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Navigating Complexity: School Leadership as Part of School Development in Germany

Abstract

School leadership plays a central role in meeting the growing demands and complexities of educational reform in Germany. This scoping review synthesizes findings from 19 peer-reviewed studies to provide a structured overview of how school leadership contributes to school development. Through thematic analysis, the review identifies key patterns in leadership roles and styles, development strategies, governance structures, and macro-level influences. The findings underscore the need for integrated leadership approaches that balance pedagogical and managerial responsibilities while responding to diverse school contexts. The discussion connects national challenges with international perspectives, highlighting both the specificity of the German context and the relevance of broader leadership models. The review concludes with practical recommendations for leadership training and future research, advocating for context-sensitive and evidence-informed strategies to support sustainable school improvement.

Keywords

Scoping Review, Macro-Context, Governance Structures, Professional Development, Leadership Styles

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Komplexität meistern: Schulleitung als Teil der Schulentwicklung in Deutschland

Zusammenfassung

Die sich wandelnde Rolle der Schulleitung ist entscheidend, um den wachsenden Anforderungen und der Komplexität der Bildungsreformen in Deutschland gerecht zu werden. Dieser Beitrag zielt daher darauf ab, einen umfassenden Überblick über die Rolle der Schulleitung in der Schulentwicklung in Deutschland zu geben. Anhand eines systematischen Scoping-Reviews zu 19 peer-reviewten Studien werden zentrale Themen sowie Desiderate in der bestehenden Forschungsliteratur identifiziert. Durch eine thematische Analyse werden Muster im Zusammenhang mit Führungsrollen und -stilen, Entwicklungsstrategien, Governance-Strukturen und makro-kontextuellen Faktoren aufgedeckt. Die Ergebnisse heben die Bedeutung integrierter Führungsansätze hervor, die pädagogische und management-bezogene Verantwortlichkeiten ausbalancieren und sich an verschiedene Schulkontexte anpassen. Die Diskussion ordnet diese Erkenntnisse in den breiteren Forschungsstand ein und betont sowohl nationale Herausforderungen als auch Bereiche, in denen internationale Praktiken Orientierung bieten könnten. Das Review schließt mit praktischen Empfehlungen für die Ausbildung von Führungskräften und zukünftige Forschung, indem für kontextsensitive, evidenzbasierte Strategien zur Unterstützung nachhaltiger Schulentwicklung plädiert wird.

Schlüsselwörter

Scoping-Review, Makro-Kontext, Governance-Strukturen, Professionelle Entwicklung, Führungsstile

1. Introduction and Background

Since the 1990s, global education reforms – most notably the Global Education Reform Movement and the adoption of New Public Management principles – have fundamentally reshaped leadership expectations in schools (Sahlberg, 2023). These developments emphasize the pivotal role of school leaders in driving school improvement (Hallinger, 2013; Klein, 2017; Leithwood & Jantzi, 2006), although their implementation varies considerably across national contexts. In Germany, the federal education system and high degree of school autonomy create distinctive challenges, leading to wide disparities in leadership practices and outcomes between states.

In this article, we use the term school leaders to refer to individuals in formal leadership positions – such as principals – while school leadership refers to the broader practice of leadership distributed within school communities. This distinc-

tion is crucial for understanding the multifaceted role of school leaders in Germany. Principals are expected to balance their traditional role as pedagogical leaders with increasing responsibilities in school management and administration (Dimmock, 1999; Johannmeyer & Cramer, 2023). While historically seen as “the best teachers” (Brauckmann et al., 2016), principals today face growing expectations to lead strategically, use data effectively, and navigate complex governance structures.

Despite the growing importance of school leadership, the German research landscape remains fragmented and largely normative (Tulowitzki et al., 2019; Warwas, 2014). Empirical studies offering actionable insights into leadership practices are still limited. Consequently, there is a lack of systematic knowledge about how school leaders perform their roles across different contexts. Although empirical educational research in Germany has gained momentum in recent years (Altrichter et al., 2012; Westphal & Zawacki-Richter, 2021), the specific challenges of school leadership within a decentralized and autonomous education system remain under-explored.

This article addresses this gap by conducting a comprehensive scoping review of research on school development in Germany, with a focus on the evolving role of school leaders. We analyze how governance structures, macro-contextual conditions, and leadership styles interact to shape school leadership practices. Drawing on peer-reviewed literature published since 2008, we identify key research gaps, evaluate current trends, and propose context-sensitive strategies for strengthening leadership in German schools. To guide this scoping review, we address the following research questions:

1. How do school leaders in Germany conceptualize and enact their roles in the context of school development, and what key factors, challenges, and support influence their effectiveness?
2. How can insights from existing research inform the professionalization and improvement of school leadership practices, as well as guide future research?

2. Methods

This study employed a scoping review methodology to map the scope and focus of research on school leadership within the broader context of school development in Germany. Scoping reviews are particularly useful for synthesizing complex or underexplored research fields, as they help identify existing evidence, conceptual trends, and research gaps (Peters et al., 2015). Our aim was to provide a comprehensive overview of school development research with a specific focus on the role of school leadership.

2.1 Data Sources and Search Strategy

To identify relevant publications, we conducted a comprehensive search in two major meta-databases: ERIC and the Fachportal Pädagogik, which aggregates German-language educational research databases such as FIS Bildung and Online Contents. The search was restricted to peer-reviewed journal articles published between 2008 and 2024 in either German or English, in line with the theoretical foundation laid out by Rolff (2007). This cut-off year ensured that our review focused on studies reflecting a contemporary understanding of leadership in school development. Following Hallinger's (2013) recommendation for methodological transparency, we limited our search to peer-reviewed journal articles².

