

## Retrospective and Prospective Analysis on Educational Leadership: Indicators of Productivity, Dispersion, and Content

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Abstract	Article Info
<p><i>This article analyzes the production, performance, impact, and content of scientific documents contained in an internationally recognized database, the Web of Science, that consider educational leadership (EL) thesaurus (title, abstract and/or keywords). To this end, a scientometric study was performed on a sample of 2,181 research documents that met the established inclusion criteria. A co-word analysis was also performed using Hirsch's index (2005), as well as several bibliometric indicators, impact factors, and citation indices (h, g, hg, and q2). The main findings indicate that production on the topic of EL dates back to 1924, although it did not reach a significant level until 2004. Several important points related to the production profile on EL are highlighted: language, area of knowledge and institutions, and authors specializing in the subject. There are several lines of study open in the established periods, and the subjects that should be taken into account in the future are "critical-race-theory," "identity," and "distributed-leadership." The implications and limitations of the study are discussed and ways for education leaders to address new education policies and their practical implications are provided.</i></p>	<p><b>Article History:</b>  <i>Received</i>                      June 16, 2021  <b>Accepted:</b>                      June 7, 2022</p> <hr/> <p><b>Keywords:</b>  <i>Educational leadership, web of science, scientometric study, production, PRISMA protocol</i></p>

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**Cite as:**

García-Carmona, M., Moreno, A. & Rodríguez, A. (2022). Retrospective and prospective analysis on educational leadership: Indicators of productivity, dispersion, and content. *Research in Educational Administration & Leadership*, 7(2), 320-356. DOI: 10.30828/real/950445

### **Introduction**

There are currently many theories and definitions of the term “leadership”, due to the variety of fields in which the concept is applied. Consequently, there is a need to investigate and define the limits and areas of the concept and, more specifically, of educational leadership (EL). Lorenzo Delgado (2004) states that leadership is not understood as an individual or environmental attribute, a definition more appropriate for a director or manager, but that EL is conceptualized as a “function, a quality, and a property that resides in the group and that energizes the organization [...] to generate its own growth in terms of a shared mission or project” (p. 195-196). Novak’s (2002) vision is of particular interest in that the author talks about leadership being about people, and EL being about care and ethics in relationships between people, institutions, and society in general.

Several studies argue that the practice of EL is one of the principal factors behind academic achievement and quality of education (Álvarez, 2010; García-Carmona, 2014; O, 2013; Shen et al., 2020). EL is also considered a major influencing factor in school improvement (Leithwood, Aitken, & Jantzi, 2006; Sigurðardóttir, & Sigþórsson, 2016), cultivating a supportive culture, and facilitating teacher learning (Keung et al., 2020). There are several types of EL including distributed leadership (Spillane, 2005), learning leadership, sustainable leadership, and teacher leadership (Harris, 2003). As a

result, EL has been reviewed by numerous authors from multiple perspectives (Arias & Cantón, 2006; Beycioglu & Pashiardis, 2014) such as gender (Antonakis et al., 2003; Cáceres et al., 2012; Cuevas et al., 2014; García-Carmona, Fernández-de-Álava, & Quesada-Pallarés, 2017), student academic achievement (Heck & Hallinger 2010; Marks & Printy 2003; Robinson, Lloyd, & Rowe, 2008; Witziers, Bosker, & Kruger, 2003), parent participation at school (García-Carmona, Evangelou, & Fuentes-Mayorga, 2020), social justice (Theorhis, 2007; Miller, Roofe, & García-Carmona, 2019), and school climate (Hallinger & Heck, 2010; Martín et al., 2014; Morris et al., 2020). However, there are few studies aimed at helping us to understand the evolution of EL publications at a multiple country level from when it first appeared in the field of education.

The literature shows that the historical development of EL has been deeply influenced by scholarship from the United States (USA), the United Kingdom (UK), Canada, and Australia (Hallinger, 2019; Hallinger & Kovačević, 2019; Kovačević & Hallinger, 2019; Oplatka, 2010). In turn, the literature has been influenced by the leadership school environment of its time, which has changed and become increasingly challenging and complex (Arikewuyo, 2009; Gurmu, 2020). It aims to address changes in society such as diverse student population, personalized learning experiences, inequality, and the use of Information and Communication Technologies, among other factors. Stakeholders' expectations are also high and challenging to address (Gurmu, 2020; Miller, Roofe, & García-Carmona, 2019). All these aspects have had an impact on the evolution of the scientific literature on EL at an international level. In this regard, it is important to ask whether the term has evolution consistently or, in contrast, has suffered fluctuations, and which language, publication formats,



authors, journals, and universities are at the forefront in the subject. In turn, the study of the motor themes that appear to be associated with the study subject will provide practical implications for education leaders to tackle new education policies.

Our review complements other EL reviews (e.g., Castillo & Hallinger, 2018; Flessa et al., 2018; Gumus at al., 2018; Gumus et al., 2020; Hallinger, 2014; Hallinger, 2019; Hallinger & Kovačević, 2019; Hallinger & Kovačević, 2021; Hallinger & Kulophas, 2020; Kovačević & Hallinger, 2019a; Kovačević & Hallinger, 2019b; McGinity et al., 2022; Oplatka & Arar, 2017; Wang, 2018; Wang et al., 2017) by employing a scientometric study to examine the production, performance, impact, and content of scientific documents on international EL literature. Our main contribution is the thematic evaluation of the EL concept using SciMat software to summarize the historical development of EL research.

