A systematic review of distributed leadership research from 2000 to 2020

[1]**Ahmet Aypay**
[2]**Muhammet İbrahim Akyürek**

Abstract

The purpose of this study was to reveal the extent of studies on distributed leadership. The study used a descriptive content analysis for systematic review. The study included knowledge base and intellectual structure, authors, articles, journals, methodologies, countries, citations, book chapters, and books that focused on distributed leadership from 2000 up to 2020. The analysis of the research was conducted first by reviewing papers indexed in the Web of Science (WoS) database from 2000 to 2020. The results indicated that although distributed leadership was among the relatively new leadership models, it gained considerable ground and there was a sharp increase following 2015.

Keywords: Distributed Leadership; Systematic Review; Articles; Books

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Corresponding Author Information:
[1]**Ahmet Aypay**, PhD. Anadolu University, Faculty of Education
Email: ahmetaypay@anadolu.edu.tr

Co-Author information:
[2]**Muhammet İbrahim Akyürek**, PhD., Etimesgut Science and Art Center
Email: i_akyurek56@hotmail.com

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Introduction

Leadership has always been an elusive phenomenon with many faces and definitions (Yukl, 2002). An agreed definition is that leadership is an influence towards achieving some goals (Bush & Glover, 2003). Some leadership theories are quite normative in recommending a certain "best" way to achieve desired results (Leithwood, et al. 1999). Countries have been in search of more just and equitable education systems (Torres, 2018). Distributed Leadership (DL) received considerable attention in a relatively short time (Leithwood et al., 2009).

However, there are discussions concerning the intellectual roots of DL. While there are some clear and less clear aspects of DL and as Harris (2004) has noted, the definition and understanding of distributed leadership range from the normative to the descriptive. The claims differ such as being a strategy for school improvement as "shared" (Pearce & Conger, 2003), "democratic" and "dispersed" conceptions of leadership (Spillane, 2015, p. xxi.).

Spillane et al. (2004) use DL basically to understand the meaning and nature of leadership in schools better (Harris, 2004, Introduction). Thus, the literature on distributed leadership continues to be diverse and extensive (Bennett et al., 2003). Leithwood et al. (2009) find "participative" leadership is close to what they mean by distributed leadership. Delegated leadership, democratic leadership, and dispersed leadership are the terms that are closely related to DL (Bennett et al., 2002).

Spillane & Healey (2010) argue that as a conceptual framework, DL contains a considerable potential to generate new knowledge on school leadership and management. DL makes implicit roles explicit while encouraging openness to reciprocity and interdependence, tolerance for higher levels of ambiguity, change, new ways of working, and better negotiation skills (Gronn, 2003). Leadership is a pluralist activity rather than an

individual one in DL (Southworth, 2004). The main advantage of DL is that it increases the level of skills and expertise available (Harris, 2002). DL provides a framework to understand leadership practice and a conceptual and analytical framework to study interactions around leadership (Harris, 2009).

There is an increase in the number of researchers around the world to use a DL perspective to study school leadership and management with various conceptualizations and methodologies (Camburn et al., 2003; Harris, 2005; MacBeath et al., 2004; Spillane et al., 2007; Spillane et al., 2009; Timperley, 2005; Spillane & Healey, 2010). Some scholars have also examined the relationships between how leadership is distributed in schools and how it leads to differentiated school outcomes (Heck & Hallinger, 2009). However, the majority of the empirical studies have still been descriptive while few focused on hypothesis generation and theory development. While descriptive studies are accepted as mediocre when compared to exploratory studies that test hypotheses or predict outcomes, descriptive work is useful to understand how DL works in schools and how the configurations at the school level influence school outcomes (Harris, 2005).

Spillane & Healey (2010) argued that new theoretical and analytical frameworks are needed to carry out empirical research on DL. New data collection instruments need to be developed or existing ones need to be tailored to suit DL rather than using existing instruments with a new label, and new methodologies need to be employed. Strong constructs, well-designed methodologies, and instruments and well-execution of the research are equally important for the development of DL. A DL perspective needs to include the leader-plus conceptualization and its testing (Spillane & Healey, 2010). The authors argue that multi-site and "holistic forms" of DL research are found valuable for leading DL researchers such as planful alignment, spontaneous alignment, misalignment, and anarchic misalignment (Gronn, 2002; Leithwood et al., 2007), "consciously managed", and "co-performance" (Leithwood et al., 2009; Spillane et al., 2001; Harris, 2008).

Heck and Hallinger (2009) focused on a DL perspective from the teachers' side. They modeled DL effects on student learning, while they conceptualized DL as "forms of collaboration practiced by the principal, teachers, and members of the school's improvement team in leading the school's

development" (Heck & Hallinger, 2009). They operationalized teachers' perceptions of collaborative decision-making about teachers' role in decisions on several key school improvement aspects, including academic development and schools purpose.

Studies that employ a distributed framework focus on sources of leadership on a school level and use different operationalization/measures of how DL works. For example, Camburn et al. (2003) focused only on the formal side of the organization; others included the informal side of leadership in schools based on staff perceptions. While Leithwood et al. (2007) look at the side of leadership, focused on how planned leadership beforehand and alignments achieved among leaders, Heck and Hallinger (2009) look from teachers' side on how teachers perceive the DL functions. Analyzing the following three studies (Camburn et al. 2003; Leithwood et al., 2007; Heck & Hallinger, 2009), DL takes three different forms. First, who takes the lead? What roles & responsibilities and functional aspects of the work are distributed? Third, how the work is distributed, and whether the distribution is planned, collaborative, or not? (Spillane & Healey, 2010). DL perspective continues to explore its empirical grounds (Harris, 2009). However, it has not yet transformed into a hybrid leadership. All in all, the scholar who focuses on DL tries to present it as a systemic approach rather than a separate theory (Bolden, 2011). This study explores the development of literature on DL over time, including knowledge base and intellectual structure, authors, articles, journals, methodologies, countries, citations, book chapters, and books.

The development of the DL literature

Figure 1 points out that Spillane's paper was gray, indicating one of the earliest papers in DL. Spillane's (1999; 2001, 2004) and Gronn's (2000 & 2002) papers were similar and they were large in terms of size. This shows that these studies were cited extensively. Similar studies also have strong connecting lines and they cluster together. A second cluster formed with Hallinger (1996; 1998; 2003, 2005), Leithwood (2008), and Goldwyn (2008). There were strong nodes among these articles. Although Fullan's (2001) work was highly cited, nodes were not strong.
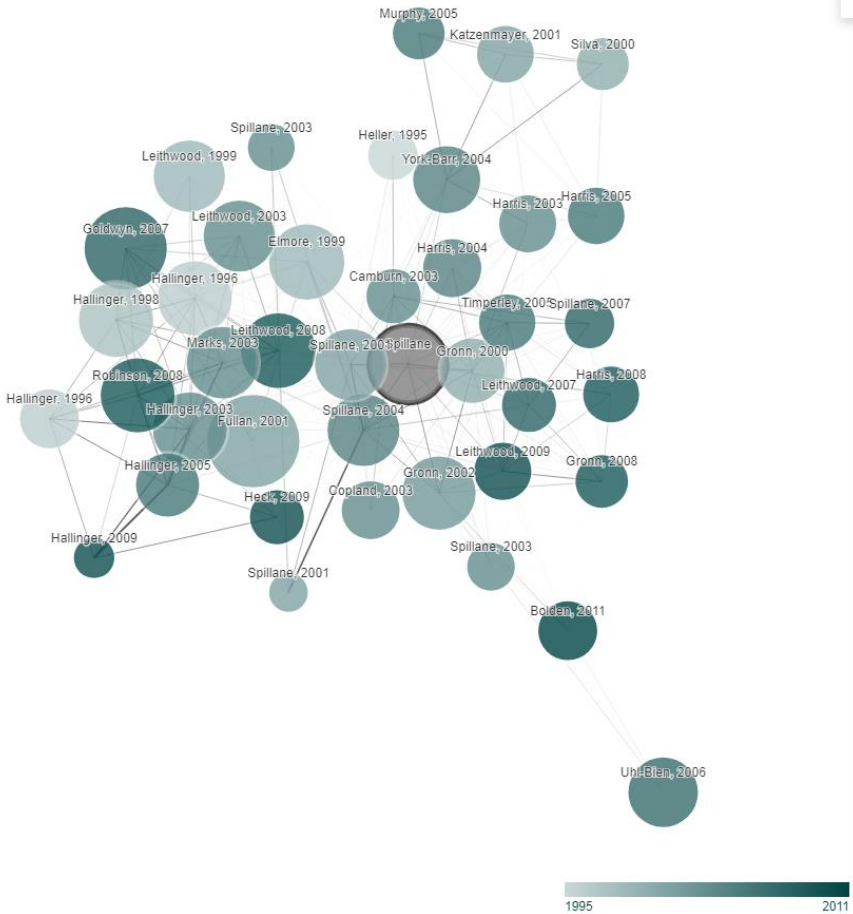
Figure 1. DL Literature as Denoted by Connectedpapers (2000-2020)

