

A Job Description and Resume Analysis of District Research Leaders

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INTRODUCTION

In the United States, there has been an increasing focus on using research evidence in district decision-making and linking federal and state government funding to the use of evidence-based interventions. Consequently, Honig (2017) notes that school districts have been initiating reforms that

Involve central offices using research on schools, teachers, and students to inform decisions about school improvement choices...; these strategies involve central office staff using research about their own systems and practices to guide how they themselves participate in school improvement. (p. 939)

As such, district leaders in research roles (DRLs) have taken increased prominence in the education ecosystem, enhancing the efficiency with which districts use evidence to inform practice and to coordinate and integrating evidence through collaboration with internal (e.g., other district departments, school leaders) and external (e.g., research institutions, community organizations) stakeholders. However, there is limited publicly available information on the responsibilities, opportunities, and challenges inherent in these roles. This may prevent future researchers from exploring the DRL role as a viable career option, could delay (or even preclude) new DRLs from having an impact on district-level decisions, and from an organizational level, may prohibit district central offices from fully leveraging the potential DRLs hold in mobilizing knowledge.

This study is part of a larger project entitled the *District Research Leaders Network*, conducted by William Marsh Rice University. As part of this larger study, the Center for Research in Education and Social Policy (CRESP) at the University of Delaware was contracted to conduct a job description and resume analysis of DRLs. This report details findings from an exploratory study of DRLs involved in a pre-existing community of practice. Using document analysis, the study explores multiple dimensions of DRL individual backgrounds, jobs, and organizational contexts that shed light on this emergent role and strategy for improving evidence use in education.

OUR APPROACH

As part of the larger project in which this work is situated, we developed a conceptual framework to guide our research on the role and effectiveness of DRLs as knowledge mobilizers and brokers between research and practice. We used Boyatzis' (1982) contingency theory of action and job performance as a guiding framework, which specifies that greater motivation and performance are more likely to occur when there is a good fit between a person's individual competencies, job demands, and organizational environment (i.e., the greater the overlap in Figure 1). Positioning the DRL role within the broader organizational environment of each school district, the framework delineates environmental influences, which have an impact on effectiveness as well as individual characteristics of DRLs and the extent to which job demands are matched to specific competencies of DRLs.

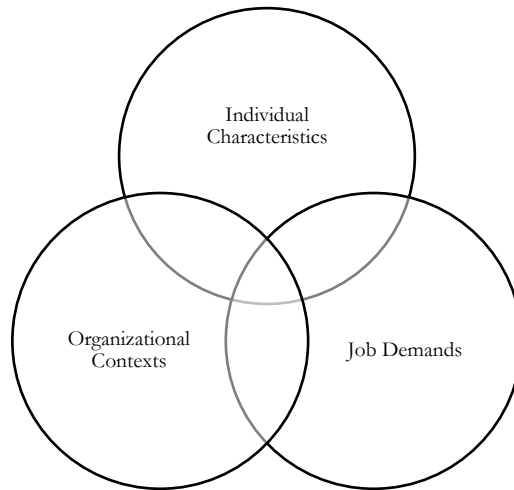


Figure 1. Boyatzis' model of job performance (1982)

Within this framework, we integrate knowledge mobilization (KMb) and knowledge brokering (KB) literatures to illustrate a holistic picture of the complexities of the DRL role. This integration is presented in Table 1. To learn more about the development of the conceptual framework, see *A Conceptual Framework for Understanding District Research Leaders as Knowledge Mobilizers and Brokers* (Shewchuk & Farley-Ripple, 2020).

Table 1
Mapping of job performance dimensions and KMb/Kb literatures

Component of Boyatzis' Model	KMb and KB Literature for Understanding DRLs	Indicators
<i>Individual Characteristics</i>		
Competencies	Mallidou et al.'s Broker Competencies Framework (2018)	Skills, knowledge, attitudes
<i>Job Demands</i>		
Job Tasks	Bornbaum et al.'s (2015) Tasks of Knowledge Brokers Framework	Identify, engage, and connect with stakeholders; facilitate collaboration; identify and obtain relevant information; facilitate development of analytic and interpretive skills; create tailored knowledge products; project coordination, support communication and information sharing; facilitate and evaluate change; network development, maintenance, and facilitation; support sustainability.
Job Design	Oldham et al.'s (1976) Job Characteristics Model	Skill variety, task identity, task significance, autonomy, feedback
Job Functions	Ward's (2009) and Glegg and Hoens (2016) Functions of Knowledge Brokers	Information management, capacity building, linkage and exchange, facilitation, and evaluation
<i>Organizational Environment</i>		
Culture and Climate	Thornton, et al 2015; Walczak 2005; Walsh, et al, 2019; Witherspoon, et al, 2013	Norms, trust, commitment to shared goals, leadership institutional logics
Structures and Systems	Walczak, 2005; Claver-Cores et al., 2007; Walsh, et al 2017	Formal/informal structure, systems, resources, openness of communication, participation in decision-making

We use this framework to guide this exploratory study of DRLs, in which we seek to answer the following research questions:

1. What are the individual characteristics of those who enter DRL roles? Specifically, which KMb and KB knowledge, skills, and attitudes characterize the backgrounds of DRLs?
2. What are the job demands of DRLs? Specifically, how are KMb and KB activities represented in the work of DRLs?
3. What are the organizational contexts in which DRLs work? Specifically, how do the units and districts in which DRLs work reflect conditions supportive to KMb and KB work?

METHOD

The aims of this study were to conduct a job and resume analysis of DRLs involved in a pre-existing community of practice. A qualitative approach using document analysis of DRLs job documents was used to gain insights into these types of positions. Document analysis enables researchers to collect, review, and analyze documents in a systematic manner (Bowen, 2009). In the following sub-sections, we provide detailed information about the study's sample, data sources, analysis, and study limitations.

Participants

Our sample includes 27 individuals from a roster of members of the community of practice, which represent 25 departments across 21 school districts. They have served in their current positions for an average of two years with only a handful having been in the position more than four. Our participants have a wide range of titles, including chiefs, directors, managers, supervisors, and specialists, of units with varying names and purposes, though all include attention to research. A richer description of these titles and units is described in this report.

Data Sources

We collected data in three phases. First, we sought publicly available information about individuals' professional backgrounds and the roles in which they currently serve in their district. Data sources included LinkedIn profiles, news releases, and biographical statements. A second phase of data collection included soliciting resumes and job descriptions from members of the community of practice. A third phase focused on collecting department descriptions and organizational charts. To answer the first research question (RQ), we relied on LinkedIn profiles, biographical statements, news releases, and resumes. To answer RQ2, we used job descriptions and resumes. Finally, for RQ3, we relied on office descriptions, organizational charts, job descriptions, and resumes. To be included in the sample for each RQ, DRLs needed to have at least one of the data sources, which were required to include information on at least one component of the framework. As such, the sample size varies for each RQ. Table 2 maps the research questions, components of the conceptual framework, data sources, examples of evidence, and sample sizes for each phase of the project, and Appendix A clarifies the available data for each DRL.