The review addressed the following research questions:

RQ1: How has EL scholarship performed since it first appeared in WoS until 2019?

RQ2: What is the scientific evolution of the term EL over the past eight decades?

RQ3: What topics have attracted the greatest attention from EL scholars?

RQ4: Who are the most influential authors on EL knowledge?

The general objective of this study was to analyze the evolution of the concept of educational leadership (EL) in the Web of Science (WoS) database. To this end, bibliometric analysis and scientific mapping techniques were used to examine the evolution, structure,

and dynamism of keywords. More specifically, the objectives of the study focus on: a) Examining the performance of the scientific production on EL; b) Understanding the scientific evolution of EL; c) Identifying the most frequent topics on EL, and d) Discovering the most influential authors on EL.

Therefore, this study provides an overview of the research performed on EL to date. In order to follow a model accepted by the scientific community, we used the analytical structure used by previous studies taken from Journal Citation Reports (JCR) (Kipper et al., 2020; Rodríguez-García, López-Belmonte, Agreda, & Moreno-Guerrero, 2019; Zhang, Hua, & Yuan, 2018).

## **Method**

### **Research Design**

To address this study and achieve the objectives proposed, we used bibliometrics as a research methodology, and in particular, the sub-field of scientometrics due to its potential in everything relating to investigating, recording, and analyzing academic literature and predicting trends (Martínez, Cobo, Herrera, & Herrera, 2015).

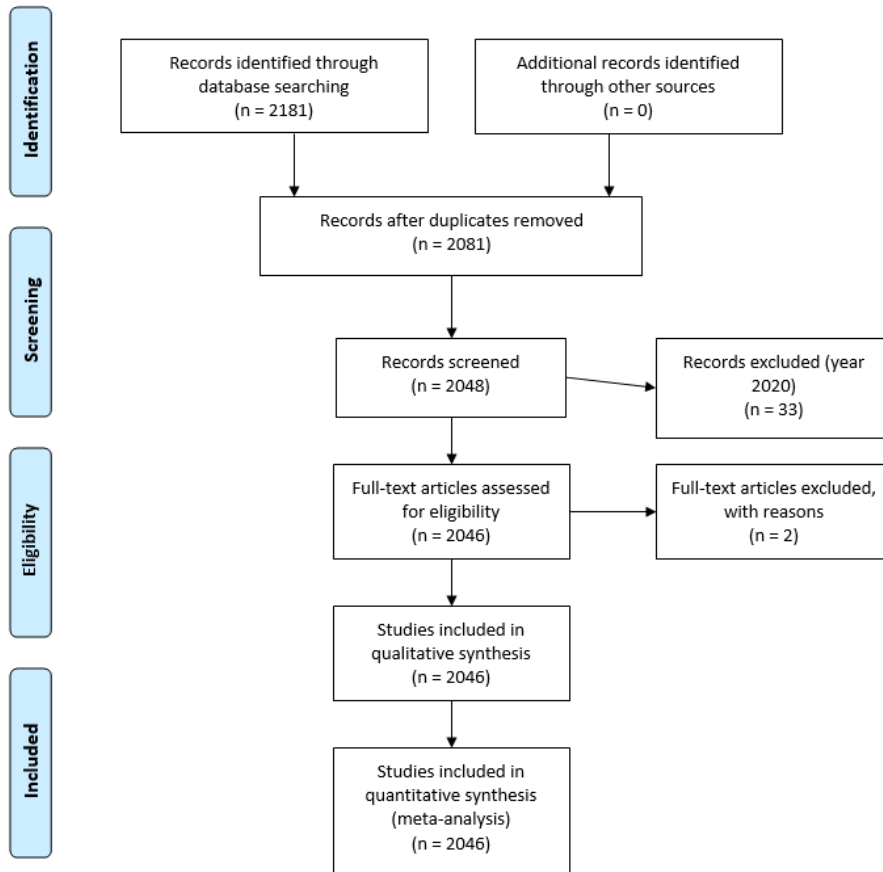
The study's methodological design follows the guidelines and directions of experts in this particular study method (Moral-Muñoz, Herrera-Viedma, Santisteban-Espejo, & Cobo, 2020). Specifically, this research is based on a co-word analysis in line with Hirsch (2005) and various bibliometric indicators, and impact and citation indices (h, g, hg, q<sup>2</sup>) (Cobo, López, Herrera, & Herrera, 2011). This gives rise to a series of science maps with nodes that record the production and location of the sub-domains of the constructs connected to EL. In addition, the diagrams highlight the development of the topics on EL



in the previously selected database (López-Robles, Otegi-Olaso, Porto, & Cobo, 2019).