The graphs are read as follows (Connectedpapers, 2020):

- Each node is an academic paper related to the origin paper.
- Papers are arranged according to their similarity (this is not a citation tree)
- Node size is the number of citations

- Node **color** is the publishing year
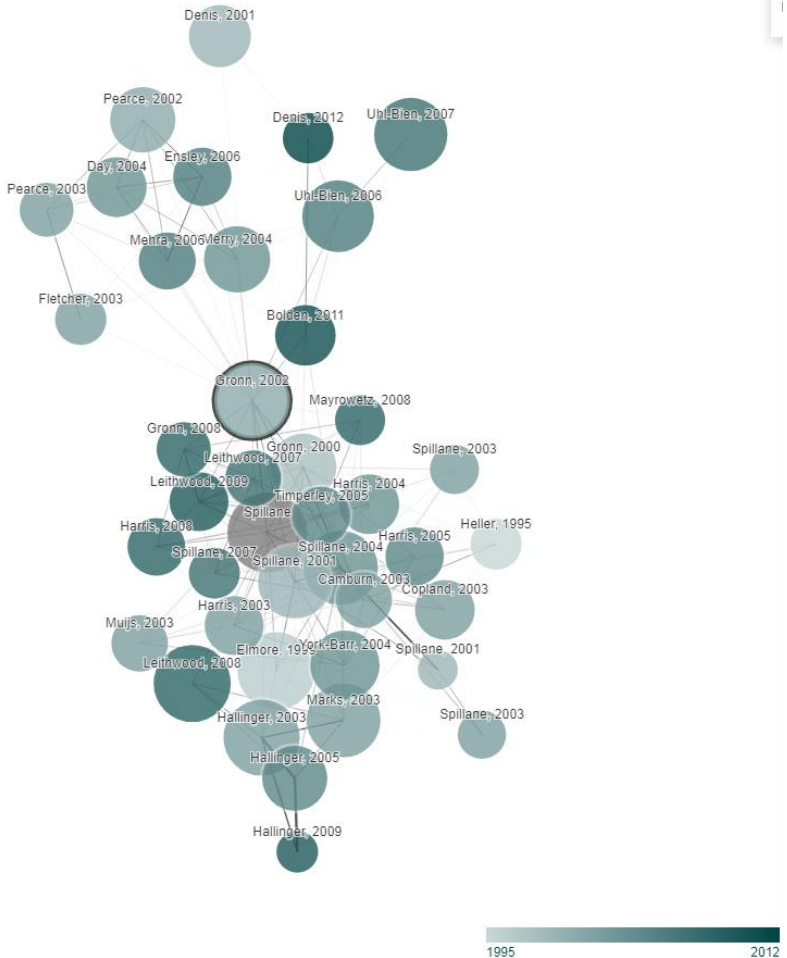- **Similar** papers have strong connecting lines and cluster together

Figure 2. DL Literature Based on Gronn's (2002) Paper (2000-2020)

We got a similar picture when we take Gronn's (2002) paper into account. This time Harris' work (2004; 2005) cluster closer to Gronn (2000), Spillane's (2001; 2004), and Leithwood's (2007; 2009) work. This may also indicate their collaborative work since nodes were stronger.
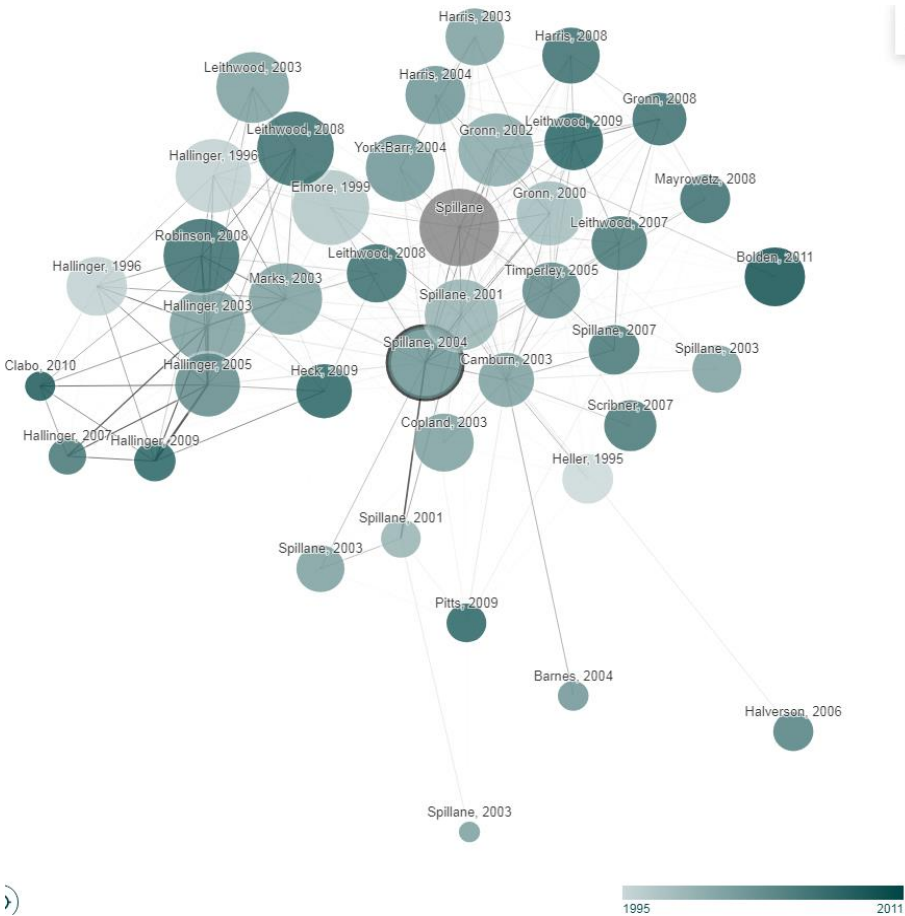

Figure 3. DL Literature Emerged after Spillane, Halverson & Diamond (2004) Paper

When we focus on the DL literature that emerged with Spillane, Halverson & Diamond's (2004) work, an interesting representation develops. Spillane and colleagues work in the center, North American & Asian affiliated scholars are located to the left side while European origin scholars were located to the right. These groupings were likely to be related to citations and nodes. However, there were exceptions to this like a Canadian origin scholar like Leithwood (2007). Leithwood's work (2003; 2008) also showed strong nodes with North American & Asian-based scholars as well. Theoretically, Harris takes a functional approach to leadership. Her work focused on ways in which how DL may make a difference in the daily life in schools (Spillane, 2007, Foreword in Harris, 2008). Yukl (2002) defines leadership as a deliberate attempt to influence people to achieve desired outcomes. Multiple leaders in various positions perform various leadership tasks (Spillane, 2006). Distributed leadership is a departure from the position of authority, to begin with (Harris, 2004). Leadership is enacted in a situation, not in a vacuum and therefore artifacts should be taken into consideration. Therefore, normative structure and organizational routines are also important in shaping leadership practice (Spillane et al. 2001, 2004; Spillane, 2006). How the cultural and social circumstances, including organizational structure, can enable or constraint leadership activity needs to be analyzed (Gronn, 2002; Harris, 2005; Woods et al., 2004; Spillane & Orlina, 2005).

The research questions this review is to address are as follows:

(1) What is the intellectual structure of DL?

(2) How has the DL literature evolved in terms of articles, journals, methodologies, books, and book chapters?

 (3) What are the patterns of authorship in terms of gender and citations?

 (4) What are the most frequently studied topics in DL literature?

Methodology

A comprehensive science mapping and descriptive content analysis were used to review the literature on distributed leadership. Systematic reviews of the literature are conducted in two ways: First, to see how one may apply for

the review in a specific field to serve his/her studies and second, to identify major areas of research on science mapping, observing trends and evolution of a field as well as major specialties and the transitions among the fields (Chen, 2017).