Table 2

Data sources and examples of evidence

Research Question	Components of Framework	Example of Evidence	Data Sources	Sample Size
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
	Attitudes	Describes themselves as being a critical thinker		4 of 27 DRLs
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	job descriptions, resumes	13 of 27 DRLs
	Job Design	Sum of job tasks demonstrates engagement from research conceptualization to use in practice		
What are the organizational contexts in which DRLs work?	Culture and Climate	Unit description refers to efforts to improve communication with stakeholders	office descriptions, organizational charts, job descriptions, resumes	24 of 27 DRLs
	Structures and Systems	Organizational chart shows formal ties with other units		

Analysis

We utilized the conceptual framework as a starting point for analyzing documents. A coding matrix was developed in Excel, into which supporting evidence from data sources was entered. This allowed for examination of patterns across cases and within codes as well as within cases across codes. These patterns were iteratively discussed among the research team, which are ultimately consolidated into key themes below, organized by the original conceptual framework. A copy of the final coding framework is available in Appendix B. We began first with a single DRL, utilizing the documents to compare our framework against available evidence. This allowed us to better operationalize Kmb and KB concepts in the context of education and in the context of our data. The research team then independently coded two cases to achieve inter-rater reliability of 80% agreement as suggested by Miles & Huberman (1994). After testing reliability, the lead researcher independently coded remaining cases.

Limitations of Study

Several limitations should be noted. First, as reported in *A Conceptual Framework for Understanding District Research Leaders and Knowledge Mobilizers* (Shewchuk & Farley-Ripple, 2020), there is limited research on DRLs. As such, we were required to develop a conceptual framework, which drew on the broader literatures on job effectiveness, Kmb, and KB to inform our study. Therefore, components of the framework may not be

appropriate in all DRLs' contexts. Additionally, we have approached this research with the goal of surfacing KMB and KB roles among DRLs, which means that there may be other aspects of DRL work that are not accounted for in this analysis.

Relatedly, a second significant challenge is developing a sample for this project due to the lack of a formal title or predefined role associated with DRLs (hence the purpose of this work). Therefore, we seek to develop a *preliminary* profile based on a set of individuals who self-identify as DRLs. These individuals are associated with the community of practice. This, however, is highly likely to exclude individuals who might identify themselves as DRLs from other districts, and is biased by the characteristics of those likely to be in the community of practice. Therefore we couch our findings in the significant limitation that we have certainly not achieved a representative sample of individuals who might be considered DRLs, but rather consider this purposive sample a starting point for developing a more comprehensive understanding of individuals in DRL-related roles.

Lastly, in relation to other qualitative methods, document analysis has both strengths and limitations. Limitations include low retrievability, biased selectivity of documents, and insufficient detail (Bowen, 2009). In terms of 'low retrievability,' documentation was not retrievable if DRLs in the community of practice did not respond to our request to submit documents. Regarding 'biased selectivity,' Bowen (2009) highlights

In an organizational context, the available (selected) documents are likely to be aligned with corporate policies and procedures and with the agenda of the organization's principles. However, they may also reflect the emphasis of the particular organizational unit that handles record keeping. (p. 32)

For these reasons, we cannot assume that we have a complete selection of documents.

Perhaps most importantly, resumes and job descriptions are both imperfect summaries of job responsibilities and experience, and as such, provide 'insufficient detail.' For example, depending on how long someone has been in their role, they may not have recently updated their resume when they shared it. Similarly, job descriptions may go through layers of approval. Therefore, for efficiency's sake, it may be easier to use a previously developed job description rather than create a new job description that describes exactly what the DRL will be doing. Most importantly, we are unable to assess the extent to which documents represent the actual work, knowledge, and organizational contexts of DRLs. This is a significant limitation in terms of being able to draw valid inferences about how DRLs are deployed in districts, yet given the exploratory purposes of this project, documents offer a useful starting point for further research. Moreover, document analysis provided an efficient data collection method, as many data sources were available within the public domain. This allowed us to collect most data without intruding on participants' limited time due to the Coronavirus pandemic.

FINDINGS

We present results in terms of Boyatzis' 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

Individual characteristics include the knowledge, skills, and attitudes to be adequately competent in performing as a DRL. For the purpose of this project, we use job documents to examine the knowledge, skills, and attitudes of individuals *prior* to entering DRL roles.

Knowledge

Our findings in this section reflect data from 27 DRLs for whom we had information about their prior knowledge before entering DRL roles. Analyses of resumes and other relevant documents demonstrates that

individuals enter DRL roles from a wide range of backgrounds that reflect different experiences with research, policy, and practice. Eleven DRLs have earned PhDs, four have earned professional doctorates, and 11 have master's degrees in education or policy. Only one individual had a bachelor's degree, but was working towards a master's degree. DRL role appears to be more of a mid-career position: those in the position have significant professional experience, which might be expected of leadership levels of any organization. As a result, DRL backgrounds are diverse and provide opportunities to develop knowledge and skills in a wide range of areas. Many DRLs first had prior:

- research knowledge gained from advanced degrees (often but not always a Ph.D.) and from conducting research or evaluation projects;
- practice-based knowledge obtained by working in a school district, either as a teacher, principal, or as central office staff, or in another educational organization;
- knowledge on policy processes obtained by working at the local, state, or federal levels of policymaking; and,
- knowledge on building individual and institutional capacity for research and data use.

However, professional backgrounds as evidenced in resumes often tended to emphasize different sets of knowledge and experiences. Several resumes emphasized research experiences over other areas of work, drawing attention to particular methodological skills and academic publications. Some resumes featured early experiences as an educator followed by a transition to research careers, which were often engaged and applied in nature. Others resumes showed progress through the ranks of education systems, serving as teachers or administrators and earning practice-focused degrees prior to becoming a DRL. Others displayed policy or education reform work, or degrees in education policy. Still others worked across a wide range of sectors and agencies, with a consistent focus on capacity building, often in ways linked to data or research use. These differences appear to reflect a diverse set of pathways to becoming a DRL, but may also reflect differences in how individuals think about their professional identity.

In spite of these diverse backgrounds, we found many DRLs resumes did not describe prior participation in formal training on key issues related to KMb and KB. The limited evidence that was available (n=4 of 27) suggested that knowledge of KMb processes and activities comes from course work or other formal training that (may have) included some discussion of these processes and activities (e.g., internal government leadership training program, Harvard's Strategic Data Project Fellowship, graduate courses on program and policy evaluations) before entering DRL roles. Although formal learning opportunities could not be identified, for some individuals we were able to ascertain prior knowledge of KMb and evidence use processes through activities described in their resumes, including the development of presentations or tools on using data to inform instruction, helping researchers to translate findings for community audiences, or instructing a course on evidence-based decision-making.

