques (Van Eck & Waltman, 2010; Zupic & Čater, 2014). The bibliometric analysis includes co-authorship analysis, co-occurrence analysis, citation analysis, etc., which can be displayed in network visualization, overlay visualization and density visualization (Van Eck & Waltman, 2011).

Co-authorship network analysis is used to identify relationships between authors and between authors' countries. The applicability of co-authorship networks has been regarded for evaluation of research collaborations (HabibAgahi et al., 2022). Citation analysis is used to identify "high-impact" leadership documents. A high number of citations is generally construed as an indicator of 'scientific impact' based on the assertion that other

scholars' ideas in the cited documents have been read and used (Garfield, 2007). Co-citation analysis is used to identify the documents that most significantly influence articles on instructional leadership. When a couple of authors are frequently cited in the same list of references, there will likely be intellectual similarities in the content of their work (Small, 1973). Co-citation analysis is used to calculate the frequency of 'author pairs' cited in the reference list of instructional leadership articles which can ultimately identify the 'intellectual structure' of instructional leadership. The intellectual structure delves into authors, documents, or sources that significantly impact the academic field and help transmit knowledge (Khare & Jain, 2022). Finally, keyword analysis is used to highlight trends in publications. A keyword analysis is used to create a network map that visualizes the relationships between keywords which is then used to highlight the 'conceptual space' that appears in instructional leadership publications (Ding et al., 2001; Zupic & Čater, 2015).



Gambar 1. The bibliometric analysis process of the instructional leadership database

Results

Co-authorship Analysis

The author with the most collaborations with other authors on the topic of instructional leadership, namely: Hallinger P. collaborated with 43 authors, Goldring E. collaborated with 34 authors, Shaked H. collaborated with 16 authors, Bellibas M. S. collaborated with 15 authors, and Neumerski C. M. collaborated with 15 authors.

Based on Figure 1, it is clear that the co-authorship network by author consists of 4 clusters. The first cluster (C1) has the most co-authorship networks, consisting of 70 authors with Hallinger P. and Shaked H. as the

dominant writers. The second cluster (C2) has a co-authorship network of 40 authors with Goldring E. as the dominant author. The third cluster (C3) has a co-authorship network of 37 authors, but no dominant authors exist in this cluster. The fourth cluster (C4) has a co-authorship network of 35 authors with Bellibas M.S. as the dominant author. It can be seen that the dominant authors in each cluster are the top 5 co-authorships.

Table 1. Top 5 Co-authorship by author of instructional leadership, 1941–2022 (ranking by total link strength)

Author	Citations	Documents	Total Link Strength
Hallinger P.	23	1567	43
Goldring E.	10	366	34
Shaked H.	15	79	16
Bellibas M.S.	8	115	15
Neumerski C.M.	4	312	15

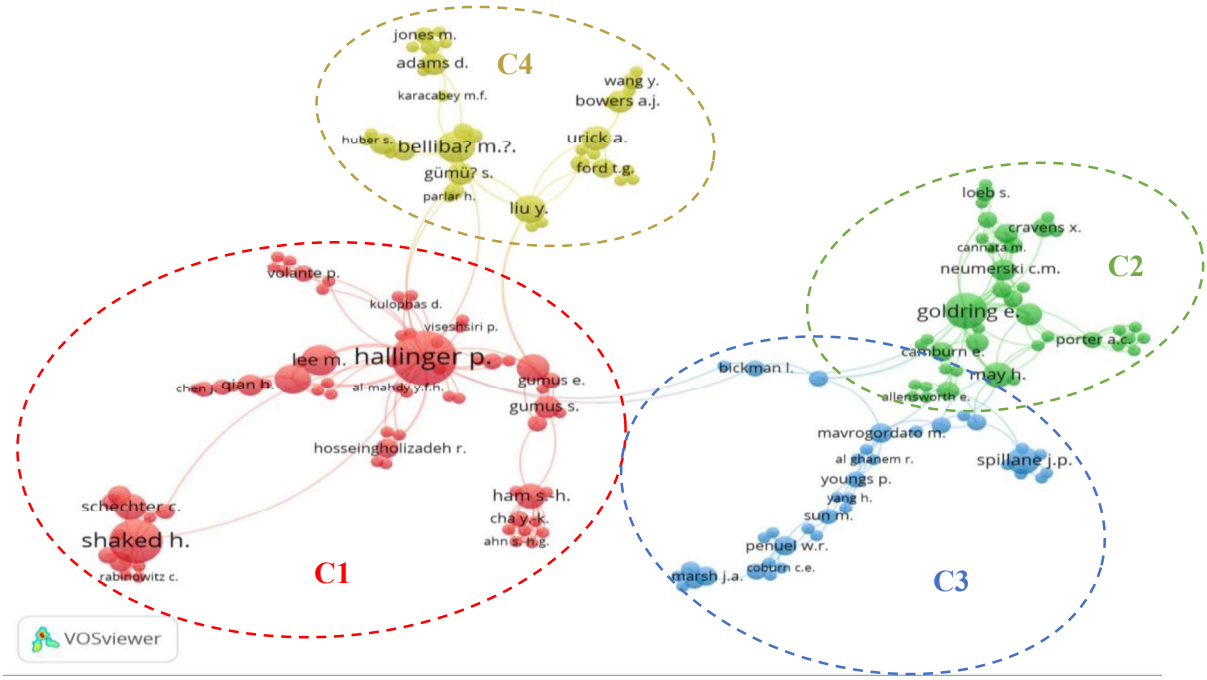


Figure 1. Network Visualization of Co-authorship by author of instructional leadership, 1941–2022

Table 2 shows the countries with the most collaborations with other countries on the topic of instructional leadership, namely: The United States collaborates with 44 countries, Thailand collaborates with 28 countries, South Africa collaborates with 26 countries, Hong Kong collaborates with 22 countries, and Malaysia collaborates with 19 countries.

Based on Figure 2, it is clear that the co-authorship network by country consists of 4 clusters. The first cluster (C1) has the most co-authorship networks, composed of 18 countries with South Africa as the dominant country.

The second cluster (C2) is a cluster with a co-authorship network of 12 countries but there is no dominant. The third cluster (C3) has a co-authorship network of 9 countries with the United Stated as the dominant country. The fourth cluster (C4) has a co-authorship network of 8 countries with Malaysia as the dominant country. It can be seen that the dominant country in each cluster is the top 5 co-authorship.