### **Data Collection and Data Analysis**

We followed the guidelines set out in the PRISMA protocol (Moher et al., 2009) to determine the units of analysis: 1-Select the database to be analyzed (WoS); 2-Determine the keywords to be considered (educational leadership); 3-Develop the search algorithm (educational leadership); 4-Select a search by combining the TOPIC process to identify documents that contain the concept to be analyzed in the metadata alluding to title, abstract, and keywords. This process produced a first data report of 2,181 publications. The earliest discovery of the concept of educational leadership (EL) the database dated from 1924. The publications relating to 2020 (n = 33) were eliminated because the calendar year was not completed. Similarly, documents that were repeated or incorrectly indexed (n = 102) were also deleted. This gave a total of 2,046 documents that comprise the units of analysis (Figure 1).



**Figure 1.** PRISMA Flowchart

The following were used as indicators and inclusion criteria for the bibliometric analysis (Table 1): year of publication = the entire body except 2020; language  $\geq 5$ ; publication area  $\geq 40$ ; type of document  $\geq 80$ ; institution  $\geq 40$ ; author  $\geq 15$ ; source of origin  $\geq 50$ ; country  $\geq 100$ ; citation (the three most cited documents  $\geq 230$ ). In other words, we only present data with values higher than those indicated above. The other values are not shown for reasons of space.



In order to determine the bibliometric indicators referring to year, author, country, type of document, institution, language, type and most cited documents in the resulting production, we used Analyze Results and Create Citation Reports (tools integrated in the WoS platform). To perform the structural and dynamic development analysis, we used SciMAT (Montero-Díaz, Cobo, Gutiérrez-Salcedo, Segado-Boj, & Herrera-Viedma, 2018) for an effective co-word analysis to perform the following steps (Figure 2):

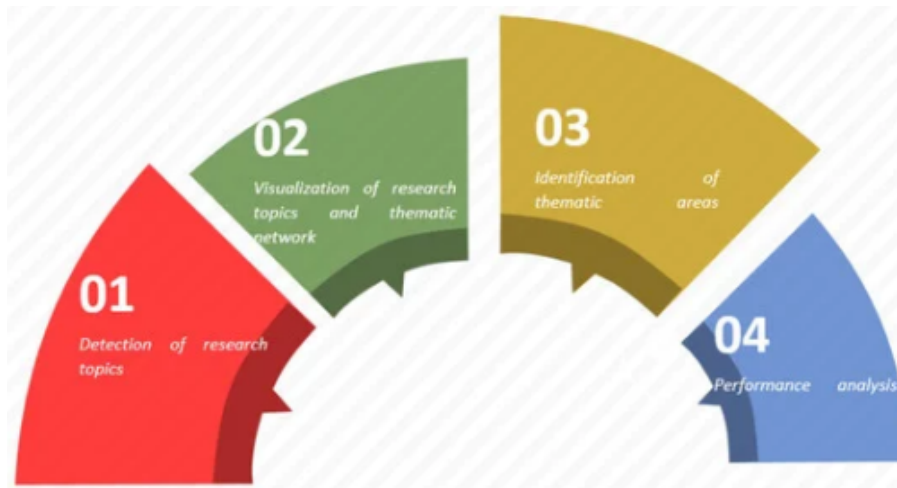
- *Detection*: in this step, the keywords in the documents are analyzed (n = 3,653). Subsequently, a map of co-occurrence nodes is generated; a standardized network of co-words is outlined; the most significant keywords are detected after debugging (n = 3,472), and lastly, the most prevalent topics and concepts are represented by means of a clustering algorithm.

- *Visualization*: A strategic diagram and thematic network based on the principles of centrality and density are outlined. The resulting diagrams are divided into four quadrants: top right = motor and relevant issues; top left = developed and isolated issues; bottom left = disappearing or emerging issues; bottom right = underdeveloped and transversal issues.

- *Identification*: In this step, the evolution of the nodes distributed in several time periods or intervals is analyzed. Five periods were configured in the study ( $P_1 = 1924-2007$ ;  $P_2 = 2008-2012$ ;  $P_3 = 2013-2016$ ;  $P_4 = 2017-2019$ ). The criterion to distribute the periods was that each of the established periods contained an equal number of manuscripts. However, for "author" only one period was configured which covers the entire period ( $P_x = 1924-2019$ ). To find the link strength, the number of common keywords in the different periods was taken into account.



- Performance: In this step, several production indicators were configured with various inclusion criteria (Table 1).