Skills

Our findings in this section reflect data from 24 DRLs for whom we had information about their prior skills before entering DRL roles. In DRLs' backgrounds, professional experiences were wide ranging, but at the same time, offered the opportunity to develop several common skills relevant to KMb, including collaboration/teamwork and leadership. Prior to becoming DRLs, most (n=17 of 24) individuals demonstrated skills in collaborating with diverse internal (e.g., representatives from different departments, team members) and external (e.g., researchers, community members, district leaders) stakeholders. Additionally, most individuals evidenced skills in leadership (n=19 of 24). Specifically, DRLs had experiences in:

- leading program and evaluation projects;
- providing day-to-day leadership and guidance to teams;

- developing organizational tools, processes, and procedures to support evidence- or data-based decision-making;
- serving on research-focused committees (e.g., a district's external research review board); and,
- building capacity (at the individual or institutional level) to access, interpret, and use data to inform decision-making and improve practice.

Many DRLs had documented experiences related to research production (n=23 of 24), research synthesis (n=13 of 24) and dissemination of research findings (n=22 of 24). Many DRLs had experiential learning opportunities that focused on research processes (e.g., research study/program evaluation design, data collection and analysis procedures, progress reporting, and ethical and policy requirements), skills in research production (advanced statistical analysis, survey development, interviews, focus groups, observations), and research synthesis (literature reviews, meta-analyses, environmental scans). 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 relevant literature. This is different, in the context of KMB, from others' experiences, for example, inventorying and synthesizing research related to organizational practices as a consultant or partner. Similarly, skills in research production vary widely, from advanced skills in quantitative analysis and causal inference to experience doing applied program evaluation in community contexts. Finally, dissemination practices exhibit the same patterns: some DRLs have prior experience participating 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 practice-focused roles that build capacity or mobilize knowledge for policy.

Another area of difference pertains to the use of research findings. An important distinction made for this set of experiences is that we sought evidence that DRLs had prior experience making research more actionable and helping organizations use evidence to inform decisions. The data demonstrate that several (n=14 of 24) 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. Again, we note variation in the evidence. While some resumes offer no evidence of these skills, 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.

Attitudes

Due to the types of documents gathered, limited evidence was obtained concerning DRLs attitudes towards research, KMB, and KB. However, four DRLs included personal statements in their job documents. Those who included attitudinal statements reported that they were committed to supporting evidence-based decision-making to improve teaching and learning within districts; building relationships and trust between stakeholders to achieve common goals; and developing and spreading a culture of research and data use for continuous improvement.

Job Demands

A fundamental question for this project is *what are the job demands* of DRLs? Drawing on job descriptions and resumes obtained from 13 DRLs, we explore the work of DRLs in terms of job tasks, job design, and job functions.

Job Tasks

Using the job activity domains from Bornbaum et al.'s (2015), Table 3 illustrates some of the KMb and KB tasks that comprise DRL roles.

Table 3

Job tasks of DRLs

Domain	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, obtain, and produce 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 KMb/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
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

Domain	N=	Example of tasks
		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

We note that evidence of these KMB and KB tasks is uneven across DRLs and that the kinds of activities within each category vary notably. We found that three areas – leadership and coordination; identifying, obtaining, and producing relevant information, and; facilitating and evaluating evidence informed change were evidenced 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. Greater variability was found in the other areas. Most DRL job descriptions demonstrated expectations to identify and engage stakeholders in partnership (n=11 of 13), and support communication and information sharing (n=11 of 13). Tasks associated with supporting sustainability (n=9 of 13), facilitating development of analytic skills and interpretive skills (n=9 of 13), and creating tailored knowledge products (n=9 of 13) were also common across DRL positions. The tasks least likely to be part of DRL work were facilitating collaboration among stakeholders (which is distinct from DRLs own collaboration with stakeholders) (n=5 of 13) and network development (n=1 of 13). We note again here that these findings are based on job descriptions and resumes, which provide an important window into the expectations of DRL positions and to some degree, their actual work. However, they do not provide information about the prioritization of these tasks in their daily work, which may paint a different picture than we are able to here.

Other Tasks as Assigned

Job documents from three individuals revealed that DRLs may also do work that falls outside of the activities and tasks presented above. These tasks focused on leading district initiatives related to standardized testing, student information, and enrollment. In addition, of those DRLs who provided job descriptions, eight included wording indicating DRLs are expected to complete “other duties as assigned” by a supervisor. Performing ‘other duties as assigned’ is not uncommon – school district staff are asked to ‘wear many hats,’ taking on special projects or new responsibilities as needed by district leadership. This implies that DRLs have to be flexible, willing to learn new things, and be able to successfully juggle multiple tasks that are indirectly related to the DRL's main work, but contribute to the overall district goals.

Job Design

Job design, as conceptualized by (Oldham et al., 1976) is comprised of skill variety, task identity, autonomy, task significance, and feedback. Skill variety, or the extent to which the work of DRLs requires a broad range of skills as opposed to a narrow set, is measured by the number of task categories found in their job documents. Overall, DRL work is highly complex and entails diverse tasks and skills. In terms of task identity, whether DRLs have the opportunity to see a task or project through from start to finish, we found

that most DRLs are involved with all stages of research – from conceptualizing research agendas, conducting or supervising research projects, developing knowledge products, facilitating how evidence is used within the district, and monitoring and evaluating program implementation. Not surprisingly, we found this work is designed to have an impact on the district. Task significance, or the extent to which DRLs have an impact on their organization or on stakeholder, was expressed in several ways, which we categorized as follows:

- Process impacts (e.g., development of policies, processes, systems, frameworks to support district in areas of research, data management, data collection/analysis, data reporting, data use, collaboration/partnerships)
- Instrumental impacts (e.g., evidence-informed policies and practices)
- Conceptual impacts – (e.g., increased knowledge on educational issues)
- Capacity building impacts – (e.g., increased internal capacity of school district staff to use research findings)

Most job descriptions and resumes revealed multiple impacts associated with DRL work, most frequently instrumental (n=10 of 13) and process (n=9 of 13), followed by capacity building (n=7 of 13). Conceptual impacts were noted only among three of the DRLs. We recognize, however, that there may be other kinds of impacts possible through DRL work that were not evidenced in our data. For example, attitudinal impacts might including changing perspectives on the value of evidence in educational decisions, and longer-term impacts, such as changes in teaching and learning, may well result, indirectly, from DRLs work promoting evidence-based decision-making.

Autonomy is defined as the “degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedure to be used in carrying it out” (Oldham et al., 1976). We found that DRLs appear have positions that demand significant degree of autonomy – from managing entire research units; developing the district’s research agenda; approving external research projects, designing, conducting, and supervising research projects; and cultivating and establishing relationships with external research partners.

The last dimension of job design is feedback, which considers whether DRLs receive information about their performance in ways that help them to be effective in their roles. Information about feedback was not evidenced in our data sources.

Organizational Contexts of DRL Work

The work of DRLs is situated in a larger organizational context that likely plays a significant role in how their work is conceptualized and leveraged in district operations. In our sample, DRLs are located in different size districts, from large urban districts to small suburban districts, which alone influences the scale and scope of work as well as resources available to support those efforts. We note that we were able to collect documents for 24 DRLs, representing 22 departments across 20 school districts.

