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The power of coaching in the professional learning and development of school leaders: an ecological framework and critical insights from a systematic review

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School leadership has been shown to have a profound influence on students' experiences and outcomes. Following the success of leadership coaching in industry, coaching has started to feature as a mechanism in the professional learning and development of school leaders. However, to date, evidence of how the various elements of coaching are embedded in the professional learning and development of school leaders is limited. To fill the lacuna of research in this area, this study aimed to conduct a systematic literature review of coaching as a form of the professional learning and development of school leaders, based on papers published in peer-reviewed journals between July 2014 and July 2024. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines were used, and the work was framed within Bronfenbrenner's ecological systems theory. An overview of the concept of coaching and its development in the context of the professional learning and development of school leaders was provided. The methodology used in the study was then described, before the research evidence on coaching in the professional learning and development of school leaders was reported and discussed across five thematic findings, illuminating the factors that may advance the success of coaching as well as those that may impede it. Gaps in the literature were identified that may inform further research on this important topic.

KEYWORDS

coaching, school leadership, educational leadership, principals, professional development, training, performance

1 Introduction and background

Emily (50) is in her second year as a school principal and feels overwhelmed. Each morning when she looks in the mirror before leaving her home, she wonders why she ever thought she would be suited to principalship, without ever really knowing how much was involved. Her deputy principal is on sick leave. She feels that a not-inconsiderable portion of her teaching staff is underperforming, and she is unsure how to address the issue. Her initial attempt at raising the issue succeeded only in alienating the staff, and the entire episode and her approach now fill her with regret. She regularly receives complaints from parents regarding student discipline, teaching and learning in the school. She often feels guilty that some of the students in her school are not receiving the educational experience that she feels they deserve or that she envisioned when she applied for the job. Very negative comments have been posted about the school on social media

and in online reviews, with one she has read stating that the school “has gone downhill since she took over.” She fears that staff retention may become a serious issue for the school. The sport and PE facilities at the school require urgent attention after years of neglect, but the school has financial and budgeting difficulties. A nearby school with state-of-the-art facilities and new buildings has been growing in student numbers year on year. A fundraising drive that Emily spearheaded has been unsuccessful and has left her feeling rather embarrassed. She feels unsupported by her middle leadership team, particularly by someone whom she recently promoted. A colleague and dear friend with whom she taught in the school for 20 years has not spoken to her since she was passed over for the same promotion. She was taken aback by the adamant tone of the resistance she had been met with, when she attempted to open discussions with staff, parents and the Board of Management on the topic of some of the schools’ long-held distinguishing features, traditions, admissions policy and ethos, being revised to better reflect the changing demographic realities of their context. Recently, a board of management member has resigned because of the suspension of his friend’s child.

She has been informed that the Department of Education will carry out a “Whole School Evaluation” inspection of the school next week. Meanwhile, her mother, who lives alone but nearby, has been diagnosed with dementia. Her daughter has announced that she and her husband will emigrate. Emily’s health has suffered since she took on the role of principal 18 months ago, and she has withdrawn somewhat socially. She has not played tennis in months, and she seldom has time to go for a walk. While her husband is a great support, she often feels lonely. She worries greatly and does not sleep well. Although she maintains a composed demeanor and carries herself with confidence, she knows that, for the first time in her life, she is finding it difficult to cope.

When it comes to the complexity of the demands of school leadership—a mere flavor of which is provided in the above fictional but all too recognizable portrayal of “Emily”—it is clear that there is a pressing need for effective, targeted supports that can foster school leaders’ professional learning and development to build leadership capacity in a way that is context-informed and human-centered. There is also a need for a comprehensive framework by which the demands on school leaders can be presented, understood and analyzed in a structured, rigorous way that encompasses the range of interactions, forces, concerns and issues that can impact the performance and well-being of school leaders. We will briefly discuss how these needs have become all the more urgent in recent years.

Rates of attrition among school leaders have been a cause for concern, with just 50% of school leaders in the US remaining in the role long enough (typically at least 5 years) to make a positive change (Lackritz et al., 2019). School leader turnover is a significant international issue (Simon et al., 2019) and is greater in higher-poverty areas (Sun and Ni, 2016). Performance-impacting issues, such as burnout and stress that requires medication, have been making headlines in mainstream media as a crisis in school leadership (Perna, 2023). Incivility and a toxic workplace culture have been partly attributed to deficiencies in school leadership performance (Mannix-McNamara et al., 2021). Concern over the impact of school leadership is well placed, given the significant impact that school leadership has on school and student outcomes (Leithwood et al., 2020; Schleicher, 2015).

However, addressing attrition in school leadership is a complex, multilayered issue. School leadership is challenging and demands the

skillset of a highly effective CEO combined with the knowledge and experience of years as a classroom teacher and all that it entails, not least an understanding of the needs of young learners in society today and how teachers, schools and the educational system can serve them best. Undoubtedly, school leaders operate in highly complex environments characterized by myriad interactions at multiple levels. For example, Gray et al. (2022) and Schleicher (2012, 2015) noted that the past 20 years have seen a shift in school leadership professional development from theory-based management and administrative training toward developing a wide and complex set of skills informed by leadership theories such as instructional, distributed, situational, transformational and leadership for learning. Over the same period, academics and policymakers have been increasingly concerned about issues impacting the well-being and performance of school leaders, resulting in high attrition rates as they attempt to grapple with significant and rapid changes in the societal and educational landscape (DeMatthews et al., 2021; Igu et al., 2023; Lackritz et al., 2019; Su-Keene and DeMatthews, 2022) and recover from a range of impacts arising from the COVID-19 pandemic (Brown et al., 2021).

Although governments have attempted to address these issues by investing in the professional learning and development of school leaders (Schleicher, 2012, 2015), some have been critical of much of the available professional development of teachers and school leaders as encompassing a performative agenda, where professional judgment and authenticity can be subordinated to the performativity agenda and what Ball refers to as “cynical compliance” (Ball, 2003, p. 226). However, certain salient features of highly effective professional learning and development of school leaders have come to the fore—in particular, collaborative models, which consider professional learning as a process that can develop skills, competencies, identity and knowledge (Netolicky, 2016), with coaching identified as one such model (Darling-Hammond et al., 2022). Many districts, such as in the US, Europe, Singapore and Australia, have invested in coaching for the professional learning and development of school leaders (Klar et al., 2020; Schleicher, 2012, 2015). To date, there has been no systematic literature review on coaching for the professional learning and development of school leaders.

The origins of the word “coaching” reveal connotations of journey, destination, and guidance (Online Etymology Dictionary, 2024), while the modern practice of coaching unlocks potential by helping people learn through dialog and reflection, rather than teaching them (Whitmore, 1996). Definitions of leadership coaching in the field of education differ from those in industry in that coaching in the former has one common ultimate goal: enhancing student experiences and outcomes (Creasy and Paterson, 2005; Damore and Rieckhoff, 2021; van Nieuwerburgh et al., 2020; Wise and Cavazos, 2017). Leadership coaching describes a dyadic relationship in which the coach and the coachee/client work together toward the coachee’s goals. Usually, time-bound, context-specific actions arise from the interplay between feedback and reflection (Hayes and Burkett, 2021). The key is the skill of the coach, who guides and transforms the client’s thought process and meaning-making toward an informed and conscious enactment of leadership and capacity-building (Huggins et al., 2021; Lackritz et al., 2019)—a collaborative endeavor of mutual dialog and collective efficacy (Hollweck and Lofthouse, 2021; Lofthouse, 2019). Coaching can be an effective method of professional development for leaders due to its distinct strengths,

among which are its focus on setting and achieving bespoke goals, enhancing the leader's self-awareness, improving the leader's habits and quality of reflection and enhancing communication and relational awareness, adaptability, resilience and problem-solving (Boon, 2022; van Nieuwerburgh et al., 2020).

To effectively conceptualize and examine how coaching can support school leaders across a myriad of interactions across multiple domains over time, a structured, practical and comprehensive framework is required. Bronfenbrenner's (1979) and Bronfenbrenner and Morris' (2007) ecological systems theory underlines the significance of the complexity of influences and interactions by positing how child development exists within multiple layers of interacting systems, such as at family, school and community levels as well as across broader social, cultural and political contexts. Undoubtedly, school leaders are positioned at the nexus of such complex systems, which are overlaid by concerns for learners and professional colleagues in the foreground and families and communities in the background, set against prevailing educational policies and administrative practices within wider sociocultural, economic and political influences. Our framework therefore draws on Bronfenbrenner's work to situate coaching as a potential intervention or set of interventions that can support school leaders across the ecologies in which they live and work.

This paper is both timely and necessary as it reports on the key findings of a systematic review of international research on coaching in the professional learning and development of school leaders¹ as a means of overcoming the challenges of developing and retaining effective school leaders (Lackritz et al., 2019; Roberts and Gonzalez, 2023). First, an overview of the concept of coaching and its development in the context of the professional learning and development of school leaders is provided. Second, the methodology employed in the study is outlined. Third, the research evidence on coaching in the professional learning and development of school leaders is reported and discussed under five thematic findings, illuminating the factors that may advance the success of coaching in this context as well as those that may impede it. Finally, emerging themes are identified, as well as gaps in the literature, which inform proposals for further research.

In conducting the systematic literature review on coaching in the professional learning and development of school leaders, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were used. The objectives are as follows (Page et al., 2021):

- 1 To carry out a rigorous systematic review of coaching as a form of the professional learning and development of school leaders.
- 2 To synthesize a complex, broad and extremely varied field in the literature on coaching for the professional learning and development of school leaders into discernible, relevant and useful categories for analysing, reporting and discussing the literature review findings.

- 3 To consider the evidence of what the field of coaching may offer to the continuing professional learning and development of school leaders and how policymakers can maximize this potential.

The research question for this review is as follows: What does the literature say about coaching as a form of professional learning and development for school leaders?

2 Review framework

We argue that framing the work within the field of positive psychology (Seligman, 2007; Seligman and Csikszentmihalyi, 2000) and locating it within Bronfenbrenner's (1979) ecological model of human development provides an effective, holistic framework with which the problem can be explored. Researchers in teacher and school leadership development have found Bronfenbrenner's approach useful in representing an interface through which the various factors across domains or ecologies that impact a school leader's reality can be expressed (Buchanan, 2020; Shah, 2023). The theory has also provided a useful lens for research in the field of business leadership coaching (Peesker et al., 2021).