**Figure 2.** Co-word analysis steps using SciMAT (Hinojo-Lucena et al., 2020)

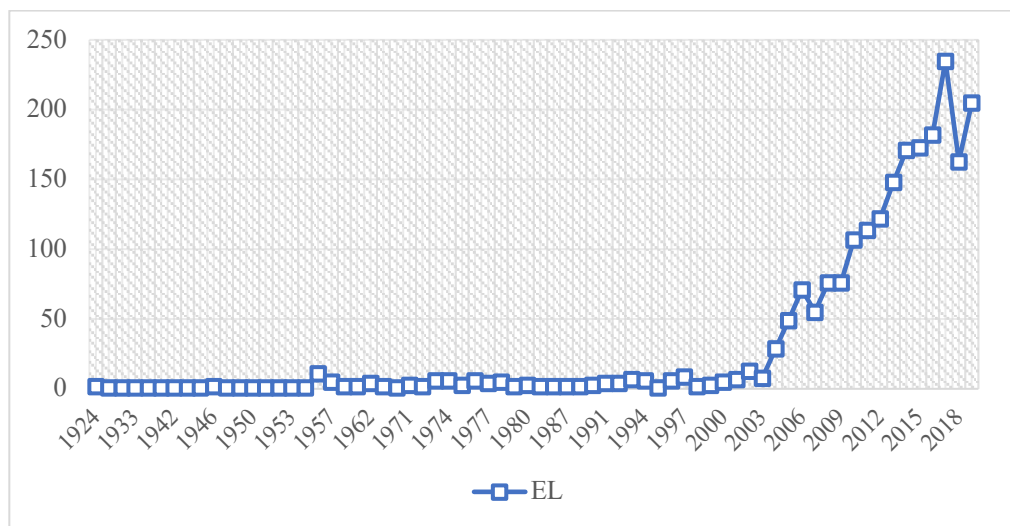
**Table 1.** Production indicators and inclusion criteria

Configuration	Values
Unit of analysis	Keywords authors, keywords WoS
Frequency threshold	Keywords: P <sub>1</sub> = (2), P <sub>2</sub> = (2), P <sub>3</sub> = (3), P <sub>4</sub> = (3) Authors: P <sub>x</sub> = (2)
Network type	Co-occurrence
Co-occurrence union value threshold	Keywords: P <sub>1</sub> = (1), P <sub>2</sub> = (2), P <sub>3</sub> = (2), P <sub>4</sub> = (2) Authors: P <sub>x</sub> = (2)
Normalization measure	Equivalence index
Clustering algorithm	Maximum size: 9; Minimum size: 3
Evolutionary measure	Jaccard index
Overlapping measure	Inclusion Rate

## Results

### Scientific performance and production

The total of 2,046 studies show a very irregular distribution of scientific production in the area of study. Although they date back to 1924, their evolution until 1998 is not consistent, given that there are years in which studies on EL are not produced at all. From 1989 to the present day, scientific production was recorded in every year, although it was not until 2004 that the number of scientific productions began to rise, establishing an ascending line, which shows the increasing interest of the scientific community in the field of study. This increase in production can be seen in two particular moments in time, 2007 and 2018. In both years progress stalls and there is a slight decrease in production. In the subsequent years, an ascending line is again shown (Figure 3).



**Figure 3.** Evolution of scientific production on EL

The language used by the scientific community to present research is English followed, at a considerable distance, by Spanish (Table 2).

**Table 2.** Scientific language used

Language	EL
English	2033
Spanish	92
Portuguese	7
German	5

The area of publication where most research on the subject is performed is “education & educational research” followed, at a considerable distance, by “management” (Table 3).

**Table 3.** Area of knowledge

Publishing area	EL
Education & Educational Research	1831
Management	130
Education Scientific Disciplines	47
Social Issues	44

The types of documents preferably used to present research are “articles” followed, at a considerable distance, by “book chapters” (Table 4).

**Table 4.** Type of document

Type of document	EL
Article	1615
Book Chapter	318
Book Review	144
Proceedings Paper	139
Editorial Material	130



There are no significant differences between the institutions that focus their studies on EL. The University of Texas System takes the lead, closely followed by the University of Missouri System, and the State University System of Florida (Table 5).

**Table 5.** Institution

<b>Institution</b>	<b>EL</b>
University of Texas System	52
University of Missouri System	50
State University System of Florida	47
University of Missouri Columbia	45
University of North Carolina	44
California State University System	43

As far as level of production is concerned, the most prolific author is Hallinger, P., who has published more than other authors who write on the topic. He is followed by Eacott, S. and Brooks, J. S. (Table 6).

**Table 6.** Most prolific authors

<b>Authors</b>	<b>EL</b>
Hallinger, P.	47
Eacott, S.	28
Brooks, J.S.	24
Normore, A.H.	21
Young, M.D.	18
Oplatka, I.	16

The three leading research journals on EL in the scientific community are: Educational Administration Quarterly, closely

followed by the Journal of Educational Administration, and the International Journal of Leadership in Education (Table 7).

**Table 7. Source of origin**

Source	EL
Educational Administration Quarterly	132
Journal of Educational Administration	118
International Journal of Leadership in Education	85
Journal of Research on Leadership Education	81
Educational Management Administration Leadership	80
Journal of Educational Administration and History	59
School Leadership Management	54

The country with the highest level of production is the United States followed, at a considerable distance, by England, and Australia (Table 8).