Staff sizes in DRL units varies widely, from small teams (>5) to large (15). Although we were unable to locate information on budgets or adequacy of resources for tasks, we did note that over half of (n=13 of 22) departments work with external partners - whether community organizations, city agencies, external researchers, or venture funders – to accomplish research and larger district goals.

Other supports for KMB work include material resources. No direct information was available as to whether departments have access to relevant research, membership in professional or research associations, or subscriptions to research journals. However, almost all departments noted they are responsible for developing and maintaining systems to support knowledge production and mobilization. These include administrative data systems, longitudinal assessment systems, data dashboards, and project management tools but also systems and

processes associated with external research requests, internal and external data requests, data sharing agreements, and information systems to transmit data to state agencies.

In terms of formal structure, most DRLs in our sample do not report directly to the Superintendent (only 2 of 24). Instead, they mostly report to executive level managers (e.g. chiefs of divisions). Most departments (n=18 of 22) include elements of horizontal structures, with formal expectations to collaborate with a variety of internal stakeholders, including immediate supervisors, departmental team members, subordinates, but also other departments/units within the district, and school level leaders. The organizational routines that bring individuals/units together include research review boards, research-practice partnerships, agenda setting activities, and mechanisms (such as professional learning, data meetings, or improvement cycles) for providing technical assistance and other support to other departments or schools. While none of our data speaks to the informal structure of DRLs' work, the extent of formal expectations for collaboration as well as the facilitator roles in which they often serve suggests that there is a significant opportunity to build relationships within and outside of the organization to support KMb efforts. Formal expectations and informal opportunities for collaboration and consultation may enable DRLs to be effective in boundary spanning roles suggested in the tasks described above (e.g. identifying and engaging stakeholders in partnership, supporting communication and information sharing, and facilitating evidence informed change).

In terms of organizational culture, our data speak to issues such as openness of communication, participation in decision-making and institutional logics that signal greater or lesser supports for KMb and evidence-based practice. Most departments (n=17 of 22) provided signals about commitments to open communication. While some statements suggest limited attention to communication (e.g. expectations to communicate with research applicants), most suggested communication was a substantial focus. For example, some units had mission statements related to promoting the sharing of knowledge and knowledge use, hosted user-friendly websites to support access to data and other information, or had routines for sharing research and data routinely with other units and with district leadership. Overall, data suggest most districts seek to foster open communication about evidence that can inform and improve learning.

Almost all departments (n=20 of 22) spoke to issues of participation in decision-making. Participation in decision-making is another indicator of organizational culture in the sense that processes that include DRLs or their departments work signal commitments to evidence use. Some departments (n=13 of 22) were actively involved in decision-making processes. This participation took the form of 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, reports to enable district and school leaders in making evidence-based policy.

Other organizational dimensions were harder to ascertain from the available data, including norms, commitment to shared goals, trust, and leadership. 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 KMb. For example, we identified terms such as *accountability*, *monitor*, *oversight*, and *performance measures* as elements of an accountability-driven culture. On the other hand, we found words such as *systemic change*, *continuous improvement*, *culture of evidence use*, and *sustaining* indicative of cultures more oriented towards KMb and research use. In between, we found descriptions of efforts associated with building capacity (e.g. consulting, assisting), promoting improvement or evidence

informed decision-making, and sharing of not just data and research but *knowledge, insights*, and *actionable, local, and relevant* information. As some districts are represented multiple times, we note that units represented within the district varied as to their language and framing which may be important to understand in terms of how DRLs work is conceptualized and supported within and across units.

The Intersection of Individual, Job, and Organizational Characteristics

The prior sections give an overview of the themes within each component of our conceptual framework. However, none of these components exists separately from the other. DRL work lies at the intersection of individual knowledge and skills, job design, and organizational context. As such, this section includes a discussion of how individual, job, and organizational characteristics intersected across the components of the conceptual framework.

We first explored the extent to which evidence of DRLs knowledge and skills aligned to evidence of their job tasks, as defined by job descriptions. 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, though this was still uneven. However, for the third core job task – facilitating evidence based change – we found far less evidence of prior skills. Only seven of the 13 resumes included any relevant experiences and almost none had any preparation or training in Kmb work. This reflects a potential misalignment between backgrounds and expectations, and may mean that DRLs are learning key aspects of their work while on the job or that they have relied on informal (and here, unobserved) experiences such as mentors to help them develop these skills prior to becoming a DRL.

We then examined patterns in job demands, task significance, and task identity in terms of both district size, resources, and cultural differences. We found no indication that job design varies systematically by any feature of the district context except for size. More specifically, we found that job demands that include tasks outside of typical Kmb related roles are more likely to be found in DRL job descriptions for smaller districts. This is not surprising, in that leaders in smaller districts are often expected to wear multiple “hats”, compared to larger districts where there may be more opportunity to specialize. The more general lack of patterns among position descriptions and district resources and cultures extends our earlier finding that DRL positions may not be designed around a set of common tasks, adding that positions may also not be designed to reflect district contexts. This suggests a second potential misalignment between what job descriptions suggest is the work of DRLs versus how districts support, value, and leverage the work of DRLs.

Our third intersection links DRL knowledge and skills to organizational context. While our sample is small for drawing firm conclusions, we found tentative evidence that those with backgrounds more closely associated with the researcher and educational administration backgrounds are employed in districts with emerging cultures for supporting Kmb. Whereas educators-turned-researchers and capacity builders are more often employed in districts with supportive Kmb cultures. Data therefore suggest some alignment in hiring/job selection preferences, whether implicit or explicit. In other words, *irrespective of job descriptions*, DRL candidates may be more attracted to organizations that reflect how they see themselves or their skill set, and, on the other hand, districts may be more likely to hire those with backgrounds that reflect their visions for work.

TOWARDS ALIGNMENT

By intersecting the various components of Boyatzis’ model, we are able to identify ways in which individual knowledge and skills, job design, and organizational context may work together to create supportive conditions for Kmb work in school districts. While we found some points of alignment, we found greater evidence of misalignment, which may be expected as the role of DRLs becomes more important, visible, and

common in the age of evidence-based educational policy and practice. However, misalignment can also be construed as opportunities to strengthen the roles of DRLs and create more coherent approaches to developing, supporting, and leveraging their knowledge and skills to achieve districts' educational goals. In the following section, we use our preliminary insights into the backgrounds, work, and context of DRLs to do develop recommendations and implications for research, policy, and practice.

Recognizing Multiple Pathways

We found some commonalities among the resumes, for example, leadership skills, collaboration skills, experiences working with multiple stakeholders, research production, and research synthesis. However, findings from the study suggest that there are multiple pathways to becoming a DRL. As reported in the findings, DRLs had a wide range of prior experiences but often emphasized particular knowledge and skills. Building from these different backgrounds, we find five archetypes of DRL: the *researcher*, the *educator-turned researcher*, *educational administrators*, *policy and reform specialist*, and the *capacity builder*. As their names imply, these archetypes are defined by their education pathway and professional background. 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. These five archetypes highlight that there is no single set of knowledge, skills, or experiences that either leads one to become, or is needed to take on the role of DRL. Rather, it points to the fact relevant knowledge, skills, and experience can be acquired through a wide range of opportunities. Moreover, it may be that employers do not clearly prefer DRLs with one skill-type to another and that, collectively they may value a wide range of backgrounds. We did, however, note some preliminary evidence of some DRL-district selection that may mean some pathways (or even archetypes) are better fits for some positions than others.