Several review studies were conducted on general topics in educational administration (Murphy et al., 2007; Aypay et al., 2010) in the past. There has been an increase recently in systematic reviews conducted in educational administration and leadership studies globally (Hallinger & Kovacevic, 2019). Some of these reviews are very comprehensive topically (Aypay, et al., 2010), regional (Hallinger, & Bryant, 2013; Hallinger, 2019), country-specific (Gümüş et al., 2020), journal-specific (Murphy et al., 2007), or comprehensive in terms of time (Gümüş et al., 2018). Bolden (2011) carried out a review of research on DL in general and it was not specifically focused on education. As there have been more studies with emerging methodologies, systematic reviews are needed overtime on the specific areas and the fields of study. Therefore, this review is needed to assess two decades of research on DL, including books and book chapters.

Inclusion and exclusion criteria

This review will be able to help us in identifying the authors, authorship patterns, countries, journals, institutions, scholars, books, and book chapters on distributed leadership.

First, we identified some selection criteria for journal articles, books, and book chapters. The selection criteria for articles and books were as follows:

- Searched "WoS" database,
- "Title" term included "DL,"
- "2000-2020" was selected (20 years) and some journals were checked before their inclusion in the WoS database beginning in 2000,
- Pre-2000, no citation was on "DL" was found,
- "Articles," "Books" and "Book Chapters" were searched
- "Education Educational Research" was used to limit the search
- Google citations were used for books.

As Table 1 indicated, a total of 109 DL articles were published in WoS database journals from 2000 to 2020. There were only five articles published between 2000 and 2005. The number of articles increased to 13 from 2006 to 2010. The trend continued with the number of articles increased more than two times with 27 articles from 2011 and 2015. The same trend continued from 2016-2020 with 64 articles. As we continue our analyses, we came up with and added 8 more influential DL articles that were not included WoS database since some of the journals were not included in WoS at that time. To the authors' knowledge, there were no books published specifically on DL between 2000 and 2005. However, there were 11 books published from 2006-2010. This number indicates a sharp increase in the interest DL attracted at that period. In the following five-year period, there were only 3 books published. The renewed interest continued in the period from 2016 to 2020 with 8 books published on DL.

Table 1

The Number of Papers, Book Chapters and Books on Distributed Leadership in Educational Research (2000-2020)

Years	Journal articles (f)	Book Chapters (f)	Books (f)
2000-2005	5	-	-
2006-2010	13	11	6
2011-2015	27	3	5
2016-2020	64	8	5
Total	**109**	**22**	**19**

Source: WoS for articles and book chapters, Google Scholar for Books.

In the second part of our study, we used content analysis to identify key topics and trends in research. Since the number of articles is not large (117), we decided to include all the articles in all the 46 journals in education/ educational research that published articles on DL. Almost one-fourth of the articles were published in *EMAL*. Almost half of the articles (46) were included in the major *EDLM* journals such as *EMAL* (26), *EAQ* (7), *SL&M* (7), *IJLE* (6), and the only exception to that is the *Journal of Higher Education Policy & Management* with (6) articles. We tried to respond to the following broad questions: (1) whether these studies are empirical or conceptual? (2) Which methodologies were used in these studies? (3) How strong the reviews

of literature of these articles are? Which group (s) focused on DL? In the second part of our study, we focused on more in-depth analyses of 107 distributed leadership articles and books.

Findings

In this section, we present the results of comprehensive science mapping and descriptive content analysis with more detailed information on authors, journals, methods, and groups.

Co-occurrence and co-citation maps

Co-occurrence keyword and co-citation maps were used to analyze DL articles. DL co-occurrence keyword map was provided in Figure 4. The co-occurrence map identifies topical foci and associations (Zupic & Cater, 2015) between concepts of DL literature. This map provided DL-related concepts. The green cluster indicated student learning and achievement (student achievement, instruction, quality, and relationship). Blue cluster showed school improvement (principal, improvement, influence, and leadership). Yellow cluster described school climate and culture (teaching, community, effectiveness, and innovation). Finally, the red cluster illustrated teacher leadership, collaboration, and change (teacher leadership, management, power, project, and implementation). Together they form the knowledge base of DL.
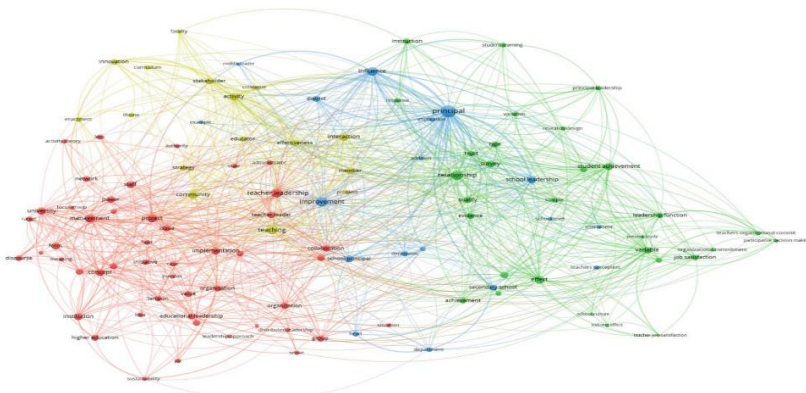

Figure 4. DL Co-occurrence Map

Figure 5 provided an author co-citation map for DL articles. Schools of thought were used to define the intellectual structure of the knowledge base in DL (Crane, 1972; Hallinger & Kovacevic, 2019; van Eck & Waltman 2017). The Green region indicated leadership for learning (Spillane, Gronn, Harris, and Mayrowetz). Blue region specified DL (Spillane, Harris, Gronn, and Timperley). The red region indicated managing educational reform and change (Hallinger, Heck, and Leithwood). This co-citation map provided the intellectual structure of DL. DL is located at the intersection between leadership for learning and managing educational reform and change. Here, we may claim that Spillane, Harris, and Gronn are boundary spanners since they crossed boundaries between DL, leadership for learning, and managing educational reform and change.
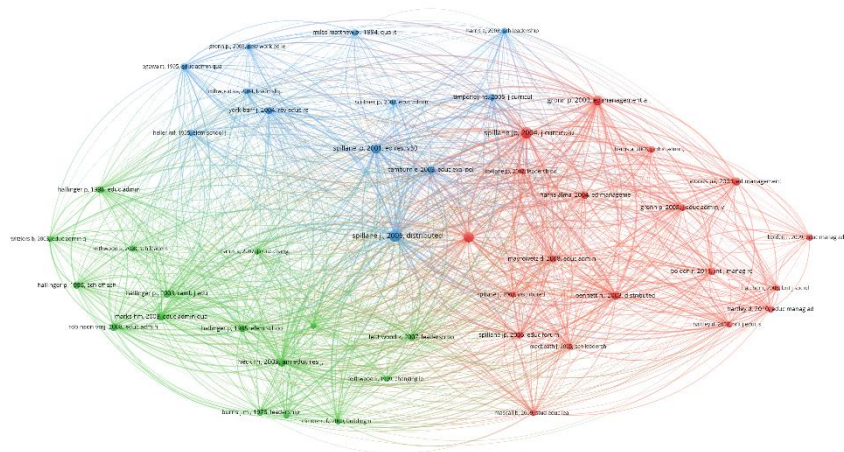

Figure 5. DL Co-citation Map

DL Journal Articles

Almost half of the DL articles (54) were published in core EDLM journals: *Educational Management Administration & Leadership (EMAL), School Leadership & Management (SL&M), Educational Administration Quarterly (EAQ), International Journal of Leadership in Education (IJLE), Leadership*

and Policy in Schools (LPS), and Journal of Educational Administration (JEA) (Gümüş et al, 2020). A total of 46 journals included DL articles. However, what is interesting here is that the remaining DL articles (64) were published in a variety of education journals (22) journals, especially in teaching and teacher education journals. This is interesting when considering DL is relatively in its early stages of development.

