An Exploration of Individual, Job, and Organizational Characteristics Associated with District Research Leaders' Knowledge Brokering Work

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Abstract: The role of district research leaders (DRLs) in central offices has emerged as a strategy for improving the creation, flow, and use of research knowledge in decision-making. However, there is limited information about the responsibilities, opportunities, and challenges inherent in these roles. This exploratory qualitative study features document analysis to examine the individual backgrounds, job demands, and organizational contexts of DRLs. The result of this study suggest that multiple pathways to the DRL role exist, but few include formal training in knowledge brokering. Further findings suggest that DRL jobs are complex and entail diverse tasks, but share a focus on research leadership and coordination, identifying and obtaining relevant research information, and facilitating evidence-informed change. Moreover, organizational contexts varied in supportiveness for knowledge brokering work. Overall, there was limited evidence of alignment across individual, job, and organizational characteristics, signaling an opportunity to better define and support those in DRL roles.

Una exploración de las características individuales, laborales y organizacionales asociadas con el trabajo de intermediación de conocimiento de los líderes de investigación del distrito

Resumen: El papel de los líderes de investigación distritales (DRL) en las oficinas centrales ha surgido como una estrategia para mejorar la creación, el flujo y el uso del conocimiento de la investigación en la toma de decisiones. Sin embargo, hay información limitada sobre las responsabilidades, oportunidades y desafíos inherentes a estos roles. Este estudio cualitativo exploratorio presenta un análisis de documentos para examinar los antecedentes individuales, las demandas laborales y los contextos organizacionales de los DRL. El resultado de este estudio sugiere que existen múltiples caminos hacia el rol de DRL, pero pocos incluyen capacitación formal en intermediación de conocimiento. Además, sugiere que los trabajos D son complejos e implican un enfoque diverso, pero comparten un liderazgo y coordinación, identifican los hallazgos de la investigación sobre la información de investigación relevante y facilitan el cambio informado por la evidencia. Además, los contextos organizacionales variaban en el apoyo al trabajo de intermediación de conocimientos. En general, hubo evidencia limitada de alineación entre las características individuales, laborales y organizacionales, lo que indica una oportunidad para definir y apoyar mejor a aquellos en roles de DRL.

Uma exploração das características individuais, profissionais e organizacionais associadas ao trabalho de intermediação de conhecimento dos líderes de pesquisa distrital

Resumo: O papel dos líderes distritais de pesquisa (DRLs) nos escritórios centrais surgiu como uma estratégia para melhorar a criação, fluxo e uso do conhecimento de pesquisa na tomada de decisões. No entanto, há informações limitadas sobre as responsabilidades, oportunidades e desafios inerentes a essas funções. Este estudo qualitativo exploratório apresenta análise de documentos para examinar os antecedentes individuais, demandas de trabalho e contextos organizacionais de DRLs. O resultado deste estudo sugere que existem vários caminhos para o papel de DRL, mas poucos incluem treinamento formal em intermediação de conhecimento. Outras descobertas sugerem que os trabalhos de DRL são complexos e envolvem diversas tarefas, mas compartilham um foco na liderança e coordenação da pesquisa, identificando e obtendo informações relevantes de pesquisa e facilitando a mudança baseada em evidências. Além disso, os contextos organizacionais variaram em apoio ao trabalho de intermediação de conhecimento. No geral, havia evidências limitadas de alinhamento entre características individuais, de trabalho e organizacionais, sinalizando uma oportunidade para definir e apoiar melhor aqueles em funções de DRL.

An Exploration of Individual, Job, and Organizational Characteristics Associated with District Research Leaders' Knowledge Brokering Work

Central offices play a significant role in improving teaching and learning district-wide, which includes engaging in evidence-based decision-making, an expectation under federal education policy (Honig & Coburn, 2008). Prior research has shown that central offices use research for a wide range of decisions about curriculum, instruction, and professional learning (Coburn et al., 2009b; Farley-Ripple, 2012; Honig et al., 2017; Penuel et al., 2017) and engage in research–practice partnerships and technical assistance relationships to support access, creation, and use of research (Coburn et al., 2021; Honig et al., 2017; Wentworth et al., 2017). Further, central offices support *schools'* use of research by supporting the flow of information, supporting sense making, communicating expectations, and providing professional development (Honig & Venkateswaran, 2012). These activities have been shown to have significant, indirect effects on improving student learning (Leithwood et al., 2019).

Although districts are increasingly expected to incorporate research evidence into decision-making, an extensive body of research has documented persistent challenges to the use of research evidence (for a discussion, see Honig & Coburn, 2008). These include availability and relevance to the issue at hand (Penuel et al., 2017), varied beliefs about and ability to understand and apply evidence (Farley-Ripple, 2012; Farley-Ripple et al., 2017; Supovitz & Klein, 2003; Williams & Cole, 2007), and organizational conditions that shape evidence use capacity, such as human and financial resources; allocation of time; a culture that features trust, collaboration, and norms for evidence use; leadership; and structures and processes that facilitate communication of and about evidence (Asen et al., 2013; Coburn & Talbert, 2006; Coburn et al., 2009b; Daly et al., 2014; Farley-Ripple, 2012; Penuel et al., 2017; Supovitz & Klein, 2003).

Given these challenges alongside the importance of using evidence for district-wide improvement, building district capacity for evidence use may be a critical lever for education reform efforts. In recent years, administrators in district research and evaluation offices—hereafter known as "district research leaders" (DRLs)—have become one such lever. District research offices are not new. In fact, a 1978 survey found that 90 percent of large school districts had such an office (Lyon et al., 1978, as cited in Cooley & Bickel, 2012), and early work on in-house researchers and evaluators highlighted the potential for their contribution to program improvement, decision-making, and improving the district's knowledge base (Bickel, 1984; Kennedy, 1983). However, there is limited evidence that these roles and activities were widely taken up. In the current push for evidence-based decision-making, there is renewed attention to the role of these offices and their leaders, and DRLs are increasingly expected to serve as knowledge brokers (KBs), taking on roles to support the development, implementation, and evaluation of evidence-based practices by facilitating interactions among researchers and educators and sharing research- and practice-based knowledge throughout the process. Prior studies of central office research use show that these individuals can facilitate the access to, creation, flow, and use of research knowledge in decision-making (Coburn et al., 2009a; Farley-Ripple, 2012; Honig, 2003), and are key in establishing external research partnerships (Farrell et al., 2018). In these ways, DRLs may contribute to districts' potential absorptive capacity, defined by Farrell and Coburn (2017) as the ability of organizations to identify, assimilate, transform, and use external knowledge (e.g., research evidence) to inform organizational routines, policies, and practices.