Table 2. Top 5 Co-authorship by country of instructional leadership, 1941–2022 (ranking by total link strength)

Country	Documents	Citations	Total Link Strength
United States	344	7245	44
Thailand	21	1022	28
South Africa	49	467	26
Hong Kong	28	565	22
Malaysia	42	211	19

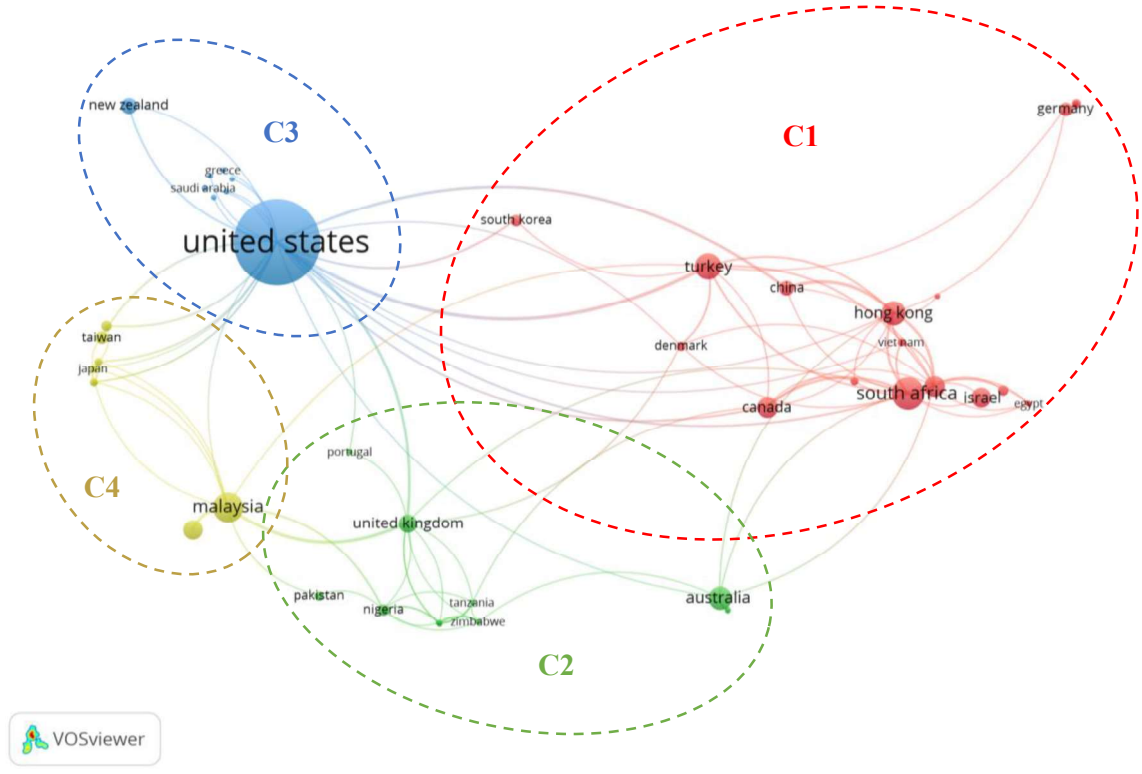


Figure 2. Network Visualization of Co-authorship by country of instructional leadership, 1941–2022

Citation Analysis

The document with the most citations on the topic of instructional leadership is "The Impact of Leadership on Student Outcomes: An Analysis of the Differential Effects of Leadership Types" with a total of 1,032 (Robinson et al., 2008), followed by "Leading Educational Change: reflections on the practice of instructional and

transformational leadership" with a total of 635 citations (Hallinger, 2003), "Leadership for School Restructuring" with 367 citations (Leithwood, 1994), "Teachers sense of efficacy and commitment to teaching" with 350 citations (Coladarci, 1992), and "The Impact of Leadership on Student Outcomes: How Successful School Leaders Use Transformational and Instructional Strategies to Make a Difference" with a total of 274 citations (Day et al., 2016).

Table 3. Top 5 Citation by document of instructional leadership, 1941–2022 (ranking by citations)

Document	Citations
Robinson V.M.J. (2008)	1032
Hallinger P. (2003)	635
Leithwood K. (1994)	367
Coladarci T. (1992)	350
Day C. (2016)	274

Table 4 shows the authors with the highest citations on instructional leadership. Hallinger P. is the author with the highest number of citations at 1,567, followed by Robinson V.M.J. with 1,199 citations, Spillane J.P. with 399 citations, Goldring E. with 366 citations, and Camburn E. with 355 citations. Robinson V.M.J is only four documents but has high citations.

Table 4. Top 5 Citation by author of instructional leadership, 1941–2022 (ranking by citations)

Author	Documents	Citations
Hallinger P.	23	1567
Robinson V.M.J.	4	1199
Spillane J.P.	6	399
Goldring E.	10	366
Camburn E.	3	355

Co-citation Analysis

The author's co-citation map for instructional leadership reveals 4 clusters, each comprised of scholars associated with a particular school of thought. Cluster 1 (C1) is about measuring instructional leadership. Scholars led by Spillane J.P., Louis K.S., and Goldring E. began to apply forms of capital and construction of instructional leadership, measuring school principals' instructional leadership competence and teacher evaluation systems. Cluster 2 (C2) is about school effectiveness and improvement. Scholars led by Hallinger P., Jantzi D., Walker A. dan Hoy W.K. began to apply leadership development for school effectiveness and improvement, program implementation, professional teacher learning, and leader development. Cluster 3 (C3) is about role of the school principal. Scholars led by Murphy J., Harris A., Bush T., Blasé J. and Day C. began to apply to assess and develop the instructional leadership of school principals, and barriers to implementing the

instructional leadership role. Cluster 4 (C4) is about leadership for school restructuring, performance and achievement. Scholars led by Leithwood K., Heck R.H., and Rowan B. began to apply leadership in schools responding to a variety of restructuring initiatives, principals' instructional leadership and school performance, principal instructional leadership and the identification of high-and low-achieving schools.