**Table 8. Country**

Country	EL
United States	914
England	215
Australia	196
Canada	142

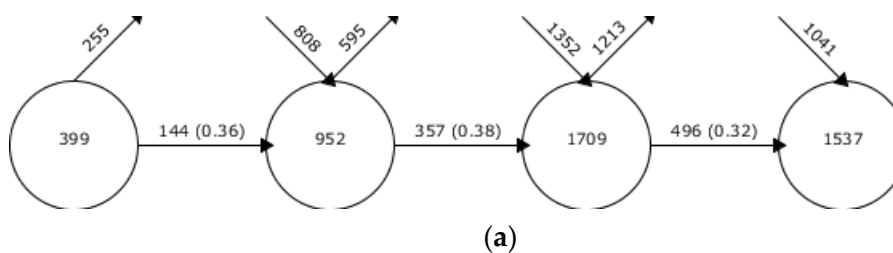
The most cited publication in the scientific literature on EL is Robinson, Lloyd, and Rowe (2008), which seeks to analyze the relative impact of different types of leadership on student academic and non-academic achievements. It is followed, at a considerable distance, by the article by Theoharis (2007), and the article by Witziers, Bosker, and Kruger (2003) (Table 9).

**Table 9.** EL: Most cited articles

Reference	Citations
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. <i>Educational Administration Quarterly</i> , 44(5), 635-674, doi: 10.1177/0013161X08321509	661
Theoharis, G. (2007). Social justice educational leaders and resistance: Toward a theory of social justice leadership. <i>Educational Administration Quarterly</i> , 43(2), 221-258, doi: 10.1177/0013161X06293717	329
Witziers, B., Bosker, R.J., & Kruger, M.L. (2003). Educational leadership and student achievement: The elusive search for an association. <i>Educational Administration Quarterly</i> , 39(3), 398-425, doi: 10.1177/0013161X03253411	254

**Structural and thematic development**

Figure 4, keyword continuity between contiguous intervals, shows the keywords that enter and exit a given period, in addition to presenting the percentage of coincidence between time intervals. In this case, the percentage of coincidence between periods is less than 40% in all cases. This suggests that the field of study is not based on a firm line of research, but that several research topics are open.



**Figure 4.** Keyword continuity between contiguous intervals

In performance by academic topic, Table 10 shows the values of the various bibliometric indicators used. In this case, the indicators used are index h, index g, index hg, and index  $q^2$ , which provide data on the leading topics in each time period. In the first, second, and third time periods, the topic with the highest h index is “leadership” followed, at a distance, by the other topics discovered. In the last interval, the trend changes, and two other topics are shown to have the highest bibliometric indicators: “context” and “educational-leadership”.

**Table 10.** EL performance by topic

Interval 1924-2007						
Topic	Publications	Index -h	Index -g	Index -hg	Index -q2	Citations
Programs	5	5	5	5	17.61	282
Community	5	5	5	5	11.4	134
Mentoring	7	5	7	5.92	14.14	311
Leadership	21	11	17	13.67	18.76	855
Performance	6	6	6	6	20.2	492
Schools	5	5	5	5	6.32	136
Academic-Staff	2	1	1	1	3.46	12
Educational-Administration	2	1	2	1.41	3	10
Ethnicity	2	2	2	2	20	202
Change	2	2	2	2	6.63	28



Educational-research	2	2	2	2	4	12
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**Interval 2008-2012**

Title	Publications	Index -h	Index -g	Index -hg	Index -q2	Citations
Medical-education	12	7	9	7.94	8.77	86
Achievement	17	11	16	13.27	15.56	992
Social-justice	16	10	14	11.83	12.65	444
Principals	15	8	14	10.58	16.49	411
Leadership	52	15	27	20.12	18.97	856
Styles	2	2	2	2	7.21	30
School-leadership	10	7	10	8.37	11.22	279
Reform	4	3	4	3.46	4.9	28
Programs	4	3	4	3.46	9.95	101
Power	4	3	3	3	5.2	21
Performance	3	2	2	2	36.36	725
Critical-race-theory	4	3	4	3.46	11.36	151

**Interval 2013-2016**

Title	Publications	Index -h	Index -g	Index -hg	Index -q2	Citations
China	18	10	15	12.25	15.17	261
Performance	29	8	12	9.8	10.95	190
Framework	18	9	15	11.62	14.39	295





Improvement	27	11	17	13.67	14.07	296
Reform	16	7	10	8.37	9.9	120
Perspective	25	9	13	10.82	10.39	186
Leadership	91	17	24	20.2	19.77	885
Principal-leadership	10	5	9	6.71	7.75	134
Gender	11	5	6	5.48	6.32	43
Professional- development	8	4	6	4.9	6.63	49
Methods	5	4	5	4.47	4	27
Special-education	5	4	5	4.47	9.17	65
Research- development	3	3	3	3	9	101
Foucault	2	2	2	2	6.93	27
Higher-education	4	3	4	3.46	4.9	36
Educational-policy	3	3	3	3	6.48	48
Leadership- preparation	4	3	4	3.46	5.74	31
School- improvement	4	3	4	3.46	6.48	45

