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Understanding Distributed Leadership and Insights for Chinese Educational Institutions in the Context of Digital Transformation: A Literature Review

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Abstract

When education across all levels, is no exception for meeting the needs of industry 4.0 and the new demand of digital economy and society, distributed leadership is an effective reform strategy on organization transition for digital transformation. 174 articles related to distributed leadership were selected from eight core-international journals in the field of educational leadership and management with average h-index of 45, and 64 articles with the keywords of distributed leadership published in the CSSCI and core journals were found. The 248 articles in total were reviewed for analysis with three aspects (research themes and theories; research methodology and analytical methods; discovery and revelation) which were synthesized from the systematic conceptual framework of literature review by Hallinger (2013,2014), the research conclusion frameworks by Bennett et al. (2003) and Tian et al. (2016). The literature review was conducted on four aspects (who, why, what and how) for knowing which most scholars are concerned and for informing educational institutions with insights on distributed leadership for future development.

Keywords: distributed leadership, literature review, digital transformation

1. Background: Distributed leadership in TVET for digital transformation

1.1 Context: Educational institutions are driven by digital technologies for digital transformation.

- Digital technologies drive educational transformation for digital transformation

Human society is stepping onto a new historical stage in which emerging digital technologies have become the major driving power of productivity. With urgency and intensity, it is important to transform the economy, society, governance, and environment to meet the needs of Industry 4.0 and the new demands of the digital economy and society. Education across all levels, as one of the most significant sectors within society, is not an exception for sustaining societal operations (ILO, 2020; ITU, 2021).

- Digital technologies drive the transitions in on-demand skills for the future world of work

Today's workplaces have witnessed more extensive use of digital technologies, and digital transformation is literally reshaping our world of work. Digital skills and competencies are in greater demand than ever before, and these technical skills are fundamental to our digital economy and society (Didier, 2022). Most of today's jobs require, at a minimum, basic digital skills. As a natural result, the growing trend is that job requirements include advanced digital technologies, which has led to profound changes in labor markets and new business opportunities.

- Educational institutions play a main role in supplying talent for digital transformation

Educational institutions play the main role in helping youth and adults develop in-demand skills for utilization in the digital economy and future occupations while supporting inclusive and sustainable economic growth. In the future,

educational institutions should be aware of innovating and developing digital needs to more effectively supply talent for the labor market (Sgarzi, 2021).

1.2 Rationale: Capacity building for leadership is crucial for digital transformation courses offered in educational institutions.

- Keyphrase: digital transformation is transformation

Digital transformation is a process; it is not a destination for the upgrade of technologies (ILO, 2020). During the evolution of digital transformation, though digital technology could augment impacts, it was merely one factor of successful digital transformation. Successful digital transformation goes beyond technology adoption. Instead, it is implemented to focus on transforming an organization, industry, or ecosystem with cultural, organizational, and operational changes applied to the multiplier impact of technology.

- Capacity building in educational institutions is central to digital transformation

It is commonly believed that digital transformation is more about talent, as talent is the key to transforming mindset, organization, culture, methodology, and business modes for an organization, industry, or ecosystem in the process of digital transformation. Educational institutions closely integrate with labor markets, and this is indicative of the relationship between the quality and relevance of the supply of talent. In such a manner, it is essential for institution leaders, program directors, teachers, and staff who lead, integrate, and implement transformation to be qualified in, and possess a high-quality capacity for, digital transformation.

- The transition of an organization is critical for digital transformation.

In 2021 digital transformation report by Digital Competency Centre (McKinsey-Beijing), it was pointed out that digital transformation involves three major areas; namely business transformation, technological transformation, and organizational transformation (Li et al., 2021). Among them, *organizational transformation* refers to profound changes in the organizational structure, operation mechanism, talent cultivation, and organizational culture. Successful organizational transformation is a top-down reform. It requires top management to clarify goals and establish performance frameworks; namely to become the *brain* guiding the direction of transformation actions. That is, to form representations for transformation initiatives and financial indicators; namely to become the *eyes* that *see* the impact of business transformation and to establish consistent concepts of change, management, and behaviors throughout the organization. That is, to become the *heart* leading the top-down reform in the organization. It's evident that organizational transformation has an important impact on business transformation and technological transformation and that organizational transformation is the foundation and key to organization-wide reform (Didier, 2022).