The search strategy was expansive and iterative, developed to capture the multi-dimensional nature of school development and leadership. In particular, we aimed to identify studies that examine instructional development, staff development, organizational development, or digital transformation as components of school development processes linked to school leadership. Given the heterogeneity of indexing practices across databases, we combined controlled vocabulary (Schlagwörter) and free-text terms (Freitext) using Boolean operators. Below are examples of representative search strings used in the Fachportal Pädagogik:

- („Schlagwörter: Schulmanagement“) OR („Schlagwörter: Schulentwicklung“) AND („Sprache: deutsch oder englisch“) AND („Dokumenttyp: Zeitschriftenaufsatz“)
- („Schlagwörter: Schulmanagement“) OR („Schlagwörter: Schulentwicklung“) AND NOT („Freitext: Schulaufsicht“) AND („Sprache: deutsch oder englisch“) AND („Dokumenttyp: Zeitschriftenaufsatz“)
- („Schlagwörter: PERSONALENTWICKLUNG“) AND („Schlagwörter: SCHUL*“) AND („Sprache: deutsch oder englisch“) AND („Dokumenttyp: Zeitschriftenaufsatz“)
- („Schlagwörter: UNTERRICHTSENTWICKLUNG“) AND („Schlagwörter: SCHULENTWICKLUNG“) AND („Sprache: deutsch oder englisch“) AND („Dokumenttyp: Zeitschriftenaufsatz“)

Additional thematic combinations (e.g., Schulentwicklung [school development] AND Digitalisierung [digital transformation], Schulentwicklung AND Inklusion [inclusion]) were used to ensure comprehensive coverage of emerging fields such as digital transformation and inclusive education. In total, more than 15 tailored search queries were developed and executed iteratively, adapted to each platform's logic and search architecture.

2 While the exclusion of grey literature and monographs aligns with international standards for transparency and methodological rigor (cf. Peters et al., 2015), we recognize that this decision entails limitations, particularly within the German research context where significant conceptual contributions often appear outside peer-reviewed journals. This is further discussed in the Limitations section.

The initial search was conducted in November 2023, with an updated final search in July 2024 to ensure the inclusion of recent publications. Across the two databases, the search yielded 4,399 articles, and after removing duplicates, 1,651 records remained for screening. This rigorous search and selection process ensured a comprehensive and methodologically robust foundation for the thematic analysis.

2.2 Study Selection

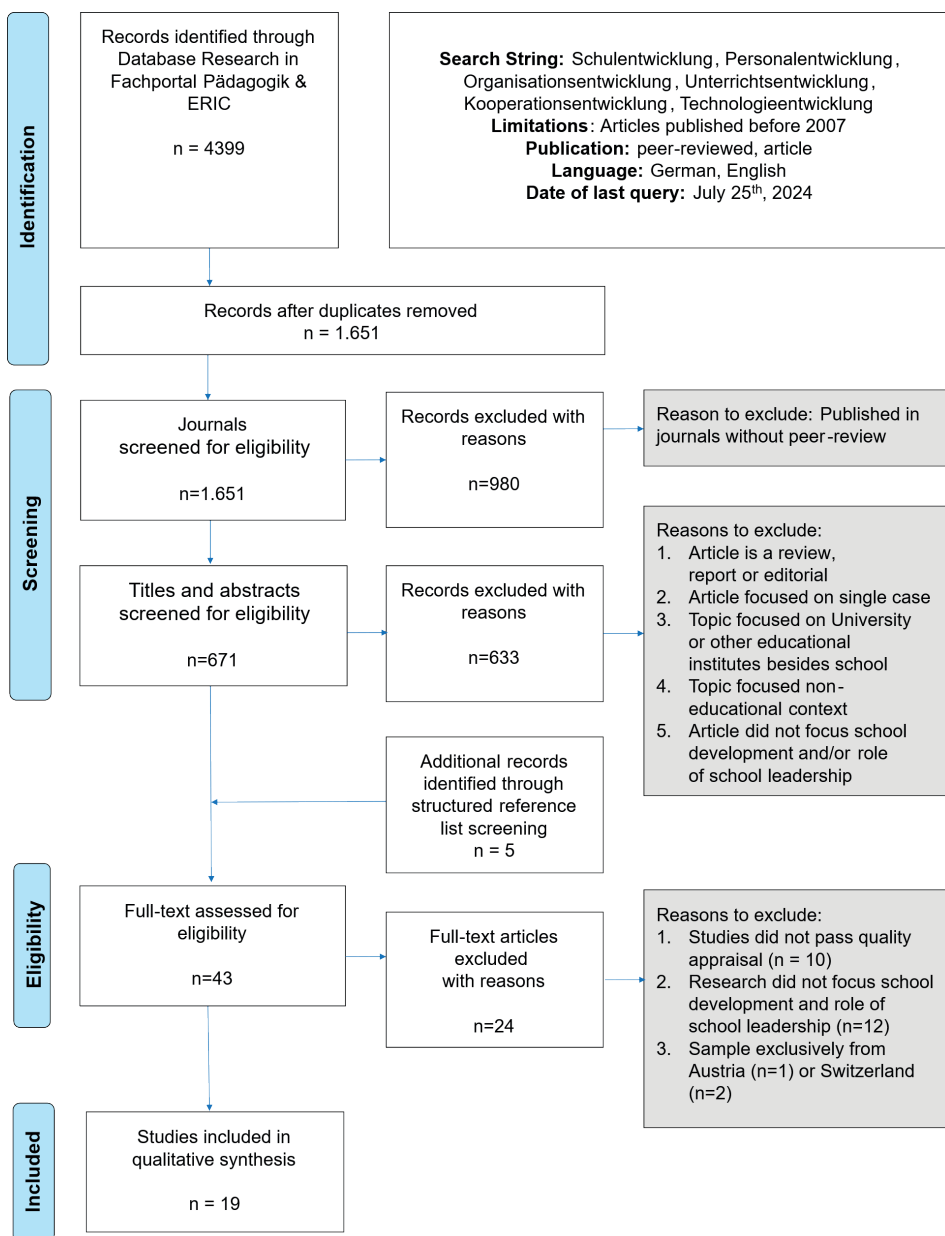
The review process followed three phases. First screening phase: We excluded 980 articles based on publication outlet and type – retaining only peer-reviewed research articles. Second screening phase: Titles and abstracts of 671 articles were assessed independently by two trained coders to evaluate their relevance in terms of topic, context, and study type. The intercoder reliability was high ($\alpha = 0.97$). Disagreements were resolved through discussion or consultation with a co-author. 633 articles were excluded in this phase. Table 1 offers an overview of the inclusion and exclusion criteria of this second screening phase.