Although DRLs may be an important lever for district's evidence use, there has been little research on the DRL role, including how the role is designed or conceptualized to impact district evidence use. To this end, our research serves as a starting point for developing a framework for

understanding and supporting DRL knowledge brokering work. Our work is guided by four exploratory research questions. First, what are the knowledge and skills of those who enter DRL roles. Second, what are the job tasks of DRLs. Third, what are the organizational contexts in which DRLs work. Fourth, what are the ways in which DRLs' knowledge and skills, job tasks, and organizational contexts align to support the use of research evidence within districts. Answers to these questions are foundational for future research to help the field to better understand and evaluate the DRL contribution to district evidence use capacity, to prepare individuals for and support those in DRL careers, and to fully leverage DRL positions to strengthen the role of research in decision-making.

Background

The Role of the District Office in Improving Instruction and Student Achievement

Historically, school district central offices "focused on business and compliance functions rather than on supporting schools in their efforts to help all students realize learning goals" (Honig, 2013, pp. 1–2). However, as noted by Mac Iver and Farley (2003) "the proliferation of research and discussion about 'effective schools' [during the 1980s] spawned…the theme of what districts could do—and needed to do—to help schools become 'effective schools'" (pp. 11–12). Because of this early work, researchers in the 1990s began to advocate "for coherent systemic reforms that aligned each level of the educational structure from the school, to the district, to the state" (Trujillo, 2013, p. 427). Correspondingly, researchers and policymakers began to consider how central offices could contribute to reform efforts to improve teaching and learning district-wide (Honig & Coburn, 2008).

In an exhaustive review of district effectiveness literature, Anderson and Young (2018) uncovered 97 pieces of black and grey literature published between 1985 and 2014. They note that the practice of using evidence for planning, learning, and accountability has a strong level of support within the research literature. However, they explain that they were unable to ascertain whether the practices effected district and school leadership on student achievement due to methodological limitations (e.g., many studies with small, skewed sample sizes) of the research base. Therefore, moving forward, Anderson and Young argued, "further research should be conducted on district effectiveness to help understand the relationships between the different variables within each practice and how they influence the effectiveness of a given district" (p. 8). One such example of researchers who heed this advice are Leithwood et al. (2019). The purpose of this study was to "test the effects of district practices on student achievement and explored the conditions that mediated the effects of such characteristics" (p. 519). Leithwood et al. used a cross-sectional study design and over 2,000 school and district leaders provided data for the study across 45 school districts in two surveys. Student achievement evidence was provided by standardized tests that measured math and language achievement. The authors used nine district practices as independent variables for the study, including uses of evidence. The authors reported that seven districts of the nine practices had significant indirect effects on student learning, with "uses of evidence" (b¼0.30) having the largest effect on school districts' level of effectiveness.[1]

Federal education policies in the United States also emphasize evidence-based teaching and learning by offering significant funds to states, school districts, and schools that use research evidence to improve instruction and student achievement. Federal efforts to support and incentivize

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[1] Other practices that had significant indirect effects on student learning included coherent instructional program (b¼0.28), mission vision and goals (b¼0.25), district alignment (b¼0.24), relationship (b¼0.23), professional leadership (b¼0.22), and learning-oriented improvement processes (b¼0.20).

evidence-based teaching and learning date back to the No Child Left Behind (NCLB) Act of 2001 and continue with the passing of the Every Student Succeeds Act (ESSA) in 2015. Under ESSA, the Institute of Education Sciences (a U.S. federal agency) uses tiered evidence grants that award smaller amounts of grant funding to test promising ideas and larger amounts to replicate and implement practices with strong evidence of success. ESSA leaves it to local and state education leaders to decide which practices, programs, or interventions will be used to improve their schools; however, the actions implemented must be evidence-based, which ESSA defines as "activities, strategies, or interventions that show a statistically significant effect on improving student outcomes or other relevant outcomes" (20 U.S.C. § 8101). Moreover, ESSA has evidence and evaluation requirements throughout the federal grant life cycle, including requiring districts to collect data to determine an intervention's evidence of effectiveness.

Although the evidence-use movement is not without critiques,[2] both research (Anderson & Young, 2018; Leithwood et al., 2019) and federal policy suggest that one of the most important district practices for improving student outcomes is using evidence for planning, learning, and accountability.

The Role of District Research Offices in Supporting Evidence Use

The evidence use requirements of districts demand that school districts build organizational and individual capacity to initiate and lead research activities related to teaching and learning. However, school districts face considerable challenges in using research evidence in improvement efforts. Some researchers contend that this is attributed, in part, to the challenges that school districts face when integrating new knowledge into practice. Some challenges include individual and organizational barriers as well as difficulties associated with finding, evaluating, and implementing research evidence in local contexts (Coburn et al., 2009a; Daly et al., 2014; Farley-Ripple, 2012; Honig & Coburn, 2008; Yoshizawa, 2020). The creation and use of district research offices (and by extension, DRLs) is one way of resolving the issues facing districts in implementing evidence-based practices and ensuring appropriate use of quality evidence.

A number of studies have identified individual barriers that hinder research use in schools and districts. For example, Brown (2020) and Galdin-O'Shea (2015) have similarly found the capacity of educators to use research is limited by a lack of time to engage with research evidence and insufficient resources to change practices. In addition, Malin et al. (2020) note that educators often lack research training, and believe that research is disconnected from classroom practice. District research offices can reduce or eliminate these barriers by undertaking the time-consuming task of acquiring and transforming research evidence into actionable insights for educators to use in their work (Mosher, 1969). Research offices also have the potential to help advocate for resources and services to support the implementation of evidence-based practices (Mosher, 1969). District research offices can also support evidence use through the development and implementation of professional development activities that focus on increasing educators' capacity to search and incorporate evidence in decision-making processes (Honig & Coburn, 2008). Further, to supplement the expertise of educators and school and district leaders, staff from district research offices can join school and district leaders in undertaking evaluations of existing or newly developed programs (Mac Iver & Farley, 2003).