Table 2

Journals (46) that Published 117 DL Articles

Journals	f	%
Educational Management Admin. & Leadership (EMAL)	26	22.2
School Leadership & Management (SL&M)	7	6.0
Educational Administration Quarterly (EAQ)	6	5.1
International Journal of Leadership in Education (IJLE)	6	5.1
Journal of Higher Education Policy and Management	6	5.1
Journal of Curriculum Studies	5	4.3
Leadership and Policy in Schools	5	4.3
Educational Studies	4	3.4
Journal of Educational Administration (JEA)	4	3.4
American Educational Research Journal	2	1.7
Education and Science	2	1.7
Educational Evaluation and Policy Analysis	2	1.7
Educational Sciences: Theory & Practice	2	1.7
Educational Review	2	1.7
International Journal of Educational Research	2	1.7
International Journal of Educational Sciences	2	1.7
International Journal of Sustainability in Higher Education	2	1.7
School Effectiveness and School Improvement (SESI)	2	1.7
Teaching and Teacher Education	2	1.7
Int. Journal of Educational Leadership & Man.	1	.9
African Education Review	1	.9
American Journal of Education	1	.9
Asia-Pacific Education Review	1	.9
Australian Journal of Early Childhood	1	.9
British Journal of Educational Studies	1	.9
British Journal of Educational Technology	1	.9

Journals	f	%
Computer-Supported Collaborative Learning	1	.9
Distance Education	1	.9
Educational Policy	1	.9
Higher Education Research & Development	1	.9
Innovations in Higher Education Teaching and Learning	1	.9
Irish Educational Studies	1	.9
Journal of Adult and Continuing Education	1	.9
Journal of Educational Change	1	.9
Journal of University Teaching & Learning Practice	1	.9
Leadership & Policy in Schools	1	.9
Pegem Eğitim Öğretim Dergisi	1	.9
Professional Development in Education	1	.9
Research News & Comment	1	.9
Revista Ibero-Americana de Estudos em Educacio	1	.9
South African Journal of Education	1	.9
South African Journal of Higher Education	1	.9
Studies in Higher Education	1	.9
Technology, Pedagogy and Education	1	.9
The Elementary School Journal	1	.9
The Journal of Educational Research	1	.9
The Leadership Quarterly	1	.9
Total	**117**	**100**

Table 3 presents information on the publication origin of the countries of DL articles. As expected US-dominated while the US, Australia, and the UK published % 40 of the total articles in DL. However, DL articles that stem from non-Western countries are considerable.

Table 3

Number of DL Articles by Country (n=117)

Countries	f	%
USA	28	23.9
Australia	18	15.4
UK	15	12.8

Countries	f	%
Turkey	7	6.0
Belgium	6	5.1
South Africa	6	5.1
Finland	4	3.4
Malaysia	4	3.4
Netherlands	4	3.4
Spain	4	3.4
China	3	2.6
Singapore	3	2.6
New Zealand	2	1.7
Saudi Arabia	2	1.7
Sweden	2	1.7
Canada	1	.9
Columbia	1	.9
Iceland	1	.9
Israel	1	.9
Kuwait	1	.9
Taiwan	1	.9
Missing	3	2.6
Total	**117**	**100**

Thirty percent (36) DL articles were written by only one author. The rest (70%) were published collaboratively. Thirty-two percent (38) of the articles had 2 authors, twenty-one percent (25) with three authors while 8.5 % (10) articles had 4 authors. There were four articles (3.4%) with 5 authors. There were four articles with 6, 8, 9, and 11 authors, respectively.

Table 4 presents information concerning the gender distribution among the DL article authors. One-third of the first authors of DL articles were female. There was more balanced authorship in the second authors in DL articles in terms of gender because the percentage of female authors raised to 42.5 %. We were unable to determine the gender of one-third of the articles.

Table 4

Gender of the First and Second Author(s)

First Author Gender	f	%	Second Author Gender	F	%
Female	39	33.3	Female	34	42.5
Male	69	65.8	Male	45	56.3
Unknown	1	.9	Unknown	1	.9
			N/A	37	31.6
Total	**117**	**100**		**117**	**100**

We evaluated the reviews of the literature sections of DL articles based on a four-point Likert type scaling. We used Boote & Beile's (2005) Literature Scoring Rubric. The rubric includes five categories such as coverage, synthesis, methodology, significance, and rhetoric based on 12 criteria. For example, the first criterion is "Justified criteria for inclusion and exclusion from review." Based on these five categories and 12 criteria, they developed a rubric ranging from weak to superior (1=Weak, 2= Medium, 3= Strong, 4=Superior). We found that 45% of the DL articles have superior reviews of the literature while 42% of them were strong, almost 10 % was medium and only 4% was poor.

Table 5

Assessment of Literature Reviews of DL Journal Articles

Evaluation of Literature	f	%
Superior	55	47.07
Strong	48	41.0
Medium	10	8.5
Weak	4	3.4
Total	**117**	**100**

Methodologies of DL articles

Table 6 provides information on the methodologies of DL articles. This finding is similar to the findings in earlier reviews (Aypay et al., 2010; Murphy

et al., 2007) and more recent reviews (Gümüş et al., 2018). Conceptual papers
were also high with 30% of the published research on DL literature. This may
be an indication that the DL is still in the process of development. Moreover,
the number of mixed-method studies is at a considerable rate with consisting
of 10% of the published DL research. It is interesting to note that qualitative
studies are almost twice as much as quantitative studies. This point is also
consistent with the emerging nature of DL research.

Table 6

Methodologies of the DL Articles

Methodology	f	%
Qualitative	41	35.0
Conceptual	39	33.3
Quantitative	26	22.2
Mixed	11	9.4
Total	**117**	**100**

Table 7 presents information on the designs of the research carried out on
DL. Almost 75% of the research is descriptive. Case and field research is
14%, 9% is correlational, and only two studies were action research while one
research is casual comparative and one is experimental.

Table 7

Designs of DL Articles

Design	f	%
Descriptive	84	74.4
Case & Field	16	13.7
Correlational	10	8.5
Action Research	2	1.7
Causal-Comparative	1	.9
Experimental (Complete Randomization)	1	.9
Total	**114**	**100**

Data collection procedures of DL articles are mainly conceptual-literature reviews (37.6). Since DL research is still growing, conceptual papers and literature reviews are higher as expected. Over one-fourth of the studies (26.5%) collected data with only interviews. One-fifth of the research collected data with surveys and questionnaires (21.4%) while 8% of the studies used interviews, observations, and document analyses. Almost 4% of the studies used surveys, questionnaires along interviews. 3% of the studies used interviews and observations as data collection while one study used a combination of survey, questionnaire, and observation. These results show that a wide variety of data collection tools were used in DL articles.

Table 8

Data Collection Techniques of DL Articles

Data Collection	f	%
Conceptual-Literature Review	44	37.6
Interview	31	26.5
Survey-Questionnaire	25	21.4
Interview-Observation-Document Analysis	8	6.8
Survey-Questionnaire-Interview	4	3.4
Interview-Observation	3	2.6
Survey-Questionnaire-Observation	1	.9
Observation	1	.9
Total	**117**	**100**

DL articles used the following data analysis techniques: One-fourth of the studies (25.7) used content analysis while 11% of them used a case study. 6.4 % of the studies used descriptive statistics, ANOVA, content analysis, and factor analysis. 5.5% of the papers used descriptive statistics along with t-tests, correlations, and regressions. Only 2.8% used only descriptive statistics while another 2.8% used factor analysis, t-test, ANOVA, and correlation in addition to the descriptive statistics. Only two studies used descriptive statistics and factor analysis, and two studies used descriptive statistics, factor analysis, and regression. The remaining studies used one or more of those data analysis

procedures. Three studies used Path Analysis only or along with other data analysis procedures.

Table 9

Tests and Analyses Used in DL Articles

Tests/Analyses	f	%
Content Analysis	28	25.7
Case Study	12	11.0
Factor Analysis-test-Descriptive-ANOVA-Content Anal.	7	6.4
t-test-Descriptive Statistics-Correlation-Regression	6	5.5
Descriptive Statistics	3	2.8
Factor Analysis-t-test-Descriptive Statistics-Correlation	3	2.8
t-test-Descriptive Statistics- ANOVA	3	2.8
Multiple Regression-Factor Analysis-Descriptive Statistics	3	2.8
Factor Analysis-Descriptive Statistics	2	1.8
Factor Analysis-Regression-Path Analysis	2	1.8
Factor Analysis-Regression	2	1.8
Regression	1	.9
Path Analysis	1	.9
Descriptive Statistics-Regression	1	.9
Correlation-Regression	1	.9
Descriptive Statistics-MANOVA	1	.9
Descriptive Statistics-Correlation-Path Analysis	1	.9
Chi-Sq.-t-test-Descriptive Statistics-ANOVA-Content Anal.	1	.9
Total	**78**	**100**

Table 10 presents the validity and reliability of DL papers. Since a quite large number of studies were conceptual (30%), they did not report validity (83.8) and reliability (81.2) procedures. Therefore, studies without validity and reliability are likely to be high. 11% of the studies used Confirmatory Factor Analysis while only 3.7 % used Exploratory Factor Analysis, and only 2.8 % of the studies used correlation to establish validity. Cronbach Alpha was overwhelmingly used for reliability while correlation was used in only one study to report reliability.