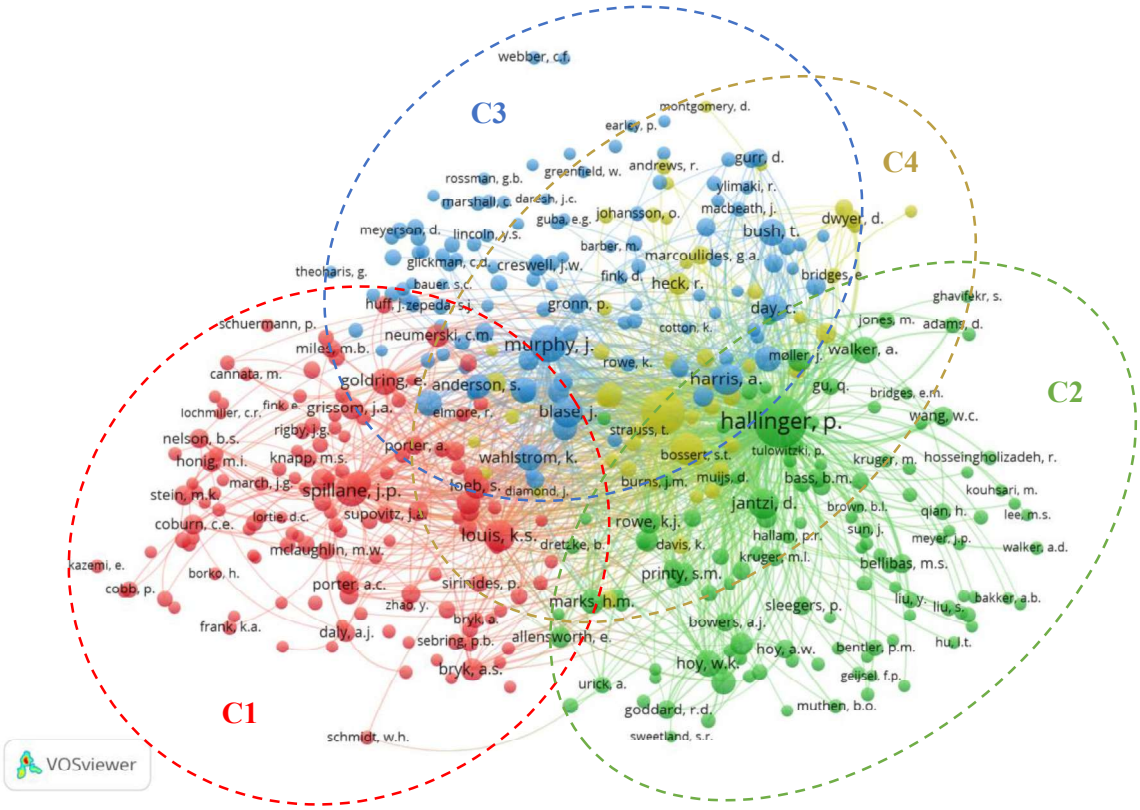


Figure 3. Author co-citation map of instructional leadership, 1941–2022 (threshold 20 citations, display 422 authors).

Co-occurrence Analysis

The most occurrence of keywords on the topic of instructional leadership, namely: leadership, principal, professional development, school leadership, transformational leadership, distributed leadership, school improvement, teacher leadership, management, educational leadership, principal preparation, student achievement accountability, teacher evaluation, and school climate. Other keywords only have occurrences below 11.

Keyword network visualization for instructional leadership reveals 4 clusters. Each cluster represents a subfield of scientific analysis. Cluster 1 (C1) consists of 19 keywords, such as school climate, teacher efficacy, self-efficacy, teacher professional learning, teacher collaboration, student achievement, student outcomes, etc.,

which is the impact of instructional leadership on school climate (Akhir et al., 2019; Dutta & Sahney, 2016; Jalapang & Raman, 2020), teacher (Ma & Marion, 2021; Qadach et al., 2020; Siriparp et al., 2022) and student (Goddard et al., 2021; Kazi, 2021; Rodrigues & Ávila de Lima, 2021). Cluster 2 (C2) consists of 18 keywords, such as school and district management, collaboration, school climate and culture, district-based administration, and administrators, etc. is the application of instructional leadership in a school setting (Kasprzhak et al., 2022; Lingam et al., 2021; Shaked, 2021), district management (Mestry, 2019; Mpundu et al., 2021; Sumintono et al., 2019) and school culture (Gümüş et al., 2022; Ismail et al., 2021; Liu et al., 2021). Cluster 3 (C3) consists of 17 keywords, such as leadership, educational leadership, principals, principal preparation, leadership preparation, and school principal, etc. is a relationship between instructional leadership and the concept of educational leadership in general (Wang, 2011), school Principal in particular (Aas & Paulsen, 2019; Goff et al., 2012). Cluster 4 (C4) consists of 16 keywords, such as professional development, accountability, teaching and learning, teacher professional development, teacher leadership, etc. are instructional leadership efforts in developing professional and leadership teachers and teaching and learning processes that ultimately increase accountability (Blasé & Blasé, 2000; Kim & Lee, 2020; Lee et al., 2012).

Table 5. Top 15 Co-occurrence by author keywords of instructional leadership, 1941–2022 (ranking by occurrences)

Keyword	Occurrences	Total Link Strength
Leadership	68	143
Principal	43	87
Professional Development	35	54
School Leadership	29	68
Transformational Leadership	28	63
Distributed Leadership	24	50
School Improvement	23	48
Teacher Leadership	23	72
Management	15	36
Educational Leadership	14	28
Principal Preparation	13	30
Student Achievement	13	31
Accountability	12	34
Teacher Evaluation	12	26
School Climate	11	44

The items are colored differently based on the year of publication. Based on Figure 5, shows that the topic of instructional leadership today (in 2020 and the future) is more focused on teacher efficacy (Siriparp et al., 2022; Sukarmin & Sin, 2021; Thien, Lim, et al., 2021), school climate (Dutta & Sahney, 2022; Jalapang & Raman, 2020), principal preparation (Vogel & Alhudithi, 2021), and professional teacher learning (Bellibaş et al., 2021;

Thien, Liu, et al., 2021).