At the organizational level, organizational culture and processes can pose key barriers to evidence use (Hedberg, 2018). For example, Ion et al. (2019) report that weak organizational leadership and decision-making processes for incorporating evidence are barriers to evidence-based

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[2] A discussion of these critiques is beyond the scope of this article. However, we suggest Biesta (2010), Brighouse et al. (2018), Cain (2016), and Wrigley (2018) for further discussion.

school systems. Relatedly, Oancea (2018) and Ion and Gairín (2019) report that the use of research evidence in school and district decisions can also depend heavily on the culture of the organization. Schools and districts that do not value evidence as a critical resource, or cultivate a culture that promotes educators' engagement and commitment to research, results in gaps in the uptake of evidence in terms of organizational capacity. Conversely, districts that have "leadership that is…sensitive to research [and]… cultivates an organizational ethos favorable to collaboration and academic integration" (Malin et al., 2020, p. 6) are more likely to have improved organizational capacity for using research evidence. Research offices can promote a research-driven culture in school districts by supporting districts in four strategic areas. First, research offices can support district effectiveness by developing and maintaining a variety of processes designed to meet the needs of school and district personnel. These processes include developing clear policies regarding conducting research within districts (e.g., IRB review approval process), organizational supports for decision-making, and external and internal communication processes regarding research. Second, research offices can support collaboration by facilitating and nurturing relationships with external researchers. Third, research offices can support strategic planning efforts throughout the district by regularly developing and providing a variety of research-based information to support staff in decision-making processes. Finally, research offices can help foster the development of a culture of inquiry by regularly communicating research findings to district staff.

DRLs as Knowledge Brokers

Knowledge brokers (KBs) are individuals who engage in multiple functions to facilitate the movement of knowledge into action (Neal et al., 2021). A review of the KB literature by Glegg and Hoens (2016) suggests that brokers engage in a range of activities related to information management, linkage and exchange, facilitation, capacity building, and evaluation. We collate the information obtained from previous studies on knowledge brokers to draw comparisons to the role that DRLs play in facilitating the flow of research evidence in school districts.

KBs act as *information managers* by collecting, organizing, storing, and sharing knowledge between and within organizations between organizations and between members in organizations (Glegg & Hoens, 2016). According to Kirst (2000), brokers pay more attention to sources, channels of communication, and formats than researchers, while Akkerman and Bakker (2011) emphasize their role in promoting reflection on new ideas or "boundary objects" (reports, research information). Similarly, brokers translate research jargon into ordinary language that is more accessible to those who might put the research findings into action (Malin & Paralkar, 2017). Early work on district research offices by Webster (1975) suggests that DRLs engage in information management tasks such as interpreting research findings, writing reports, and disseminating data and reports to interested professional staff. Mac Iver and Farley (2003) also note that district research offices also work to create data feedback loops between schools and central offices, and improve the timeliness and usefulness of evaluation reports.

KBs can also serve as *linking agents* by connecting and building relationships between stakeholders (Glegg & Hoens, 2016). Kochanek et al. (2015) report important activities that brokers perform when forging new partnerships, such as: identifying common goals, negotiating a research agenda, organizing meetings, and facilitating communication. As education research–practice partnerships grow nationally, district research offices are important linkages between partners and facilitate communication across boundaries (e.g., Farrell et al., 2018). Davidson and Penuel (2019) note that district leaders serve an important brokering function by "translating each side of the partnership" (p. 3). Further, district leaders engage in processes of coordination, co-developing a shared vision, engaging in regular communication, and establishing routines to maintain the

partnership (Davidson & Penuel, 2019).

Brokers act as *evaluators* by assessing the local context to inform knowledge brokering activities, evaluating partnerships, and evaluating knowledge brokering activities and outcomes (Glegg & Hoens, 2016). Early research by Mosher (1969) suggests that research offices may engage in evaluations of instructional programs and practices in order to inform district decision-making. More recent research from King and Rohmer-Hirt (2011) continues to suggest that district research offices engage in internal program evaluations in order to build evidence of school programs and practices. Brokers can also promote the use of research-based evidence in decision-making by providing *capacity building* related to technical and administrative components of research use (Huberman, 1990). Early work on district research offices by Mac Iver and Farley (2003) summarizes a range of evidence-use roles for these offices, including technical assistance in school improvement planning. King and Rohmer-Hirt (2011) also highlight that district-level evaluation involves the purposeful development of evaluation capacity, which includes building organizational (e.g., development of structural, administrative, and operational configurations) and individual (e.g., staff skills) capacity. Finally, brokers serve a *facilitator* function by guiding or supporting evidence-informed practice processes (Glegg & Hoens, 2016). Early studies on school improvement provide insight into the facilitator roles that DRLs may engage in, such as serving as a curriculum expert and providing problem-solving or implementation support (Louis & Kell, 1981). More recent studies continue to suggest that DRLs play a brokerage role in facilitating the implementation of evidence-based practices (e.g., Coburn et al., 2009a; Farley-Ripple, 2012).

Taken together, the limited research on district research leaders suggests that their work encompasses the functions of KBs, though no formal study of DRLs as knowledge brokers has been undertaken to date.

Literature in Relation to the Research Questions

Through our four research questions, we seek to explore (1) the knowledge and skills of those who enter DRL roles, (2) the job tasks of DRLs, (3) the organizational contexts in which DRLs work, and (4) the ways in which DRLs' knowledge and skills, job tasks, and organizational contexts align to support the use of research evidence within districts. We identify the relevant literatures that contribute to our understanding of knowledge brokers in relation to the research questions. We use this literature to provide a framework during the data collection process and for data analysis.

Knowledge and Skills of KBs

Research suggests the knowledge and skills necessary for successful brokerage are diverse, and although they are drawn from multiple policy sectors, provide a basis for exploring the knowledge and skills possessed by individuals when taking on DRL roles in districts.

The available KB literature suggests individuals in brokering roles need to have knowledge (i.e., the competent demonstration of facts and information through learning, experience, and reflection; Harris, 2010, p. 5) in five domains (Bayley et al., 2018; Dobbins et al., 2009; Mallidou et al., 2018). First, brokers need an *understanding of the practice context*, which includes understanding the many factors that can support or hinder research use. Second, they need to have an *understanding of the research process*. This includes understanding how to identify research problems, review the literature, set research questions, choose study designs, and collect and analyze data. Third, brokers need *be aware of evidence resources*, including knowing where and how to locate evidence-based resources. Fourth, these individuals need to *know how to share knowledge*, understanding different techniques (e.g., type of language used, content) and communication channels (e.g., offline or online)

for sharing information with different audiences. Finally, individuals must *understand KB and evidence use processes and activities*. This includes understanding the models and theories of KB and evidence-based practice, understanding different KB activities to support evidence use, and so on.