What Does This Mean for Research, Policy, and Practice?

We suggest four implications for practice and research. First, we suggest that hiring managers keep the above list of common skills in mind during the recruitment process “to help ensure the right people fill KB vacancies” (Phipps and Morton, 2013, p. 262). School districts can use these qualities to inform future DRL job postings (e.g., what qualifications of the job should be based on which knowledge, skills, and attitudes). Moreover, hiring managers can use this information to decide what knowledge and skills are ‘essential’ and which can be trained on the job. Second, our development of the five DRL archetypes suggests that hiring managers are cautioned against overlooking candidates with experiences that fall outside of educational administration. One method for avoiding this pitfall is for hiring managers to evaluate candidates’ work experiences as an ‘exact match’ to the current position (e.g., previous experience as a central office administrator) or a ‘related match’ (e.g., previous experience in research or policy). Third, evidence of knowledge and skills relevant to KMB and KB may be important to include in resumes. For example, including *how* work promoted change, specific information about training in the area, or description of communication skills to multiple audiences are helpful cues. Individuals seeking future DRL positions can use the qualities described above as guideposts for the types of information they provide to employers during the job search process. Last, further research is needed to examine whether different career archetypes have greater or lesser effectiveness in different roles and organizational contexts.

Establish Core KB & KMb Dimensions of DRL Work

A key finding of this project has been the tentative identification of KMb and KB tasks that comprise the core of DRL work – *leadership and coordination*, *producing relevant evidence*, and *facilitating and evaluating evidence informed change*. Leadership and coordination tasks included those tasks in which the DRL undertakes as part of departmental activities and boundary crossing projects. Tasks related to producing relevant evidence include supervising and conducting research projects and program evaluations. Finally, tasks related to facilitating evidence informed change included identifying implications for district initiatives and monitoring the process of implementation or uptake of evidence-based initiatives.

While we found three tasks that appear to comprise the core of DRL work, 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 understanding about DRL work and its role in advancing districts' evidence use.

What Does This Mean for Research, Policy, and Practice?

Establishing a core conceptualization of DRL work, which may extend beyond what we identified, is an important opportunity to strengthen the DRL position and to improve alignment between their knowledge and skills, organizational context, and job design. These core components may provide a foundation for evaluating potential job candidates and for districts designing new positions for DRLs. In addition, deeper consideration about how we can help DRLs to continually develop the skills sets to successfully perform these tasks is needed (see our next set of recommendations).

Core components coupled with our broader KMb task framework may be useful for districts working on job design, creating an opportunity to reflect on the different dimensions of DRL work, how they fit with district needs and expectations, and what knowledge and skills may be a good fit to that work. Likewise, hiring managers can use these qualities as a basis for developing job candidate assessments. Specifically, assessments can be developed to measure whether a job candidate's knowledge and skills match with the position's most critical tasks.

Moving forward, we call for additional research on the work of DRLs for two reasons. First, our sample is likely not representative and therefore conclusions about core components are preliminary. Second, we need additional research about the *actual* work of DRLs, as job descriptions may prove to be idealized or inaccurate compared to reality.

Preparing Knowledge Mobilizers

Findings regarding core KMb and KB components of DRL work provide an opportunity to consider preparation and support. Our data point to important features of DRL positions. Specifically, data on DRL job design suggest that the typical DRL role is one that bears a significant level of responsibility and autonomy, while also employing a broad set of technical and soft skills related to KMb and KB. However, as noted in previous research (e.g., Lightowler & Knight, 2013; Surridge & Harris, 2007), our data suggest that some knowledge and skills strongly associated with DRL work may be acquired on the job or informally, with few DRLs listing they had completed formal or intentionally designed KMb or KB preparation experiences on their resumes. Absent formal training, prior professional experiences appear to have provided at least some opportunity to develop skills relevant to KB and KMb roles. At the same time, those gaps in knowledge and skills are associated with core components of DRL work. The absence of formal training may not only create individual challenges for DRLs taking on new roles but may slow the development and sharing of practical

knowledge. Such knowledge can shorten individual and district learning curves and improve the educational system's collective ability to leverage DRLs capacity to support evidence-based improvements.

What Does This Mean for Research, Policy, and Practice?

Phipps and Morton (2013) describe a three-prong approach to supporting the development of KBs, which is useful for advancing the preparation of DRLs. First, higher education institutions and other professional learning organizations can create training programs focused on KMb and KB within educational contexts. It is important to note that while some KB and KMb focused training programs do exist, their focus is on fields outside of education (e.g., public policy practitioners¹, health²). As such, there is a need for training and preparation programs that help educational professionals build the skills needed to be successful mobilizers and brokers. Second, school districts can take an active role in building the capacity of DRLs within their district. The authors state that employers can provide organizational support by providing in-service training opportunities for employees. Further, Phipps and Morton (2013) suggest that employers can help build the capacity of KBs by offering “organizational support and developing evaluations to ensure feedback” (p. 262). They further elucidate that “evaluation of KB work can help to sustain enthusiasm and commitment by demonstrating the difference made by KB work, and providing feedback in relation to the other qualities” (p. 262). Third, we encourage the creation of networks and communities of practice that allow DRLs to share their knowledge and experiences, and employers can encourage participation. This is a role currently served by community of practice with respect to our sample, but not replicated elsewhere to our knowledge. Phipps and Morton (2013) argue that these structures are necessary because “as an emerging profession it is important to be able to develop and share practice and these [communities of practice] provide an opportunity to do this, which [is]... invaluable and difficult to access elsewhere” (p. 262). Finally, it is 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 KMb knowledge and skills can be embedded in various experiences, and c) the effectiveness of those experiences in DRL development and employment.

Building Supportive Environments

Not surprisingly, districts varied 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 associated with KMb work. Our data prohibit us from exploring the extent to which district cultures positively or negatively influence DRLs work, but significant prior research establishes culture as a critical factor in supporting evidence-based practices (e.g., see the systematic review published by Reichenpfader et al., 2015). Our findings do suggest that some districts may have strong, supportive environments (as signaled by language, not practice, as permitted by our data), and may, pending further inquiry, serve as models for those seeking to orient towards a culture of evidence use.

What Does This Mean for Research, Policy, and Practice?