Today's school leaders need to be developed and equipped to lead learning "under conditions of complex, rapid change" (Fullan, 2007, p. 12) by guiding innovations, improvements and advancements in teaching and learning (Fullan, 2016), although school leadership preparation and development programs have been ineffective (Darling-Hammond et al., 2022). Bronfenbrenner's theory is therefore highly relevant in framing and interpreting the complexities of school leadership. By considering an ecological systems theory framework, the potential to foster a more inclusive, situated, responsive and interconnected approach to school leadership that addresses the diverse needs of all participants can be highlighted. We argue that coaching is uniquely positioned to enhance school leadership effectiveness through dialog and guided reflection (Bush-Mecenas et al., 2020; Goff et al., 2014; Hayes and Burkett, 2021; Wise and Cavazos, 2017). We contend that an ecological systems theory approach provides a comprehensive framework that can inform future research and the design of coaching models and interventions.

However, critics of ecological systems theory argue that in attempting to represent complexity succinctly, it over-simplifies the influences on the individual, suggesting that the theory's focus on context neglects the interrelated influences of proximal processes (reciprocal interactions), personal attributes and time. Bronfenbrenner addressed this with a later model.² As Rosa and Tudge (2013) explained, Bronfenbrenner was keen to make the individual's own participation in their development explicitly a central feature, which is also a defining feature of coaching and positive psychology (Seligman and Csikszentmihalyi, 2000; Whitmore, 1996). Our ecological framework for the coaching of school leaders is presented in Figure 1 and includes a key focus on reciprocal interactions and proximal processes across each of the ecologies—namely, the

¹ While the term "professional learning" is often understood to reflect a job-embedded, reflective, experiential and collaborative model (Scherff, 2018; Stewart, 2014), it is often used interchangeably with "professional development" in the literature; therefore, both terms are used in this review.

² Bioecology and the process–person–context–time model (Bronfenbrenner and Morris, 2007).

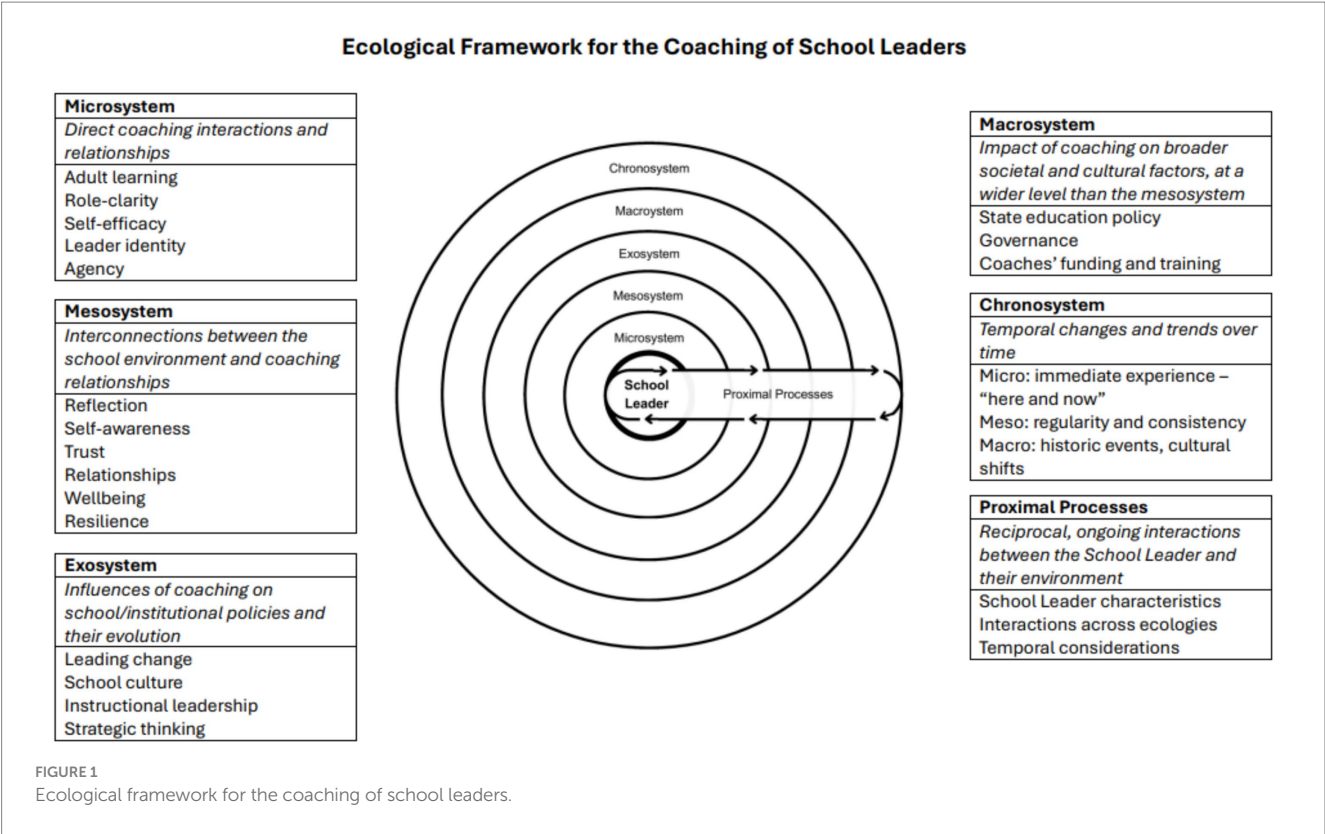


TABLE 1 Inclusion and exclusion criteria.

Inclusion criteria	Exclusion criteria
A scope of focus limited to coaching as the primary focus (including online/virtual coaching and team/group coaching) as a means of professional learning or development for school leaders	Studies considering school leaders' use of coaching staff members as their main focus
Empirical studies presented in journal articles published between July 2014 and July 2024	Studies pertaining to sectors outside primary and secondary education
Peer-reviewed articles published in English	Studies that are not peer-reviewed
Full-text access	Studies that define coaching in a manner not consistent with the definitions offered in the literature pertaining to coaching in the context of developing school leaders
Empirical, conceptual and descriptive peer-reviewed research from academic sources, published in English	Studies that do not include a specific focus on school leadership
Qualitative and quantitative research articles	Gray literature, doctoral theses, books, chapters, conference proceedings and editorial notes
Having the term “coach*” in the title, abstract or subject	
A focus on primary and secondary education	
Databases: Academic Search Complete, British Education Index, ERIC (ProQuest), Education Research Complete (EBSCO), APA PsycInfo (EBSCO)	

microsystem, the mesosystem, the exosystem, the macrosystem and the chronosystem. How these ecologies may pertain to the development of a school leader is introduced in the illustration and discussed in due course.

3 Methodology

In formulating a review framework and methodological approach, sources from the fields of coaching (Cidral et al., 2023; Grover and Furnham, 2016) and school leadership development (Daniëls et al., 2019) were consulted. Systematic literature reviews provide a methodological approach for mapping out and categorizing existing research on a particular topic, whereby data are appraised and results

are synthesized comprehensively, transparently and unbiasedly (Grant and Booth, 2009). To ensure the transparency, validity, replicability and rigor of the review, the PRISMA statement was used to identify and analyse what the literature reveals about coaching in the professional learning and development of school leaders (Moher et al., 2009; Page et al., 2021)—a method that is applicable to educational research (Sohrabi et al., 2021). In line with these guidelines, further research was consulted for guidance on the presentation and synthesis of qualitative data, including the ENTREQ statement (Tong et al., 2012).

The inclusion and exclusion criteria that formed the search are summarized in Table 1.

Both discipline-specific and multidisciplinary databases were consulted, including Academic Search Complete, British Education Index, ERIC (ProQuest), Education Source Ultimate and APA

PsycInfo. The keywords searched included “coach*,” “school leader*,” “educat* lead*,” “principal,” “professional development” and “professional learning.” The search return was considerable; therefore, these terms were limited first to the title, abstract and subject terms across the broad concept of coaching and then to the broad context of school leadership, followed by the construct of professional development. Each of these search strings was bracketed in a chain using a combination of the operators TI (title), AB (abstract) and SU

(subject), and each was linked with the AND operator. The Boolean operator NOT was used to exclude records referring to coaching in different contexts, such as sports or literacy coaching. The database search strategy is shown in [Figure 2](#).

The search yielded 555 identified records, of which 196 were excluded based on their titles because they were not deemed relevant and 185 duplicates were removed. The remaining 174 records were assessed for eligibility, and a further 138 were deleted. Of the