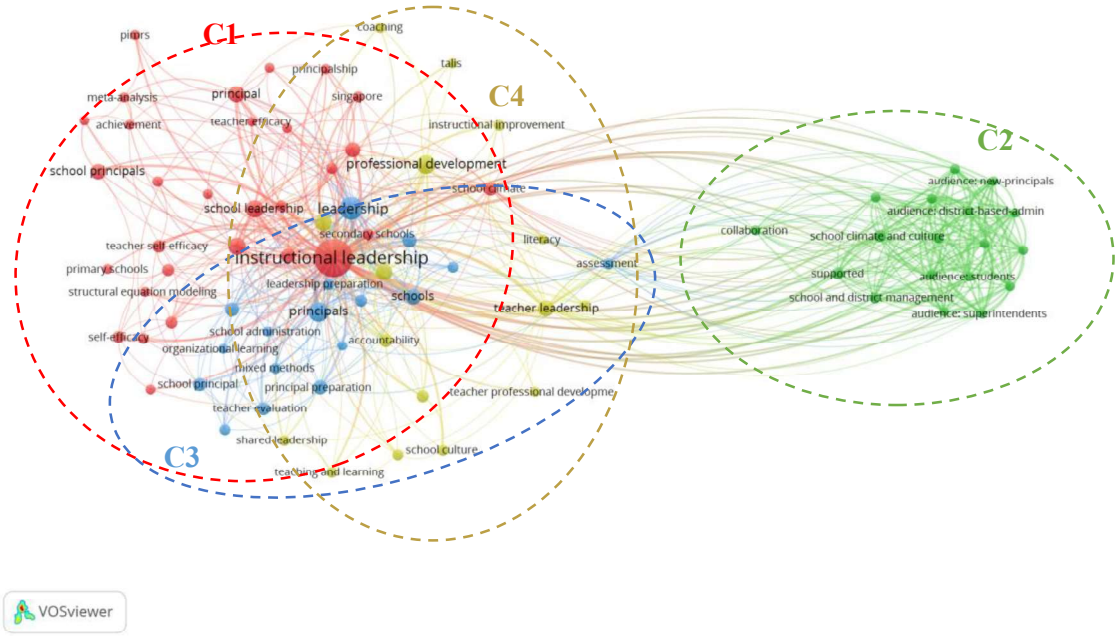


Figure 4. Keywords network visualization of instructional leadership (threshold 5 occurrences, display 81 keywords).

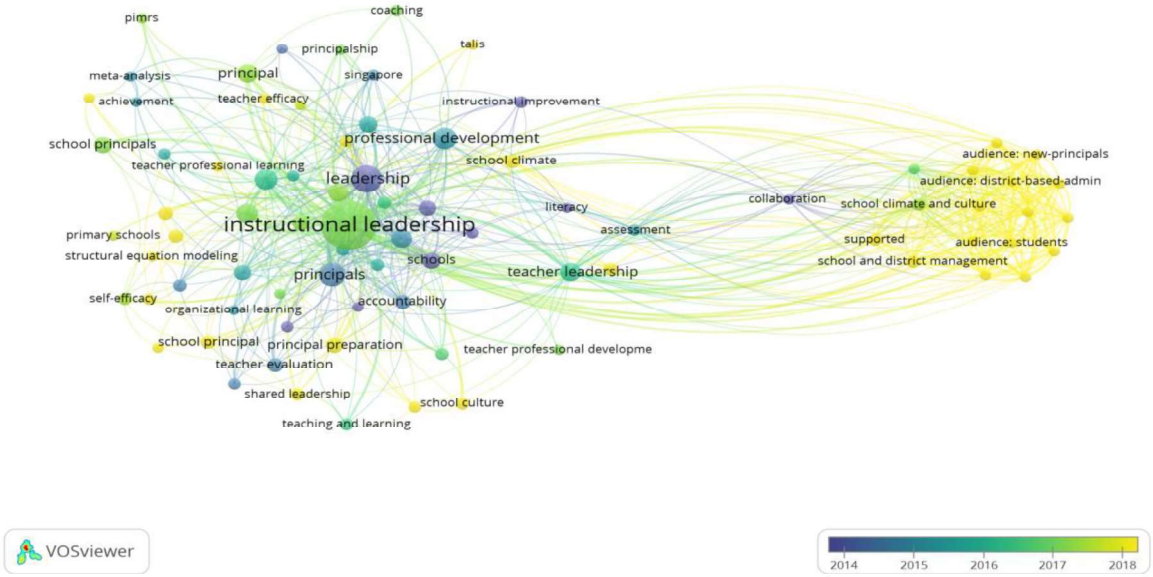


Figure 5. Keywords overlay visualization of instructional leadership (threshold 5 occurrences, display 81 keywords).

Figure 6 shows that the keyword instructional leadership is often found in various documents in the Scopus database. Instructional leadership is often associated with student achievement, leadership, and school

effectiveness.

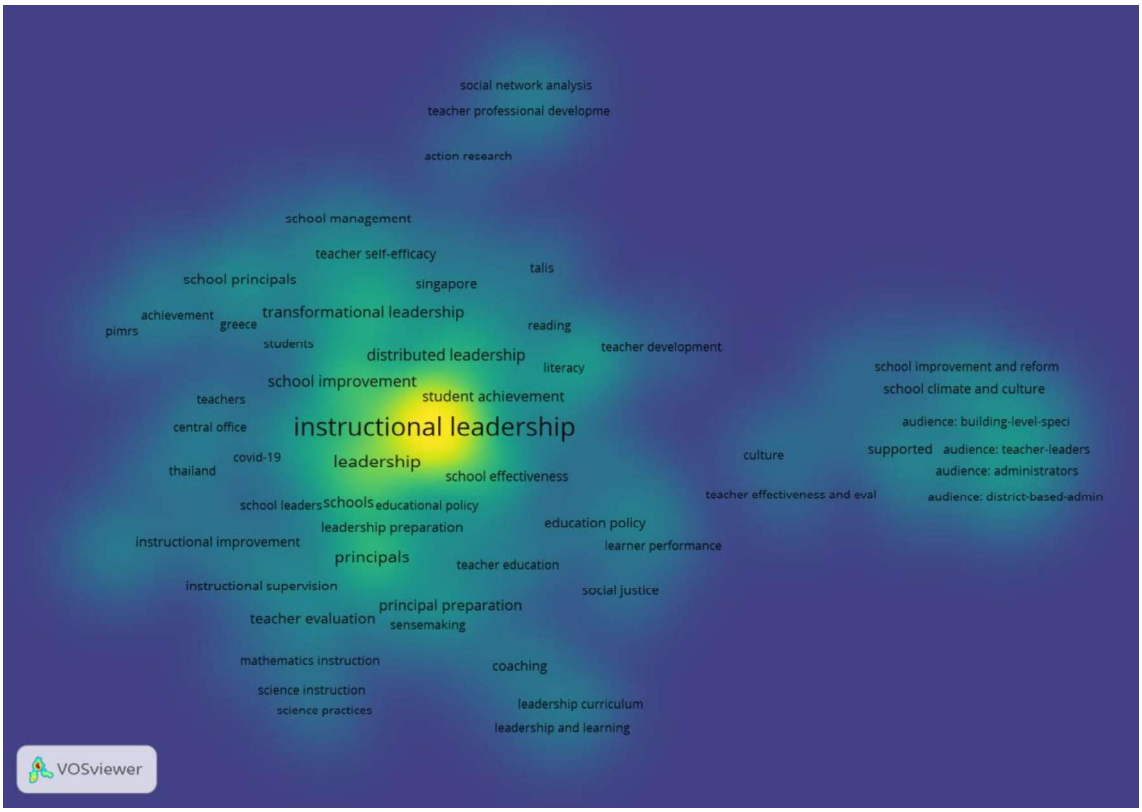


Figure 6. Keywords density visualization of instructional leadership (threshold five occurrences, display 81 keywords).