Individuals working in KB roles also need skills (i.e., the competent demonstration of abilities, which are acquired through knowledge translation, training, and experience; Harris, 2010, p. 5) in six key areas (Bayley et al., 2018; Dobbins et al., 2009; Mallidou et al., 2018). *Collaboration and teamwork* skills include the ability to develop and maintain authentic and respectful professional relationships with others and engage with many different groups. *Leadership* skills include the ability to provide day-to-day guidance to a team, facilitate stakeholder involvement in decision-making, influence skill development, and act upon stakeholders' views and needs. *Research synthesis* skills include the ability to examine and summarize the research literature related to a question or problem. Brokers also need skills in *research production* and *research dissemination*. Finally, brokers need the ability to apply and *facilitate the use of research findings* in practice and policy decisions.

Job Tasks of KBs

While knowledge and skills represent the capacity to do things well, job tasks are the various activities that a person will perform in the course of a job. In a systematic review of the KB literature in health related settings, Bornbaum et al. (2015) reported that individuals in KB positions performed 40 different job tasks that they then categorized into 10 overarching activities, presented in Table 1. Informed by studies of knowledge brokerage across sectors, Bornbaum at al.'s framework, while complex, is useful in identifying and operationalizing tasks DRLs may engage in as they enact knowledge broker roles.

Table 1

Activities of Brokers (Summarized from Bornbaum et al., 2015)

Activity	Description
Identify, engage, and connect with stakeholders	Identify and connect with stakeholders with relevant expertise.
Facilitate collaboration	Facilitate collaboration by organizing group forums, encourage dialogue between stakeholders, facilitate group discussion and consensus, and build relationships between stakeholders.
Identify and obtain relevant information	Conduct needs assessments and engaging in evidence search, retrieval, synthesis, and dissemination.
Facilitate the development of analytic and interpretive skills	Design and deliver capacity-building opportunities to stakeholders.
Create knowledge products	Write or support the preparation of tailored knowledge products (e.g., resource binders, reports, policy briefs, logic models, presentations, fact sheets).

Activity	Description
Project coordination	Provide administrative (e.g., develop and update websites, develop and maintain contact lists) and support grant applications (e.g., rating funding proposals).
Support communication and information sharing	Establish communication channels, coordinate ongoing communication with stakeholders, disseminate knowledge products to stakeholders/decision-makers, and support stakeholders in presenting research-based information to decision-makers.
Network development, maintenance, and facilitation	Identify networking opportunities, recruit individuals and organizations to the network, develop processes and structures for the network, and maintain network operations.
Facilitate and evaluate change	Assess readiness for change, generate buy-in among stakeholders, monitor the process of implementation or uptake, and evaluate KB initiatives.
Support sustainability	Promote reflective practices, encourage organizational leadership, and sustain engagement with KB and evidence-based practice (EBP) initiatives.

Organizational Contexts: Structures and Cultures that Affect KBs' Work

How an individual is situated in an organization both formally and informally matters for their role and effectiveness as a broker (Contandriopoulos et al., 2010). In order to understand DRL positions, we need to understand the organizational structure in which they operate. Prior studies have shown that different organizational structures can facilitate or hinder knowledge functions within an organization. Specifically, traditional bureaucratic, hierarchical models can constrain the flow of information as well as human interaction across specialized units (Claver-Cores et al., 2007; Walczak, 2005). In contrast, "flatter" or more horizontal organizational designs as well as cross-functional team-based structures can better promote knowledge flow (Claver-Cores et al., 2007; Walczack, 2005). These structures influence communication pathways between knowledge units and decision-makers as well as organizational routines. However, while formal organization structures can create or hinder opportunities for knowledge sharing in an organization, informal structures have powerful influences on actual practice. Informal structures reflect relationships that may exist across organizational boundaries (e.g., horizontal relationships), which may supplement hierarchical structures for knowledge development and sharing (Huang et al., 2014). These ties may reflect professional and social relationships among members of an organization. In the case of DRLs, the larger organizational structure of their district and their formal location are instructive for understanding their roles in mobilizing research knowledge in the district. Further, the informal networks, both internal and external, can serve in various ways to support or constrain their knowledge brokering roles and practice.

Organizational culture also shapes knowledge brokering work. A "knowledge culture" promotes initiatives that encourage knowledge activities and signals commitment to knowledge sharing activities to promote higher quality decision-making (Walczack, 2005). In a meta-analysis of

antecedents to knowledge sharing in organizations, Witherspoon et al. (2013) identify several influential dimensions of organizational culture, including: openness of communication, participation in decision-making, norms for knowledge sharing, social trust, commitment to organizational goals, and leadership support. For the purpose of this study, we use Xia et al.'s (2016) definition of openness of communication, defining the term as "the ease of individuals talking to each other within the organization, and the degree of understanding gained during communication with other team members" (p. 3). Organizational culture can also be interpreted through the institutional logics that shape the work of staff and influence organizational change (Thornton et al., 2015). Studies of educational reform often surface logics or "institutional scripts" (Weber & Glynn, 2006) such as continuous improvement or performance accountability (Anderson & Kumari, 2009). Under the former, the use of knowledge is centered around reflection, design, and improvement, which builds both the individuals' and organization's capacity to learn (and therefore improve). Under institutional logics of performance accountability, priority is given to productivity and accountability for a particular set of outcomes, much as we might find in the world of business (Horn et al., 2015). Such logics shape how educators engage with and think about information and normative expectations for their work.

Building from this literature, understanding DRLs' knowledge broker roles requires a deeper understanding of the organizational context. Districts' formal and informal structures, as well as systems, may influence the ways in which DRLs operate as knowledge brokers within their contexts. Further, dimensions of organizational culture and logics that shape district change efforts are also likely to shape DRLs' KB efforts.

Methods

We conducted an exploratory content analysis of extant data sources that describe DRL background knowledge and experience as well as job descriptions of DRLs involved in a pre-existing community of practice. This community of practice is associated with a larger network of organizations in the research, policy, practice, and intermediary communities with initiatives that work to improve relationships between research and practice. Membership in this community of practice is open to those with DRL positions as a means of supporting professional growth and support for role-alike members, though knowledge of the community of practice is linked to participation in the larger network, for which there are criteria and fees associated with membership. We note that we are not members of this community of practice nor the larger network in which it is situated; however, we were invited into the community of practice for the purposes of conducting research that could inform their professional activities and learning opportunities.