1.3 Distributed leadership is a reform strategy for the transition of an organization.

It has been nearly 20 years since the concept of distributed leadership was introduced, and today it has become familiar to everyone (Gronn, 2002; Spillane et al., 2004a). In China, this concept has been gradually promoted and used in a diversity of fields (Zhang, 2011; Wang et al., 2019). Distributed leadership, as a strategy of organizational reform, has even been introduced into foreign education policies at all levels (Abrahamsen & Aas, 2016; Cowie et al., 2011; Modeste et al., 2018; Pak & Desimone, 2019; Printy & Liu, 2021; Sibanda, 2017). This has been an excellent example to show people's recognition regarding the positive role of distributed leadership in organizational reform.

However, as indicated by Hallinger and Bryant (2013), language barriers have hindered the popularization of relevant theoretical knowledge and research on sustainable development in numerous countries and brought failures in conducting a smooth, international dialogue in academics. It has the following characteristics. On the one hand, the ignorance of relevant local development (advanced or lagging) has limited the possibility of discussion by colleagues at home and abroad to promote improvement. On the other hand, advanced theoretical research from overseas cannot be flexibly used for reference, and the *detours* that foreign counterparts have employed are often repeated. When it comes to content, the focus of relevant domestic research has been on simple conceptual analyses and theoretical commentary (Ji, 2019; Zhao & Chen, 2018; Liu & Chen, 2017; Liu, 2020), while most foreign research is empirical (Baloglu, 2012; Cherkowski & Brown, 2014; Gedik & Bellibas, 2015; Göksoy, 2015; Harkin & Healy, 2013; Lefoe et al., 2013; Liang & Sandmann, 2015; Modeste et al., 2022; O'Donovan, 2015; Purcell, 2014; Shear et al., 2014). It can be seen from this comparison that China has obviously not integrated itself nor participated in the formal international academic dialogue related to distributed leadership.

Therefore, by summarizing and reviewing foreign research on distributed leadership, and with a comparison in the development status of domestic research on this topic, this paper advances suggestions for the future development of distributed leadership research efficacy in China.

2. Methodology

This paper adopts the method of systematic literature review proposed by Hallinger and Bryant (2013), and selects literature from the following aspects based on the local academic characteristics in China:

First, we selected eight core-international journals in the field of educational leadership and management: Educational Administration Quarterly (EAQ), Journal of Educational Administration (JEA), School Effectiveness and School Improvement (SESI), Educational Management Administration and Leadership (EMAL), International Journal of Leadership in Education (IJLE), International Journal of Educational Management (IJEM) and Leadership and Policy in Schools (LPS), and School Leadership and Management (SLAM). These journals focus on published English research on educational leadership and management from around the world and adopt a blind review process. Additional reasons for the selection of these eight journals include: their average h-index remains at 45, they are broadly representative, and their articles with international viewpoints are indicative of leading theoretical and empirical knowledge in

educational leadership and management (Hallinger & Bryant, 2013). A review in this paper of these articles from the aforementioned journals uncovers the importance of distributed leadership during 23 years, from 1999 to 2022. This time interval was chosen, because it encompasses all development periods during the concept of distributed leadership, from its rise to its most recent developments (Gronn, 2000). A total of 174 articles related to distributed leadership have been encountered from the eight international core journals.

Second, 186 articles with titles related to distributed leadership have been attained in the educational resource literature database of ERIC from 1999 to 2022. Part of the 186 articles overlap with the above-mentioned articles from the eight core international journals, but we believe that a supplementary search from the ERIC database can further ensure that pertinent articles related to distributed leadership will not be overlooked in the literature review of this paper.