Table 1: Inclusion and Exclusion Criteria for Title and Abstract Screening.

Inclusion Criteria	Exclusion Criteria
- Articles published in 2008 or later - Peer-reviewed journal articles - Articles published in German or English - Studies focusing on school development and the role of school leadership	- Articles published before or in 2007 - Journals that are not peer-reviewed - Articles that are reviews, reports, or editorials - Articles focused on single cases - Topics focused on universities or other educational institutes besides schools - Topics focused on non-educational contexts - Articles that do not focus on school development - Articles that do not focus on the role of school leadership

Following the recommendations of Peters et al. (2015), we complemented our database screening with a structured reference list screening. Specifically, after identifying 38 eligible studies for full-text review, we examined their reference lists for additional relevant, peer-reviewed articles that may have been missed due to indexing limitations. This step led to the identification of five additional peer-reviewed articles that met our predefined inclusion criteria. Four of these came from a 2015 special issue on school leadership in Germany published in the *International Journal of Educational Management*, which had not been fully indexed in the databases used (ERIC, Fachportal Pädagogik). One additional article was identified from another source. All five articles underwent the same quality appraisal and thematic screening as those retrieved via database search and were included in the final corpus based on thematic fit, methodological soundness, and alignment with our research questions. We reflect critically on this methodological step in the limita-

Figure 1: PRISMA flow diagram detailing the systematic selection process, resulting in 19 peer-reviewed articles on school leadership in German school development.



tions section, acknowledging its implications for reproducibility while emphasizing its value for comprehensiveness and relevance.

In the final screening phase, we conducted a quality appraisal of all 43 full-text articles using an adapted version of the Critical Appraisal Skills Programme (CASP)

checklist for qualitative studies (Critical Appraisal Skills Programme, 2023). The assessment focused on the coherence between research question and design, transparency of data collection and analysis, researcher reflexivity, and clarity of findings. Two authors independently reviewed each study and rated methodological quality on a three-tier scale: high, moderate, or low. A total of 10 studies were excluded due to low methodological quality. An additional 14 studies, despite meeting formal quality standards, were excluded for thematic reasons – either because they did not address school leadership and development or because the sample was drawn from contexts outside Germany. Ultimately, 19 studies were included in the thematic analysis. All included studies demonstrated at least moderate methodological quality. Quality appraisal was used strictly as an exclusion criterion and did not influence the thematic weighting of individual studies. The PRISMA flow diagram (Figure 1) provides a visual overview of the selection process.

2.3 Data Analysis

The data was analyzed using quantitative and qualitative methods.

2.3.1 Quantitative Analysis

We first conducted a descriptive analysis of the 19 included studies. Articles were categorized based on:

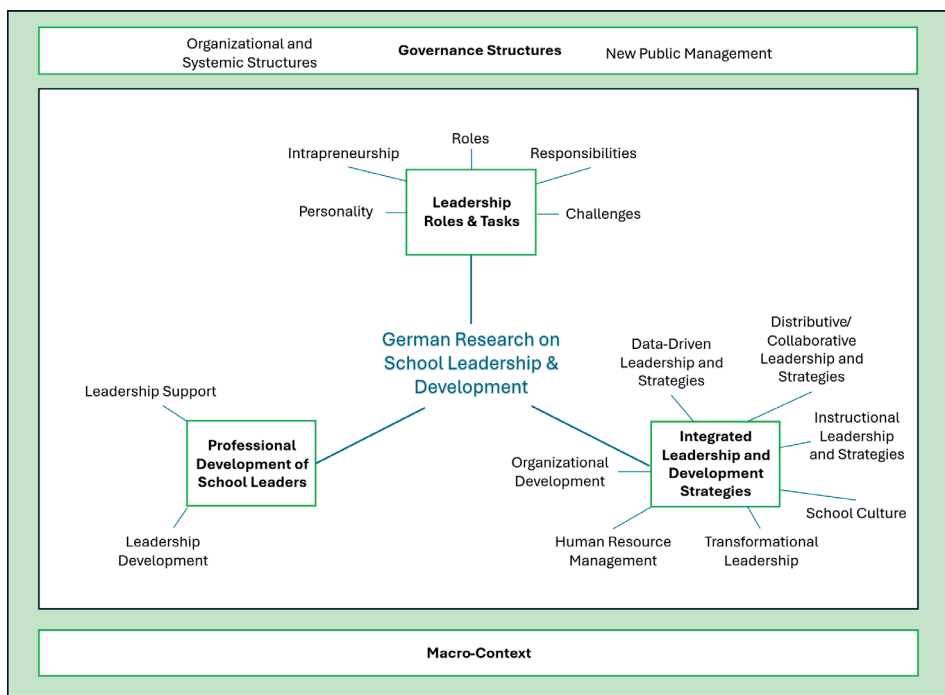
- Methodological approach (e.g., qualitative, quantitative, mixed-methods)
- Type and size of sample
- Theoretical frameworks used

This provided insights into the methodological diversity and theoretical foundations of the research field.