Table 10

Validity and Reliability Procedures Used in DL Articles

Validity	f	%	Reliability	f	%
Confirmatory Factor Analysis (CFA)	12	10.3	Cronbach Alpha	21	17.9
Exploratory Factor Analysis (EFA)	4	3.4	Correlation	1	.9
Correlation	3	2.6			
N/A	98	83.8	N/A	95	81.2
Total	**109**	**100**		**109**	**100**

As Figure 6 indicated, initial articles on DL appeared in the 2000s. There was an increase in the number of articles between 2006 and 2010. However, there was a decline in the number of articles in 2011 while the number of articles climbed in 2012 and 2013. Again, there was a small decline in the number of published DL articles in 2014. There was an upward trend in the number of articles published in 2014. The number of articles reached its peak in 2017. Since 2020 is not complete, we assume that the number of articles in distributed leadership is likely to continue its upward trend.
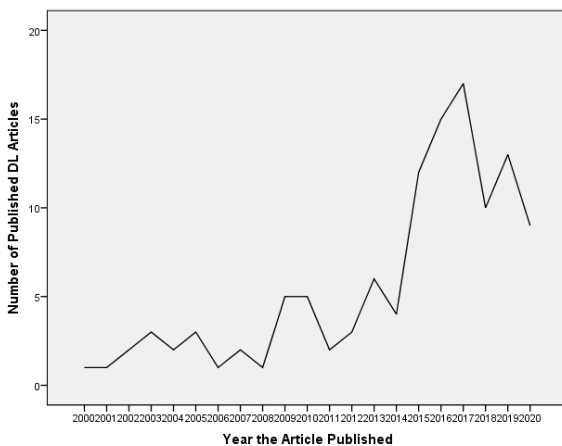

Figure 6. Publication Year of Articles (n=117)

*Authors and citations of DL article*s

Table 11 shows the information on the authors who published at least two or more DL articles between 2000 and 2020 in WoS database journals. Harris, Spillane, Devos, Hulpia, and Liu lead with 5 publications. A total of ten scholars authored 42 DL articles. Gronn and Hartley follow them with four publications. Harvey, Bellibas, and Jones followed with 3 publications. Eight authors have 2 DL articles.

Table 11

Authors with 2 or more DL Articles

Name	f
Alma Harris	5
James P. Spillane	5
Geert Devos	5
Hester Hulpia	5
Yan Liu	5
Peter Gronn	4
David Hartley	4
Marina Harvey	3
Mehmet Sukru Bellibas	3
Sandra Jones	3
Darlene Garcia Torres	2
Jack Lumpy	2
Judith Amels	2
Meng Tang	2
Philip A. Woods	2
Hilde Van Keer	2
Michelle Jones	2
David Ng	2
Total	**58**

The total citations the DL papers received was 6,182. Gronn (2002) had the highest number of citations with the "Distributed Leadership as Unit of Analysis" article with 1,144 citations. Spillane et al. (2002) article as well as

Spillane & Halverson's (2004) articles received over 1,000 citations. Only Gronn's (2002) paper received over 500 citations. Gronn's (2008) and Heck & Hallinger's papers received over 200 citations. Camburn et al. (2003), Timperley (2005), Spillane et al (2003), Scribner et al (2007), and Bolden et al (2009) papers received over 100 citations. Hartley (2007), Gronn & Hamilton (2010), Garcia Carreno (2018), Crawford (2012), Lumby (2013), Harris (2013), Hartley (2014), Hulpia et al. (2011), Floyd & Fung (2017), and Harris (2005) received over 50 citations. Hulpia & Devos (2010), Woods & Gronn (2009), Wallace (2002), and Hulpia et a.l (2009) received over 30 citations.

Table 12

Rank Order of DL Articles (26) over 30 Citations *

Author Article Title	(f)
1. Gronn (2002). Distributed leadership as the unit of analysis	1,144
2. Spillane, Halverson & Diamond (2002). Investigating school leadership practice: A distributed perspective	1,008
3. Spillane & Halverson (2004). Towards a theory of leadership practice: a distributed perspective	1,006
4. Gronn (2000). Distributed properties: A new architecture for leadership	525
5. Gronn (2008). The future of distributed leadership	285
6. Heck & Hallinger (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement	214
7. Camburn et al. (2003). Distributed leadership in schools: The case of elementary schools adopting comprehensive school reform models	166
8. Timperley (2005). Distributed leadership: developing theory from practice	158
9. Spillane et al. (2003). Leading instruction: The distribution of leadership for instruction	138
10. Scribner et al. (2007). Teacher teams and distributed leadership: A study of group discourse and collaboration	111
11. Bolden et al. (2009). Distributed leadership in higher education rhetoric and reality	107
12. Hartley (2007). The emergence of distributed leadership in education: Why now?	92

13. Gronn & Hamilton (2010). A bit more life in leadership: Co-principalship as distributed leadership practice	89
14. Garcia Carreno (2018). Principals' perception on the practice of distributed leadership: A quantitative study	59
15. Crawford (2012). Solo and distributed Leadership: Definitions and dilemmas	55
16. Lumby (2013). Distributed leadership: The uses and abuses of power	55
17. Harris (2013). Distributed leadership: Friend or foe?	
18. Hartley (2010). Paradigms: How far does research in distributed leadership 'stretch'?	54
19. Hulpia et al (2011). The relation between school leadership from a distributed perspective and teachers' organizational commitment: Examining the source of the leadership function	52
20. Floyd & Fung (2017). Focusing the kaleidoscope: Exploring distributed leadership in an English university	51
21. Harris (2005). Leading or misleading? Distributed leadership and school improvement	51
22. Hulpia & Devos (2010). How distributed leadership can make a difference in teachers' organizational commitment? A qualitative study	43
23. Woods & Gronn (2009). Nurturing democracy - The contribution of distributed leadership to a democratic organizational landscape	42
24. Wallace (2002). Modeling distributed leadership and management effectiveness: Primary school senior management teams in England and Wales	38
25. Hulpia et al. (2009). The Influence of distributed leadership on teachers' organizational commitment: A multilevel approach	36
26. Maxcy & Nguyen (2006). The politics of distributing leadership - Reconsidering leadership distribution in two Texas elementary schools	34
Total	5,475

*WoS citations as of June 3, 2020.

Spillane & colleagues' three papers (2002; 2003; 2004) received 2,152 citations. Gronn's (2000; 2002; 2008) articles received 1,924 citations and he received almost one-third of all citations. Gronn & colleagues' (2000, 2002, 2008; 2009; 2010) papers received a total of 2,055 citations, just 131 higher than Gronn's papers. So, Gronn alone was the most highly cited author. When colleagues included, Spillane & colleagues were the most cited authors with only 98 more citations than Gronn & colleagues. Heck & Hallinger's (2009) paper received 214 citations placing them in the third highly cited among the DL papers.

Table 13

Citation Impact of DL Articles (n=117)

Article Citation Information *	Total
Total Citations	6,182
Mean citations per paper	52.84
Uncited papers	22
Papers with 200+ citations	6
Papers with 100+ citations	5
Papers with 50+ citations	9

*WoS citations as of June 3, 2020.

DL Book Chapters and Books

The book chapters on DL received a total of 320 citations from DL papers in WoS. The 15 book chapters received 14.54 citations per chapter. One book chapter received over 100 citations, 2 chapters received over 40 citations, and 9 chapters received over 10 citations while 7 book chapters did not receive any citations from DL papers.

Table 14

Citation Impact of DL Book Chapters (n=15)

Book Chapters Citation Information*	Total
Total Citations	320
Mean citations per book	14.54
Uncited books	7
Book chapters with 100+ citations	1
Book chapters with 40+ citations	2
Book chapters with 10+ citations	9

Mascall et al., (2009) "The Relationship between Distributed Leadership and Teachers' Academic Optimism" book chapter was the most cited book with 121 citations among DL chapters. It was the only book chapter that received over 100 citations. In addition, Malloy & Leithwood (2017) book chapter received 6 citations. These two book chapters make Leithwood the most cited book chapter author among DL book chapters. Sheashore–Louis et al., (2009) chapter, "The Role of Sensemaking and Trust in Developing Distributed Leadership" was the second highly cited book chapter with 42 citations. Gronn's (2009) "From Distributed Leadership to Hybrid Leadership Practice" was the third highly cited book chapter with 36 citations. Hallinger & Heck's (2009) "Distributed Leadership in Schools: Does System Policy Make a Difference?" book chapter received 32 citations while Harris' (2009) chapter "Distributed Leadership: what we know?" ranked 5th with 30 citations. Robinson (2009), Camburn & Han (2009), Hargreaves & Fink (2009), and Spillane et al. (2009) book chapters received over 10 citations. Seven DL book chapters received less than 10 citations from DL papers while the remaining seven book chapters on DL did not receive any citation from DL papers on the WoS database.