Third, articles published in the CSSCI and other core journals have been searched for through the CNKI platform. By searching with the keywords of *distributed leadership* and setting the date on November 5th, 2022, a total of 64 papers published in the CSSCI and core journals have been found. This method was used to uncover the most important and pertinent articles related to the topic of distributed leadership in China.

Drawing on the systematic conceptual framework of literature review by Hallinger (2013, 2014) and combined with the research conclusion framework by Bennett et al. (2003) and Tian et al. (2016), this paper was used to show the analyses of this literature from the following aspects:

- (1) Research themes and theories
- (2) Research methodology and analytical methods
- (3) Discovery and revelation

3. Findings

When referring to or understanding distributed leadership, it's easy to think of relevant concepts of leadership, such as *shared leadership*, *collective leadership*, *collaborative leadership*, and *co-leadership*. The background of these concepts is the social context of the emphasis on *decentralization* and the increasingly intensive *accountability* in the 1980s (Holloway et al., 2018; Liu, 2021; OECD, 1979; Zepke, 2007).

As explained by Olson (1979), it is usually because of the interests of a few people in the organization or the existence of coercion or other special means, that all individuals in the group act in accordance with common interests. Therefore, the original reason for these leadership concepts is simply that they serve as practical tools used for the increasing workload of leaders.

It is generally believed that credit for the highlights of distributed leadership apart from many similar concepts and its good reputation in the field of educational leadership should be given to Peter Gronn and James Spillane for their contributions at the beginning of this century (Mayrowetz, 2008a). Distributed leadership has even been considered to encompass all similar concepts and gradually replace them (Bolden, 2011).

In detail, there are two groups of distributed leadership (Bolden, 2011): One adheres to a prescriptive-normative paradigm and the belief is that distributed leadership is an effective way to improve the effectiveness of the leadership process and participation. For these scholars, the key question is how to distribute leadership for maximum benefit. The other group espouses a descriptive-analytical paradigm. This group argues that distributed leadership only provides an analytical framework through which we can assess or explain distributed or undistributed leadership styles. These scholars strongly hold the view that leadership may in some cases be shared or democratic, but the existence of *distribution* is not a necessary or sufficient condition. Distributed leadership cannot replace other types of leadership, and distribution itself is not related to more effective leadership. However, to this day, it is still difficult to sum up what distributed leadership is in a few sentences. This paper intends to conduct a literature review on the four aspects of distributed leadership, namely the *who*, *why*, *what*, and *how* about which most scholars are concerned and then inform educational institutions about how relevant scholars research distributed leadership.

3.1 Who – a research perspective

The most innovative element of distributed leadership compared to previous concepts and research on leadership is that the research object of leadership is different from that of the previous concepts. In the past, leadership-related research has focused more on the individual characteristics and/or commonalities of leaders and less on what leaders do. The research object of leadership was limited to leaders who were appointed to official lead positions and assigned tasks. Spillane (2006) fundamentally changes the analysis unit of leadership - from *people* to *practice* (Amels et al., 2021; Bellibas et al., 2021; Bolden, 2011; Hartley, 2010; Thien & Chan, 2022; Timperley, 2005; Vuori, 2019). The concept of *leader-plus* proposed by Spillane and Orlina (2005) further vividly clarified that the kind of research object should be involved in the study of leadership practices by Spillane et al. (2004). *Leadership practice* or *leadership task* are the interaction effects between multiple leaders and their followers. It's not enough to understand such an effect with an additive model, such as $1+1=2$. Its real effect must be understood in a multiplicative model; that is the effect must be understood as the collective perception and influence of a group of leaders.