Participants

Our sample includes 27 individuals[3] from a roster of members of a role-alike community of practice. Individuals within the community of practice self-identify as central office administrators who are working within a research department at a school district. Broadly, individuals in these positions play a distinct role in helping their districts meet districts' internal research and data needs as well as external federal and state accountability and evidence requirements (e.g., Every Student Succeeds Act, 2015). Individuals belonging to the community of practice represent 25 departments across 21 school districts. Using data obtained from the NCES Common Core of Data, we note that almost all districts were located in cities (*n*=18), while the remaining three districts were located in

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[3] A determination of exemption was made by the University of Delaware Institutional Review Board.

suburban areas. No districts were located in rural communities. District size (i.e., measured by student population) was varied (Table 2).

Table 2

Student Population (Data Obtained from NCES Common Core of Data)

Student Population	# of Districts
Less than 25,000 students	9
Between 25,000 and 49,999 students	3
Between 50,000 and 74,999 students	2
Between 75,000 and 99,000 students	2
Over 100,000 students	5

Furthermore, by virtue of membership in the larger network, districts in which participants worked have demonstrated commitments to use of research evidence. These districts disproportionately represent particular contexts, which limit the generalizability of these findings. However, we do note that the sample might reflect that research offices are more likely to be found in larger central office contexts.

Data Sources

We collected data in three phases. To answer the first and second research questions (RQ1 and RQ2), we relied on LinkedIn profiles, biographical statements, news releases, job descriptions, and resumes. For RQ3, we relied on text from district websites, which elaborated on the purpose, composition, and work of the DRL's department, district, and departmental organizational charts; the most recently posted job descriptions for DRLs; and DRL resumes. This study took place during the 2020–2021 school year, during the height of the Coronavirus pandemic. With the exception of job descriptions and resumes, we chose to focus on collecting publicly available data to limit the requests we had of DRLs participating in this study during this unprecedented time. We used organizational websites to obtain information as they have the potential to provide important insights into a district's culture, processes, and activities as they relate to promoting evidence use (Cooper, 2014). It is important to note that we did not evaluate the websites themselves (e.g., for layout), but rather we used the data on the websites as a proxy of the districts' activities in engaging in research use. We used LinkedIn profiles, which are, although similar, not identical to resumes to obtain the educational and occupational histories of each DRL. The DRLs' LinkedIn profiles further provided us with data on their self-reported interests and capabilities. We used biographical statements to obtain information on the DRLs' career histories and information on their current positions. Similarly, we used districts' news releases to capture the framing of the DRLs' roles because they are typically prepared to reflect district communications about key events or actions. We then used resumes and job descriptions to obtain a more complete understanding of the DRLs involved in the study.

To be included in the sample for each RQ, DRLs needed to have at least one of the data sources; as such, the sample size varies for each RQ. Table 3 maps the research questions, components of the conceptual framework, data sources, examples of evidence, and sample sizes for each phase of the project.

Table 3

Data Sources and Examples of Evidence

Research Question	Components of Framework	Example of Evidence	Data Sources	Sample Size
1. What are the individual characteristics of those who enter DRL roles?	Knowledge	Completed a degree, course, training, or professional development that focused on the "practice context."	LinkedIn profiles, biographical statements, news releases, resumes	27 of 27 DRLs
	Skills	Line in resume in which a DRL explicitly describes engagement facilitating group initiatives prior to entering DRL role.		24 of 27 DRLs
2. What are the job demands of those who are in DRL roles?	Job Tasks	Statement in job description that DRL is expected to participate in research briefings.	LinkedIn profiles, biographical statements, news releases, resumes, job descriptions	13 of 27 DRLs
3. What are the organizational contexts in which DRLs work?	Structures and Systems	Organizational chart shows formal ties with other units.	Office descriptions, organizational charts, job descriptions, resumes	24 of 27 DRLs
	Culture and Climate	Unit description refers to efforts to improve communication with stakeholders.		

A priori codes were developed based on the above literature review (for the codebook, see Supplemental File A). Codes were extracted from the data sources described in Table 1 and were categorized according to individual characteristics, job demands, and organizational climate. A coding matrix was developed, into which supporting evidence from data sources was entered. This allowed for examination of patterns within and across cases. We began by coding a single DRL and comparing our framework against available evidence. The research team then independently coded two cases to achieve inter-rater reliability of 80% agreement (Miles & Huberman, 1994). After testing reliability, the lead author independently coded remaining cases. Codes were analyzed in two ways. First, they were analyzed through quantitative counts to capture the prevalence of individual, job, and organizational characteristics among DRLs in our sample, including aspects of DRLs that were common across participants and those that were more variable. Second, for some dimensions, such as organizational context, the research team used codes to develop themes or patterns. In these cases, the research team collaboratively interpreted and grouped codes into themes that helped to qualitatively differentiate among DRL backgrounds, job design, and organizational context.

Findings

We present results in terms of our conceptual framework, first summarizing the *individual characteristics*, *job demands*, and *organizational contexts* of DRLs' work as evidenced in our data. We then examine the relationships among the framework components, more deeply exploring the ways in which they interact to create profiles of DRL work.

Individual Characteristics

Knowledge

We were able to collect information from data sources listed in Table 3 about their knowledge and experiences prior to entering the DRL role from all 27 individuals. Analyses of resumes and other relevant documents demonstrate that individuals enter DRL roles from a wide range of backgrounds that reflect different experiences with research, policy, and practice. Almost all DRLs within our sample had some graduate training, 11 having earned a Ph.D., four a professional doctorate, and 11 a master's degree. Only one individual had a bachelor's degree, but was working towards a master's degree. Only three DRL resumes described prior formal training on key issues related to KB; however, job documents provided other evidence of knowledge DRLs had prior to entering DRL roles, which are presented in Table 4.

Table 4

Demonstration of Knowledge Prior to Becoming DRLs

Knowledge Domain	*N*	Examples of knowledge in:
Understanding the policy and/or practice context	26 of 27	School or district contexts obtained by working as teachers, principals, or central office staff
		School or district contexts/needs obtained by working in collaboration with schools and districts to conduct research
		Policy processes obtained by working at the local, state, or federal levels of policymaking
Understanding the research process	26 of 27	Research processes obtained through experiential learning opportunities
Sharing knowledge	0 of 27	N/A
Being aware of evidence resources	1 of 27	Knowledge of how to search for evidence using evidence clearinghouses
Understanding KB and EBP processes and activities	4 of 27	Knowledge of KB processes and activities through instructing courses or developing presentations or tools.

Skills

Job documents for 24 DRLs were analyzed for skills developed prior to entering DRL roles using Mallidou et al.s' (2018) framework. Table 5 presents the alignment between the framework and DRL skills, providing examples of how those skills were evidenced in our data.