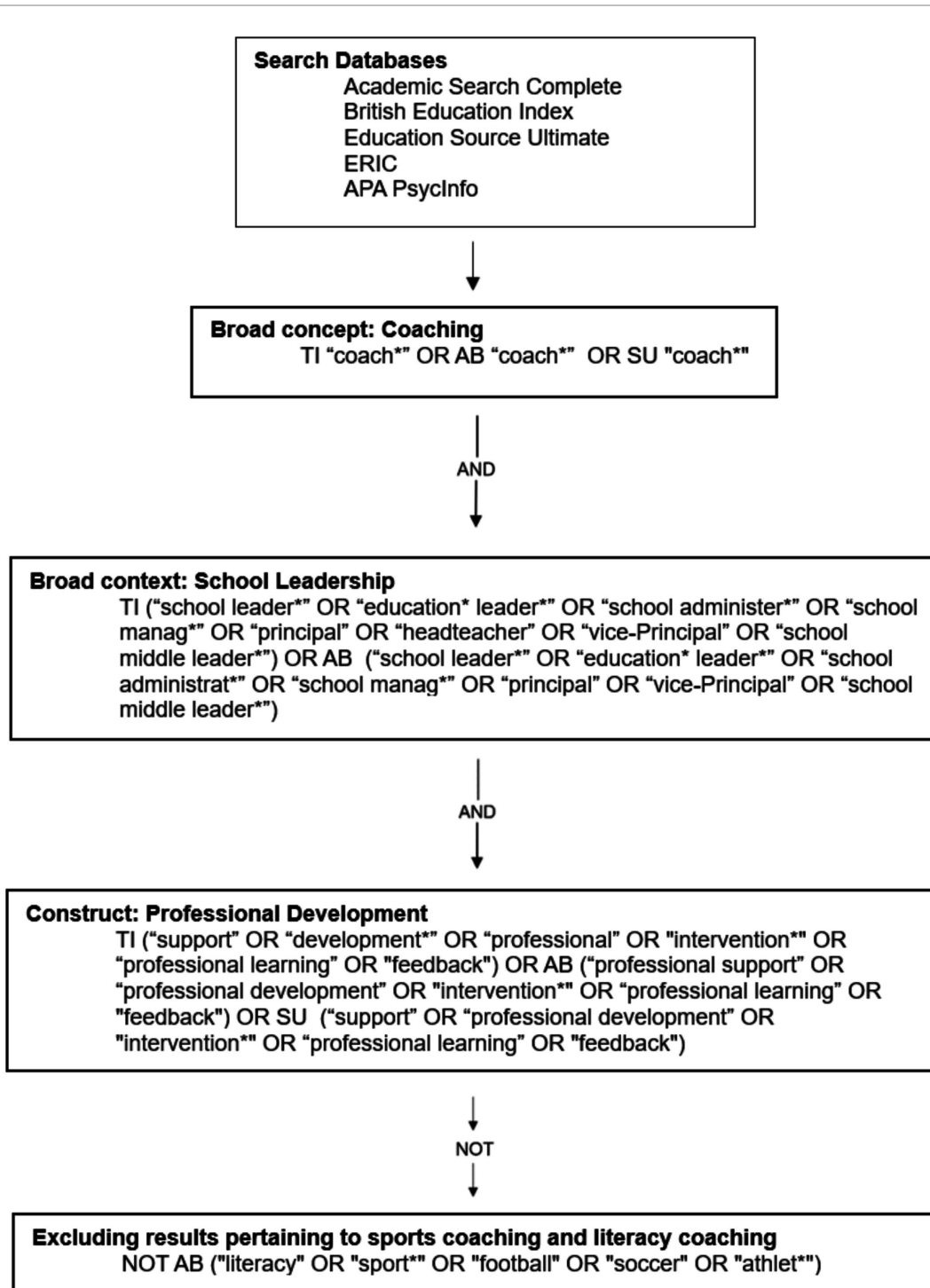


FIGURE 2
Library database search.

remaining 38, one review was added that had been sourced from a citation search. The article selection process is shown in the PRISMA flow diagram in Figure 3.

A breakdown of the types of research represented is shown in Table 2.

Supplementary Table S1 presents an article review matrix of the extracted data that includes the following: year of publication, author(s), article title, publication title, objectives, country/countries, sample size, method, coaching approach, key findings and themes, as identified in our Ecological Framework for Coaching of School Leaders.

4 Results

The methods used were checked against the PRISMA 2020 checklist items (Page et al., 2021). Patterns were codified and categorized (Boland et al., 2017; Saldana, 2013) into the themes that emerged from the analysis and mapped into a more logical categorization, facilitated by our Ecological Framework for the Coaching of school leaders. These themes are as follows:

- **Microsystem:** Direct coaching interactions and how they can inform the school leader's role-clarity, self-efficacy, leader identity, agency and openness to learning.
- **Mesosystem:** The potential of coaching in supporting school leaders across interconnections with the school environment

including relationships, trust, wellbeing, resilience, self-awareness and reflection.

- **Exosystem:** Influences of coaching on school leader's interactions with school/institutional policies and their evolution in the context of school culture, strategy formation, instructional leadership and leading change.
- **Macrosystem:** The potential of coaching in supporting school leaders to negotiate broader societal and cultural factors including education policy, governance and the nature of the provision of the coaching itself.
- **Chronosystem:** Finding time for coaching and other temporal factors and considerations across micro-time (the "here and now"), meso-time (regularity and consistency) and macro-time (historical events and societal/cultural shifts).

4.1 Microsystem: direct coaching interactions and how they can inform the school leader's role-clarity, self-efficacy, leader identity, agency and openness to learning

"Each morning when she looks in the mirror before leaving her home, she wonders why she thought she would be suited to principalship, without ever really knowing how much was involved."

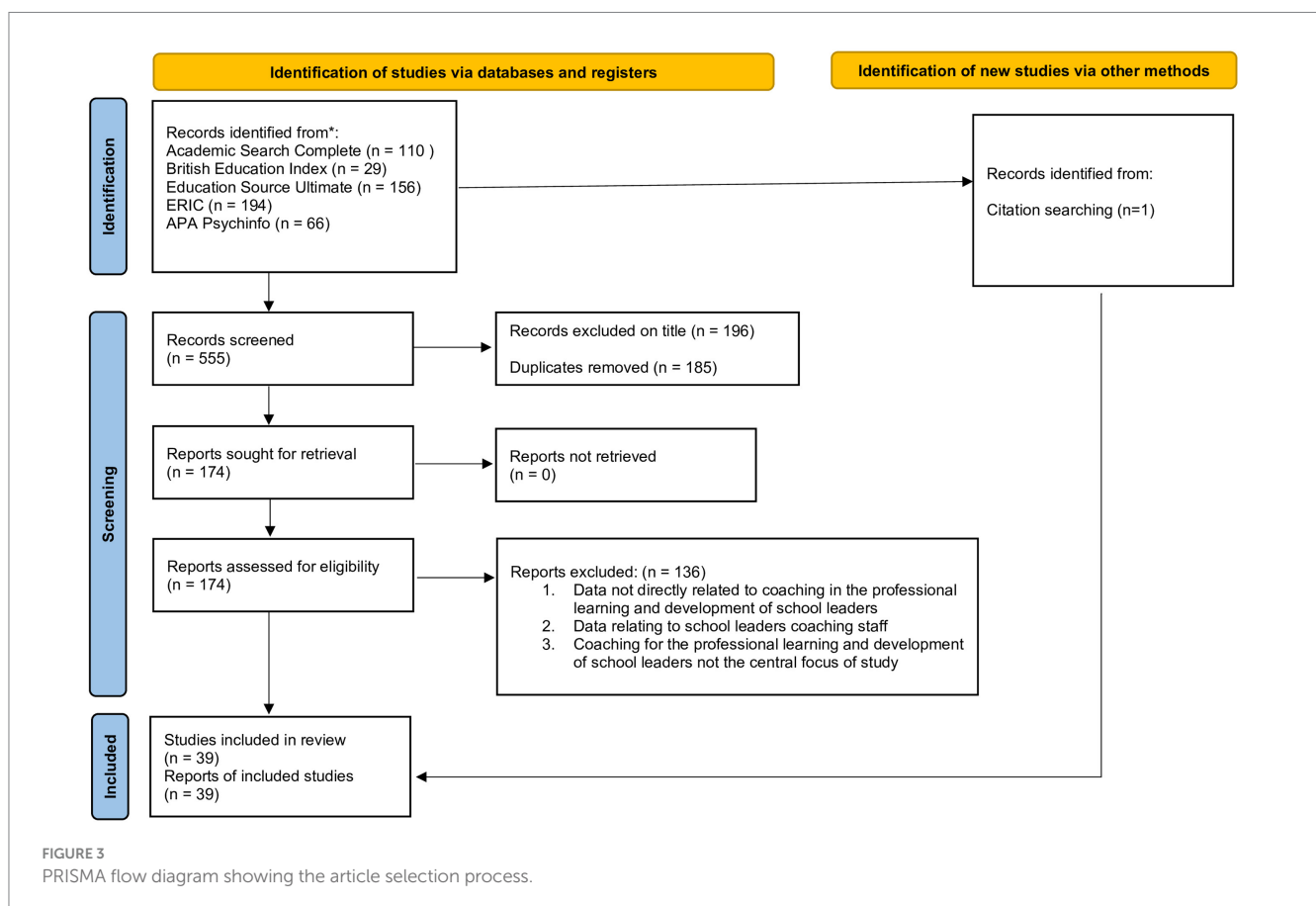


TABLE 2 Type of research and number of records.

Type of research	Number of records
Qualitative	27
Quantitative	2
Mixed methods	10

At the microsystem ecological level, coaching in the professional learning and development of school leaders provides a structured process whereby a school leader can engage with real-life adult learning in the areas of role clarity, self-efficacy, identity and agency. Andragogy, Knowles’s (1980, 1984) adult learning theory, conceives adult learners as being autonomous, motivated and self-directed and seeking growth-orientated learning that is experiential and context-informed. Zepeda et al. (2014) claims that professional development for principals, while focusing on goals and problems, often neglects to consider the context or prior knowledge and suggests that coaching is a viable solution. The reviewed literature reveals that coaching can provide real-world learning that is relevant, goal-and solution-focused and useful in leaders’ daily practice and that can build on the specific prior knowledge of the individual (Aas and Flückiger, 2016; Boon, 2022; Celoria and Roberson, 2015; Irby et al., 2023). Coaching builds leadership capacity because it is “job-embedded, instructionally focused, collaborative, supportive and ongoing” (Flückiger et al., 2017, p. 614). Many of the coaching processes we see in education originated in business organizational contexts—notably, Whitmore’s (1996) goal-orientated GROW model (Aas and Flückiger, 2016; Boon, 2022; Flückiger et al., 2017; Igu et al., 2023). Lofthouse (2019) refers to the collaborative dualism of coaching, whereby productive progress is achieved through skilled questioning on the part of the coach and dialog based on curiosity, active listening and reciprocity. The resulting enhanced self-awareness increases confidence and motivation (Boon, 2022).

According to Bandura, “self-efficacy refers to beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3). The literature suggests that coaching is highly effective in enhancing school leaders’ self-efficacy because it improves their ability to predict or examine the outcomes of their performance in a way that informs their behavior/decisions on an ongoing basis and is intrinsically related to motivation, perseverance and resilience (Boon, 2022; Igu et al., 2023; Lewis and Jones, 2019; Sardar and Galdames, 2018; van Nieuwerburgh et al., 2020). Role clarity refers to the knowledge regarding expectations associated with one’s role (Aas et al., 2020) and is positively related to successful goal-orientated coaching, self-efficacy, resilience, adaptability and leading teams (Brandmo et al., 2021).

Research suggests that coaching facilitates identity formation in reciprocal interactions at the microsystem level, which is highly beneficial to early-career leaders whose leadership identity is in the early stages of development (Boon, 2022; Celoria and Roberson, 2015; Cosner and De Voto, 2023; Simon et al., 2019). Celoria and Roberson (2015) outlined that learning and identity creation happen at the intersection of the social and the individual, while group coaching has been effective in fostering leader identity through personal and contextual feedback from other leaders (Aas and Flückiger, 2016; Aas and Vavik, 2015; Brandmo et al., 2021; Flückiger et al., 2017).