When understanding or studying leadership from the perspective of distribution, some scholars are more inclined to agree with what Spillane said - the most appropriate analysis unit for leadership practice should be the entire school or leadership activities at the school level, rather than a single leader or a group of leaders (Al-Harthi & Al-Mahdy, 2017; Amels et al., 2020; Arar & Taysum, 2019; Avissar et al., 2018; Badenhorst & Radile, 2018; Bagwell, 2019; Dampson et al., 2017; Hashem, 2022; du Plessis & Heystek, 2020). It is often referred to as the *practice-centric model*. In addition, the *hybrid model* by Gronn (2002, 2003) emphasizes that individual leaders are as important as collective leaders and they coexist, which opens up new directions for distributed leadership research that mainly takes the entire

school or school level as the unit of analysis. Basically, research based on Gronn's *mixed model* can be viewed from the following three different perspectives or dimensions. The first dimension is to see the big from the small and to study distributed leadership from a smaller unit of analysis. Melville, Jones, & Campbell (2014) took a science subject group in a secondary school as the unit of analysis for relevant research. The analysis unit can also be a group of teachers in a school (Vuori, 2019). For example, Bouwmans, Runhaar, Wesselink, & Mulder (2019) studied which behaviors in the curriculum design team of a vocational education and training (VET) school would affect distributed leadership within the team committed to promoting education innovation. The second dimension is to focus on how a certain group of people distributes leadership. Du Plessis & Eberlein (2018) studied the role of departmental leaders in teachers' professional development from the perspective of distributed leadership; some studies also focused on how the principal distributed leadership (Klar, 2012a; Klar, 2012b). The third dimension is to understand the situation of distributed leadership in an entire school from the cognitive perspective of a select group. Some people conduct research from the perspective of teachers (Al-Harathi & Al-Mahdy, 2017; Kılıçoğlu, 2018; Miškolci, 2017; Miškolci et al., 2016; Modeste et al., 2020; Wan et al., 2018), and some understand distributed leadership from the perspective of leading teachers, such as subject leaders (Dampson & Frempong, 2018; Hawkes et al., 2017; Heikka et al., 2021; Liu, et al, 2021; Tahir et al., 2016). Sibanda (2018), Bellibas & Liu (2018) and Alsaedi & Male (2013) conducted research on distributed leadership from the perspective of principals. There are also comparative studies of the implementation of distributed leadership in diverse groups. For example, Blitz & Modeste (2015) conducted a comparative study on the views of teachers and school leaders on distributed leadership; they also performed comparative research on the same group in various regions (Wallace, 2002). They even conducted feminism-featured research on distributed leadership from the perspective of female leaders (Alyami & Floyd, 2019).

3.2 Why - reasons to carry out distributed leadership

The simplest reason for the necessity to carry out *distributed leadership* is that it can produce certain effects and functions. Mayrowetz (2008) found in his study that distributed leadership has four functions: to provide theoretical perspectives, improve efficiency and effectiveness, and enhance ability and democracy. Current relevant research primarily focuses on the first three functions, and each function has been further developed in depth and breadth.

First, distributed leadership has the function to provide a theoretical perspective for the study of leadership activities. The current research situation is as Harley (2010) described, that people carry out the reform/change of distributed leadership due to its social regulation. In other words, the reason for people's implementation of distributed leadership or in-school research on whether distributed leadership exists is that everyone does it. The purpose is not for real change, but what is certain is that distributed leadership has begun to occupy a position in international discourse, and to a certain extent, it has adversely affected the relevant policies of governments at all levels. Some governments have begun to adopt relevant strategies (Abrahamsen & Aas, 2016).