Discussion

Limitations

Earlier, we highlighted the methodological limitations of this review. Here we wish to add one additional limitation that concerns the generalizability of our findings to the field of instructional leadership. Our study examined a Scopus database of journal articles about instructional leadership. Moreover, co-authorship, citation, co-citation, and co-occurrence analysis enabled the identification of authors, countries, documents, and keywords beyond those contained in our dataset of instructional leadership journal articles. Thus, the results of this review should be interpreted as tentative benchmarks that can be reinterpreted through studies that use alternative methods and against new trends as they develop in the future.

Interpretation of the findings

The bibliometric analysis employed in this review offers a unique perspective on the long-term historical development of instructional leadership. We observed that there had been relationships between authors and

between countries on the topic of instructional leadership. The highest relations between authors amounted to 43 collaborations, and between countries amounted to 44 collaborations. Co-authorship is still an essential indicator of collaborative work and an appropriate means of studying patterns of cooperation (Santos & Santos, 2016). The development of citations from documents and authors on the topic of instructional leadership can be seen from the highest number of citations in documents 1,032 and authors 1,567 citations. To measure the influence of an author or paper, then citation is the most frequently used method since it can quickly identify existing scientific articles (Rashid, 1991; Zupic & Čater, 2015). The author's co-citation visualization of instructional leadership reveals 4 clusters: 1) measuring the instructional leadership, 2) school effectiveness and improvement, 3) the role of the school principal, and 4) leadership for school restructuring, performance and achievement. Co-citation has evolved as a complementary approach to analyzing scholarly impact (Zupic & Čater, 2015). Co-citation is the frequency with which two units (e. g. authors) are cited together in other documents (Small, 1999). Co-citation analysis assumes that when two authors are frequently 'cited together,' they share an intellectual affinity (Small, 1999; Zupic & Čater, 2015). The keyword network visualization for instructional leadership reveals 4 clusters: 1) the impact of instructional leadership on school climate, 2) the application of instructional leadership in school settings, 3) the relationship between instructional leadership and the concept of educational leadership in general, and school principals in particular, 4) instructional leadership efforts in developing teacher professional and leadership and the teaching and learning process which ultimately increases accountability. Co-occurrence analysis to analyze the structure and development of the scientific literature (Chen et al., 2016). The topic of instructional leadership today (in 2020 and the future) focuses more on teacher efficacy, school climate, principal preparation, and teacher professional learning. The overlay visualization is chosen as a more useful tool for verifying recent trends in the academic field as soon as it allows us to classify the items using a timescale (Shvindina, 2019). Instructional leadership is often associated with student achievement, leadership, and school effectiveness. Density visualization can be seen in the keywords that often appear (Hamidah et al., 2020).

Conclusion

Hallinger P. is the author with the most co-authorship networks, and United States is the country with the most co-authorship networks on instructional leadership. The article "The Impact of Leadership on Student Outcomes: An Analysis of the Differential Effects of Leadership Types" by Robinson, V. M. J. (2008) is the article with the highest number of citations. Still, Hallinger P. is the author with the highest number of citations. The author co-citation visualization of instructional leadership reveals 4 clusters: 1) measuring the instructional leadership, 2) school effectiveness and improvement, 3) role of school principal, and 4) leadership for school restructuring, performance and achievement. The keyword network visualization for instructional leadership reveals 4 clusters: 1) the impact of instructional leadership on school climate, 2) the application of instructional leadership in school settings, 3) the relationship of instructional leadership with the concept of educational leadership in general and school principals in particular, 4) instructional leadership efforts in developing teacher professional and leadership and the teaching and learning process which ultimately increases accountability

Recommendations

Future research about instructional leadership focuses more on teacher efficacy, school climate, principal preparation, and teacher professional learning.

Acknowledgements

The authors supported by the Education Financing Service Center (Pusat Layanan Pembiayaan Pendidikan - PUSLAPDIK) and the Education Fund Management Institute (Lembaga Pengelola Dana Pendidikan - LPDP) Republik Indonesia.

References

Aas, M., & Paulsen, J. M. (2019). National strategy for supporting school principal's instructional leadership: A Scandinavian approach. *Journal of Educational Administration*, *57*(5), 540–553. https://doi.org/10.1108/JEA-09-2018-0168

Akhir, J., Yufiarti, & Putrawan, I. M. (2019). Environmental integrity based on school climate, instructional leadership and personality. *Journal of Advanced Research in Dynamical and Control Systems*, *11*(9 Special Issue), 227–232. https://doi.org/10.5373/JARDCS/V11/20192560

Alanoglu, M. (2022). The role of instructional leadership in increasing teacher self-efficacy: a meta-analytic review. *Asia Pacific Education Review*, *23*(2), 233–244. https://doi.org/10.1007/s12564-021-09726-5

Alsaleh, A. A. (2022). The influence of heads of departments' instructional leadership, cooperation, and administrative support on school-based professional learning in Kuwait. *Educational Management Administration and Leadership*, *50*(5), 832–850. https://doi.org/10.1177/1741143220953597

Anselmus Dami, Z., Budi Wiyono, B., Imron, A., Burhanuddin, B., Supriyanto, A., & Daliman, M. (2022). Principal self-efficacy for instructional leadership in the perspective of principal strengthening training: work engagement, job satisfaction and motivation to leave. *Cogent Education*, *9*(1). https://doi.org/10.1080/2331186X.2022.2064407

Awang, H., Yusof, M. R., Yaakob, M. F. M., Jafar, M. F., Mustapha, R., & Subramaniam, K. (2022). The influence of virtual instructional leadership on teachers' commitment: A Malaysian e-leadership case study. *International Journal of Evaluation and Research in Education*, *11*(2), 673–680. https://doi.org/10.11591/ijere.v11i2.22669

Bafadal, I., Nurabadi, A., Gunawan, I., Juharyanto, J., Syafira Ariyanti, N., Adha, M. A., Hung, M.-L., Syah, A., & Burham, I. (2021). Moral-based learning leadership process in excellent school. *Proceedings of the International Conference on Information Technology and Education (ICITE 2021)*, *609*, 272–277. https://www.atlantis-press.com/proceedings/icite-21/125965587

Bellibaş, M. Ş., Kılınç, A. Ç., & Polatcan, M. (2021). The Moderation Role of Transformational Leadership in

the Effect of Instructional Leadership on Teacher Professional Learning and Instructional Practice: An Integrated Leadership Perspective. *Educational Administration Quarterly*, *57*(5), 776–814. https://doi.org/10.1177/0013161X211035079

Bellibaş, M. Ş., Polatcan, M., & Kılınç, A. Ç. (2022). Linking instructional leadership to teacher practices: The mediating effect of shared practice and agency in learning effectiveness. *Educational Management Administration and Leadership*, *50*(5), 812–831. https://doi.org/10.1177/1741143220945706