2.3.2 Qualitative Analysis

The qualitative data analysis for this scoping review followed the thematic analysis approach as outlined by Braun and Clarke (2006, 2021). Thematic analysis is a method for identifying, analyzing, and reporting patterns (themes) within data. It is flexible and can be adapted for use in a variety of research contexts, making it particularly suitable for the diverse studies derived from our scoping-review of school development and leadership research. The thematic analysis process was conducted in six phases, as recommended by Braun and Clarke (2006): (1) familiarization with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report.

Figure 2: Thematic map showing the key themes derived from the systematic coding of included articles



The coding process for this study involved several steps to ensure a thorough analysis of the data. Initially, we familiarized ourselves with the selected articles by reading and re-reading them, noting down preliminary ideas and recurring topics. For example, in examining the study by Klein (2017), we identified specific segments of text that focused on *Leadership Actions and School Administration* and *Collaboration among Teachers and Leaders*. These segments were assigned initial codes such as “administrative leadership” and “teacher collaboration.” As we continued coding other articles, similar patterns emerged, such as *Transformational Leadership in Schools* from Stump et al. (2016) and *Role of Leaders in Promoting Cultural Competence* from Appius et al. (2012). We then grouped these related codes to search for broader themes, such as “Leadership Styles” and “Strategies for School Development and Improvement”. Through iterative review and refinement, these themes were developed and defined, ensuring that each accurately reflected the data and was distinct from the others. This systematic coding process laid the foundation for generating the five overarching themes – Leadership Roles and Tasks, Integrated Leadership and Development Strategies, Professional Development and Training, Governance Structure, and Macro-Context – which encapsulate the core findings of our analysis. Our thematic map (Fig. 2) illustrates these interconnected themes and the process of the thematic analysis, offering a visual representation of how they interact and shape the field of school leadership within school development.

3. Findings

3.1 Quantitative Overview of Studies

The 19 studies included in this review reflect a methodologically diverse field, encompassing various research designs and linguistic contexts. Ten studies employed quantitative methods, five used qualitative approaches, and three followed a mixed-methods design, offering a well-balanced empirical foundation. Among the quantitative studies, nine incorporated regression analysis, indicating a strong focus on identifying statistical relationships within school leadership contexts. One additional study (Brauckmann et al., 2016) is non-empirical, providing a conceptual analysis of the historical development of instructional leadership in Germany. Although not data-driven, it contributes valuable theoretical insights to the review.

The studies also cover a broad range of educational settings. Most focus on primary and secondary schools, while one explicitly examines vocational schools (Voigt & Engel, 2018), thereby extending the scope of leadership research. Some studies highlight challenging school environments, such as those with a high proportion of students from socioeconomically disadvantaged backgrounds (Ramsteck et al., 2015). Others investigate high-performing schools, including award-winning institutions (Schratz et al., 2019), offering contrasting perspectives on leadership conditions and effectiveness. This variety provides a comprehensive picture of leadership practices across different school types and contexts.

In terms of publication language, the studies are nearly evenly split: ten were published in German, nine in English. This balance reflects both the domestic relevance of school leadership research and its growing international visibility. Notably, four of the included studies appeared in a special issue of the *International Journal of Educational Management*, titled “School Leadership in Germany Between Low-Stakes Testing and High Expectations” (Brauckmann et al., 2015). This collection underscores the context-specific pressures facing school leaders in Germany and reflects the broader policy debates surrounding leadership, accountability, and educational reform.

3.2 Thematic Analysis

In our thematic analysis of the selected articles, we identified five overarching themes – Leadership Roles and Tasks, Integrated Leadership and Development Strategies, Professional Development and Training, Governance Structure, and Macro-Context – which capture key aspects of research on school leadership and development. These themes provide a comprehensive lens to understand the evolving roles, challenges, and strategies that define effective school leadership within the context of school development, specifically within the unique context of the German education system.

3.2.1 *Leadership Roles and Tasks*

The role of school principals in Germany has undergone a significant shift – from administrative oversight toward more strategic and development-oriented responsibilities. Historically, principals were viewed primarily as experienced teachers responsible for day-to-day operations and maintaining school order (Brauckmann et al., 2016). Since the 1990s, however, education reforms have redefined them as key agents of school improvement, increasingly held accountable for instructional quality and school performance outcomes (Klein & Schwanenberg, 2022).

Today's principals operate in a dual role. On the one hand, they are colleagues to their teaching staff; on the other, they serve as supervisors – particularly in contexts shaped by accountability mechanisms (Ramsteck et al., 2015). This tension has been described as a “Janus-faced” function: school leaders are expected to buffer their teams from external pressure while simultaneously promoting data-informed practices to enhance learning outcomes (Demski & Racherbäumer, 2015; Ramsteck et al., 2015). Effective leadership, therefore, hinges not only on instructional expertise but increasingly on data-based decision-making.