In general, research on distributed leadership, as mentioned above, is divided into two paradigms - *a prescriptive-normative paradigm* and *a descriptive-analytical paradigm*. Research based on a prescriptive-normative paradigm has us consider, by default, distributed leadership as the best and most effective method. Therefore, it typically focuses on using distributed leadership as a theoretical framework to verify whether there is distributed leadership in an organization and the extent to which distributed leadership has been developed (Aldaihani, 2019; Aldaihani, 2020; Arar & Taysum, 2020; Avissar et al., 2018; Bøe & Hognestad, 2017; Berjaoui & Karami-Akkary, 2019; Jones & Harvey, 2017; Kelley & Dikkers, 2016; Sewerin & Holmberg, 2017; Sharma et al., 2017; Youngs, 2017). Research based on a descriptive-analytical paradigm only use distributed leadership as an analytic framework. Before the selection of distributed leadership as an analytic framework, it is not necessary to consider that the existence of *distribution* is a requisite or even sufficient condition. However, most research results show, although distributed leadership does not directly affect student achievements nor performance, that they produce indirect influences and bring about measurable positive effects (Bellibas & Liu, 2018; Blitz & Modeste, 2015; Chitpin, 2020; Dampson & Frempong, 2018; du Plessis & Eberlein, 2018; du Plessis & Heystek, 2019; Floyd & Preston, 2018; García Torres, 2018; Malin & Hackmann, 2017; Lumby, 2019; Ross et al., 2016; Tapio et al., 2019; Tian & Risku, 2019; Wan et al., 2018; Wiczorek & Lear, 2018; Zuckerman et al., 2018).

Second, distributed leadership has functions to improve efficiency and effectiveness. Before analyzing the reasons for such functions, it's necessary to understand what *leadership* is or to further understand what *school leadership* is. Our rationale is the identification, acquisition, distribution, coordination, and use of necessary social, material, and cultural resources to create teaching conditions (Spillane et al., 2004a). After the *distribution strategy* is incorporated into the process of identifying, acquiring, distributing, coordinating, and using social material and cultural resources, the most direct effects are that the workload of leadership is shared to a certain degree, and at the same time, it allows more people who are in unofficial leadership positions, but who have professional skills and resources, to participate in leadership activities. The resultant synergy allows for greater efficiency and efficacy. It can further confirm the reasons that most of the research based on a descriptive-analytical paradigm can be utilized to finally verify the positive benefits of distributed leadership (Alyami & Floyd, 2019; Arar & Taysum, 2019; Bagwell, 2019; Bouwmans et al., 2019; Brown et al., 2019; Bush & Ng, 2019; Heikka et al., 2019; Katewa & Heystek, 2019; Liu, 2020; Mayrowetz, 2008; Pak & Desimone, 2019; Vuori, 2019; Zala-Mezö et al., 2019).

Third, it has the function to improve capabilities. Distributed leadership has increasingly come to our attention, primarily because of the verification of growing research that, as a method or strategy, it can improve the performance of an entire school (Jones et al., 2014; Melville et al., 2014; Özdemir & Demircioğlu, 2015; Thien et al., 2021). As an

agency, distributed leadership can improve the ability of individuals, thus improving an entire school. This is a positive cycle because improved schools will affect their internal individuals.

Specifically, as shown by the study of Özdemir & Demircioğlu (2015), distributed leadership is directly related to teachers' organizational commitments and psychological contracts. Or as an agency, it can give individuals at work corresponding feelings of ownership (autonomy), empowerment, self-efficacy, and well-being. Fundamentally, these improve individuals' willingness to participate in leadership activities and at the same time, provide opportunities for individuals to participate in leadership activities (Bagwell, 2019; Bouwmans et al., 2019; Kelley & Dikkers, 2016; Leithwood et al., 2008; Scribner et al., 2007; Seong & Ho, 2012; Supovitz & Tognatta, 2013; Tian et al., 2016; Tian & Risku, 2019).

3.3 What and how - What is *distributed leadership* research about and how is such research performed?

Much of the current research on distributed leadership focuses on assessing/validating the impact or effectiveness of distributed leadership (Berjaoui & Karami-Akkary, 2020; Carbone et al., 2017; Liljenberg, 2015; Jones et al., 2017; Kelley & Dikkers, 2016; Rikkerink et al., 2016; Sales et al., 2017; Sharma et al., 2017; Yuen et al., 2016). More specifically, some studies focus on how to gain more support from working leaders and more participation from followers (Jones et al., 2014; Melville et al., 2014), what the factors that hinder or promote distributed leadership are, determine the collective participation of teachers, state how to empower teachers, declare how to increase trust in an organization, or how to effectively use school resources, such as equipment or tools (Beckmann, 2017; Hairon & Goh, 2015; Harris & DeFlaminis, 2016; Klar, et al., 2016; Liljenberg, 2015; Modeste & Kelley, 2020; Özdemir & Demircioğlu, 2015; Tubin & Pinyan-Weiss, 2015; Zala-Mezo et al., 2020).