For school districts interested in undergoing and sustaining culture change, we provide two suggestions. First, transformation to a knowledge culture requires aligned vision and action. One way to do this is to embed the organization's vision, mission, and strategic plan with its expectations for evidence-based practice. Second, while support from high-level leaders is essential, research has consistently found that distributed leadership and staff engagement are essential components for sustaining cultural change (e.g., see

¹ Knowledge Broker Game - <http://knowledgebrokers.edu.pl/>

² Knowledge Translation Professional Certificate - <http://www.sickkids.ca/Learning/AbouttheInstitute/Programs/Knowledge-Translation/5-Day-Knowledge-Translation-Professional-Certificate/index.html>

Willis et al., 2016). Therefore, high-level district leaders are encouraged to involve DRLs in planning and decision-making processes. Finally, moving forward, we call for additional research that explores how districts' system-level factors (e.g., organizational culture, communication, and collaboration) affect districts' use of evidence-based practices. This work is needed as much of the existing literature comes from the health field and may not reflect the realities of the education context.

One Size Does Not Fit All

Our data provide some insight into important differences in DRL roles based on district size. While this is intuitive – some organizations will have more or less resources to dedicate to KMb work – it is important to acknowledge that DRLs work is contextually specific. For example, in districts with fewer resources, DRLs external relationship building may be critical to maintaining and advancing any research agenda as their time is taken up with test administration. In contrast, DRLs in large systems may be managing high volumes of data requests, complex approval processes, and multiple data systems, rather than courting potential partners to accomplish goals. Therefore, the needs of one DRL may vary significantly from another, and the skill sets needed to be successful in one district may be very different from another, making our prior implications about training and job descriptions sensitive to the local context.

What Does This Mean for Research, Policy, and Practice?

Designing DRL positions, as well as hiring, supporting, and leveraging those individuals should be considered in light of district specific goals and resources. In order to inform that work, future efforts to investigate the work and impact of DRLs must include a broader set of educational organizations. Similarly, professional learning opportunities, whether preparation, on the job, or through communities of practice, should provide both common and differentiated supports in order to best meet the diverse needs of DRLs.

Maximizing Impact

The ways in which DRLs influence evidence use are wide-ranging, and include direct (e.g. capacity building) and indirect (e.g. processes that support use) mechanisms. Resumes and job descriptions reveal an emerging framework for conceptualizing how DRL positions are designed to impact how districts' use evidence. We describe these as *process*, *instrumental*, *persuasive*, *capacity building*, and *conceptual*. In addition, we found potential for *resource* impacts: districts likely benefit from the external resources that DRLs are able to cultivate through relationships and partnership, making their role as boundary spanners critical for securing and maintaining resources needed to achieve district goals. Although we are unable to capture specific impacts in our data, our findings confirm DRLs are, as intended, positioned to enhance district use evidence to inform practice and to coordinate and integrate evidence through collaboration with internal and external stakeholders.

What Does This Mean for Research, Policy, and Practice?

Our conceptualization of DRL impacts is a useful first step in mapping out a theory of change for building district capacity for evidence use, which would have meaningful implications for research, policy, and practice. First, a theory of change enables researchers to better unpack and identify mechanisms for capacity building within organizations and contribute to theories of organizational learning, such as absorptive capacity (Farrell & Coburn, 2017). Further, a theory of change can be useful to districts seeking to create DRL positions, offering a means of clarifying role and purpose. Lastly, for districts seeking to understand and maximize DRL contributions, a theory of change offers a framework for evaluation and feedback, which is as noted above a valuable strategy for supporting DRLs.

CONCLUSIONS

Using document analysis, the purpose of this study was to conduct a job and resume analysis of DRLs involved with the community of practice. While there was no *typical* DRL evidenced in our data, we were able to point to a few key findings that are helpful in better understanding a) who serves as DRL, b) what the work of DRL is, and c) how that work is situated in an organizational context. These findings are descriptive, rather than evaluative. They do not point to what makes an “effective” DRL, or a “good” job description, but they reveal important variation and alignment issues that can be instructive for maximizing and leveraging DRLs in educational improvement and change. They are also useful for reflecting on a) preparation for and pipelines of DRLs to support knowledge production and mobilization work in districts, b) district design of DRL jobs and tasks that maximize DRL skillsets, and c) alignment of DRL skills, job design, and institutional logics that shape knowledge work in districts. These takeaways are limited by our ability to assess the lived experiences of DRLs in their roles. By virtue of our data sources for this component of the project, we are unable to determine the extent to which these findings match with the daily work lives of DRLs. This is, therefore, an important direction for subsequent inquiry. However, this exploratory study does provide some insight that can inform efforts to develop, support, and leverage DRLs as knowledge mobilizers and brokers in school districts.

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APPENDIX A: STUDY PARTICIPANTS

	PHASE 1			PHASE 2		PHASE 3	
<i>District</i>	<i>LinkedIn</i>	<i>Bios</i>	<i>News Releases</i>	<i>Resume</i>	<i>Job Description</i>	<i>Office Description</i>	<i>Org Chart</i>
1	Yes	Yes	No	Yes	Yes	Yes	No
2	Yes	No	No	Yes	Yes	Yes	No
2	Yes	No	No	No	No	Yes	No
2	Yes	No	No	No	Yes	Yes	No
3	Yes	No	No	No	No	Yes	No
4	Yes	Yes	No	No	No	Yes	No
5	Yes	No	No	Yes	Yes	No	Yes
5	Yes	No	No	No	No	Yes	No
6	Yes	No	Yes	No	No	Yes	Yes
7	Yes	No	No	No	No	Yes	No
7	No	No	No	Yes	Yes	Yes	No
8	Yes	No	No	Yes	Yes	Yes	No
9	No	No	No	Yes	Yes	Yes	Yes
10	Yes	Yes	Yes	Yes	Yes	Yes	Yes
11	Yes	No	No	No	No	Yes	No
11	Yes	No	No	Yes	Yes	Yes	Yes
12	Yes	Yes	No	Yes	Yes	Yes	Yes
13	Yes	No	No	No	No	Yes	No
14	Yes	No	No	No	No	Yes	Yes
15	Yes	No	No	No	No	Yes	No
16	Yes	No	No	No	No	No	No
16	Yes	No	No	No	No	No	No
17	Yes	Yes	No	Yes	Yes	Yes	No
18	Yes	Yes	No	Yes	Yes	Yes	No
19	Yes	Yes	No	Yes	Yes	Yes	No
20	Yes	No	No	No	No	Yes	No
21	Yes	No	Yes	No	No	No	No