Blasé, J., & Blasé, J. (2000). Effective instructional leadership: Teachers' perspectives on how principals promote teaching and learning in schools. *Journal of Educational Administration*, *38*(2), 130–141. https://doi.org/10.1108/09578230010320082

Brauckmann, S., Feldhoff, T., & Pashiardis, P. (2016). Instructional leadership in Germany: An evolutionary perspective. *International Studies in Educational Administration,* *44*(2), 5–20. https://doi.org/10.1016/b978-0-08-037268-6.50001-7

Brewster, C., & Klump, J. (2005). Leadership Practices of Successful Principals. *Northwest Regional Educational Laboratory (NWREL)*, *April*, 1–57. http://www.eric.ed.gov/ERICWebPortal/recordDetail?accno=ED489164

Bush, T. (2015). Understanding instructional leadership. *Educational Management Administration & Leadership*, *43*(4), 487–489. https://doi.org/10.1177/1741143215577035

Çalik, T., Sezgin, F., Kavgaci, H., & Kilinç, A. Ç. (2012). Examination of relationships between instructional leadership of school principals and self-efficacy of teachers and collective teacher efficacy. *Kuram ve Uygulamada Egitim Bilimleri*, *12*(4), 2498–2504.

Chabalala, G., & Naidoo, P. (2021). Teachers' and middle managers' experiences of principals' instructional leadership towards improving curriculum delivery in schools. *South African Journal of Childhood Education*, *11*(1), 1–10. https://doi.org/10.4102/sajce.v11i1.910

Chen, X., Chen, J., Wu, D., Xie, Y., & Li, J. (2016). Mapping the research trends by co-word analysis based on keywords from funded project. *Procedia - Procedia Computer Science*, *91*(Itqm), 547–555. https://doi.org/10.1016/j.procs.2016.07.140

Coladarci, T. (1992). Teachers" sense of efficacy and commitment to teaching. *Journal of Experimental Education*, *60*(4), 323–337. https://doi.org/10.1080/00220973.1992.9943869

Day, C., Gu, Q., & Sammons, P. (2016). The Impact of Leadership on Student Outcomes: How Successful School Leaders Use Transformational and Instructional Strategies to Make a Difference. *Educational Administration Quarterly*, *52*(2), 221–258. https://doi.org/10.1177/0013161X15616863

Ding, Y., Chowdhury, G. G., & Foo, S. (2001). Bibliometric cartography of information retrieval research by using co-word analysis. *Information Processing & Management*, *37*(6), 817–842. https://doi.org/https://doi.org/10.1016/S0306-4573(00)00051-0

Dutta, V., & Sahney, S. (2016). School leadership and its impact on student achievement: The mediating role of school climate and teacher job satisfaction. *International Journal of Educational Management*, *30*(6), 941–958. https://doi.org/10.1108/IJEM-12-2014-0170

Dutta, V., & Sahney, S. (2022). Relation of principal instructional leadership, school climate, teacher job performance and student achievement. *Journal of Educational Administration*, *60*(2), 148–166.

https://doi.org/10.1108/JEA-01-2021-0010

Fred, A., & Singh, G. S. B. (2021). Instructional Leadership Practices in Under-Enrolled Rural Schools in Miri, Sarawak. *Asian Journal of University Education*, *17*(1), 165–176. https://doi.org/10.24191/ajue.v17i1.12694

Garfield, E. (2007). The evolution of the science citation index. *International Microbiology*, *10*(1), 65–69. https://doi.org/10.2436/20.1501.01.10

Goddard, R. D., Bailes, L. P., & Kim, M. (2021). Principal Efficacy Beliefs for Instructional Leadership and their Relation to Teachers' Sense of Collective Efficacy and Student Achievement. *Leadership and Policy in Schools*, *20*(3), 472–493. https://doi.org/10.1080/15700763.2019.1696369

Goff, P. T., Mavrogordato, M., & Goldring, E. (2012). Instructional Leadership in Charter Schools: Is There an Organizational Effect or Are Leadership Practices the Result of Faculty Characteristics and Preferences? *Leadership and Policy in Schools*, *11*(1), 1–25. https://doi.org/10.1080/15700763.2011.611923

Gümüş, S., Bellibaş, M. Ş., & Pietsch, M. (2022). School leadership and achievement gaps based on socioeconomic status: a search for socially just instructional leadership. *Journal of Educational Administration*, *60*(4), 419–438. https://doi.org/10.1108/JEA-11-2021-0213

HabibAgahi, M. R., Kermani, M. A. M. A., & Maghsoudi, M. (2022). On the Co-authorship network analysis in the Process Mining research Community: A social network analysis perspective. *Expert Systems with Applications*, *206*(November 2020), 117853. https://doi.org/10.1016/j.eswa.2022.117853

Hallinger, P. (2003). Leading educational change: Reflections on the practice of instructional and transformational leadership. *Cambridge Journal of Education*, *33*(3), 329–351. https://doi.org/10.1080/0305764032000122005

Hallinger, P. (2011). A review of three decades of doctoral studies using the principal instructional management rating scale: A lens on methodological progress in educational leadership. *Educational Administration Quarterly*, *47*(2), 271–306. https://doi.org/10.1177/0013161X10383412

Hallinger, P., Gümüş, S., & Bellibaş, M. Ş. (2020). "Are principals instructional leaders yet?" A science map of the knowledge base on instructional leadership, 1940–2018. *Scientometrics*, *122*(3), 1629–1650. https://doi.org/10.1007/s11192-020-03360-5

Hallinger, P., & Hosseingholizadeh, R. (2020). Exploring instructional leadership in Iran: A mixed methods study of high- and low-performing principals. *Educational Management Administration and Leadership*, *48*(4), 595–616. https://doi.org/10.1177/1741143219836684

Hallinger, P., & Kovačević, J. (2019). A Bibliometric Review of Research on Educational Administration: Science Mapping the Literature, 1960 to 2018. *Review of Educational Research*, *89*(3), 335–369. https://doi.org/10.3102/0034654319830380

Hallinger, P., & Kovačević, J. (2022). Mapping the intellectual lineage of educational management, administration and leadership, 1972–2020. *Educational Management Administration and Leadership*, *50*(2), 192–216. https://doi.org/10.1177/17411432211006093

Hallinger, P., & Murphy, J. (1985). Assessing the Instructional Management Behavior of Principals. *The Elementary School Journal*, *86*(2), 217–247. https://doi.org/10.1086/461445

Hallinger, P., & Wang, W.-C. (2015). *Assessing Instructional Leadership with the Principal Instructional*

Management Rating Scale. Springer Cham.