Table 5

Demonstration of Skills Prior to Becoming DRLs

Skillset	N	Examples of skills in:
Research production	23 of 24	Conducing statistical analysis, survey development, interviews, focus groups
Dissemination of research findings	22 of 24	Public speaking Presenting at conferences Presenting to local stakeholders Writing reports Writing peer-reviewed articles Developing tools/handbooks Writing policy briefs
Leadership	19 of 24	Leading program and evaluation projects Providing day-to-day leadership and guidance to teams Developing organizational structures and processes to support evidence-based decision making Serving on research-focused committees Building capacity at the individual or institutional level to interpret and use evidence to inform decision making and improve practice
Collaboration and teamwork	17 of 24	Collaborating with diverse internal and external stakeholders.
Use of research findings	14 of 24	Analyzing and interpreting data in ways to support and inform organizational decisions Developing/changing organizational structures to improve evidence-based decision-making Coaching staff on how to interpret and use research findings Using data to inform program implementation
Research synthesis	13 of 24	Conducting literature reviews, meta-analyses, and environmental scans

Although the DRLs' professional experiences were wide-ranging, they offered the opportunity to develop several common skills relevant to KB. However, these were evidenced in different ways and to different degrees. For example, several DRLs have contributed to published research, which demands a review and synthesis of literature, which differs from inventorying and synthesizing research related to organizational practices as a consultant or partner. Dissemination practices exhibit the same patterns: some DRLs have prior experience in a broad array of research communication practices, including reports, dashboards, toolkits, and other formats directed to a broad set of stakeholders, while some have primarily published or presented for academic conferences. Here we see distinctions in experiences that lean towards traditional research roles versus those that lean toward policy- or practice-focused roles that build capacity or broker research knowledge.

Another area of difference pertains to prior experience making research more actionable and helping organizations use evidence to inform decisions. Data demonstrate that several DRLs have experience analyzing and interpreting data in ways to support and inform organizational decisions, developing/changing organizational structures to improve evidence-based decision-making within the district, coaching staff on how to interpret and use research findings, and using data to inform program implementation/continuous improvement. However, some job documents offer no evidence of these skills, while others do to varying degrees. For example, a few DRLs point to conducting research for the purposes of informing policy or experience drawing implications for practice. Others suggest deeper engagement in supporting research use such as helping to build capacity to use evidence in decision-making processes, translating complex research findings into actionable strategies for practitioners, and providing guidance on policy implementation.

Job Demands

To answer RQ2, we used the job tasks identified by Bornbaum et al. (2015) to explore the job descriptions and resumes obtained from 13 DRLs. Table 6 presents the frequency with which we observed these job demands and examples of DRL work that falls within task categories.

Evidence of KB tasks is uneven across cases, and the kinds of activities within each category vary notably. We found three areas—leadership and coordination, identifying and obtaining relevant information, and facilitating and evaluating evidence-informed change—were common across all DRLs for whom we had data (n=13 of 13), suggesting these may be the core of DRL work, as the job is currently conceptualized, with greater variability found in the other areas.

Overall, DRL jobs appear highly complex and entail diverse tasks and skills. Most DRLs are involved with the full range of research-related activities—agenda-setting, conducting research projects, developing products, facilitating evidence use, and monitoring and evaluating program implementation. Not surprisingly, job descriptions suggest DRL work is designed to have some form of impact on the district. Most often, job descriptions point to *instrumental* (e.g., the creation of evidence-informed policies and practices, n=10 of 13) and *process* (e.g., development of policies and processes supporting research production and use, n=9 of 13) impacts. *Capacity building* impacts (e.g., increased research and data skills of education professionals, n=7 of 13) and *conceptual* impacts (e.g., increased knowledge of educational issues, n=3) were less common.

Table 6

Job Tasks of DRLs

Job Task	N	Example of Tasks
Leadership and coordination	13 of 13	Directs operations Assures compliance with board objectives and applicable laws/policies Ensure that research activities align with board goals Manages the review and evaluation of research requests Supports and manages research activities and partnerships
Facilitate and evaluate evidence informed change	13 of 13	Selects/connects external research projects with key district/department priorities Provides guidance and analytics to support district decision makers in transferring knowledge into practice Facilitates the development of outcomes/indicators for school and district success Monitors, implements, and determines the effectiveness of programs and activities
Identify and obtain relevant information	13 of 13	Develops the district research agenda Obtains, summarizes, and reviews existing evidence on issues pertaining to district priorities Designs and conducts internal research/evaluation projects
Identify and engage stakeholders in partnership	11 of 13	Works with internal and external stakeholders to develop and/or pursue district plans/agendas Coordinates and engages with stakeholders to conduct research activities and/or other partnership activities
Support communication and information sharing	11 of 13	Establishes or updates data sharing and data governance policies Establishes or updates knowledge sharing/dissemination protocols Establishes, updates, or maintains the "external research" or "data request" websites Communicates with external researchers about the status of their requests Communicates data sharing and district data governance policies to relevant parties Disseminates findings/implications from research/evaluation to district decision makers and other stakeholders Facilitates data sharing and knowledge dissemination among research partners

Job Task	N	Example of Tasks
Support sustainability	9 of 13	Develops structures and/or systems to promote and strengthen collaboration and partnership Develops policies/procedures/processes/structures/routines pertaining to research and data Develops and maintain data management systems
Facilitate development of staff skills	9 of 13	Identifies professional development and training needs for district staff Provides technical assistance and professional development focused on data, research, and program evaluation Facilitates teacher action research projects
Create tailored knowledge products	9 of 13	Determines appropriate project deliverables Develops reports and presentations Ensures publications are understood by both public and professional audiences
Facilitate collaboration with stakeholders	5 of 13	Facilitates relationships and collaboration between internal stakeholders, partners, and research institutions Liaises between department staff and other district departments for support as needed
Network development, maintenance, and facilitation	1 of 13	Leverages local and regional research networks to meet district research needs

Organizational Contexts

DRLs are situated in a larger organizational context that likely shapes how their work is conceptualized and leveraged in district operations. We were able to collect documents for 24 DRLs, representing 22 departments across 20 school districts. We note that DRLs in our sample work in different size districts, which alone may shape the scale and scope of KB work, though our sample size does not permit a comparison based on geographic or demographic factors.