APPENDIX B: CODEBOOK

Table 4

Individual characteristics - knowledge

Term	Definition	Examples of Evidence	Data Sources
Understanding the Context	Evidence of preparation, training, or other demonstrable knowledge of organizational practices, educational policy, leadership and administration, or classroom practice.	<ul style="list-style-type: none"> Obtained a B.Ed. school degree Completed course, training, or professional development that focused on 'the practice context' Experience working in a school or district Developed and/or delivered presentations, papers, trainings, or technical assistance that demonstrate that DRLs have knowledge on 'understanding the practice context' 	LinkedIn, resumes, News Releases, Bios
Understanding the Research Process	Evidence of preparation, training, or other demonstrable knowledge of understanding the process of conducting research.	<ul style="list-style-type: none"> Obtained a graduate school degree Completed course, training, or professional development that focused on research Developed and/or delivered presentations, papers, trainings, or technical assistance that demonstrate that DRLs have knowledge on 'understanding the research process' 	LinkedIn, resumes, News Releases, Bios
Sharing Knowledge	Evidence of preparation, training, or other demonstrable knowledge of understanding meaningful ways to share available and accessible knowledge/evidence.	<ul style="list-style-type: none"> Completed course, training, or professional development that focused on sharing knowledge Developed and/or delivered presentations, papers, trainings, or technical assistance that demonstrate DRLs have knowledge on 'sharing knowledge' 	LinkedIn, resumes, News Releases, Bios
Being Aware of Evidence Resources	Evidence of preparation, training, or other demonstrable knowledge of understanding ways to find available resources that support organizational information.	<ul style="list-style-type: none"> Completed course, training, or professional development that focused on finding available resources Developed and/or delivered presentations, papers, trainings, or technical assistance that demonstrate DRLs have knowledge on 'being aware of evidence resources' 	LinkedIn, resumes, News Releases, Bios
Understanding KMb and EBP Processes and Activities	Evidence or preparation, training, or other demonstrable knowledge of understanding KMb and EBP processes and activities.	<ul style="list-style-type: none"> Completed course, training, or professional development that focused on KMb and EBP processes and/or activities Developed and/or delivered presentations, papers, trainings, or technical assistance that demonstrate DRLs have knowledge on 'KMb and EBP processes and activities' 	LinkedIn, resumes, News Releases, Bios

Table 5

Individual characteristics – skills

Term	Definition	Examples of Evidence	Data Sources
Collaboration and Teamwork	Specific experience that demonstrates the ability to develop effective, authentic, and respectful working relationships with peers and others.	<ul style="list-style-type: none"> Activities in which a DRL explicitly engages in trust-building, network-building, or facilitating group initiatives (NOT teaching or leading PD) Activities in which a DRL explicitly facilitates knowledge exchange opportunities among various stakeholders in ongoing assessment of topic-specific issues and possible solutions. Activities in which a DRL explicitly uses techniques such as appreciative inquiry, conflict resolution, deliberative dialogue and negotiation, systems thinking, and adult learning processes. 	LinkedIn, resumes, News Releases, Bios
Leadership	Specific experience that demonstrates the ability to provide day-to-day leadership and guidance to a team, facilitate stakeholder involvement in evidence-based decision-making, influence skill development, and act upon stakeholders' views and needs.	<ul style="list-style-type: none"> Activities a DRL undertakes to identify opportunities for evidence to contribute to policy/practice and to research agendas Activities in which a DRL conducts assessments to identify needs and readiness for change, develop strategies and planning for change. Activities in which a DRL explicitly builds a culture of evidence use, set expectations of evidence use, developed organizational routines and tools to support evidence use in decision-making, or improved decision-making processes 	LinkedIn, resumes, News Releases, Bios
Research Synthesis	Specific experience that demonstrates skills to combine research findings and grey literature following robust processes.	<ul style="list-style-type: none"> Activities in which a DRL undertakes to conduct literature reviews or knowledge syntheses to address different types of questions. 	LinkedIn, resumes, News Releases, Bios
Research Production	Specific experience that demonstrates skills to generate research evidence.	<ul style="list-style-type: none"> Activities in which a DRL conducts research or evaluations in order to create knowledge of relevance to intended users. 	LinkedIn, resumes, News Releases, Bios
Dissemination of Research Findings	Specific experience that demonstrates the ability to spread/distribute information and knowledge so that it reaches many people or organizations.	<ul style="list-style-type: none"> Activities in which a DRL undertakes to share developed content in order to increase knowledge on a topic or to influence decision-making. 	LinkedIn, resumes, News Releases, Bios
Use of Research Findings	Specific experience that demonstrates the ability to apply research findings to practice or policy decisions or to inform further research that is needed for specific policy/practice decisions.	<ul style="list-style-type: none"> Activities a DRL undertakes to guide decision-makers in accessing, appraising, adapting, and applying research findings. Activities a DRL undertakes to interpret data and evidence and apply research findings in ways that inform decision-making, formulate evaluate and/or revise policies, procedures, protocols, or student-specific programs. Activities in which a DRL integrates evidence into practice with specific populations in their own setting. Activities a DRL undertakes to change their own practice based on research evidence. 	LinkedIn, resumes, News Releases, Bios

Table 6

Individual characteristics – attitudes

Term	Definition	Examples of Evidence	Data Sources
Self-Confidence	Specific behaviors that demonstrate belief in oneself and one's abilities.	No evidence available	No evidence available
Having Trust	Specific behaviors that demonstrate belief in the character, integrity, and truth of others.	No evidence available	No evidence available
Valuing Research	Specific behaviors that demonstrate having a positive attitude toward research in practice, management and policy issues.	<ul style="list-style-type: none"> Committed to the development of a culture of learning and to continuous improvement Describes themselves as having a critical thinking attitude 	LinkedIn, resumes, News Releases, Bios
Self-directed lifelong commitment to learning	Specific behaviors that demonstrate the DRL values experiential learning and persistence.	<ul style="list-style-type: none"> Pursued(ing) higher education or other PD courses 	LinkedIn, resumes, News Releases, Bios
Valuing Teamwork	Specific behaviors that demonstrate having a positive attitude toward a culture of collective collaboration in research that is receptive to changing practice	<ul style="list-style-type: none"> Comfortable and effective in dealing with people at all levels in various organizations Committed to networking Collaborative with a team-focused working style Self-aware of their own abilities or limitations 	LinkedIn, resumes, News Releases, Bios

Table 7

Job tasks

Term	Definition	Examples of Evidence	Data Sources
Identify & Engage Stakeholders	Tasks in which the DRL undertakes to directly identify and engage relevant stakeholders	<ul style="list-style-type: none"> • Participate in group meetings, focus group discussions, or media briefings 	Job Descriptions, resumes, Bios, News Releases
Facilitate Collaboration	Tasks in which the DRL undertakes to facilitate interactions between stakeholders.	<ul style="list-style-type: none"> • Connecting two or more groups of stakeholders together 	Job Descriptions, resumes, Bios, News Releases
Identify & Obtain Relevant Information	Tasks in which the DRL undertakes to identify and obtain relevant information regarding possible research initiatives.	<ul style="list-style-type: none"> • Conducting an environmental scan or needs assessment - this might includes setting the research agenda for the district • Defining the problem or research questions • Conducting evidence search and retrieval • Appraising quality of evidence 	Job Descriptions, resumes, Bios, News Releases
Produce Relevant Information	Tasks in which the DRL undertakes to produce relevant research evidence to inform district initiatives	<ul style="list-style-type: none"> • Conducting/supervising research projects or program evaluations 	Job Descriptions, resumes, Bios, News Releases
Facilitate Development of Analytic and Interpretive Skills	Tasks in which the DRL undertakes to build the analytic/interpretive capacity of education stakeholders (e.g., educators, administrators, central office staff)	<ul style="list-style-type: none"> • Designing tailored training or educational sessions • Deliver education courses, seminars, or workshops to enhance stakeholder skills • Provide assistance with interpretation of research • Support peer-to-peer learning 	Job Descriptions, resumes, Bios, News Releases
Create Tailored Knowledge Products	Tasks in which the DRL undertakes to develop knowledge products	<ul style="list-style-type: none"> • Prepare knowledge products and syntheses • Tailor resources to stakeholder needs or local context 	Job Descriptions, resumes, Bios, News Releases
Leadership & Coordination	Tasks in which the DRL undertakes to lead and coordinate projects and departmental activities.	<ul style="list-style-type: none"> • Approving projects • Making sure projects have resources • Managing research projects • Activities where the DRL conducts operational and policy tasks to maintain the research department 	Job Descriptions, resumes, Bios, News Releases
Support Communication & Information Sharing	Tasks in which the DRL undertakes to support communication and information sharing with stakeholders.	<ul style="list-style-type: none"> • Develop & maintain communication tools or strategies • Communicate with stakeholders • Facilitate knowledge dissemination & knowledge sharing among stakeholders • Connect stakeholders to relevant information sources 	Job Descriptions, resumes, Bios, News Releases