The reviewed literature highlights a wide range of tasks and expectations facing school leaders, many of which are contradictory. A central challenge is mediating between external accountability demands and internal school dynamics. For instance, the use of standardized assessments such as VERA requires principals to reconcile state expectations with teachers' readiness to engage in data-informed school improvement (Ramsteck et al., 2015). This underscores the importance of strong moderation and communication skills to create a collaborative and trustful school culture.

Moreover, leadership tasks extend far beyond instructional matters. Principals are also responsible for strategic school development, change management, and human resource leadership (Brauckmann & Schwarz, 2015; Meyer et al., 2021). Research shows that their engagement in these areas is closely linked to their confidence and competence in navigating organizational change (Meyer & Richter, 2024). In a similar vein, Schratz et al. (2019) emphasize the value of school leaders being visibly present and actively engaged with students, staff, and external stakeholders in order to cultivate a strong, inclusive school culture.

Finally, school leadership in Germany is shaped by numerous contextual factors (i.e. school size, type, and student demographics) which define the scope and focus of principals' actions (Brauckmann & Schwarz, 2015; Braun et al., 2018). The role remains highly fragmented and lacks national standardization, varying significantly across federal states and school types (Brauckmann & Schwarz, 2015; Thillmann et al., 2015). In some cases, legal frameworks further delineate school leadership duties, distinguishing between general school leadership and responsibilities exclusive to the principal (Voigt & Engel, 2018).

3.2.2 *Integrated Leadership and Development Strategies*

The review findings underline that effective school improvement relies on an integrated approach that combines multiple leadership styles with strategic development practices. Rather than adhering to singular models, recent studies emphasize a multifaceted leadership framework that interweaves transformational, distributed, instructional, and data-driven leadership with personnel development and collaborative structures. Six interrelated components emerged from the literature, which collectively describe how these leadership dimensions interact to promote school improvement.

1. Transformational and Distributed Leadership: Inspiring Change and Collaboration

Transformational leadership remains a key element in the German research landscape. Studies highlight its role in motivating staff, aligning the school community around a shared vision, and supporting long-term innovation (Klein, 2017; Schratz et al., 2019; Stump et al., 2016; Tulowitzki & Gerick, 2020). Its core principles – intellectual stimulation, individualized consideration, and inspirational motivation – contribute to a culture of trust and continuous learning (Klein & Schwanenberg, 2022; Stump et al., 2016). Stump et al. (2016), for example, show that transformational leadership strengthens teachers' engagement with internal and external data use.

Distributed leadership is equally prominent, especially in contexts where collaborative governance is encouraged (Brauckmann & Schwarz, 2015; Pietsch & Hosenfeld, 2017; Ramsteck et al., 2015; Voigt & Engel, 2018). This style promotes shared decision-making and professional autonomy. Principals foster leadership among staff by facilitating departmental discussions and enabling teacher involvement in decision processes (Ramsteck et al., 2015). Peer observations and team-based learning structures have proven effective in supporting staff development and creating shared ownership of school goals (Thillmann et al., 2015).

2. Data-Driven Leadership: Using Evidence Strategically

A growing number of studies emphasize the importance of data-driven leadership in guiding school improvement (Demski & Racherbäumer, 2015; Ramsteck et al., 2015; Stump et al., 2016). In response to rising expectations for accountability and evidence-based practices, data use is seen as a key competency for school leaders. Effective principals actively analyze and apply data to shape both instructional practices and school development processes (Demski & Racherbäumer, 2015). This approach fosters a reflective school culture where data is used purposefully to support pedagogical and organizational decisions.

However, implementation remains inconsistent. Data use is often superficial or fragmented, with few system-wide structures supporting sustained and meaningful engagement (Ramsteck et al., 2015). This gap highlights the need for targeted professional learning to develop school leaders' data literacy and strategic capacity.

3. Instructional Leadership: Focusing on Teaching and Learning

Although cited less frequently than other styles, instructional leadership is recognized as vital for improving teaching quality and student outcomes (Brauckmann et al., 2016; Braun et al., 2018). Instructional leaders support teachers through classroom observations, pedagogical dialogue, and curriculum alignment with school goals (Pietsch & Hosenfeld, 2017). These actions foster a culture of continuous teaching improvement.

Nevertheless, structural constraints – such as limited time and competing administrative duties – often restrict principals' ability to engage deeply in instructional matters (Brauckmann & Schwarz, 2015; Pietsch & Hosenfeld, 2017). This ongoing tension limits the consistent application of instructional leadership in practice.

4. Strategic Personnel Development: Aligning Staff Growth with School Goals

Personnel development is consistently identified as a cornerstone of effective leadership (Brauckmann & Schwarz, 2015; Voigt & Engel, 2018). Successful strategies include needs-based professional development, individual development planning, performance feedback, and regular classroom observations (Appius et al., 2012; Thillmann et al., 2015). These tools enable principals to support and monitor teacher growth in alignment with instructional priorities. Yet, the reviewed studies also reveal a lack of coherent personnel development frameworks across schools. Many efforts remain isolated or short-term in nature (Demski & Racherbäumer, 2015). Strategic alignment, long-term planning, and leadership support structures are necessary to maximize teachers' professional capacity (Appius et al., 2012; Thillmann et al., 2015).

5. Collaborative Frameworks and Organizational Adaptations

Collaboration is both a leadership task and a condition for successful school development. Leaders play a critical role in establishing collaborative cultures through teacher teamwork, shared responsibilities, and external partnerships (Braun et al., 2018; Thillmann et al., 2015). These strategies strengthen collective learning and

drive pedagogical improvement. In addition to fostering internal collaboration, several studies highlight how organizational adjustments – such as optimizing daily schedules – can support instructional quality (Schratz et al., 2019). Implementing such innovations often requires navigating resource limitations and balancing administrative and pedagogical demands.