Table 15

Rank Order of DL Book Chapters Citations in WoS (n=15)

Author(s)	Book Chapters	Citation(f)
1. Blair Mascall, Ken Leithwood, Tiu Strauss, Robin Sacks (2009)	The Relationship Between Distributed Leadership and Teachers' Academic Optimism	121
2. Karen Sheashore-Louis, David Mayrowetz, Mark Smiley, Joseph Murphy (2009)	The Role of Sensemaking and Trust in Developing Distributed Leadership	42
3. Peter Gronn (2009)	From Distributed to Hybrid Leadership Practice	36
4. Phillip Hallinger, Ronald Heck (2009)	Distributed Leadership in Schools: Does System Policy Make a Difference?	32

5. Alma Harris (2009)	Distributed Leadership: What We Know	30
6. W. M. J. Robinson (2009)	Fit for Purpose: An Educationally Relevant Account of Distributed Leadership	18
7. Eric M. Camburn, S.W. Han (2009)	Investigating Connections Between Distributed Leadership and Instructional Change	14
8. Andy Hargreaves, Dean Fink (2009)	Distributed Leadership: Democracy or Delivery?	10
9. James Spillane, Eric M. Camburn, James Pustejovski, Amber Stitzel Pereja, Geoff Lewis (2009)	Taking a Distributed Perspective in Studying School Leadership and Management: The Challenge of Study Operations	10
10. John Malloy, Ken Leithwood (2017)	Effects of Distributed Leadership on School Academic Pres and Student Achievement	6
11. Stephen Dinham (2005)	The Relationship between Distributed Leadership and Action Learning in Schools: A Case Study	5
12. Lejf Moos (2010)	From Successful School Leadership towards Distributed Leadership	4
13. Parlo Singh, Kathryn Glasswell (2016)	Distributed Leadership Policies and Practices: Striving for Educational Equity in High Poverty Contexts	3
14. Greer Johnson, Neil Dempster, 14. Elizabeth Wheeley (2016)	Distributed Leadership: Theory and Practice Dimensions in Systems, Schools, and Communities	2
15. Edmond Hau Fai Law, Maurice Galton, Kerry Kennedy, John C. K. Lee (2016)	Developing Curriculum Leadership Among Teachers for School-Based Curriculum Innovations in Hong Kong: A Distributed and Problem-Solving Approach	1

There was no book chapter cited on DL before 2009 (Figure 7). There were 10 book chapters published in 2009. Two book chapters were published in 2010 and 2011. The number of book chapters published increased to 5 in 2016. There were two book chapters published in 2017 and only one book chapter was published in 2018.
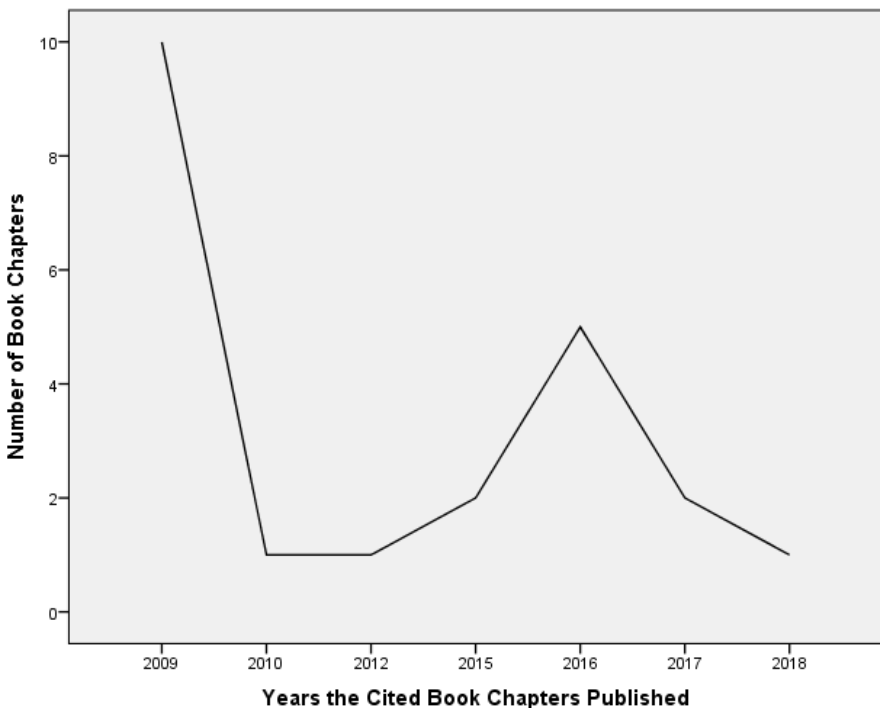

Figure 7. The Distribution of WoS Cited Book Chapters Published on DL Over Time (n=15)

Table 16

Rank Order of DL Books with at least One Citation in WoS and Google Scholar (n=13)

Author(s)	Books	WoS Cites (f)	Google Scholar Cites (f)
1. J. Spillane (2012)	Distributed Leadership		3,239
2. J. Spillane & J.B. Diamond (2007).	Distributed Leadership in Practice		706
3. A. Harris (2008).	Distributed School Leadership: Developing Tomorrow's Leaders		553
4. K. Leithwood, B. Mascall, T. Strauss (2009)	Distributed Leadership According to the Evidence		436
5. A. Harris (2013).	Distributed Leadership Matters: Prospects, Practicalities, and Potential		243
6. A. Harris (2009)	Distributed Leadership: Different Perspectives	85	6
7. M. E. McBeth (2007).	The Distributed Leadership Toolbox: Essential Practices for Successful Schools		50
8. E. Hau-fai Law (2017)	Developing Distributed Curriculum Leadership in Hong Kong Schools		44
9. J. A. DeFlaminis, M. Abdul-Jabbar & E. Yoak (2016).	Distributed Leadership: A Practical Guide for Learning and Improvement		28
10. N. Chatwani (2018)	Distributed Leadership: The Dynamics of Balancing Leadership with Followership	1	12

11. D. Massey (2012)	Leading the Sustainable School: Distributing Leadership to Inspire School Improvement		
12. H. Bahadur (2012).	Distributed Leadership: Ideals and Realities in a Private School in Pakistan		
13. M. A. Edwards (2015).	Thank you for your leadership: The Power of Distributed Leadership in a Digital Conversion Model		
Total		**86**	**5,317**

Table 16 indicates the DL books and their citations. There were two types of citations used for books. The first one was from WoS and the second was from Google Scholar. Spillane's (2012) *Distributed Leadership* book received the largest number of citations with 3,239. Spillane & Diamond's (2007) *Distributed Leadership in Practice* book ranked 2nd with 706 Google citations. Harris' (2008) *Distributed School Leadership* book ranked 3rd with 553 Google cites. Leithwood & colleagues' (2009) *Distributed Leadership According to the Evidence* ranked 4th with 436 Google cites. Harris' (2013) *Distributed Leadership Matters* book ranked 5th with 243 Google cites. Again, Harris' (2009) *Distributed Leadership: Different Perspectives* book received 6 Google cites. However, this book received the largest number of citations based on the WoS database with 85 citations and thus ranked 1st when we use WoS cites. McBetch's (2007), DeFlaminis et al. (2016), & Chatwani's (2018) books received 50 or lower Google cites. Massey (2012), Bahadur (2012), and Edwards (2015) books have yet to get citations.

Discussion and Conclusion

We provided an overview of the literature on DL concerning the development, knowledge base, intellectual structure over time based on articles, book chapters, and books: journals that included DL articles, scholars,

methodologies, citations, and countries. We also included articles, book chapters, and books that received citations in the WoS database between 2000 and 2020 from Google citations only for books. Then, a more in-depth analysis was carried out using content analysis for all 117 papers in 46 journals, 22 book chapters, and 16 books. We analyzed information on publications years, authorship patterns, methods (design, data collection techniques, tests & analyzes, validity & reliability), reviews of literature, and citations.