Facilitate & Evaluate Evidence Informed Change	Tasks in which the DRL undertakes to facilitate and evaluate evidence informed change across the district	<ul style="list-style-type: none"> • Identify opportunities for integrating evidence into practice • Assess readiness or capacity for change • Generate buy-in among stakeholders about a specific policy or practice change • Monitor the process of implementation or uptake • Evaluate KMb process • Identify implications for local programs, policies, or practice 	Job Descriptions, resumes, Bios, News Releases
Network Development, Maintenance, & Facilitation	Tasks in which the DRL undertakes to develop, maintain, facilitate, or leverage networks.	<ul style="list-style-type: none"> • Identify networking opportunities for stakeholders • Develop a network or community of practice • Maintain & facilitate a network or community of practice • Leverage networks to meet the district's research needs • Network with other knowledge brokers 	Job Descriptions, resumes, Bios, News Releases
Support Sustainability	Tasks in which the DRL undertakes to support sustainability across the district.	<ul style="list-style-type: none"> • Promote continuous improvement • Support the development and communication of knowledge policies, procedures, or processes 	Job Descriptions, resumes, Bios, News Releases

Table 8

Job design

Dimension	Definition	Example	Data sources
Skill Variety	Specific evidence that a DRL's job requires the DRL to do many different tasks at work, using a variety of their skills and abilities.	Poor skill variety: Activities in 1 to 3 task buckets Some skill variety: Activities in 4 to 6 task buckets Adequate skill variety: Activities in 7 to 9 task buckets Good skill variety: Activities in 10 to 11 task buckets	Job Descriptions, resumes, Bios, News Releases
Task Identity	Specific evidence that a DRL's job involves doing a "whole" and identifiable piece of work. That is, a piece of work that has an obvious beginning and end.	Evidence of conducting needs assessment/developing research agenda, evidence of designing and conducting research projects, evidence of moving research into practice, evidence of monitoring and evaluating implementation activities.	Job Descriptions, resumes, Bios, News Releases
Task Significance	Specific evidence that a DRL's job has impacted or affected others within or outside of the school district.	Instrumental impacts: specific evidence that a DRL influenced the development of policy, practice, or service provision Conceptual impacts: Specific evidence that a DRL contributed to the understanding of policy or practice Capacity building impacts: Specific evidence that a DRL builds capacity through technical and personal skill development Process impacts: Specific evidence that a DRL develops departmental or district processes that support KMb and evidence-based decision-making.	Job Descriptions, resumes, Bios, News Releases
Autonomy	Specific evidence that a DRL's job provides freedom, independence, and discretion to plan out the work and determine the procedures in the job.	<ul style="list-style-type: none"> Responsible for leading overall research or departmental efforts 	Job Descriptions, resumes, Bios, News Releases
Feedback	Specific evidence that a DRL's job itself provides the DRL with information about their work performance. That is, the actual work itself provides clues about how well the DRL is doing - aside from any "feedback" coworkers or supervisors may provide.	<ul style="list-style-type: none"> Indicators of use (e.g., number of downloads for a particular report) 	Job Descriptions, resumes, Bios, News Releases

Table 9

Organizational context

Dimension	Definition	Example	Data sources
Formal structure: reporting	Extent to which the organization's formal structure is consistent with bureaucratic, hierarchical models or is consistent with flatter or team based organizational structures; extent to which DRL role has formal expectations to report upwards (to supervisor, district leadership)	<ul style="list-style-type: none"> DRL works primarily with senior leadership 	job description, org chart
Formal structure: collaboration	Extent to which the organization's formal structure is consistent with bureaucratic, hierarchical models or is consistent with flatter or team based organizational structures; includes formal expectations to collaborate across units within the district; Reporting structure; Collaboration structure	<ul style="list-style-type: none"> DRL/unit have direct work responsibilities to other units at same level of system DRL works primarily with others in unit Organizational routines that bring units together	job description, org chart
Informal structure	Relationships among members of a unit that exist outside of the formal structure and allow for information and resource flow; extent to which DRLs role practically entails relationships with staff in other units	No evidence available	No evidence available
Systems	Knowledge infrastructure that facilitates conducting and using research Extent to which the organization has appropriate systems and resources for knowledge production and mobilization	<ul style="list-style-type: none"> Data systems for analysis Knowledge management systems for storing or communicating information Research application processes 	job description, unit website
Resources	Human, financial, and material resources that enable KMB activities	<ul style="list-style-type: none"> Staff External partnerships Memberships to relevant research and professional associations (e.g. AERA) Subscriptions to scientific journals 	job description, unit website
Openness of communication	Extent to which organization facilitates and promotes communication among members	<ul style="list-style-type: none"> Organizational routines designed to improve communication Communication practices that are multidirectional 	job description, unit website
Participation in decision-making	Degree in which participants believe they have an active role in the decision-making process;	<ul style="list-style-type: none"> Organizational routines, policies, structures that promote participatory processes 	job description, unit website

Trust	Degree to which participants have confidence in others' reliability, openness, and honesty	No evidence available	No evidence available
Leadership	Extent to which leadership promotes knowledge use and provides leadership toward knowledge use goals	No evidence available	No evidence available
Commitment to shared goals	Degree to which participants are committed to the organization and believe others share their goals and values	No evidence available	No evidence available
Norms	Participants' beliefs about others' expectations for the use of (research) knowledge (extent to which those values are implicit or explicit)	No evidence available	No evidence available
Institutional logics	Systems of cultural elements by which people, groups, and organizations make sense of and evaluate their everyday activities; ways in which DRLs and units are positioned	<ul style="list-style-type: none"> • Language used to describe unit purposes and goals, activities (e.g. verbs), products generated, valued characteristics of products • Language used to describe organization itself 	Unit website, job description