6. Building Context-Sensitive School Cultures

Effective leadership adapts to the specific demographic, legal, and institutional contexts of individual schools (Brauckmann & Schwarz, 2015; Schratz et al., 2019). Several studies underscore the importance of building a school culture that reflects local realities and promotes inclusion. This involves strengthening parental engagement, supporting intercultural dialogue, and responding to the needs of linguistically and socioeconomically diverse school populations (Braun et al., 2018).

3.2.3 *Professional Development and Training*

Professional development and training for school leaders emerge as a critical yet under-researched area in the German context. Eight of the 19 studies reviewed focus directly on this theme, highlighting the need for structured, practice-oriented programs tailored to the complex responsibilities of school leadership. Core areas of development include time management, data literacy, instructional leadership, and strategic personnel management (Brauckmann & Schwarz, 2015; Ramsteck et al., 2015; Thillmann et al., 2015).

Several studies stress the value of institutionalized frameworks and external support systems. A prominent example is the federal state of Hamburg, where leadership responsibilities are legally defined and time is explicitly allocated for leadership tasks. This framework addresses a key tension for many German principals: balancing teaching obligations with leadership and development responsibilities. By clarifying expectations and creating structural space for leadership, Hamburg's model enables principals to engage more consistently in school improvement processes (Brauckmann & Schwarz, 2015).

Support from school supervisory authorities is another important resource. These external actors often provide guidance in areas such as instructional development and data-informed decision-making (Ramsteck et al., 2015). However, the studies also reveal inconsistencies in the availability and perceived usefulness of this support. In some cases, school leaders report a lack of shared understanding regarding how professional learning connects to broader school development goals (Appius et al., 2012).

Positive effects of targeted support measures are well-documented. External school consultancy services, for instance, offer tailored guidance to address specif-

ic organizational and instructional challenges. Evaluations of these interventions show that they can foster meaningful change – especially when designed as holistic programs that combine coaching, feedback, and collaborative learning structures (Huber & Pruitt, 2024). Despite this, the need for relevant and constructive external feedback remains. Such feedback is crucial for enabling principals to identify their developmental needs and prioritize leadership actions effectively (Klein & Schwanenberg, 2020).

Leadership development itself forms a distinct strand of professional learning. Several studies emphasize the importance of strengthening principals' capacity in areas like instructional supervision, team leadership, and change management (Meyer & Richter, 2023). While some programs show short-term improvements in leadership behavior, these effects often take time to translate into observable change from the perspective of teachers. This time lag highlights the need for long-term evaluation and support structures (Meyer & Richter, 2023). Approaches that combine workshops, coaching, and guided reflection for leadership teams are particularly effective, as they allow for sustained and context-sensitive development (Huber & Pruitt, 2024).

Despite these positive developments, many school leaders in Germany report feeling unprepared for the managerial and entrepreneurial aspects of their role – especially in increasingly autonomous school environments (Voigt & Engel, 2018). This reflects a broader systemic issue: current leadership training programs remain fragmented and often misaligned with the complex, hybrid demands of modern school leadership (Klein & Schwanenberg, 2022).

3.2.4 Governance Structures and Macro-Context

A total of 16 out of the 19 reviewed studies highlight the significant impact of governance structures and macro-contextual conditions on school leadership and school development in Germany. Several studies – particularly Brauckmann & Schwarz (2015), Ramsteck et al. (2015), and Klein (2017) – provide detailed accounts of how structural and contextual factors shape leadership practices.

Germany's education system is highly decentralized. Each of the 16 federal states (Länder) defines its own educational policies, resulting in considerable variability in school governance and leadership autonomy. In most cases, school principals have limited decision-making power in key areas such as staffing, which remains under the authority of external school supervisory bodies (Brauckmann & Schwarz, 2015). Hamburg is a notable exception: principals there enjoy greater autonomy, including control over budgets and strategic decisions, enabling them to act more independently in shaping school development (Brauckmann & Schwarz, 2015).

The introduction of New Public Management (NPM) principles – emphasizing accountability, decentralization, and competition – has added complexity to governance structures (Voigt & Engel, 2018). While these reforms were intended to empower schools, they have often brought added administrative burdens, constraining

school leaders' focus on instructional leadership (Ramsteck et al., 2015). Moreover, the German governance model continues to prioritize pedagogical over managerial duties, reflecting the traditional view of principals as educators rather than administrators (Brauckmann & Schwarz, 2015). This traditional perspective creates a dual expectation for principals: balancing teaching responsibilities with administrative tasks.

Contextual conditions, such as the socioeconomic composition of the student body, add further complexity. Principals working in disadvantaged areas must tailor their leadership strategies to address diverse and often pressing needs, requiring greater adaptability and social competence (Braun et al., 2018).

Accountability mechanisms play a central role in shaping school leadership practices. In contrast to high-stakes accountability systems found in countries like the USA or UK – where standardized test outcomes are tied to public performance rankings and sanctions – Germany operates in a low-stakes context. Standardized assessments such as VERA are used internally to support school improvement rather than for public accountability (Demski & Racherbaeumer, 2015; Ramsteck et al., 2015). While this model reduces external pressure, it places the full responsibility for interpreting and using data on individual school leaders – often without systematic support (Klein & Schwanenberg, 2022).