We used Connected papers (2020), a visual tool that helps researchers to find and explore papers relevant to their field of work. We first examined visually DL literature. The first cluster is formed around Spillane's (1999, 2001, & 2004) and Gronn's (2000 & 2002) articles and they were large in terms of size which indicates the number of citations received from DL articles. A second cluster was found around Hallinger (1996, 1998, 2003, and 2004), Leithwood (2008), and Goldwyn (2008). The nodes were also strong among these articles. However, although Fullan's (2001) article was highly cited, nodes were not so strong.

We used bibliometric science mapping analysis to identify topical foci and associations in DL literature through co-occurrence or co-word maps. We identified three clusters such as student learning and achievement, school improvement, and school climate These concepts together formed the knowledge base of DL.

We employed an author co-citation map for DL articles to identify schools of thought. We came up with three distinct clusters: Leadership for learning, DL, and managing educational reform and change. DL was located at the intersection between leadership for learning and managing educational reform and change. We found that Spillane, Harris, and Gronn served as the boundary spanners since they crossed boundaries among DL, leadership for learning, and managing educational reform and change. Spillane, Harris, Gronn, and Hallinger along with their colleagues also defined the boundaries of DL.

EMAL ranked 1st among journals that published DL articles with 26 articles making up 22.2 % of all DL articles. SL&M followed with 7 articles while EAQ, IJLE, and JHEP&M published 6 articles each. Interestingly Journal of Curriculum Studies, a non ELDM journal published 5 articles along

with *Leadership and Policy in Schools*. Surprisingly, as one of the oldest and prestigious EDLM journals, JEA published only 4 articles along with Educational Studies.

There was an increase in DL articles following 2015 and the publications continued to be relatively high (almost 10 articles in WoS database) since then. Spillane, Harris, Devos, Hulpia, and Liu published five DL articles. Gronn (2002) was the most frequently cited while Gronn (2002, 2008) articles also ranked in fourth and fifth among highly cited articles in WoS. Spillane, et al. (2002) and Spillane & Halverson (2004) articles ranked second and third among the highly cited articles respectively. Heck & Hallinger (2009) ranked in 6th in terms of citations.

The most cited book in the WoS database was Harris' (2013) book. Interestingly, the books on DL did not get citations in WoS except Harris' (2013) book. Thus, when google cites are considered, Spillane (2012), Spillane & Diamond (2007) ranked first and second, respectively. Harris' (2008) book ranked third. Leithwood et al., (2009) book ranked fourth. Harris' (2008) book ranked fifth among Google cites. Harris had three books (2008, 2013, and 2009) among the highly cited six books.

Mascall, Leithwood, Strauss, and Sacks (2009) was the most frequently cited book chapter while Louis, Mayrowetz, Smiley & Murphy's (2009) chapter ranked the second in terms of citations in WoS. Gronn's (2002) chapter ranked third, Hallinger & Heck (2009) ranked fourth and Harris' (2009) chapter ranked fifth among highly cited book chapters.

The results indicated that its roots could be traced back in history, although the DL was among the relatively new leadership models, it gained considerable ground and there was a sharp increase following 2015. We may infer that it is still in its formation stages. Almost one-third of the DL journal articles employed qualitative methodologies and one-third were conceptual papers while only one-fifth of the articles used quantitative methodology. This preference of methodology is interesting.

Discussion

The DL articles were mainly qualitative and conceptual while only 23% of the articles used quantitative methodologies. This result may be an indication that the paradigmatic development of DL is continuing since the plowing new ground endures in DL literature. Almost 75 % of the articles were descriptive and used mainly conceptual-literature reviews and interviews. Thus, the qualitative analyses were mainly content analyses and case studies (30 %). Advanced analyzes were not used frequently in quantitative research methods.

Validity and reliability were not very reported or not presented in over 80% of DL articles. They are important for establishing valid and reliable instruments/concepts to measure DL. For the qualitative studies, Grounded Theory may be employed for theory development. However, Grounded Theory was not utilized much in data analysis in qualitative DL articles. Only 10% of the quantitative studies used Exploratory Factor Analysis (EFA) and only 4 % of the quantitative studies used Confirmatory Factor Analysis (CFA). EFA is to identify constructs behind the data. It is useful for developing sound measures for constructs. CFA is to test theories, whether data confirm the theory at hand. So, both qualitatively and quantitatively, theory development or testing hypotheses is limited and the empirical development of DL has considerable room for improvement.

Descriptive studies may not be very useful in changing the practice in schools while normative approaches may lead to ineffective practices (Bolden, 2011). Young (2009, cited in Bolden, 2011) advocates the use of critical perspectives to overcome some of these issues such as lack of critique against the policy, an under-emphasis of historical roots, not paying attention to parallel developments, and lack of attention to the dynamics of power and influences. The results of this study support Bolden's (2011) argument on the lack of critical studies.

The use of critical perspectives is likely to increase making connections with school improvement (Harris, 2005; Massey, 2012; Bolden, 2011). Scholars also suggested a hybrid approach to leadership (Pearce, 2004; Gronn, 2009 and 2010; Harris, 2009; Bolton, 2011) may bring a systemic approach by balancing individual, collective and situational aspects of leadership (Bolton, 2011).

The most important contribution of DL has been a systemic approach to leadership while recognizing and integrating other leadership approaches (Bolden, 2011). To achieve more recognition, DL needs more connections with practitioners (Harris & Spillane, 2002; Bolden, 2011). As the critical perspectives are likely to help pay more attention to the voices of followers such as the collective sensemaking of Louis et al. (2009), DL is likely to strengthen its grounds on practice.

Almost one-third of the journal articles employed qualitative methodologies and one-third were conceptual papers while only one-fifth of the articles used quantitative methodology. This preference of methodology is interesting and they are in line with DL is still building its paradigm. However, more ethnographic (Bolton, 2011), multi-level empirical (Harris, 2005; Yammarino & Danserau, 2008; Spillane & Healey, 2010) studies are needed.

Limitations

The review included articles and book chapters cited in the WoS database. While this review analyzed 117 articles and excluded graduate theses, conference proceedings, books, reports, and non-WoS databases. Moreover, we did not include all possible lists of journal articles. Therefore, this was not a representative sample of the full DL articles. Secondly, we limited our search on the WoS database. Third, this review is limited to articles, books, and chapters published between the periods of 2000 to June 3, 2020, 20 years. We came up with 117 journal papers and 13 books and 15 book chapters on DL, we do not claim that we covered all the articles, books, and book chapters on DL. Our search was limited to the period, certain databases and articles, books, and book chapters.

References

Aypay, A., Çoruk, A., Yazgan, D., Kartal, O., Çağatay, M., Tunçer, B., & Emran, B. (2010). The status of research in educational administration: An analysis of educational administration journals, 1999-2007. *Eurasian Journal of Educational Research (EJER), 39,* 59–77.

Bennett, N., Wise, C., Woods, P. A., & Harvey, J. A. (2003). *Distributed leadership.* Nottingham: National College for School Leadership.

Bolden, R. (2011). Distributed leadership in organizations: A review of theory and research. *International Journal of Management Reviews*, *13,* 251–269.

Bolden, R., Petrov, G., & Gosling, J. (2009). Distributed leadership in higher education rhetoric and reality. *Educational Management Administration & Leadership, 37*(2), 257–277.

Bush, T., & Glover, D. (2003). *School Leadership: Concepts and Evidence.* Nottingham: NCSL.

Camburn, E. M., & Han, S. W. (2009). Investigating connections between distributed leadership and instructional change. In A. Harris (2009) *Distributed leadership: different perspectives*. London: Springer.

Camburn, E., Rowan, B., & Taylor, J. E., (2003). Distributed leadership in schools: The case of elementary schools adopting comprehensive school reform models. *Educational Evaluation and Policy Analysis, 25*(4), 347–373.

Chatwani, N. (2018). *Distributed leadership: the dynamics of balancing leadership with followership.* England: Palgrave.

Chen, C. (2017). Science mapping: A systematic review of the literature. *Journal of Data and Information Science, 2,* 140.

Crane, D. (1972). *Invisible colleges: diffusion of knowledge in scientific communities*. Chicago: University of Chicago Press.

Crawford, M. (2012). Solo and distributed leadership: Definitions and dilemmas. *Educational Management Administration & Leadership, 40*(5), 610–620.