However, as mentioned by Spillane, Halverson, & Diamond (2004), the research challenge in understanding leadership practices lies in reconstructing the connection between school leadership macro-functions and micro-tasks through observation and interviews. As can be seen from these research findings, most studies do not meaningfully understand the difference between *macro-functions* and *micro-tasks*, or they may even mix up the two concepts. In fact, a leadership task can be either macroscopic or microscopic. Macro leadership tasks can be understood as the macro-functions of school leadership, and micro leadership tasks can be considered *micro-tasks*. Generally speaking, micro-tasks can be included in macro-functions. For example, *building a school vision* is a macro-function. To achieve this macro-function, it is necessary to complete tasks, such as *formulating a draft*, *arranging staff meetings to discuss and finish the draft*, and *draft revision*. It may take months or even years to complete these micro-tasks in order to achieve the desired macro-functions. Macro functions of significance, that are identified and offered at an early stage, can serve as a framework for analyzing leadership tasks (Spillane, Halverson, & Diamond, 2014) :

- building and promoting teaching visions
- developing and managing a school culture conducive to discussions on core teaching techniques to build trust, collaboration, and norms of scholarly publishing
- acquiring and allocating resources, including materials, time, support, and compensation
- individually and collectively supporting the growth and development of teachers
- providing teaching and innovating summative or formative supervision
- building a teaching atmosphere that is not dominated by disciplines

The above analytic framework of macro-functions provides a more in-depth direction for future research, and it is also more conducive to the evaluation, verification, and subsequent reference and application of distributed leadership research.

In addition, whether it is the *practice-centric model* of Spillane et al. (2004) or the *hybrid model* of Gronn (2002, 2003), they take the entire school or school level as the unit of analysis. That is to say, Spillane starts from an analysis of the totality, while Gronn starts from an analysis of the individual to further analyze the entirety. Very few studies effectively pay attention to the feelings and participatory process of individuals. Simultaneously, Woods (2016) fills this gap. He stated that the placement of the authority relationship in relation to individual members within an organization is dynamic. In other words, in the same organization, an individual may have *strong authority* in some respects, while coincidentally possessing *weak authority* in other respects.

4. Insights

In contrast to overseas research, domestic research on distributed leadership is still at the simple conceptual analysis stage, and it lacks relevant empirical research. The following insights have been obtained from the research findings of the above-cited international journals relating to the four aspects of *who*, *why*, *what*, and *how*. Moreover, new research directions have been provided for future domestic research on distributed leadership. They include the following:

(1) There is a shortage of empirical research based on the practice-centric model of Spillane et al. (2004) and that of the hybrid model of Gronn (2002). Distributed leadership should be taken as the research framework to show the development of distributed leadership in domestic schools.

(2) The feelings of individuals, participation process, and dynamic changes in distributed leadership and the improvement of individuals' capabilities should be more closely investigated, because individuals, as the agents of distributed leadership, play a key role in the overall improvement of scholastic and academic performance within distributed leadership.

(3) Domestic research has gained greater attention and been based on a *prescriptive-normative paradigm*, which by default has been used to consider distributed leadership as the best and most effective way to conduct simple conceptual analysis, manage corresponding research, and generate practical, localized empirical research. Therefore, it is

recommended to conduct more empirical research based on a *descriptive-analytical paradigm*.

(4) The macro-functions brought about by distributed leadership should be taken as the research framework to conduct further analysis and research on the premise of clarifying macro-functions and micro-tasks.

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