In terms of structure, most DRLs in our sample report to executive level managers (e.g., chiefs of divisions) rather than superintendents, which suggests the work of DRLs needs to be valued and communicated up through the ranks of district leadership. Further, all but one DRL was situated in a department that was distinct from units responsible for curriculum, instruction, or student services. Descriptions of DRLs' departments (n=18 of 22) often featured characteristics associated with horizontal structure, with formal expectations to collaborate with a variety of internal stakeholders, including supervisors, department members, other units within the district, and with school leaders. The routines that bring individuals/units together include research review boards, research–practice partnerships, agenda setting activities, and mechanisms for providing technical assistance and other support.

In terms of organizational culture, data speak to issues such as openness of communication, participation in decision-making and institutional logics that signal greater or lesser supports for brokering and evidence-based practice. Most departments (*n*=17 of 22) provided signals about commitments to open communication (i.e., the ease of individuals talking to each other within the organization), such as mission statements related to promoting the sharing of knowledge and knowledge use, user-friendly websites to support access to data and other information, or routines for sharing research and data with other units and with district leadership. Due to the limits of our approach, we were unable to ascertain the *degree* to which DRLs are able to express ideas to other school and district members. Almost all DRL department websites (*n*=20 of 22) spoke to issues of participation in decision-making. Some (*n*=13 of 22) suggest active engagement in decision-making processes, such as developing research agendas and/or district strategies, or providing direct input on policy and practice changes because of research or program evaluations. Other departments (*n*=7 of 22) played more secondary or supporting roles, such as expectations to provide tools, data, research, and reports to enable district and school leaders in making evidence-based policy.

We were unable to obtain information on other cultural dimensions including norms, commitment to shared goals, trust, and leadership from the available data. However, district websites frequently communicated the functions, priorities, and goals of DRLs' units, which provide partial evidence of districts' culture. These statements took up distinct language and framings for the work, suggesting differing institutional logics that provide the backdrop for DRL work. The information provided by departments varied between statements that featured accountability and performance management to those that suggested nuanced understanding of how to support the district as a learning organization. District language and framings did not fall neatly into any one category, yet we were able to identify those we might describe as emerging (*n*=11 of 22), developing (*n*=6 of 22), and supportive (*n*=5 of 22) cultures for knowledge brokering. For example, we identified terms such as *accountability*, *monitor*, *oversight*, and *performance measures* as elements of an emerging knowledge brokering culture. On the other hand, we found words such as *systemic change*, *continuous improvement*, *culture of evidence use*, and *sustaining* indicative of cultures more supportive of knowledge brokering and research use. In between, we found indications of efforts to develop a knowledge brokering culture, such as efforts to build capacity, promote improvement, and share not just data but *knowledge, insights*, and *actionable, local, and relevant* information.

Alignment of Individual Characteristics, Job Tasks, and Organizational Contexts

We first explored the extent to which evidence of DRLs' knowledge and skills aligned to evidence of their job tasks. For two of the three core job tasks—leadership and coordination and producing relevant evidence—we found that many of the DRLs have corresponding knowledge and skills. Data point to leadership and collaboration, research-related experiences, including knowledge of processes, production, and synthesis as common experiences. However, for the third core job task—facilitating evidence-based change—we found less evidence of prior skills. Only seven of the 13 resumes included any relevant experiences and almost none had any preparation or training in KB work. This potential misalignment between backgrounds and expectations may mean that DRLs are learning critical functions while on the job or that they rely on informal (here, unobserved) experiences to help them develop these skills. However, this could also indicate that the DRLs included in this study lack some skills we would otherwise expect them to have.

Linking job demands and organizational context, we found no indication that job tasks vary systematically by any feature of the district context. The general lack of patterns among position indicate job descriptions may not be designed to reflect specific district cultures, resources, or needs.

This suggests a second potential misalignment between the work of DRLs and how districts support, value, and leverage that work.

Our third intersection links DRL knowledge and skills to organizational context. We found tentative evidence that those with backgrounds more closely associated with either research-focused or educational administration-focused backgrounds are employed in districts with emerging cultures for supporting KB, whereas individuals who served as educators and then transitioned into research careers—perhaps positioning them to be effective boundary spanners and knowledge brokers—are more often employed in districts with supportive KB cultures. Individuals with a history of working in positions focused on capacity building were also more likely to be employed in districts with supportive KB cultures. Data therefore suggest some relationship between district culture and DRL job selection preferences.

Discussion

In this study, we use extant data to identify ways in which individual knowledge and skills, job design, and organizational context support the conceptualization of DRLs as knowledge brokers. We found little evidence of alignment across these three dimensions. As noted earlier, district research offices (and by extension, DRLs) can help advance evidence use by reducing or eliminating individual and organizational barriers found in districts. We recognize the important role that these offices and individuals can serve to districts. Therefore, we want to stress that potential misalignment should not be used as an argument against the creation and use of district research offices and DRLs.

Russo (2017) suggests that misalignment can occur due to the diverse ways in which organizations use skills, design positions, and manage jobs and further notes that misalignment "need not persist over time" (p. 8) and may be mitigated if organizations are committed to addressing alignment issues. In line with Russo, we suggest that the absence of alignment offers opportunities to strengthen the ability of DRLs to engage in KB work. In this section, we discuss how our findings can be used to address potential areas of misalignment and create supportive conditions for DRLs working in school districts. Moreover, we discuss how findings from the current study expand our understanding of DRLs and provide suggestions for future research in this area.

Preparing DRLs to Serve as Knowledge Brokers

In line with previous research (e.g., Lightowler & Knight, 2013), our study suggests that some KB knowledge and skills strongly associated with DRL work may be acquired on the job or informally, with few DRLs reporting formal KB preparation experiences on their resumes. While formal training opportunities are expanding in fields outside of education, few exist in the K-12 space (Wentworth et al., 2021). The absence of formal training specific to KB (as opposed to, for example, research training) may not only create individual challenges for DRLs taking on new roles but may slow the development and sharing of practical knowledge. This raises an opportunity to consider the development of professional and transferable KB skills within formal degree curricula and through professional development courses (Barnacle & Dall'Alba, 2011). In addition, school districts can take an active role in building the capacity of DRLs within their district through in-service training opportunities (Phipps & Morton, 2013). Relatedly, networks and communities of practice, such as the one studied here, may allow DRLs to share their knowledge and experiences, and employers can encourage participation. We contend that these types of professional learning

opportunities can shorten individual and district learning curves and improve the educational system's collective ability to leverage DRLs' capacity to support evidence-based improvements. In addition to these practical considerations, it is also important to develop an accompanying research agenda to more deeply understand (a) which knowledge and skills are most useful in preparing effective DRLs, (b) how KB knowledge and skills can be embedded in various experiences, and (c) the effectiveness of those experiences in DRL development and employment.