Gronn, P. (2000). Distributed properties: A new architecture for leadership. *Educational Management & Administration, 28*(3), 317–338.

Gronn, P. (2002). Distributed leadership as a unit of analysis. *The Leadership Quarterly, 13,* 423–451.

Gronn, P. (2003). Leadership: who needs it? *School Leadership & Management, 23*(3), 267–290.

Gronn, P. (2008). The future of distributed leadership. *Journal of Educational Administration, 46*(2), 141–158.

Gronn, P. (2009). From distributed to hybrid leadership practice. In A. Harris (2009) *Distributed leadership: different perspectives*. London: Springer.

Gronn, P., & Hamilton, A. (2010). A bit more life in the leadership: Co-principalship as distributed leadership practice. *Leadership and Policy in Schools, 3*(1), 3–35.

Gümüş, S., Bellibaş, M. Ş., Gümüş, E., & Hallinger, P. (2020). Science mapping research on educational leadership and management in Turkey: A bibliometric review of international publications. *School Leadership & Management*, *40*(1), 23-44.

Gümüş, S., Bellibaş, M. Ş., Esen, M., & Gümüş, E. (2018). A systematic review of studies on leadership models in educational research from 1980 to 2014. *Educational Management Administration & Leadership, 46*(1), 25–48.

Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools, 4*(3), 221–239.

Hallinger, P., Bickman, L., & Davis, K. (1996). School context, principal leadership, and student reading achievement. *The Elementary School Journal, 96*(3), 527–549.

Hallinger, P., & Heck, R. H. (2009). Distributed leadership in schools: Does system policy make a difference*?* In A. Harris (2009) *Distributed leadership: different perspectives*. London: Springer.

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

Hargreaves, A., & Fink, D. (2009) *Distributed leadership: Democracy or delivery?*. Distributed Leadership: Different Perspectives.

Harris, A. (2004). Distributed leadership in schools: Leading or misleading? *Educational Management, Administration and Leadership, 32*(1), 11-24.

Harris, A. (2005). Leading or misleading? Distributed leadership and school improvement. *Journal Curriculum Studies, 37*(3), 255–265.

Harris, A. (2008). *Distributed school leadership: developing tomorrow's leaders*. London: Routledge.

Harris, A. (2009). *Distributed Leadership: Different Perspectives*. Netherlands: Springer.

Harris, A. (2009). Distributed leadership: what we know. In A. Harris (2009) *Distributed leadership: different perspectives*. London: Springer.

Harris, A. (2013). Distributed leadership: Friend or foe?. *Educational Management Administration & Leadership, 41*(5), 545–554.

Hartley, D. (2007). The emergence of distributed leadership in education: Why now? *British Journal of Educational Studies, 55*(2), 202–214.

Heck, R. H., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal, 46*(3), 659–689.

Hulpia, H., & Devos, G. (2010). How distributed leadership can make a difference in teachers' organizational commitment? A qualitative study. *Teaching and Teacher Education, 26,* 565–575.

Hulpia, H., Devos, G., & Keer, H. V. (2009). The influence of distributed leadership on teachers' organizational commitment: A multilevel approach. *The Journal of Educational Research, 103*(1), 40–52.

Leithwood, K., Jantzi, D., & Steinbach, R. (1999). *Changing Leadership for Changing Times.* Buckingham: Open University Press.

Leithwood, K., & Mascall, B. (2008). Collective leadership effects on student achievement. *Educational Administration Quarterly, 44*(4), 529–561.

Leithwood, K. A., Mascall, B,. Strauss, T., et al. (2007). Distributing leadership to make schools smarter: Taking the ego out of the system. *Leadership and Policy in Schools, 6*(1), 37–67.

Leithwood, K., Mascall, B., & Strauss, T. (2009). *Distributed Leadership According to the Evidence.* New York: Routledge.

Louis, K. S., Mayrowetz, D., Smiley, M., & Murphy, J. (2009). The role of sensemaking and trust in developing distributed leadership. In A. Harris (2009) *Distributed leadership: different perspectives*. London: Springer.

Lumby, J. (2013). Distributed leadership: The uses and abuses of power. *Educational Management Administration & Leadership, 41*(5), 581–597.

MacBeath, J., Oduro, G. K. T., & Waterhouse, J. (2004). *Distributed Leadership in Action: A study of current practice in schools.* National College for School Leadership, Nottingham.

Malloy, J., & Leithwood, K. (2017). *Effects of distributed leadership on school academic press and student achievement.* How School Leaders Contribute to Student Success: The Four Paths Framework.

Massey, D. (2012). *Leading the sustainable school: distributing leadership to inspire school improvement.* London: Continuum Int Publishing Group.

Murphy, J., Vriesenga, M., & Storey, V. (2007). Educational Administration Quarterly, 1979-2003: An analysis of types of work, methods of investigation, and influences. *Educational Administration Quarterly*, *43*(5), 612–628.

Pearce, C. L. (2004). The future of leadership: Combining vertical and shared leadership to transform knowledge work. *Academy of Management Executive, 18*(1), 47–57.

Pearce, C. L., & Conger, J. A., (2003). *Shared leadership: Reframing the hows and whys of leadership.* SAGE Publications.

Robinson, V. M. J. (2009). Fit for purpose: An educationally relevant account of distributed leadership. In A. Harris (2009) *Distributed leadership: different perspectives*. London: Springer.

Scribner, J. P., Sawyer, R. K., Watson S. T., & Myers, V. L. (2007). Teacher teams and distributed leadership: A Study of Group Discourse and Collaboration. *Educational Administration Quarterly, 43*(1), 67–100.

Southworth, G. (2004). A response from the national college for school leadership. *Educational Management Administration & Leadership, 32*(3), 339–354.

Spillane, J. P. (2006). *Distributed Leadership.* San Francisco, CA: Jossey-Bass.

Spillane, J. P. (2012). *Distributed Leadership.* San Francisco: Jossey-Bass.

Spillane, J. P. (2015). Foreword. In JA Deflaminis, M. Abdull-Jabbar and E. Yoak (2015) *Distributed leadership in schools: A Practical guide for learning and improvement*. Routledge: New York.

Spillane, J. P., Camburn E. M., Pustejovsky, J., Parej, A. S., & Lewis, G. (2009). Taking a distributed perspective in studying school leadership and

management: The challenge of study operations. In A. Harris (2009) *Distributed leadership: different perspectives*. London: Springer.

Spillane, J. P., Diamond, J. B., & Jita, L. (2003). Leading instruction: The distribution of leadership for instruction. *Journal of Curriculum Studies*, 1–14.

Spillane, J. P., Halverson, R., & Diamond, J. B. (2001). Investigating school leadership practice: A distributed perspective. *Research News and Comment*, 23–28.

Spillane, J. P., Halverson, R., & Diamond, J. P. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies, 36*(1), 3–34.

Spillane, J. P., & Healey, K. (2010). Conceptualizing school leadership and management from a distributed perspective: An exploration of some study operations and measures. *The Elementary School Journal, 111*(2), 253–281.

Spillane, J. P., Hunt, B., & Healey, K. (2009). Managing and leading elementary schools: Attending to the formal and informal organisation. *International Studies in Educational Administration, 37*(1), 5–28.

Spillane, J. P., & Orlina, E. C. (2005). Investigating leadership practice: Exploring the entailments of taking a distributed perspective. *Leadership and Policy in Schools, 4,* 157–176.

Timperley, H. S. (2005). Distributed leadership: Developing theory from practice. *Journal Curriculum Studies, 37*(4), 395–420.

Torres, D. G. (2018). Distributed leadership and teacher job satisfaction in Singapore. *Journal of Educational Administration, 56*(1), 127–142.

van Eck, N. J., & Waltman, L. (2017). Citation-based clustering of publications using CitNetExplorer and VOSviewer. *Scientometrics, 111*(2), 1053–1070. https://doi.org/10.1007/s11192-017- 2300-7

Wallace, M, (2002), Modelling distributed leadership and management effectiveness: Primary school senior management teams in England and Wales. *School Effectiveness and School Improvement, 13*(2), 163–186.

Woods, P. A., & Gronn, P. (2009), Nurturing democracy: The contribution of distributed leadership to a democratic organizational landscape. *Educational Management Administration & Leadership, 37*(4), 430–451.

Woods, A. M., & Weasmer, J. (2004). Maintaining job satisfaction: Engaging professionals as active participants. *The Clearing House, 77*(3), 118–121.

Yukl, G. A. (2002). *Leadership in organizations.* (5th ed.), Prentice Hall.

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