This dual-edged system offers both flexibility and risk. On one hand, it gives schools room to focus on internally driven improvement. On the other hand, the lack of external incentive structures or uniform support mechanisms means that the use of data remains uneven and often superficial (Ramsteck et al., 2015). Effective school leadership in this setting requires strong data literacy skills and the ability to foster collaborative, data-informed cultures within schools (Demski & Racherbaeumer, 2015).

German education policy has been slow to adopt purely managerial models of school leadership. Instead, a hybrid model has emerged, combining pedagogical expertise with organizational and administrative duties (Brauckmann et al., 2016; Klein, 2017). This reflects deep-rooted cultural expectations, which continue to frame principals as “the best teachers” (Brauckmann et al., 2016, p. 14). Comparative studies must therefore take into account these cultural and institutional specificities when analyzing leadership practices in international perspective.

Nevertheless, globalization and international assessments such as PISA and TIMSS have contributed to reform pressures. These have prompted the gradual integration of NPM principles and a stronger emphasis on evidence-based school improvement, even if Germany remains outside the high-stakes logic prevalent in other systems (Voigt & Engel, 2018; Schratz et al., 2019).

Brauckmann and colleagues (2016, p. 14) capture this evolution as a pendulum swing:

(1) the ‘best’ teacher as the best teacher/principal, to (2) the best teacher as administrator/manager, and then to (3) the best teacher as a part-time pedagogical leader, amongst other (primarily) teaching duties.

4. Discussion

This review reveals that school leadership in the context of school development in Germany is undergoing a critical transformation. German school leaders are increasingly required to reconcile traditional pedagogical responsibilities – rooted in a legacy that positions principals as exemplary educators – with rising expectations for managerial competence and data-driven decision-making (Brauckmann & Schwarz, 2015; Ramsteck et al., 2015). This dual responsibility generates ongoing tension between instructional and organizational leadership, reinforcing the complexity of the role. The findings mirror international research calling for adaptive, context-sensitive leadership models (Brauckmann et al., 2023; Demski & Racherbäumer, 2015). The Swedish example discussed by Brauckmann et al. (2023) highlights the potential of tailored principal preparation programs to address such dual demands, underscoring the need for similar context-responsive training in Germany.

At the same time, unique systemic features – such as limited autonomy, decentralization, and a low-stakes accountability regime – differentiate German school leaders from their counterparts in countries like the USA or UK (Klein & Bremm, 2020; Mintrop, 2015). These conditions highlight the need for leadership strategies that are both flexible and grounded in local realities.

The review also underscores the relevance of integrated leadership approaches that combine instructional, distributed, transformational, and data-driven strategies. Effective leaders are portrayed as those who can adapt their leadership style to immediate pedagogical needs while simultaneously fostering long-term school improvement and teacher collaboration (Brauckmann et al., 2016; Stump et al., 2016). However, the review identifies a notable gap: limited reference to comprehensive frameworks such as Leadership for Learning (LfL). This model emphasizes the collective and process-oriented nature of leadership by integrating all levels of the school community – students, staff, structures, and leaders – through purposeful, learning-centered interaction (Daniëls et al., 2019; Townsend et al., 2013). While related to distributed leadership, LfL offers a more systematic lens that could enrich future research and practice in the German context.

Data-driven leadership is another recurring theme in both the reviewed literature and the broader discourse. Yet, despite its potential to support evidence-informed decision-making, its implementation in Germany remains uneven and often superficial (Demski & Racherbäumer, 2015; Ramsteck et al., 2015). This signals a broader systemic gap: school leaders frequently lack the structural support, training, and time needed to effectively interpret and act on data. Furthermore, leadership training across the German federal states is highly fragmented. As Tulowitzki et al. (2019) note, although leadership programs exist in many regions, their content and duration vary widely, leading to inconsistent levels of preparedness among principals.

This inconsistency calls for standardized, yet flexible, training structures that accommodate both the federal nature of the German system and the specific needs of diverse school contexts. Promising directions are provided by cyclical, sustained professional development models – such as that proposed by Wohlfart and Wagner (2024) – which emphasize iterative reflection and institutional learning. These models have proven valuable not only in preparing educators for digital transformation but also in developing the leadership capacities required in complex, evolving school environments.

4.1 Discrepancies Among Reviewed Studies

Despite the overarching themes, this review uncovers six discrepancies across the literature. These inconsistencies illustrate the complexity of school leadership research and emphasize the need for more nuanced, context-sensitive studies (Hallinger, 2013). They also identify areas where further empirical investigation is required to refine leadership practices and theoretical frameworks.

1. Leadership Roles: Pedagogical vs. Managerial Emphasis

Some studies, such as Brauckmann & Schwarz (2015) and Brauckmann et al. (2016), stress the importance of the pedagogical role of school leaders, positioning principals primarily as educators. In contrast, others – particularly Voigt & Engel (2018) – argue for a stronger emphasis on managerial and entrepreneurial competencies. This divide reflects a broader tension between traditional conceptions of school leadership and the evolving expectations of contemporary school management.

2. Data-Driven Leadership: Potential vs. Practical Limitations

While Demski & Racherbäumer (2015) and Stump et al. (2016) highlight the transformative potential of strategic data use, other studies point to serious implementation gaps. Ramsteck et al. (2015), for example, describe data practices in German schools as inconsistent and superficial, often hindered by limited training and support. This discrepancy raises critical questions about the feasibility and sustainability of data-driven leadership in current school contexts.

3. Professional Development: Uniform vs. Context-Specific Approaches

Thillmann et al. (2015) advocate for a standardized set of leadership competencies across contexts. In contrast, Braun et al. (2018) and Meyer & Richter (2023) highlight the need for context-specific training, particularly in schools with socially disadvantaged student populations. These diverging views reflect the ongoing challenge of designing professional development programs that are both scalable and sensitive to local needs.