Hamidah, I., Indonesia, U. P., Sriyono, S., & Indonesia, U. P. (2020). *Indonesian Journal of Science & Technology A Bibliometric Analysis of Covid-19 Research using VOSviewer*. *September*. https://doi.org/10.17509/ijost.v5i2.24522

House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *The Leadership Quarterly*, *7*(3), 323–352. https://doi.org/https://doi.org/10.1016/S1048-9843(96)90024-7

Ismail, M., Khatibi, A. A., & Ferdous Azam, S. M. (2021). The mediating effect of school culture in the relationship between deputy principal's instructional leadership and school effectiveness in government schools in maldives. *Malaysian Online Journal of Educational Management*, *9*(1), 21–37. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85099420374&partnerID=40&md5=15272233c1b380561e356e3d69a51230

Jalapang, I., & Raman, A. (2020). Effect of instructional leadership, principal efficacy, teacher efficacy and school climate on students' academic achievements. *Academic Journal of Interdisciplinary Studies*, *9*(3), 82–92. https://doi.org/10.36941/ajis-2020-0043

Kasprzhak, A., Kobtseva, A., & Tsatrian, M. (2022). Instructional Leadership Models in Modern Schools. *Education and Self Development*, *99*(2). https://doi.org/10.26907/esd.17.2.02

Kazi, M. (2021). Instructional leadership: teaching evaluation as a key element for 6th grade student's achievement in mathematics. *International Journal of Educational Management*, *35*(6), 1191–1204. https://doi.org/10.1108/IJEM-03-2021-0091

Khare, A., & Jain, R. (2022). Mapping the conceptual and intellectual structure of the consumer vulnerability field: A bibliometric analysis. *Journal of Business Research*, *150*(June 2021), 567–584. https://doi.org/10.1016/j.jbusres.2022.06.039

Kim, T., & Lee, Y. (2020). Principal instructional leadership for teacher participation in professional development: evidence from Japan, Singapore, and South Korea. *Asia Pacific Education Review*, *21*(2), 261–278. https://doi.org/10.1007/s12564-019-09616-x

Kuzhabekova, A. (2021). A postcolonial feminist exploration of the scholarship on women and educational leadership with a bibliometric approach. *Educational Management Administration and Leadership*. https://doi.org/10.1177/17411432211003885

Lee, M., Walker, A., & Chui, Y. L. (2012). Contrasting effects of instructional leadership practices on student learning in a high accountability context. *Journal of Educational Administration*, *50*(5), 586–611. https://doi.org/10.1108/09578231211249835

Leithwood, K. (1994). Leadership for School Restructuring. *Educational Administration Quarterly*, *30*(4), 498–518. https://doi.org/10.1177/0013161X94030004006

Liljenberg, M. (2021). A professional development practice to enhance principals' instructional leadership – enabling and constraining arrangements. *Journal of Professional Capital and Community*, *6*(4), 354–366. https://doi.org/10.1108/JPCC-12-2020-0102

Lingam, G. I., Lingam, N., & Singh, S. K. (2021). Instructional Leadership Practices: Teachers' Perceptions of a Rural School Principal in Fiji. *Australian Journal of Teacher Education*, *46*(6), 20–35. https://doi.org/10.14221/ajte.2021v46n6.2

Liu, Y., Bellibaş, M. Ş., & Gümüş, S. (2021). The Effect of Instructional Leadership and Distributed Leadership on Teacher Self-efficacy and Job Satisfaction: Mediating Roles of Supportive School Culture and Teacher Collaboration. *Educational Management Administration and Leadership*, *49*(3), 430–453. https://doi.org/10.1177/1741143220910438

Liu, Y., Li, L., & Huang, C. (2022). To what extent is shared instructional leadership related to teacher self-efficacy and student academic performance in China? *School Effectiveness and School Improvement*, *33*(3), 381–402. https://doi.org/10.1080/09243453.2022.2029746

Ma, X., & Marion, R. (2021). Exploring how instructional leadership affects teacher efficacy: A multilevel analysis. *Educational Management Administration and Leadership*, *49*(1), 188–207. https://doi.org/10.1177/1741143219888742

Malinga, C. B., Jita, L. C., & Bada, A. A. (2021). Instructional Leadership Capacity of Secondary School Science Heads of Department in Gauteng, South Africa. *International Journal of Learning, Teaching and Educational Research*, *20*(12), 267–293. https://doi.org/10.26803/ijlter.20.12.16

McGinity, R., Heffernan, A., & Courtney, S. J. (2022). Mapping trends in educational-leadership research: A longitudinal examination of knowledge production, approaches and locations. *Educational Management Administration and Leadership*, *50*(2), 217–232. https://doi.org/10.1177/17411432211030758

Mestry, R. (2019). School Management Teams' Instructional Leadership Role in Closing the Achievement Gap in Impoverished Schools. *Africa Education Review*, *16*(6), 94–110. https://doi.org/10.1080/18146627.2018.1464696

Mestry, R., & Govindasamy, V. (2021). The Perceptions of School Management Teams and Teachers of the Principal's Instructional Leadership Role in Managing Curriculum Changes. *Interchange*, *52*(4), 545–560. https://doi.org/10.1007/s10780-021-09425-5

Mestry, R., Moonsammy-Koopasammy, I., & Schmidt, M. (2013). The instructional leadership role of primary school principals. *Education as Change*, *17*(sup1), S49–S64. https://doi.org/10.1080/16823206.2014.865990

Mpundu, M., Diko, N., & Molale, I. S. (2021). An analysis of teaching and learning in grades 10 12: The role of instructional leadership in a district of the north west province, South Africa. *International Journal of Interdisciplinary Educational Studies*, *16*(1), 95–105. https://doi.org/10.18848/2327-011X/CGP/V16I01/95-105

Nurabadi, A., Suhariadi, F., Mardiyanta, A., Triwiyanto, T., & Adha, M. A. (2022). Digital principal instructional leadership in new normal era. *International Journal of Evaluation and Research in Education*, *11*(3), 1090–1098. https://doi.org/10.11591/ijere.v11i3.22483

Puruwita, D., Jamian, L. S., & Aziz, N. A. (2022). Instructional Leadership Practices and Teachers' Job Performance at High-Performing Vocational Schools in Indonesia: A Conceptual Framework. *Asian Journal of University Education*, *18*(3), 585–596. https://doi.org/10.24191/ajue.v18i3.18946

Qadach, M., Schechter, C., Da'as, R., Ma, X., Marion, R., Siriparp, T., Buasuwan, P., & Nanthachai, S. (2020). Instructional leadership and teachers' intent to leave: The mediating role of collective teacher efficacy and shared vision. *Educational Management Administration and Leadership*, *48*(4), 617–634. https://doi.org/10.34044/j.kjss.2022.43.2.12

Rashid, H. F. (1991). Bibliometric analysis as a tool in journal evaluation. *Serials Librarian*, *20*(2–3), 55–64. https://doi.org/10.1300/J123v20n02_05

Robinson, V. M. J., Lloyd, C. A., & Rowe, K. J. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly*, *44*(5), 635–674. https://doi.org/10.1177/0013161X08321509

Rodrigues, H. P. C., & Ávila de Lima, J. (2021). Instructional leadership and student achievement: school leaders' perspectives. *International Journal of Leadership in Education*. https://doi.org/10.1080/13603124.2020.1869312

Santos, M., & Santos, J. (2016). *Co-authorship networks: Collaborative research structures at the journal level*. *12*, 5–13.