An important area for development in the coaching of the professional learning and development of school leaders is the question of agency. School leaders of today need to grow as agentic professionals capable of negotiating the complex organizational and social terrain in which they lead in a way that affords them the maximum capacity to bring about positive influence through goal-focused self-regulation (Grant and Atad, 2022). An advantage of coaching and group coaching over other forms of professional learning is that coaching is ecologically sensitive (Andrews and Munro, 2019). Priestley et al. (2015) explain that an ecological approach to agency involves one’s capacity to engage with the surroundings and make decisions based on a skilled negotiation between one’s personal capacity and the constraints or demands of the environment. Bronfenbrenner’s ecologies, which scaffold the findings of this review, can offer much in the design of coaching interventions that seek to enhance the capacity of school leaders to engage creatively with their environments as agentic professionals (Bronfenbrenner, 1979; Bronfenbrenner and Morris, 2007; Miller, 2018). Coaching can influence a school leader’s intellectual independence, moral purpose and cultural responsiveness as well as the confidence and agency needed to lead transformative change (Bush-Mecenas et al., 2020; Flückiger et al., 2017; Goff et al., 2014; Simon et al., 2019; Weathers and White, 2015; Wise and Cavazos, 2017). Coaching conversations as reciprocal interactions (proximal processes) at the microsystem level can enhance self-awareness in school leaders, and through an apprenticeship of observation, they can learn to emulate the skills of active listening, effective, empathetic questioning, use of data and guided opportunities for growth among their own interactions beyond coaching sessions, with members of the school community. Coaching skills are learned vicariously by school leaders when they are coached successfully (Boon, 2022; Weathers and White, 2015). The coaching relationship is most effective when the school leader views the coach as supportive, non-directive, trustworthy, confidential and non-judgmental (Bush-Mecenas et al., 2020; Netolicky, 2016; Weathers and White, 2015). Most studies saw coaches take a non-supervisory and non-evaluative role, something that Klar et al. (2020) found to be essential in fostering a safe space for school leader learning and reflection. However, Wise and Cavazos (2017) found that a supervisory dimension to the coaching relationship did not significantly affect school leaders’ perceptions of safety and confidentiality.

4.2 Mesosystem: the potential of coaching in supporting school leaders across interconnections with the school environment including relationships, trust, wellbeing, resilience, self-awareness and reflection

“Although she maintains a composed demeanor and carries herself with confidence, she knows that, for the first time in her life, she is finding it difficult to cope.”

The positive relationships a leader can forge in the coaching process can be mirrored in successful, trusting relationships with colleagues, ultimately building leadership capacity across the organization (Butler, 2024; Patrick et al., 2021; Ray, 2017). The relationship between the

coach and coachee is foundational to effective leadership coaching (Boon, 2022; Lochmiller, 2018), and a strong rapport facilitates the coach in challenging the leader to recognize the potential for better performance (Huggins et al., 2021), modeling relational authenticity for their role in the wider school community (Celoria and Roberson, 2015).

Highly effective professional development facilitates and encourages reflection (Darling-Hammond and McLaughlin, 2011), which, for Mezirow (1990), includes making inferences, discriminations and evaluations as well as solving problems. School leaders and prospective school leaders should be facilitated in engaging in reflection and feedback to raise self-awareness, develop their thinking, encounter questions, recognize assumptions and correct misunderstandings (Boon, 2022; Gray et al., 2022). The facilitation of critical reflection is a central feature of coaching for the professional learning and development of school leaders (Bush-Mecenas et al., 2020; Goff et al., 2014; Simon et al., 2019; Wise and Cavazos, 2017), and coaching is effective in forming habits of self-examination and self-awareness in the early stages of a school leader's career (Celoria and Roberson, 2015; Simon et al., 2019). The comparison between biased or inaccurate self-ratings and multi-source uncomplimentary feedback examined in the safe space of a coaching setting can challenge assumptions of self-efficacy and motivate growth and re-evaluation in school leaders at all stages of their careers (Goff et al., 2014; Patrick et al., 2021; Ray, 2017).

School leaders who have engaged in coaching place great value on the sense of trust that the coach builds with the coachee (Boon, 2022; Celoria and Roberson, 2015; Lochmiller, 2018; Huggins et al., 2021). Furthermore, when senior school leaders benefit from a trusting professional relationship in their experiences of coaching, they, too, can seek to build sustaining relationships with colleagues, who, in turn, will benefit from mutual trust (Boon, 2022; Van Nieuwerburgh et al., 2020). Such trust, created in a safe space for school leaders in coaching, is instrumental in the critically reflexive creation of a fresh professional identity for novice school leaders (Simon et al., 2019).

Previous studies have shown that coaching is strongly associated with alleviating workplace stress and addressing avoidance behavior as a maladaptive response to stress, although time constraints combined with inadequate “contracting,” (where the coach clearly explains what the coachee can expect from the process before entering into an agreed coaching relationship with a defined timescale and goals), was shown to increase stress on the part of the coachee (Gyllensten and Palmer, 2006). A leader's awareness of their physiological and emotional reactions is important for self-management and well-being, and coaching can be particularly beneficial in this regard (Boon, 2022; Butler, 2024), reducing burnout among school leaders (Celoria and Roberson, 2015; Igu et al., 2023). Coaching can offer much-needed support to school leaders' experiences of isolation, self-doubt and uncertainty, assisting them in managing emotions and enhancing their emotional intelligence (Celoria and Roberson, 2015). At the micro-level, school leaders' daily experiences and stresses can be reflected on in a supporting coaching environment that builds resilience (Boon, 2022; Igu et al., 2023; Lewis and Jones, 2019; Sardar and Galdames, 2018; van Nieuwerburgh et al., 2020). Further research on coaching for the well-being and resilience of school leaders could draw more from the work of positive psychology pioneers Seligman and Csikszentmihalyi and their work on human flourishing (Seligman and Csikszentmihalyi, 2000). Strengths-based approaches have been notably successful, and a coaching model that uses Bronfenbrenner's ecologies to explore the reciprocal interactions (proximal processes)

that may cause school leader stress over time would be a worthwhile focus of future research. This approach will also help school leaders in building capacity in others through the development of teams around individual team members' strengths.

4.3 Exosystem: influences of coaching on school leaders' interactions with school/institutional policies and their evolution in the context of school culture, strategy formation, instructional leadership and leading change

“She feels that a not-inconsiderable portion of her teaching staff is underperforming, and she is unsure how to address the issue. Her initial attempt at raising the issue succeeded only in alienating the staff, and the entire episode and her approach now fill her with regret.”

In the context of school leadership, education policy and its implementation, the goals and content of policy and reforms cannot be separated from how they are implemented on the ground, and the school leader is central to their implementation (Pont, 2020). Reform at the school and policy levels requires highly effective school leaders who can interact skilfully within their contexts with clear goals. Leadership coaches can be highly effective in tailoring their practices to meet the specific needs of individual school leaders in the successful navigation of the complexity of school reform by identifying deficiencies in capacity, negotiating political and cultural contextual challenges and communicating systemic state policy reforms in a meaningful way at the school organizational level (Ermeling et al., 2015; Lochmiller, 2018). Coaching can enhance school leaders' ability to recognize the emotional dimensions of educational reform implementation, both for the school leaders themselves and their colleagues, and can support school leaders in negotiating the challenging situations that arise as they instigate reform at the school organizational level (Lindle et al., 2017).

The goals of coaching engagements revolve around change (e.g., cognitive, behavioral, attitudinal or motivational), and the theoretically grounded science of psychology is key to understanding the processes and understanding of human change as the key element in generating better coaching outcomes (Cidral et al., 2023; Grant, 2011). Coaching models should be embedded within school organizations' fabric and aligned with the systemic goals of policy-driven reforms (Butler, 2024; Hollweck and Lofthouse, 2021; Lofthouse, 2019). The inevitability of change within organizations necessitates interventions such as leadership coaching (Gray et al., 2022). Leadership coaching focuses on individuals' leadership practices and their abilities to effectively lead change in their schools, inspiring change at the level of the individual leader—that is, change in what they think, what they believe and what they do to influence their organization (Goff et al., 2014; Huggins et al., 2021; Weathers and White, 2015). School leaders' strategic thinking and planning can be enhanced through coaching (Oberholzer and Macklin, 2024; van Nieuwerburgh et al., 2020). Coaching enhances school leaders' reflections on the culture of the schools and their thinking about how it can be improved (Aas and Flückiger, 2016). The coaching of school leaders enhances a school culture of exploration and collaborative, mutually influential relationships in which teacher autonomy is valued in the context of school improvement (Boon, 2022; Hollweck and Lofthouse, 2021).

Grant (2011) argued that coaching should be informed by theories of change and outlined potential areas of study, including positive psychology, narrative approaches to coaching and leadership and management coaching. In developing group coaching practices, Brandmo et al. (2021) used therapeutics from group psychotherapy because they are central to the personal change process (Vinogradov and Yalom, 1989; Yalom and Leszcz, 2005).

Aas and Vavik (2015) plotted the development of coaching in the 1990s, which had its roots in cognitive development-based psychology or executive coaching, to a form of coaching in the 2000s that was broader and more diffuse in scope. Cognitive coaching involves structured, authentic and empathetic dialog and focuses on developing self-directed thought processes to empower school leaders to perform effectively and confidently through planning, reflection and problem-solving conversations (Rogers et al., 2016). The literature distinguishes leadership coaching from instructional coaching, with the former relating to context and individuated performance, as opposed to more generalized instructional coaching, for which a more experienced professional will coach the client using superior subject-specific knowledge on how best to approach given tasks and responsibilities (Lochmiller, 2018; Ray, 2017).

Although group coaching is insufficient in quantity and reach, the literature suggests that it can benefit individual leaders and organizations (Aas and Vavik, 2015). Aas and Flückiger (2016) indicated that the role of the coach requires a unique set of skills, and much needs to be done to create evidence-based coaching preparation programs for the coaching of school leaders.

Much of the literature on coaching for the professional learning and development of school leaders revolves around enhancing school leaders' capacity to enact effective change (Lochmiller, 2018; Weathers and White, 2015; Wise and Cavazos, 2017). At the exosystem level, the positive influence of coaching for the professional learning and development of school leaders can be seen in most of the findings on leading change and managing staff teams (Lofthouse, 2019; Wise and Cavazos, 2017). In some cases, learner experience and outcomes have seen improvements attributable to coaching, particularly in schools in high-poverty or disadvantaged areas (Klar et al., 2020; Master et al., 2021). Instructional leadership has consistently been shown to be enhanced by coaching (Ceballos and Bixler, 2024; Damore and Rieckhoff, 2021). The reciprocal interactions (proximal processes) that a school leader will experience in providing instructional leadership can be considered at both the exosystem and macrosystem levels, with which the evolution of school policies is concerned. Coaches can help school leaders explore values and goals so that they can lead school policy development confidently and effectively, especially when school policies and reform initiatives converge. Coaching can enable the enhanced communication and collaborative development of strategic goals and the building of teams that work in a manner aligned with the school's mission (Oberholzer and Macklin, 2024).