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Interval 2017-2019						
Title	Publications	Index -h	Index -g	Index -hg	Index -q2	Citations
Asia	32	7	13	9.54	10.25	190
Gender	19	4	6	4.9	5.29	45
Reform	19	4	7	5.29	6	69
Performance	18	4	6	4.9	6.32	46
Equity	24	3	4	3.46	3.87	29
Students	16	4	5	4.47	4.9	36
Context	23	8	14	10.58	12.65	200
Professional-development	12	4	9	6	8.94	94
Educational-leadership	116	8	14	10.58	12.33	322
Outcomes	12	2	4	2.83	4.9	24
Distributed-leadership	11	4	4	4	4.47	27
Engagement	8	4	6	4.9	6	45
Critical-race-theory	6	2	3	2.45	4	15
Mainland-China	3	1	2	1.41	2	5
Identity	6	3	3	3	4.58	18
Bourdieu	4	1	1	1	1.41	3
Students-outcomes	3	1	1	1	1.41	3

The interval tables show data on the significance of each topic in the established time periods through a grouping process. Callon's centrality and density measures were used to study the degree of interaction of a thematic network with respect to another thematic network from two different angles. Centrality analyzes the external link strength with other topics by measuring the significance of a topic in the development of a certain field of research. Density analyzes the internal link strength of the network, identifying the internal links between all the keywords that are grouped around a specific topic, thus providing the degree of development of the field of study analyzed. In the first period, the motor themes are: "mentoring", which is linked to "leadership-preparation", "advancement", "national-commission", "educational-leadership", "gender", "women", "capacity-building", and "research"; "programs", which is linked to "mathematics-achievement", "size", "Netherlands", "model", "principals", "teachers", "professional-development", and "instruction", and "community", which is linked to "critical-race-theory", "women-administration", "policy", "school-leadership", "race", "equity", and "reform".

In the second period the motor themes are: "achievement", which is linked to "school-performance", "improvement", "outcomes", "institutions", "educational-leadership", "management", "principal-leadership", and "instructional-leadership", and "reform", which is linked to "quality", "public-education", "policy", and "system".

In the third period the motor themes are: "framework", which is linked to "administration-preparation", "interest-convergence", "preparing-leaders", "students", "principal-role", "social-justice", "diversity", and "preparation-programs"; "reform", which is linked to "redesign", "implementation", "assessment", "complexity",

“principals”, “accountability”, “curriculum”, and “principal-preparation”; “performance”, which is linked to “transactional-leadership”, “commitment”, “validity”, “meta-analysis”, “job-satisfaction”, “instructional-leadership”, “achievement”, and “transformational-leadership”; “China”, which is linked to “culture”, “curriculum-reform”, “Hong-Kong”, “context”, “school-change”, “management”, “impact”, and “Asia”, and “improvement”, which is linked to “outcomes”, “fit-indexes”, “teacher-learning”, “secondary-school”, “school-leadership”, “student-achievement”, “distributed-leadership”, and “capacity”.

In the fourth period, the motor themes are: “Asia”, which is linked to “Vietnam”, “China”, “Malaysia”, “Journals”, “Management”, “principal-leadership”; “instructional-leadership” and “knowledge-production”; “reform”, which is linked to “performance”, which is linked to “Vietnam”, “China”; “Malaysia”, “journals”, “management”, “principal-leadership”, “instructional-leadership”, and “knowledge-production”; “equity”, which is linked to “youth”, “leadership-preparation-programs”, “authentic-leadership”, “partnership”, “social-justice”, “classroom”, “social-justice-leadership”, and “inclusion”; and “context”, which is linked to “progress”, “east-Asia”, “improvement”, “community”, “styles”, “leadership”, “values”, and “decision-making”.

In the last period, given their location in the diagram as “unknown subjects” the following topics should be taken into account “critical-race-theory”, “identity”, and “distributed-leadership”, as they may be the trend in future research on EL or, in fact, disappear completely (Figure 5).





with the previous or contiguous intervals. The more keywords topics have in relation to consecutive intervals, the stronger their evolution. The two types of connections that can occur are: continuous line, where the connection is thematic; and discontinuous line, where the connection is by keywords. The thickness of the lines shows the strength of the relationship between the topics.

Bearing in mind the data shown in Figure 6, a gap in EL research can be appreciated, given that not a single topic is repeated in the four established periods. This does not mean that there is not a marked line of research. In this case, “leadership” is marked from the first period but from two different paths. On the one hand, there is the line “leadership-leadership-leadership-educational-leadership” and, on the other, “leadership-social/justice-framework-students”. In other words, the field of leadership research focuses on leaders themselves, but also the influence of leadership on students and social justice. Furthermore, topics vary over time. Those in the first period focus more on leadership and educational communities, while those in later periods evolve towards aspects more related to leadership at different stages of education, developing actions, and equity. It should also be noted that there are more thematic than conceptual connections, which highlights a close relationship between the different fields of study, despite the wide range of topics.