4. School Autonomy: Empowerment vs. Administrative Burden

Increased autonomy is seen by Brauckmann & Schwarz (2015) as a key lever for school improvement, with Hamburg cited as a successful example. However, Ramsteck et al. (2015) warn that autonomy under NPM often translates into heavier administrative workloads, reducing the time available for instructional leadership. This contradiction suggests that autonomy must be accompanied by sufficient support structures to be effective. Due to the federal governance structure of Germany, it seems impossible to discuss school leadership and its role in school development processes for all federal states.

5. Accountability Measures: Low-Stakes Testing – Asset or Limitation?

Some researchers (e.g., Demski & Racherbäumer, 2015) view Germany's low-stakes accountability system as a strength, promoting reflective practice and internal development. Others (e.g., Ramsteck et al., 2015; Klein & Bremm, 2020) see it as a weakness that reduces motivation to engage with data meaningfully. This debate reflects a broader tension in education policy between external pressure and internal responsibility.

6. Use of International Models: Cultural Fit vs. Universal Principles

Klein (2017) cautions against directly importing anglophone leadership models, arguing for culturally adapted frameworks. Conversely, Brauckmann & Pashiardis (2011) contend that certain international leadership principles can be successfully adapted to the German context. This ongoing debate points to the need for more comparative research to determine which elements of global leadership theory are transferable and which must be localized.

4.2 Limitations

While this scoping review offers a systematic and transparent synthesis of empirical research on school leadership and school development in Germany, two main limitations must be acknowledged.

First, the deliberate exclusion of grey literature and monographs – including edited volumes, dissertations, and practitioner-oriented publications – represents a methodological constraint. Although this decision was informed by international standards for scoping reviews aimed at ensuring transparency, reproducibility, and methodological consistency (Peters et al., 2015; Tricco et al., 2018), it may limit the comprehensiveness of the review within the specific context of the German educational research landscape. In Germany, many pivotal theoretical and conceptual contributions – such as those by Rolff, Buchen, or Eikenbusch – have historically been published outside peer-reviewed journals. Readers interested in a broader understanding of the topic are encouraged to consult the reference lists of the included studies, which often cite foundational theoretical works not covered in this review. Future research might address this gap by conducting integrative or narrative reviews that include non-peer-reviewed contributions to capture the conceptual depth and historical development of the field more fully.

Second, a potential limitation arises from the inclusion of five additional studies identified during a targeted reference list screening phase. This procedure follows recommendations for scoping reviews (Peters et al., 2015), which explicitly endorse reviewing the reference lists of full-text eligible studies as a third screening step. The five additional studies were identified through this process and met all predefined inclusion and quality criteria. Notably, four of them originate from a 2015 special issue on school leadership in Germany (Brauckmann et al., 2015) that was not fully indexed in the databases used (ERIC, Fachportal Pädagogik). Although these additions were made transparently and based on established methodological standards, we acknowledge that this step introduces a minor limitation to the strict replicability of our database search. Approximately 26% of the final study corpus was identified via this third-stage reference screening. We reflect on this issue openly and recommend that future reviews complement their database searches with targeted journal or citation tracking to systematically mitigate the effects of inconsistent indexing in the German-language academic context.

In sum, while the review offers a structured and quality-assured synthesis of peer-reviewed empirical studies, it does not aim to cover the full spectrum of conceptual, theoretical, or policy-related discourse on school leadership in Germany. Instead, it provides a focused snapshot of the empirical research landscape and serves as a foundation for future reviews that may include broader source types and methodological approaches.

4.3 Implications for Practice and Future Research

The findings of this scoping review offer several implications for both practice and future research. On a practical level, there is an urgent need for comprehensive and context-sensitive professional development programs that strengthen both the pedagogical and managerial competencies of school leaders. Such programs should be responsive to the diverse conditions of different school environments and emphasize key areas such as strategic data use, instructional leadership, and organizational development. In parallel, policy efforts must strike a careful balance between school autonomy and system-level support. While increased decision-making authority can empower school leaders, it must be accompanied by adequate resources, time allocations, and structured training opportunities. Without this support, autonomy risks becoming a burden rather than an enabler of effective leadership. Targeted guidance from supervisory authorities – as exemplified in Hamburg – can help leaders translate autonomy into sustainable school development practices.

At the school level, there is a strong case for investing in a school culture that values data-informed decision-making. However, this requires more than access to data; it calls for ongoing capacity building that enables principals to interpret data meaningfully and apply it to concrete school improvement strategies. In this context, leadership frameworks such as LfL – with their emphasis on collective responsibility and purposeful interaction – may serve as valuable reference points for practice in Germany.

From a research perspective, several key directions emerge. First, there is a need to investigate contextual factors – such as school type, federal governance, or socioeconomic composition – and how they mediate the impact of leadership strategies. Second, future studies should explore the interaction between governance structures and school leadership, particularly how federal regulations shape local leadership practices. Third, longitudinal designs are needed to trace the long-term effects of leadership interventions, as many current studies measure only short-term outcomes. Finally, comparative research that critically engages with international leadership models could clarify whether global leadership principles – such as instructional or transformational leadership – can be adapted successfully to the decentralized, low-stakes context of German education. Such research would contribute to a more refined understanding of which aspects of school leadership are universally effective, and which require cultural or systemic adaptation.

Disclosure Statement

The authors declare that all principles of ethical and professional conduct have been followed. They further declare that they have no conflict of interest.

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