4.4 Macrosystem: the potential of coaching in supporting school leaders to negotiate broader societal and cultural factors including education policy, governance and the nature of the provision of the coaching itself

"She has been informed that the Department of Education will carry out a 'Whole School Evaluation' inspection of the school next week."

Organizational support structures for the coaching of school leaders are provided in a wide variety of means across the literature and jurisdictions/districts, with many falling under the umbrella of educational leadership development, policy implementation, governance and oversight (Butler, 2024; Klar et al., 2020; Master et al., 2021; Murphy, 2023; Schleicher, 2012, 2015). While business terms such as "return on investment," in consideration of the viability of coaching (Grover and Furnham, 2016), are avoided in research on coaching for the professional learning and development of school leaders, which aims to enhance student learning and experiences (Lochmiller, 2018; Wise and Cavazos, 2017), stakeholders exercise control over investment, with many jurisdictions offering support services, guidelines or frameworks (Boon, 2022; Butler, 2024; Lochmiller, 2014; Master et al., 2021; Wise and Cavazos, 2017). Lochmiller's study in the United States showed that effective and transformative coaching can take place at a cost amounting to as little as \$4.20 per student (2014), while in Master et al.'s study, the cost would be between \$5,000 and \$15,000 per principal, indicating high value and cost effectiveness, given school leaders' significant impact on student achievement and experiences (Darling-Hammond et al., 2022).

Another consideration at the policy and organizational levels is school leader sustainability and attrition rates. Attrition rates are an international concern, with principals attributing stress and lack of support as key reasons (Lynch and Worth, 2017) with coaching seen as one of the areas which can address the issue (Lackritz et al., 2019; Simon et al., 2019). While it commonly takes a school leader 5 years to affect a positive change in school performance, just 50% of principals in the US stay in the role for 5 years (Lackritz et al., 2019), and there is an even greater rate of school leader turnover in areas of higher poverty (Sun and Ni, 2016).

There is a recognized need for informed professional expertise in educational coaching, but research focusing on the professional development and backgrounds of coaches who work with (or who should work with) school leaders is scant (Huggins et al., 2021; Lochmiller, 2014; Lofthouse, 2019; Wise and Cavazos, 2017). While one study provided evidence of quality assurance issues around coaching performance, it was an outlier, and it reported positive outcomes in leader identity formation as a result of coaching (Lackritz et al., 2019). Regarding the development of leadership coaches in education, Huggins et al. (2021) stressed that coaches should have enough experience to draw on in their coaching of school leaders. They also stressed that coaches need the support of communities in which coaches can learn in an ongoing way from their peers and that coach training should be facilitated by someone with expertise in both coaching and leadership development. In the literature, developing the coaching skills of experienced acting and former principals to coach senior and middle school leaders has been effective (Boon, 2022; Flückiger et al., 2017; Huggins et al., 2021). When the focus has been explicitly on the instructional dimension of coaching in educational settings, the issue of credibility and how the coach is perceived by school leaders has often been foregrounded (van Nieuwerburgh et al., 2020). Studies have shown inconsistencies in the effectiveness of coaching, attributable to the types of coaching inquiries and coaching behaviors used (Patrick et al., 2021).

Atad and Grant (2021) argued that a qualification in psychology is not necessary for those who would become effective in coaching psychology. School leaders value the skills and expertise of coaches in coaching per se, not necessarily in the subject matter in question at the

time of a session (Ray, 2017). Wise and Cavazos (2017) found that the more frequent the sessions, the more effective the principals found the coaching to be, with school leaders who sought a coach being more positive about their experiences of coaching than those who had coaches assigned to them. The coach's skills are critical in redirecting thinking through skilled open-ended questioning that encourages reflection (Cidral et al., 2023; Goff et al., 2014). Experienced school leaders can be trained to be effective coaches who provide professional support at the community or district level (Huggins et al., 2021; Lofthouse, 2019; Simon et al., 2019). Furthermore, research has suggested that experienced principals can also benefit from a coaching focus at the microsystem level, particularly around areas of emotional intensity, self-awareness, reflection and well-being (Lindle et al., 2017).

It can be argued that coaching can offer an alternative to the performativity and accountability agendas of neoliberalism (Ball, 2016) because, as Fullan and Knight (2011) argued, "Schools need less blatant accountability and testing and more capacity building, team learning, learning across schools, and transparency of results and pedagogical practice—the very things that coaches are good at" (53). Fullan viewed coaching as a highly collaborative practice and saw its potential for coherent systemic change. In this regard, the power interplay between organizations that hire coaches to achieve organizational and policy goals and the agency of individual school leaders requires further attention, as does the power dynamics of coaching which is assigned to principals on the one hand, or sought out by them on the other, and provided by a school district, a state agency, a state educational support service or a professional coaching organization. Coaching may not be for everyone, and its common provision as an option for school leaders among a range of available supports reflects this understanding (Butler, 2024; Wise and Cavazos, 2017). The perceived value of the role of a coach can also be enhanced by a culture that embraces coaching and principals through their experiences of being coached, learns coaching skills vicariously while building a sense of self-efficacy and can consequently help to develop it in others (Butler, 2024; Boon, 2022).

An area of potential may be the development of high-level coaching skills in school leaders through leadership preparation programs and continuing professional learning and development models, whereby school leaders can be highly effective coaching resources (one-to-one, triads or group) for each other and their organizations (Aas and Vavik, 2015; Brandmo et al., 2021; Cosner et al., 2018; Klar et al., 2024; Thomas et al., 2024), drawing from the successes of such peer coaching models in industry (Kotlyar et al., 2015). This may be a more cost-effective approach for governments that view the provision of coaches as prohibitively expensive (Lochmiller, 2014). However, this review shows that it is predominantly externally appointed professional coaches that can provide a formal and powerful learning and development intervention for school leaders. While peer-to-peer coaching may be worthy of further research, it would be essential that the research is appropriately rigorous and that all "peers" would be properly trained and experienced coaches in their own right. In terms of the provision of coaching, blended and virtual coaching models have performed strongly and may offer attractive alternatives to face-to-face coaching due to lower costs and the increased availability of coaches (Ermeling et al., 2015; Irby et al., 2023). School leaders need to be politically astute and able to foster relationships that assist strategic goals and ultimately enhance the learning experiences and outcomes of students (Lindle et al., 2017). Further research is required on the ways in which coaching can enhance school leaders' deployment of distributed leadership (Spillane et al.,

2015), although coaching has been shown to help school leaders build capacity by building on the strengths of team members to foster collaborative decision-making that aligns with broader policy objectives (Oberholzer and Macklin, 2024). Recent studies have shown that leadership coaching has been positively associated with enhancing a culture of distributed leadership in a way that can enhance both teacher and school leader wellbeing (Butler, 2024).

4.5 Chronosystem: finding time for coaching and other temporal factors and considerations across *micro-time* (the "here and now"), *meso-time* (regularity and consistency) and *macro-time* (historical events and societal/cultural shifts)

"She was taken aback by the adamant tone of the resistance she had been met with, when she attempted to open discussions with staff, parents and the Board of Management on the topic of some of the schools' long-held distinguishing features, traditions, admissions policy and ethos, being revised to better reflect societal changes and the changing demographic realities of their context."

Our Ecological Framework for the Coaching of School Leaders uses Bronfenbrenner's three categories to define temporal considerations in human development: micro-time refers to immediate experiences (i.e., "here and now"), meso-time refers to regularity and consistency and macro-time refers to historical events or cultural shifts. For Bronfenbrenner, time, when considered at the levels of micro-time (an immediate experience), meso-time (consistent, regular or everyday experiences) and macro-time (historical events, societal and cultural shifts, belief systems, personal life-changing events, social mores and norms taken for granted, which may have roots in historical events, political upheaval or global pandemics), can have a significant bearing on human development across the ecological dimensions. In the literature, the focus is on meso-time, whereby time constraints on the school leader's time impede access to coaching and its effectiveness, resulting in a lack of consistency, regularity and time for in-depth coaching. Challenges for the success of coaching going forward are the difficulty school leaders experience in finding sufficient time for the coaching itself (Boon, 2022; Butler, 2024; Irby et al., 2023; Lindle, 2016) and the concern that inadequate time investment and the lack of sustained, regular in-depth coaching conversations can lead to ineffective quick-fix or directive coaching, which fails to enhance self-awareness and reflection and does not lead to the lasting changes in behaviors and performance that the school leader may require (Ray, 2017). Among novice school leaders who are overwhelmed with the workload and responsibility of the role, coaching can be seen as yet another demand on their time, but if the support is sustained and of appropriate quality, it is ultimately perceived by leaders as being highly beneficial (Lindle et al., 2017; Sardar and Galdames, 2018). Temporal flexibility and the availability of extended timelines of coaching benefit school leaders as a broader range, and a diversity of issues is likely to be encountered by school leaders, which can form the basis for coaching discussions (Ermeling et al., 2015).

School leaders' daily and immediate experiences in the "here and now"—can provide challenges that, over a prolonged period, often impact their resilience (Boon, 2022; Igu et al., 2023; Lewis and Jones,

2019; Sardar and Galdames, 2018; van Nieuwerburgh et al., 2020), causing burnout and high attrition rates (Igu et al., 2023; Lackritz et al., 2019). Coaching may alleviate pressures across various levels of immediacy, be it time-bound (with a defined timeframe for completion of the process), time-sensitive (coaching to address a specific issue or issues with time constraints) or timely (coaching engaged with at appropriate junctures for maximum professional effectiveness) and when provided appropriately and consistently (and not just reactively) can enhance resilience and self-efficacy, reducing the likelihood of burnout (Brandmo et al., 2021; Igu et al., 2023; Ray, 2017). Early retirement or leave due to stress or burnout are life-changing events. Here, the impact of sustained regular challenges at the micro-time level, without adequate coaching interventions at the meso-time level, leads to highly negative outcomes at the macro-time level for school leaders and their schools.

Exploring these temporal features in systematic ways could provide rich opportunities for reflection and growth on the part of school leaders and enhance the efficacy of coaching school leaders. Due to the aforementioned time and financial constraints, coaching is often employed to help leaders deal with immediate, pressing issues relating to performance or a particular goal. This conception of coaching is limiting; it denies the reality of the environmental factors Bronfenbrenner outlined that synergistically inform a school leader's performance. Coaching frameworks should provide scope for adequate exploration and discovery at the macro-time level—of impactful and relevant experiences as well as societal and cultural shifts/events throughout school leaders' lives that may have informed their development both during and before their tenure as school leaders.