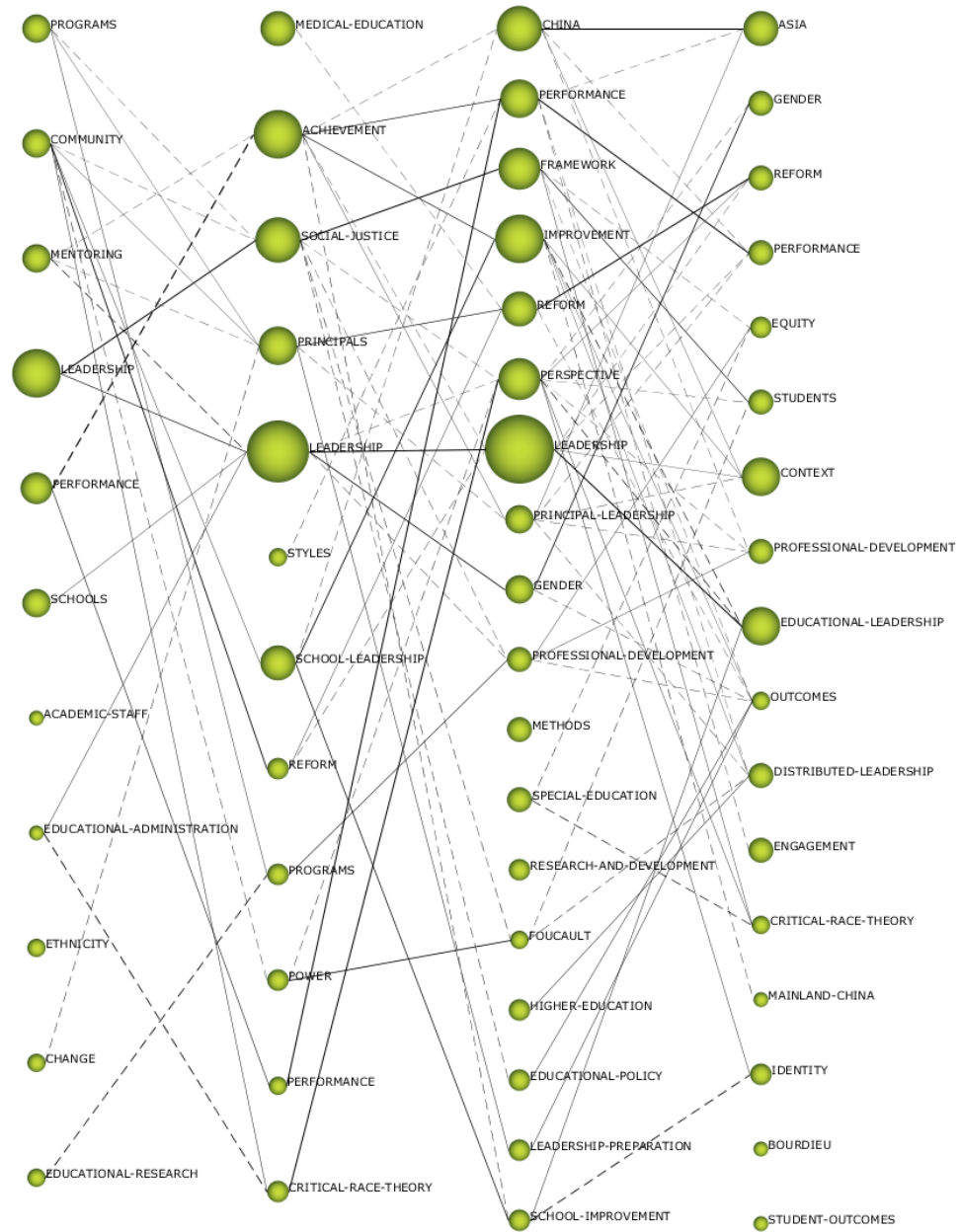
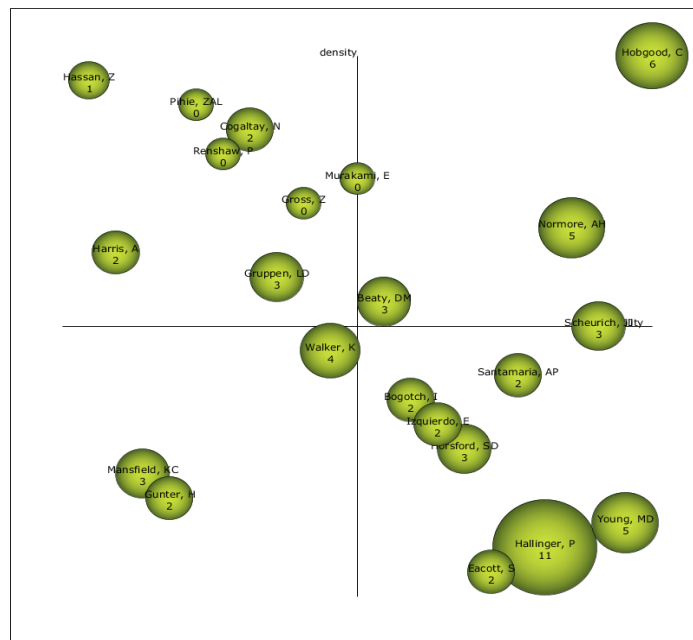


Figure 6. Thematic evolution by h-index

### Authors with the highest relevance index

According to the analysis, the most influential authors in scientific production on EL are, in order of importance, Hobgood<sup>1</sup>, C., Normore, A.H. and Beaty, D.M. However, authors Walker, K., Mansfield, K.C., and Gunter, H. should be kept in mind as they may become relevant in coming years given their location in the diagram. Additionally, the size of the circle of Hallinger, P., which has an h index of 11, highlights the importance of his scientific production (Figure 7).