Shafeeu, I. (2022). Instructional leadership: does it make a difference? Evidence from the Maldives. *International Journal of Leadership in Education*, *25*(3), 467–489. https://doi.org/10.1080/13603124.2019.1690697

Shaked, H. (2021). Between center and periphery: instructional leadership in Israeli rural schools. *International Journal of Educational Management*, *35*(7), 1361–1374. https://doi.org/10.1108/IJEM-04-2021-0147

Shaked, H., Benoliel, P., & Hallinger, P. (2021). How National Context Indirectly Influences Instructional Leadership Implementation: The Case of Israel. *Educational Administration Quarterly*, *57*(3), 437–469. https://doi.org/10.1177/0013161X20944217

Shvindina, H. (2019). *Coopetition as an Emerging Trend in Research : Perspectives for Safety & Security*. *April*. https://doi.org/10.3390/safety5030061

Sim, Q. C. (2011). Instructional Leadership Among Principals of Secondary Schools in Malaysia. *Educational Research (ISSN: 2141-5161)*, *Vol. 2*(12), 1784–1800. http://www.interesjournals.org/ER

Sindhvad, S., Mikayilova, U., & Kazimzade, E. (2022). Factors influencing instructional leadership capacity in Baku, Azerbaijan. *Educational Management Administration and Leadership*, *50*(1), 81–98. https://doi.org/10.1177/1741143220938364

Siriparp, T., Buasuwan, P., & Nanthachai, S. (2022). The effects of principal instructional leadership, collective teacher efficacy and teacher role on teacher self-efficacy: A moderated mediation examination. *Kasetsart Journal of Social Sciences*, *43*(2), 353–360. https://doi.org/10.34044/j.kjss.2022.43.2.12

Small, H. (1973). Co-citation in the scientific literature: A new measure of the relationship between two documents. *Journal of the American Society for Information Science*, *24*(4), 265–269. https://doi.org/https://doi.org/10.1002/asi.4630240406

Small, H. (1999). Visualizing Science by Citation Mapping. *JASIS*, *50*, 799–813. https://doi.org/10.1002/(SICI)1097-4571(1999)50:93.3.CO;2-7

Spears, H. (1941). Can the line-and-staff principle unify instructional leadership? *NASSP Bulletin*, *25*(98), 25–31. https://doi.org/10.1177/019263654102509802

Stewart, J. (2006). Instructional and Transformational Leadership: Burns, Bass and Leithwoood. *Journal of Educational Administration*, 1–29.

Stronge, J. h, Richard, H. B., & Catano, N. (2008). Effective PrincipalsQualities of effective principals. *Association for Supervision and Curriculum Development*.

Sukarmin, & Sin, I. (2021). School health as the mediator variable: Determinants of the principal instructional leadership behavior. *European Journal of Educational Research*, *10*(3), 1275–1286. https://doi.org/10.12973/EU-JER.10.3.1275

Sumintono, B., Hariri, H., Nugroho, P. J., Izzati, U. A., & Sriyanto, J. (2019). The role of districts in supporting school leaders' instructional leadership: a view and experience from a developing country. *Journal of Educational Administration*, *57*(5), 591–600. https://doi.org/10.1108/JEA-09-2019-227

Sunandar, A., Efendi, M., Ediyanto, E., Thahar, M. M., Ulfah, N. H., Adha, M. A., Lailiyah, N., & Firdiana, A. D. (2022). HEALTHY SCHOOL MANAGEMENT MODEL OF CHILD- FRIENDLY SCHOOLS: CHILDREN NUTRITION STATUS AND LEARNING ATMOSPHERE. *MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)*, *10*(2), 73–89.

Thien, L. M., Lim, S. Y., & Adams, D. (2021). The evolving dynamics between instructional leadership, collective teacher efficacy, and dimensions of teacher commitment: what can Chinese independent high schools tell us? *International Journal of Leadership in Education*. https://doi.org/10.1080/13603124.2021.1913236

Thien, L. M., Liu, S., Yee, L. Q., & Donnie, A. (2021). Investigating a multiple mediated-effects model of instructional leadership and teacher professional learning in the Malaysian School Context: A partial least squares analysis. *Educational Management Administration and Leadership*. https://doi.org/10.1177/17411432211009892

Urick, A. M., Ford, T. G., Page Wilson, A. S., & Consuegra, E. (2022). How does instructional leadership influence opportunity to learn in mathematics? A comparative study of pathways for grade 4 students in the U.S. and Belgium. *Research in Comparative and International Education*, *17*(3), 372–398. https://doi.org/10.1177/17454999221086360

Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3

Van Eck, N. J. Van, & Waltman, L. (2011). Text mining and visualization using VOSviewer. *ISSI Newsletter*, *7*(3), 50–54. https://doi.org/10.1201/b19007

Vogel, L. R., & Alhudithi, A. (2021). Arab women as instructional leaders of schools: Saudi and Qatari female principals' preparation for and definition of instructional leadership. *International Journal of Leadership in Education*. https://doi.org/10.1080/13603124.2020.1869310

Wang, V. C. X. (2011). Traditional educational leadership: Instructional leadership revolving around Ralph Tyler's four fundamental questions. In *Encyclopedia of E-Leadership, Counseling and Training* (Vol. 2, pp. 557–568). IGI Global. https://doi.org/10.4018/978-1-61350-068-2.ch041

Zupic, I., & Čater, T. (2014). Bibliometric Methods in Management and Organization. *Organizational Research Methods*, *18*(3), 429–472. https://doi.org/10.1177/1094428114562629

Zupic, I., & Čater, T. (2015). Bibliometric Methods in Management and Organization. *Organizational Research Methods*, *18*(3), 429–472. https://doi.org/10.1177/1094428114562629