5 Limitations

This review has several limitations. First, the search was limited to July 2014 to July 2024, and it is likely that relevant studies will have been published both before and after that time frame. Second, gray literature was not included, and the search terms excluded papers looking at coaching more broadly in education, which may have yielded insights that would inform coaching for the professional learning and development of school leaders. Third, most of the studies were from the United States, and the differences in education systems and systems of governance across jurisdictions of all the included studies may have diminished the validity of the findings from country to country. Fourth, a formal quality appraisal tool was not used to assess the rigor and quality of the included papers. The peer-reviewed papers were analyzed based on what their analyses of results and findings could contribute to the knowledge of coaching in the professional learning and development of school leaders.

6 Discussion and conclusion

While it is clear that the findings in the reviewed studies were predominantly positive where coaching was concerned and led to improved performance and awareness on the part of school leaders, Bronfenbrenner's ecological framework helps reveal certain gaps in the research to date. First, it is important to foreground the interdependent and synergistic nature of the various elements that make up the system of a school leader's environment. Specifically, in his later work, Bronfenbrenner emphasized the importance of proximal processes—the

reciprocal interactions between the individual and the people/community/participants/audience, objects or symbols around them. Coaching is goal-orientated by nature (Whitmore, 1996), and the desired outcomes for a school leader can be identified early in the coaching process (Boon, 2022); however, the goals may appear across the ecologies and the three temporal dimensions of the chronosystem. A skilled coach will help the coachee through a process of seeing the developmental need in one area of the ecological system and its effect on the school leader's performance. How proximal processes (reciprocal interactions) in the environment influence the school leader and how the school leader may influence the environment can be focused on by a skilled coach, facilitating reflection and growth.

Specifically, there is a need for coaching for school leader agency (Andrews and Munro, 2019; Flückiger et al., 2017) and evidence-informed support in negotiating the difficulties that outdated summative high-stakes external examination assessment models pose for school leaders. School leaders of today and the future will be pivotal in bringing about meaningful cultural and instructional changes in their schools for learning that is relevant, profound and valuable and that promotes a lifelong love of learning, including well-being, creativity, critical thinking, adaptability, resilience and teamwork—skills that have traditionally been neglected in our schools (Miller, 2018; Stoll, 2020). Kools and Stoll's work on schools as learning organizations encompasses various interconnected ecologies and could prove useful to coaching research and practice (Kools and Stoll, 2016).

Another gap in the literature comes to the fore when we consider Bronfenbrenner's chronosystem and the ways in which a school leader's past influences their current performance, including issues such as health, skill set, cultural capital, values, beliefs, attitude, temperament and disposition. All of these are influenced at ecological levels, both before and during the school leader's tenure in the position. Guided reflection (Bush-Mecenas et al., 2020; Goff et al., 2014; Hayes and Burkett, 2021; Wise and Cavazos, 2017) on these variables can play an important role in the success or otherwise of coaching interventions. The current ecological framework is timely and necessary because it provides insights into various areas for growth and improvement among school leaders across the ecologies while also contributing to the advancement of future research and the development, enhancement and refinement of coaching models.

Creative leadership as an overarching goal is a clear gap in the literature, despite its importance in the school leadership required today (Lucas et al., 2023; Stoll and Temperley, 2009). Coaching is a creative endeavor and requires the creativity of the coachee to see things from a new perspective and to change their behavior or attitudes as a result. Like creativity, effective coaching is rooted in curiosity—a belief in possibility, guided by moral purpose, and a conviction that change is not only needed, but achievable. Schools today need to be learning organizations that are culturally responsive and open to change while sustaining and enhancing student engagement and creativity (Brown et al., 2022; Fullan, 2016; Harris and Jones, 2018; Kools et al., 2020)—a goal that school leaders' performance is key to achieving (Lucas et al., 2023; Murphy and Eivers, 2023). To these ends, models such as the creative habits of the mind (Lucas and Spencer, 2017) and the seven transdisciplinary cognitive skills for creative education (Henriksen and Deep-Play Research Group, 2018) may have potential in future coaching research, as may models beyond the field of education, such as Mainemelis et al.'s (2015) multi-context model of creative leadership.

Few studies have explored the range of environmental features that impact school leaders, let alone examined how the interaction of

these contexts at the proximal process and reciprocal interaction levels plays out. Many useful conceptual frameworks have been developed, and they often address given research questions without exploring or acknowledging the different environmental domains with which school leaders interact or the relevant temporal considerations that Bronfenbrenner's work illuminates.

Furthermore, if we are to consider coaching research from an ecological perspective, we see very clearly that this strand of the literature is largely inward-looking and slow to draw on research from industry, even though coaching has been successfully deployed to develop business leaders for some time (Cidral et al., 2023). Only one study we found involved both business and school leaders (Chandler et al., 2011). The issue of coaches' training is underdeveloped in the literature and requires much more attention. Realistic and vigorous appraisals of the viability of coaching and its various models are required so that coaching receives investment with confidence from governments and district authorities. As previously outlined, the possibility of developing a highly effective population of coaches among school leaders is attractive on many levels since school leaders could be valuable coaching resources for each other. School leaders should have excellent coaching skills if they are to promote a culture that is open to the benefits that a coaching culture can provide to a learning organization (Boon, 2022; Butler, 2024). Advocates for coaching in education in general must work to advance the status of coaching at a systemic level, and winning over school leaders should be a key priority. A lack of knowledge and awareness of coaching can impede its endorsement at the system and school levels (Butler, 2024).

Coaching remains in its early stages within school leadership development. Further research could explore its alignment with established leadership models—distributed, transformational, democratic etc.—which may reveal limitations in coaching on the one hand and leadership models on the other. Future studies might also examine how coaching models may align with official school quality standards across jurisdictions and across the ecological contexts we have explored. It is likely that future studies may also inform future directions in how supervisory, evaluative and inspection practices interact with school leaders.

Technological advances will present both opportunities and challenges to coaching for school leaders' professional learning and development. Mixed reality tools (Dieker et al., 2023) have shown promise in providing contextual scenarios (Ceballos and Bixler, 2024). Given the isolation often experienced by school leaders, it is essential that emerging technologies enhance, rather than replace, the relational and interpersonal dimensions of coaching.

Coaching is a broad church and perhaps too broad when it comes to leadership coaching for the professional learning and development of school leaders. Future research on coaching interventions for school leaders and the models that underpin them should, we contend, have a solid footing in the science of psychology. Bronfenbrenner's work on ecologies and human development can provide a useful starting point for the creation and adaptation of such models and interventions. The success of positive psychology (Seligman, 2007; Seligman and Csikszentmihalyi, 2000; Su-Keene and DeMatthews, 2022) and cognitive behavioral approaches (Palmer and Szymanska, 2018) from the field of psychology, to name a couple, should inform future coaching frameworks and models and be aligned with the specific and distinct requirements outlined above for the coaching of the school leaders of today and tomorrow.

"She often feels guilty that some of the students in her school are not receiving the educational experience that she feels they deserve or that she envisioned when she applied for the job."

School leaders want the very best for their students and are, like the Emily of our vignette, driven to support their teachers and school communities to ensure optimal outcomes and experiences for their students. But as we have seen, school leadership is inherently complex, with each school context being as unique and distinctive as the individuals who shape it. What coaching requires of school leaders is openness, curiosity and creativity, and those who seek to provide valuable professional learning and development for school leaders can and should, we argue, aspire to explore the coaching possibilities across the ecologies for the benefit of school leaders, their colleagues and the students in their schools.