**Figure 7.** Strategic diagram of authors from the entire production

<sup>1</sup> It should be taken into account that the program performs statistical analyses. In this case, the analysis is not conducted according to the volume of production, but by correlations between authors, citations received, and number of authors in the manuscripts, among others. The number of citations an author receives should not be confused with the author's relevance.



## Discussion and Conclusions

Educational leadership is commonly discussed in educational research and practice. The main purpose of this review was to analyze the production, performance, impact, and content of scientific literature on "Educational Leadership" in the internationally recognized database Web of Science. To this end, a scientometric study was performed on a sample of 2,181 scientific documents that met the established inclusion criteria.

The main findings indicate that the production on the theme of EL dates back to 1924, although it did not reach a significant level until 2004, when production increased substantially until 2016. In 2017 production fell but increased again in 2018. This data complements other reviews of EL such as Flessa et al. (2018); Hallinger (2019); Hallinger and Kovačević (2019); Kovačević and Hallinger (2019), and Oplatka and Arar (2017).

There are several important points regarding the profile of the production on EL that can be highlighted. First, the predominant language used in studies is English, a fact already detected by Flessa et al. (2018), Hallinger and Kovačević (2019), and Kovačević and Hallinger (2019). This highlights the importance of further research on the subject that takes into account contextual factors relating to the authors and the research performed. Second, the research articles are framed within the area of knowledge "education & educational research", which indicates that the subject matter is firmly established within educational research. Third, by number of publications, the University of Texas System tops the list as the most specialized educational institution in the field. Fourth, the analysis performed determined that the most prolific author on EL is Hallinger, P., while



the most influential is Hobgood, C., and the most cited Robinson, Lloyd, and Rowe (2008). Fifth, the leading journal on EL is Educational Administration Quarterly. These data influence the fact that the country with most production on EL is the United States, as highlighted by Kovačević and Hallinger (2019). All these data highlight the asymmetry in knowledge despite the increasing body of work on EL from different parts of the world (Walker & Hallinger, 2015), given that schools and school systems are not the same everywhere (Nguyen et al., 2017). The findings also highlight the importance of transnational research on EL to promote a wider perspective and present a holistic and integrative approach in the field (Lumby & Foskett, 2016).

The study also highlights the fact that there is no established line of research, but that several lines of study are open, given the absence of high levels of coincidence between the established periods. Two main lines of research were identified over the time periods, which start from the same point. Both are based on “leadership”, although one is more focused from the perspective of leadership as a topic and the other on the influence of leadership on students and social justice. Studies by Huber (2005) and Mestry (2017) support this result. They argue that EL is becoming more diverse and multifaceted, which highlights the need to have professional leaders in school leadership positions.

In turn, the topic with the highest bibliometric index is “leadership”, which occurs in the first three periods. In the last period, the trend changes and becomes a variant of “leadership”, in this case, “educational-leadership”, one of the topics with the highest bibliometric index. It is important to mention that there is no “keyword” that is repeated in all the periods analyzed, which

highlights a change in trends and interests in research on EL. The topics of study evolve throughout the time periods. In the first period, topics are more focused on leadership and educational communities, and evolve towards aspects more related to leadership at different stages of education, developing actions, and equity.

And lastly, it is important to bear in mind that the topics that might be relevant in the future and should be taken into account are “critical-race-theory”, “identity”, and “distributive-leadership”. This fact highlights the trajectory of the term EL. As a result, the trend in future publications will take into account aspects relating to the cultural diversity of today’s society from a critical perspective, and studies that focus on distributed leadership, as a chosen model of action, will predominate (Modeste et al., 2020).

### **Further Research, Implications for Practice, and Limitations of the Study**

The aim of this study is to offer researchers an insight into the new trends in EL on the most relevant and interesting topics for the scientific community in the near future. It also aims to show the aspects on which research has been based in recent times, so that researchers have a basis from which to start, develop, or guide their studies. In this regard, research on EL has been linked to terms such as “performance” and “mentoring” (first period), “achievement” and “social-justice” (second period), “improvement” “perspective” (third period), and “equity” and “context” (fourth period). As previously mentioned, the trend in the future will be linked to “critical-race-theory”, “identity”, and “distributed-leadership”. Therefore, as future lines of research, we propose the development of practical applications and pedagogical actions in the field of education that provide answers to the diverse world in which we live and in which educational institutions



developed. The pedagogical actions and public policies that emanate from this research should focus on intercultural education and shared leadership.

There are several limitations presented in this research. First, the debugging of the data presented in WoS, which included duplicate documents and others that were not related to the subject of the study. Second, the fact that the authors of this study decided to maintain a similar number of documents in each time interval due to a question of equity. And lastly, the parameters in this study were established according to the authors' own criteria, as such the results are presented according to size and relevance. Therefore, the data presented here should be analyzed with some caution, given that a change in the parameters established in the study may vary the number and connections in the topics presented.

#### **Acknowledgments:**

The first author acknowledges the Ministry of Universities of the Government of Spain and the European Union (NextGenerationEU funds) for partially funding this study.

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