Recognize Multiple Pathways to District Research Leadership

Job documents often emphasized different sets of knowledge and experiences in DRL backgrounds. For example, resumes tended to emphasize research experiences, early experiences as an educator followed by a transition to research careers, paths through the ranks of education systems, time spent on policy or education reform work (or degrees in education policy), or experience across a wide range of sectors and agencies with a consistent focus on capacity building. Building from these different backgrounds, DRLs might be described through five archetypes: the *researcher*, the *educator-turned-researcher*, the *educational administrator*, the *policy and reform specialist*, and the *capacity builder*. While no single DRL fits an archetype perfectly, these distinctions help to describe the different career pathways to DRL roles, which may also reflect how DRLs identify as professionals or as knowledge brokers (Bayley et al., 2018; Kluijtmans et al., 2017). Importantly, these archetypes highlight that there is no single set of knowledge, skills, or experiences that either leads or is needed to become or take on the role of DRL. Rather, relevant knowledge, skills, and experience are acquired through a range of opportunities. Based on these findings, we suggest that future research explore (a) whether different career archetypes have greater or lesser effectiveness in different roles and organizational contexts, and (b) whether different career pathways influence how DRLs exert influence on how they conceptualize and engage with the work. On a practical level, our development of the five DRL archetypes cautions district hiring managers against overlooking candidates with experiences that fall outside of traditional educational administration or research careers.

Establish Core Dimensions of DRL Work

Data on DRL job design suggest that the typical DRL role is one that bears a significant level of responsibility and autonomy, while also engaging in a broad set of tasks related to KB. The tentative identification of core KB tasks for DRLs—leadership and coordination, identifying and obtaining relevant evidence, and facilitating and evaluating evidence-informed change—is a key finding. However, we found notable variation in the tasks and expectations beyond that core. In fact, we were unable to detect any meaningful pattern in job design, including in relation to individual characteristics and district contexts. This may be an artifact of the emergent nature of the position and a resulting ad hoc approach to the development of job descriptions, and it may reflect a lack of systemic conceptualization of DRL work as knowledge brokers. In an effort to support the creation of future DRL job positions, we suggest that district hiring managers use the set of skills and experiences associated with DRLs in conjunction with DRLs' job core components as a basis for developing job candidate screeners and assessments as well as for designing new positions for DRLs. However, it is important to acknowledge that KB work is contextually specific. Therefore, the needs of one district may vary significantly from another, and the skillsets of DRLs needed to be successful in one district may be very different from another, making our implications about training and job design sensitive to the local context.

Our findings regarding the core dimensions of DRL work also have implications for research. As Bayley et al. (2018) acknowledge, the clarity of broker roles across multiple fields is complicated by diffuse job responsibilities, a lack of consensus about job titles and expectations, and inconsistent vocabulary. However, building from their argument, establishing core dimensions of work across contexts and titles can facilitate the preparation, recruitment, and support of DRLs. As such, we suggest that future studies build on our preliminary research to enable the understanding of the core dimensions of DRL work and how these dimensions are enacted.

Build Supportive Environments

Districts represented in this study did not differ widely in how DRLs fit into the organizational structure, with most lacking direct channels to senior leadership and housed in units outside of those responsible for the core instructional work of the district. This may create barriers to DRL influence on district initiatives and result in reliance on whether and how other units and leaders value DRL work. Though it is beyond the scope of this study to examine how structure affects DRLs and how they negotiate those structures, these structural conditions may be important considerations in designing positions. Therefore, we call for additional research on how districts' organizational-level factors affect DRL work and the districts' use of evidence-based practices.

Districts, however, varied more widely in their knowledge cultures. Although we found most were concerned with strong communication and knowledge sharing, other facets, such as participation in decision-making and framing for DRL work, suggest very different norms and values. Our data prohibited us from exploring the extent to which district cultures *influence* DRL work, but significant prior research establishes culture as a critical factor in supporting evidence-based practices (e.g., Austin & Claassen, 2008; Kennedy, 1983). Our findings do suggest that some districts may have strong, supportive environments, and may, pending further inquiry, serve as models for those seeking to orient towards a culture of evidence use. For school districts interested in undergoing and sustaining culture change toward greater evidence use, we provide two suggestions. First, transformation to a knowledge culture requires aligned vision and action (Harris, 2008; Spillane et al.*,* 2001; Willis et al., 2016). This entails explicitly aligning the organization's vision, mission, and strategic plan with its expectations for evidence-based practice. Second, while support from leadership is essential, research consistently finds that distributed leadership and staff engagement are essential components for sustaining cultural change (Harris, 2008; Spillane et al., 2001; Willis et al., 2016). Therefore, executive level district managers are encouraged to involve DRLs in planning and decision-making processes, which makes evidence use norms and expectations visible and creates formal opportunities for DRLs to shape district work.

Limitations of Study

We draw attention to three limitations of this study. First, we approached the data with the goal of better understanding the extent to which the DRL role can be conceptualized as knowledge brokerage, which means that there may be other aspects of DRL work not accounted for in this analysis and other lenses with which to explore DRL work. A second challenge is sampling for this project due to the lack of a formal title or predefined role associated with DRLs. Therefore, our findings are based on a set of individuals who self-identify as DRLs and are associated with a pre-existing community of practice, which is likely to exclude individuals who might identify as DRLs from other districts, and is biased by the characteristics of those likely to be in this particular community of practice (e.g., large, urban districts with demonstrated commitments to use of research evidence). Therefore, we acknowledge we have certainly not achieved a representative

sample, but rather consider this purposive sample a starting point for developing a more comprehensive understanding of DRL roles. Last, while this research is a starting point, it is preliminary. We also need research about how these roles are enacted. Resumes and job descriptions offer espoused knowledge, skills, and responsibilities, and may differ from actual practice, creating an opportunity to examine differences between how roles are designed and how they are performed.

Conclusion

This study offers novel insights into an understudied but increasingly recognized role in educational improvement: the district research leader. Our findings reveal important variation and alignment issues that can be instructive for maximizing and leveraging DRLs as knowledge brokers. Further, they are useful for reflecting on preparation for and pipelines of DRLs, district design of DRL jobs and tasks that maximize DRL skillsets, and alignment of DRL skills, job design, and institutional logics that shape knowledge work in districts. In this way, this work contributes to and can serve as a springboard for additional research on how to build school, district, and system capacity for evidence-informed change.

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