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Supplementary material

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References

- Aas, M., Andersen, F. C., and Vennebo, K. F. (2020). How school leaders can gain role clarity and grow their leadership identity? *Res. Educ. Administrat. Leadersh.* 5, 518–551. doi: 10.30828/real/2020.2.7
- Aas, M., and Flückiger, B. (2016). The role of a group coach in the professional learning of school leaders. *Coaching Int. J. Theory Res. Pract.* 9, 38–52. doi: 10.1080/17521882.2016.1143022
- Aas, M., and Vavik, M. (2015). Group coaching: a new way of constructing leadership identity? *School Leadersh. Manage.* 35, 251–265. doi: 10.1080/13632434.2014.962497
- Andrews, J., and Munro, C. (2019). “Coaching for agency: The power of professionally respectful dialogue” in *Flip the System Australia: What Matters in Education*, 163–171.
- Atad, O. I., and Grant, A. M. (2021). How does coach training change coaches-in-training? Differential effects for novice vs. experienced ‘skilled helpers’. *Coaching Int. J. Theory Res. Pract.* 14, 3–19. doi: 10.1080/17521882.2019.1707246
- Ball, S. J. (2003). The teacher’s soul and the terrors of performativity. *J. Educ. Policy* 18, 215–228. doi: 10.1080/0268093022000043065
- Ball, S. J. (2016). Neoliberal education? Confronting the slouching beast. *Policy Fut. Educ.* 14, 1046–1059. doi: 10.1177/1478210316664259
- Bandura, A. (Ed.) (1997). *Self-efficacy: the exercise of control*. New York: W. H. Freeman and Company.
- Boland, A., Cherry, G., and Dickson, R. (Eds.) (2017). *Doing a systematic review: A student’s guide*. 2nd Edn. London: SAGE.
- Boon, Z. S. L. (2022). Coaching: an approach for leadership development in the Singapore education system. *Int. J. Mentor. Coach. Educ.* 11, 89–103. doi: 10.1108/IJMC-09-2021-0089
- Brandmo, C., Aas, M., Colbjørnsen, T., and Olsen, R. (2021). Group coaching that promotes self-efficacy and role clarity among school leaders. *Scand. J. Educ. Res.* 65, 195–211. doi: 10.1080/00313831.2019.1659406
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, Massachusetts, U.S.: Harvard University Press.
- Bronfenbrenner, U., and Morris, P. A. (2007). “The bioecological model of human development” in *Handbook of Child Psychology*, vol. 1.
- Brown, M., Altrichter, H., Shiyani, I., Rodriguez Conde, M. J., McNamara, G., Herzog-Punzenberger, B., et al. (2022). Challenges and opportunities for culturally responsive leadership in schools: evidence from four European countries. *Policy Fut. Educ.* 20, 580–607. doi: 10.1177/14782103211040909
- Brown, M., O’Hara, J., McNamara, G., Skerrett, C., and Shevlin, P. (2021). Global messages from the edge of Europe: the cause and effect of leadership and planning strategies during the COVID-19 pandemic. *Ir. Educ. Stud.* 40, 151–159. doi: 10.1080/03323315.2021.1915837
- Buchanan, R. (2020). An ecological framework for supervision in teacher education. *J. Educ. Supervision* 3, 76–94. doi: 10.31045/jes.3.1.6
- Bush-Mecenas, S., Marsh, J. A., and Strunk, K. O. (2020). Guiding principals: middle-manager coaching and human-capital reform. *Teach. Coll. Rec.* 122, 1–50. doi: 10.1177/016146812012201004
- Butler, P. (2024). Building a coaching culture in Irish schools: challenges and opportunities: a mixed-methods study. *Societies* 14:10. doi: 10.3390/soc14010010
- Ceballos, M., and Bixler, K. (2024). Advancing instructional leadership: instructional coaching skills development through mixed reality experiences. *J. Educ. Supervision* 7:45. doi: 10.31045/jes.7.1.3
- Celoria, D., and Roberson, I. (2015). New principal coaching as a safety net. *Educational Leadership and Administration: Teaching and Program Development*, 26, pp.86–99. Available online at: <https://files.eric.ed.gov/fulltext/EJ1062267.pdf>.
- Chandler, M. M., Roebuck, D. B., Swan, W. W., and Brock, S. J. (2011). Perceptions and outcomes of a managerial coaching certificate program: educational leaders vs business leaders. *J. Leadersh. Stud.* 5, 43–53. doi: 10.1002/jls.20217
- Cidral, W., Berg, C. H., and Paulino, M. L. (2023). Determinants of coaching success: a systematic review. *Int. J. Product. Perform. Manag.* 72, 753–771. doi: 10.1108/IJPPM-07-2020-0367
- Cosner, S., and De Voto, C. (2023). Using leadership coaching to strengthen the developmental opportunity of the clinical experience for aspiring principals: the importance of brokering and third-party influence. *Educ. Adm. Q.* 59, 3–39. doi: 10.1177/0013161X231153812
- Cosner, S., Walker, L., Swanson, J., Hebert, M., and Whalen, S. P. (2018). Examining the architecture of leadership coaching: considering developmental affordances from multifarious structuring. *J. Educ. Adm.* 56, 364–380. doi: 10.1108/JEA-05-2017-0049
- Cresy, J., and Paterson, F. (2005). *Leading coaching in schools*. National College for School Leadership (Great Britain).
- Damore, S. J., and Rieckhoff, B. S. (2021). School leader perceptions: coaching tool and process. *J. Res. Leadersh. Educ.* 16, 57–80. doi: 10.1177/1942775119868258
- Daniëls, E., Hondeghem, A., and Dochy, F. (2019). A review on leadership and leadership development in educational settings. *Educ. Res. Rev.* 27, 110–125. doi: 10.1016/j.edurev.2019.02.003
- Darling-Hammond, L., and McLaughlin, M. W. (2011). Policies that support professional development in an era of reform. *Phi Delta Kappan* 92, 81–92. doi: 10.1177/003172171109200622
- Darling-Hammond, L., Wechsler, M. E., Levin, S., and Tozer, S. (2022). *Developing effective principals: What kind of learning matters?*. Washington, D.C.: Learning Policy Institute.
- DeMatthews, D., Carrola, P., Reyes, P., and Knight, D. (2021). School leadership burnout and job-related stress: recommendations for district administrators and principals. *The Clearing House: J. Educ. Strateg. Issues Ideas* 94, 159–167. doi: 10.1080/00098655.2021.1894083
- Dieker, L., Hughes, C., and Hynes, M. (2023). The past, the present, and the future of the evolution of mixed reality in teacher education. *Educ. Sci.* 13:1070. doi: 10.3390/educsci13111070
- Ermeling, B. A., Tatsui, T. T., and Young, K. R. (2015). Virtual coaching for instructional leaders: a multi-method investigation of technology-enabled external assistance. *Teach. Coll. Rec.* 117, 1–48. doi: 10.1177/016146811511701108
- Flückiger, B., Aas, M., Nicolaidou, M., Johnson, G., and Lovett, S. (2017). The potential of group coaching for leadership learning. *Prof. Dev. Educ.* 43, 612–629. doi: 10.1080/19415257.2016.1223736
- Fullan, M. (2007). *Leading in a culture of change*. New Jersey, U.S.: John Wiley & Sons.
- Fullan, M. (2016). The elusive nature of whole system improvement in education. *J. Educ. Chang.* 17, 539–544. doi: 10.1007/s10833-016-9289-1
- Fullan, M., and Knight, J. (2011). *Coaches as system leaders*. *Educ. Leadersh.* 69, 50–53.
- Goff, P., Guthrie, J. E., Goldring, E., and Bickman, L. (2014). Changing principals’ leadership through feedback and coaching. *J. Educ. Adm.* 52, 682–704. doi: 10.1108/JEA-10-2013-0113
- Grant, A. M. (2011). Developing an agenda for teaching coaching psychology. *Int. Coach. Psychol. Rev.* 6, 84–99. doi: 10.53841/bpsicpr.2011.6.1.84
- Grant, A. M., and Atad, O. I. (2022). Coaching psychology interventions vs. positive psychology interventions: the measurable benefits of a coaching relationship. *J. Posit. Psychol.* 17, 532–544. doi: 10.1080/17439760.2021.1871944
- Grant, M. J., and Booth, A. (2009). A typology of reviews: an analysis of 14 review types and associated methodologies. *Health Informat. Libraries J.* 26, 91–108. doi: 10.1111/j.1471-1842.2009.00848.x
- Gray, J. A., Walker, A., Zimmerman, S., and Dickson, J. (2022). Leadership-focused coaching in action: an approach to continuous improvement and supporting public schools. *Int. J. Educ. Policy Leadersh.* 18:15. doi: 10.22230/ijep.2022v18n1a159
- Grover, S., and Furnham, A. (2016). Coaching as a developmental intervention in organisations: a systematic review of its effectiveness and the mechanisms underlying it. *PLoS One* 11:e0159137. doi: 10.1371/journal.pone.0159137
- Gyllenstein, K., and Palmer, S. (2006). Experiences of coaching and stress in the workplace: an interpretative phenomenological analysis. *Int. Coach. Psychol. Rev.* 1, 86–98. doi: 10.53841/bpsicpr.2006.1.1.86
- Harris, A., and Jones, M. (2018). Leading schools as learning organisations. *School Leadersh. Manage.* 38, 351–354. doi: 10.1080/13632434.2018.1483553
- Hayes, S. D., and Burkett, J. R. (2021). Almost a principal: coaching and training assistant principals for the next level of leadership. *J. School Leadersh.* 31, 502–525. doi: 10.1177/1052684620912673
- Henriksen, D. Deep-Play Research Group (2018). *The 7 transdisciplinary cognitive skills for creative education*. Switzerland: Springer International Publishing.
- Hollweck, T., and Lofthouse, R. M. (2021). Contextual coaching: leveraging and leading school improvement through collaborative professionalism. *Int. J. Mentor. Coach. Educ.* 10, 399–417. doi: 10.1108/IJMC-01-2021-0019
- Huggins, K. S., Klar, H. W., and Andreoli, P. M. (2021). Facilitating leadership coach capacity for school leadership development: the intersection of structured community and experiential learning. *Educ. Adm. Q.* 57, 82–112. doi: 10.1177/0013161X20915948
- Igu, N. C. N., Onyishi, C. N., Amujiri, B. A., Binuomote, M. O., Modebelu, M. N., Okafor, I. P., et al. (2023). Raising leadership self-efficacy and minimizing organizational burnout among school administrators in a GROW model of cognitive behavioural coaching. *J. Leadersh. Organ. Stud.* 30, 464–482. doi: 10.1177/15480518231171748
- Irby, B. J., Pashmforoosh, R., Lara-Alecio, R., Tong, F., Etchells, M. J., and Rodriguez, L. (2023). Virtual mentoring and coaching through virtual professional leadership learning communities for school leaders: a mixed-methods study. *Mentor. Tutor.* 31, 6–38. doi: 10.1080/13611267.2023.2164971
- Klar, H. W., Huggins, K. S., and Andreoli, P. M. (2024). Coaching, professional community, and continuous improvement: rural school leader and coach development

- in a research-practice partnership. *Int. J. Leadersh. Educ.* 27, 332–359. doi: 10.1080/13603124.2020.1869311
- Klar, H. W., Huggins, K. S., Andreoli, P. M., and Buskey, F. C. (2020). Developing rural school leaders through leadership coaching: a transformative approach. *Leadersh. Policy Sch.* 19, 539–559. doi: 10.1080/15700763.2019.1585553
- Knowles, M. S. (1980). From pedagogy to andragogy. *Relig. Educ.* 75, 202–211.
- Knowles, M. S. (1984). *Andragogy in action: Applying modern principles of adult learning*. San Francisco: Jossey-Bass.
- Kools, M., and Stoll, L. (2016). What makes a school a learning organisation? OECD education working papers, no. 137, OECD Publishing, Paris. Available online at: <https://doi.org/10.1787/5jlwm62b3bvh-en>.
- Kools, M., Stoll, L., George, B., Steijn, B., Bekkers, V., and Gouëdard, P. (2020). The school as a learning organisation: the concept and its measurement. *Eur. J. Educ.* 55, 24–42. doi: 10.1111/ejed.12383
- Kotlyar, I., Richardson, J., and Karakowsky, L. (2015). Learning to lead from outsiders: the value of career communities as a source of external peer coaching. *J. Manag. Dev.* 34, 1262–1271. doi: 10.1108/JMD-05-2015-0076
- Lackritz, A. D., Cseh, M., and Wise, D. (2019). Leadership coaching: a multiple-case study of urban public charter school principals' experiences. *Mentor. Tutor.* 27, 5–25. doi: 10.1080/13611267.2019.1583404
- Leithwood, K., Harris, A., and Hopkins, D. (2020). Seven strong claims about successful school leadership revisited. *School Leadersh. Manage.* 40, 5–22. doi: 10.1080/13632434.2019.1596077
- Lewis, T. E., and Jones, K. D. (2019). Increasing principal candidates' self-efficacy through virtual coaching. *J. Organ. Educ. Leadersh.* 4:Article 4.
- Lindle, J. C. (2016). Posing questions for leadership development and practise: a coaching strategy for veteran school leaders. *Int. J. Leadersh. Educ.* 19, 438–463. doi: 10.1080/13603124.2015.1041555
- Lindle, J. C., Della Sala, M. R., Reese, K. L., Klar, H. W., Knoepfel, R. C., and Buskey, F. C. (2017). A logic model for coaching experienced rural leaders: lessons from year one of a pilot program. *Prof. Dev. Educ.* 43, 121–139. doi: 10.1080/19415257.2015.1037927
- Lochmiller, C. R. (2014). What would it cost to coach every new principal? An estimate using statewide personnel data. *Educ. Policy Anal. Arch.* 22:55. doi: 10.14507/epaa.v22n55.2014
- Lochmiller, C. R. (2018). Coaching principals for the complexity of school reform. *J. School Leadersh.* 28, 144–172. doi: 10.1177/105268461802800201
- Lofthouse, R. (2019). Coaching in education: a professional development process in formation. *Prof. Dev. Educ.* 45, 33–45. doi: 10.1080/19415257.2018.1529611
- Lucas, B., and Spencer, E. (2017). *Teaching creative thinking: Developing learners who generate ideas and can think critically*. Carmarthen, United Kingdom: Crown House Publishing Ltd.
- Lucas, B., Spencer, E., Stoll, L., Fisher-Naylor, D., Richards, N., James, S., et al. (2023). *Creative thinking in schools: A leadership playbook*. Carmarthen, United Kingdom: Crown House Publishing Ltd.
- Lynch, S., and Worth, J. (2017). Keeping your head: NFER analysis of headteacher retention. Slough: NFER.
- Mainemelis, C., Kark, R., and Epitropaki, O. (2015). Creative leadership: a multi-context conceptualization. *Acad. Manag. Ann.* 9, 393–482. doi: 10.5465/19416520.2015.1024502
- Mannix-McNamara, P., Hickey, N., MacCurtain, S., and Blom, N. (2021). The dark side of school culture. *Societies* 11:87. doi: 10.3390/soc11030087
- Master, B. K., Schwartz, H., Unlu, F., Schweig, J., Mariano, L. T., Coe, J., et al. (2021). Developing school leaders: findings from a randomized control trial study of the executive development program and paired coaching. *Educ. Eval. Policy Anal.* 44, 257–282. doi: 10.3102/01623737211047256
- Mezirow, J. (1990). How critical reflection triggers transformative learning. *Foster. Crit. Reflect. Adulthood* 1, 1–6.
- Miller, P. W. (2018). *The nature of school leadership*. Springer International Publishing.
- Moher, D., Liberati, A., Tetzlaff, J., and Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *BMJ* 339:b2535. doi: 10.1136/bmj.b2535
- Murphy, G. (2023). Leadership preparation, career pathways and the policy context: Irish novice principals' perceptions of their experiences. *Educ. Manage. Admin. Leadersh.* 51, 30–51. doi: 10.1177/1741143220968169
- Murphy, R., and Eivers, E. (2023). Evaluation of creative schools—full report. Available online at: https://doras.dcu.ie/29450/7/Creative%20Schools%20Evaluation_Full%20Report_Murphy_Eivers_2023.pdf (Accessed May 11, 2024).
- Netolicky, D. M. (2016). Rethinking professional learning for teachers and school leaders. *J. Prof. Cap. Commun.* 1, 270–285. doi: 10.1108/JPC-04-2016-0012
- Oberholzer, L., and Macklin, J. (2024). Headteacher development through nonlinear coaching and coaching psychology. *Coach. Psychol.* 20, 110–121. doi: 10.53841/bpstep.2024.20.1.110
- Online Etymology Dictionary (2024). Coach. In [etymonline.com etymology dictionary](https://www.etymonline.com/etymologydictionary). Available online at: <https://www.etymonline.com/search?q=coach> (Accessed September 4, 2024).
- Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., et al. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 372:n71. doi: 10.1136/bmj.n71
- Palmer, S., and Szymanska, K. (2018). "Cognitive behavioural coaching: an integrative approach" in *Handbook of coaching psychology*. eds. S. Palmer and A. Whybrow (Oxfordshire, United Kingdom: Routledge), 108–127.
- Patrick, S. K., Rogers, L. K., Goldring, E., Neumerski, C. M., and Robinson, V. (2021). Opening the black box of leadership coaching: an examination of coaching behaviors. *J. Educ. Adm.* 59, 549–563. doi: 10.1108/JEA-08-2020-0168
- Peesker, K. M., Ryals, L. J., Rich, G. A., and Davis, L. (2021). An ecosystems analysis of how sales managers develop salespeople. *J. Bus. Ind. Mark.* 36, 654–665. doi: 10.1108/JBIM-01-2020-0037
- Perna, M. C. (2023). Why almost half of school leaders are preparing to call it quits. *Forbes*. Available online at: <https://www.forbes.com/sites/markcperna/2023/08/02/why-almost-half-of-school-leaders-are-preparing-to-call-it-quits/> (Accessed August 2, 2023).
- Pont, B. (2020). A literature review of school leadership policy reforms. *Eur. J. Educ.* 55, 154–168. doi: 10.1111/ejed.12398
- Priestley, M., Robinson, S., and Biesta, G. (2015). *Teacher agency: An ecological approach*. London: Bloomsbury Academic.
- Ray, B. (2017). Educational leadership coaching as professional development. *School Leadersh. Rev.* 12:5.
- Roberts, M. B., and Gonzalez, M. (2023). Combining mentoring and coaching to support aspiring leaders' development: participants' voices. *Int. J. Educ. Leadersh. Preparat.* 18, 40–52.
- Rogers, W. T., Hauserman, C. P., and Skytt, J. (2016). Using cognitive coaching to build school leadership capacity: a case study in Alberta. *Can. J. Educ.* 39, 1–29.
- Rosa, E. M., and Tudge, J. (2013). Urie Bronfenbrenner's theory of human development: its evolution from ecology to bioecology. *J. Fam. Theory Rev.* 5, 243–258. doi: 10.1111/jftr.12022
- Saldana, J. (2013). *The coding manual for qualitative researchers*. 2nd Edn. Thousand Oaks, California: SAGE.
- Sardar, H., and Galdames, S. (2018). School leaders' resilience: does coaching help in supporting headteachers and deputies? *Coaching* 11, 46–59. doi: 10.1080/17521882.2017.1292536
- Scherff, L. (2018). *Distinguishing professional learning from professional development*. Florida, US: Regional Educational Laboratory.
- Schleicher, A. (2012). *Preparing teachers and developing school leaders for the 21st century: Lessons from around the world*. Paris, France: OECD Publishing.
- Schleicher, A. (2015). *Schools for 21st-century learners: Strong leaders, confident teachers, innovative approaches*. Paris, France: OECD Publishing.
- Seligman, M. E. (2007). Coaching and positive psychology. *Aust. Psychol.* 42, 266–267. doi: 10.1080/00050060701648233
- Seligman, M. E., and Csikszentmihalyi, M. (2000). Positive psychology: an introduction. *Am. Psychol.* 55, 5–14. doi: 10.1037/0003-066X.55.1.5
- Shah, S. (2023). Navigating gender stereotypes as educational leaders: an ecological approach. *Manag. Educ.* 37, 140–149. doi: 10.1177/08920206211021845
- Simon, S., Dole, S., and Farragher, Y. (2019). Custom-designed and safe-space coaching: Australian beginning principals supported by experienced peers form pipeline of confident future leaders. *School Leadersh. Manage.* 39, 145–174. doi: 10.1080/13632434.2018.1470502
- Sohrabi, C., Franchi, T., Mathew, G., Kerwan, A., Nicola, M., Griffin, M., et al. (2021). PRISMA 2020 statement: what's new and the importance of reporting guidelines. *Int. J. Surg.* 88:105918. doi: 10.1016/j.jisu.2021.105918
- Spillane, J. P., Harris, A., Jones, M., and Mertz, K. (2015). Opportunities and challenges for taking a distributed perspective: novice school principals' emerging sense of their new position. *Br. Educ. Res. J.* 41, 1068–1085. doi: 10.1002/berj.3166
- Stewart, C. (2014). Transforming professional development to professional learning. *J. Adult Educ.* 43, 28–33.
- Stoll, L. (2020). Creating capacity for learning: are we there yet? *J. Educ. Chang.* 21, 421–430. doi: 10.1007/s10833-020-09394-z
- Stoll, L., and Temperley, J. (2009). Creative leadership: a challenge of our times. *School Leadersh. Manage.* 29, 63–76. doi: 10.1080/13632430802646404
- Su-Keene, E., and DeMatthews, D. (2022). 'Savoring' the joy: reducing principal burnout and improving well-being through positive psychology interventions. *Clear. House* 95, 210–219. doi: 10.1080/00098655.2022.2097623
- Sun, M., and Ni, Y. (2016). Work environments and labor markets: explaining principal turnover gap between charter schools and traditional public schools. *Educ. Adm. Q.* 52, 144–183. doi: 10.1177/0013161X15616659
- Thomas, C., Koehn, J., and Turner, J. (2024). Promising practices for leadership development: exploring a collaborative professional learning and coaching program. *Can. J. Educ. Administrat. Policy* 204, 88–103. doi: 10.7202/1111527ar

- Tong, A., Flemming, K., McInnes, E., Oliver, S., and Craig, J. (2012). Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BMC Med. Res. Methodol.* 12:181. doi: 10.1186/1471-2288-12-181
- van Nieuwerburgh, C., Barr, M., Munro, C., Noon, H., and Arifin, D. (2020). Experiences of aspiring school principals receiving coaching as part of a leadership development programme. *Int. J. Mentor. Coach. Educ.* 9, 291–306. doi: 10.1108/IJMCE-11-2019-0107
- Vinogradov, S., and Yalom, I. D. (1989). A concise guide to group psychotherapy. Washington, DC: American Psychiatric Press.
- Weathers, J. M., and White, G. P. (2015). “Executive coaching of school leaders in a mid-sized urban school district: development of a model of effective practice” in Leading small and mid-sized urban school districts (Leeds, England: Emerald Group Publishing Limited), 191–222.
- Whitmore, J. (1996). Coaching for performance. Boston, MA: Nicholas Brealey Publishing.
- Wise, D., and Cavazos, B. (2017). Leadership coaching for principals: a national study. *Mentor. Tutor.* 25, 223–245. doi: 10.1080/13611267.2017.1327690
- Yalom, I. D., and Leszcz, M. (2005). The theory and practice of group psychotherapy. New York, NY: Basic Books.
- Zepeda, S. J., Parylo, O., and Bengtson, E. (2014). Analyzing principal professional development practices through the lens of adult learning theory. *Prof. Dev. Educ.* 40, 295–315. doi: 10.1080/19415257.2013.821667