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Research Use by Leaders in Canadian School Districts

Amander Cooper
Queen's University
Ben Levin
OISE, University of Toronto

This paper, part of a larger study, investigates the ways research is used by leaders in Canadian schools and districts, an area in which there is relatively little empirical evidence. The paper analyzes survey results from 188 education leaders in 11 school districts across Canada about school and district practices related to the use of research. Results indicate a growing awareness in districts of the importance of research use, reported district capacity, and many kinds of support available for research-related activities; however, actual research use remains modest. Districts appear to have relatively weak processes and systems for finding, sharing, and using relevant research.

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Introduction

Recent years have seen growing agreement that use of research could help improve policy and practice in many sectors internationally (Davies, Nutley, & Smith, 2000; Lemieux-Charles & Champagne, 2004; Nutley, Walter, & Davies, 2007; Pfeffer & Sutton, 2000). The literature has a rapidly growing number of descriptions, analyses, and evaluations of efforts to improve the way research is taken up in policy and practice in fields such as health, social policy, education, criminology, and environment. Governments in the United Kingdom, United States, Canada, and elsewhere in Europe, Australia, and New Zealand (among others) are increasingly committed to using evidence-based policies and practices to improve public service sectors (for a comparison of these efforts by country, please see Qi & Levin, 2013). Although there are many terms currently in use for this work, such as knowledge transfer, knowledge exchange, and knowledge translation, the Social Sciences and Humanities Research Council of Canada defines these efforts as knowledge mobilization (KMb).[1] Canada has made a major contribution to the growing body of empirical evidence accruing across public service sectors (Cooper & Levin, 2010); in fact, in a recent review of the research, Mitton, Adair, McKenzie, Patten, and Perry (2007) found that more than half of the authors of high-quality studies relating to knowledge transfer and exchange were located in Canada.

The need to improve the use of research is particularly salient in education, which has often failed to make use of research as a guide for policy or practice (Levin, 2010). Many factors contribute to this situation. In some cases,

the empirical evidence needed simply does not exist or is not in a format that practitioners can find or apply. In other cases, however, credible bodies of evidence do exist but are not incorporated into the daily lives of educators and schools, sometimes because they are unknown, sometimes because they are not seen as practical, and sometimes because they do not accord with conventional professional wisdom or public belief.

Although many studies have addressed the efforts of researchers to make their work more accessible to practitioners, much less is known about how much research use is actually occurring in education (Biddle & Saha, 2002; Cooper, Levin & Campbell, 2009; Levin, 2004, 2008). Insufficient attention has been paid to tracking the extent and nature of research-related activities in schools and school districts; there is only limited evidence regarding research use by leaders or teachers in school districts. This study provides some baseline data on these questions. The research question for this portion of the study was:

How is the use of research integrated into the work of secondary school leaders in Canadian school districts?

This paper describes one part of a broader empirical study conducted in 11 school districts across Canada of the ways research is encountered and used two by leaders in Canadian secondary schools (fuller results are reported in Levin, Cooper, Arjomand and Thompson, 2010). The broader study is also connected to a larger project in which the sponsoring organization (Canadian Education Association (CEA)) worked with a network of 10 school districts with approximately 100 secondary schools across Canada that were interested in substantial change in secondary education. As part of that larger project, the sponsors were interested in whether a stronger connection to the growing evidence regarding effective practices in secondary schools (National Research Council, 2003; Levin, 2012) would be a useful way to promote change.

The larger study looks at current practices in the districts regarding research, investigates leaders' knowledge of some key findings regarding secondary education, and studies the impact of some interventions to try to strengthen practices regarding research use. This paper reports on school and district practices regarding the use of research, based on a survey of 188 superintendents, principals, and others with designated leadership roles in secondary schools across Canada.

Conceptual Framework

For this study, knowledge mobilization is conceptualized as efforts to integrate research evidence (defined as findings deriving from widely accepted, systematic, and established formal processes of inquiry) into policy and practice. This study also investigates the use of local data on guiding policy and practice. Although other forms of knowledge, such as practitioner experience, are also important to education policy and practice, these colloquial forms of knowledge are not the focus of this research. Similarly, the "use" of research can also take many forms (Nutley et al., 2007), but in this paper the focus is on practices and systems in schools and districts for finding, sharing, and using external research evidence and internal data to make decisions about school policy and practice.

This research begins with the framework developed by Levin (2004) and similar framing by Nutley et al. (2007) suggesting that use of research in complex systems depends on characteristics of the research (e.g., accessibility, clarity of message, and perceived quality), characteristics of the system and the people in it (e.g., research knowledge, interest level, supporting processes, and structures), and the role of third parties (including professional experts, professional development providers, and various communications media) as promoters and distributors of knowledge (Figure 1, next page).

This paper focuses on the second of these three elements: the ways in which organizations foster and support the finding, sharing,

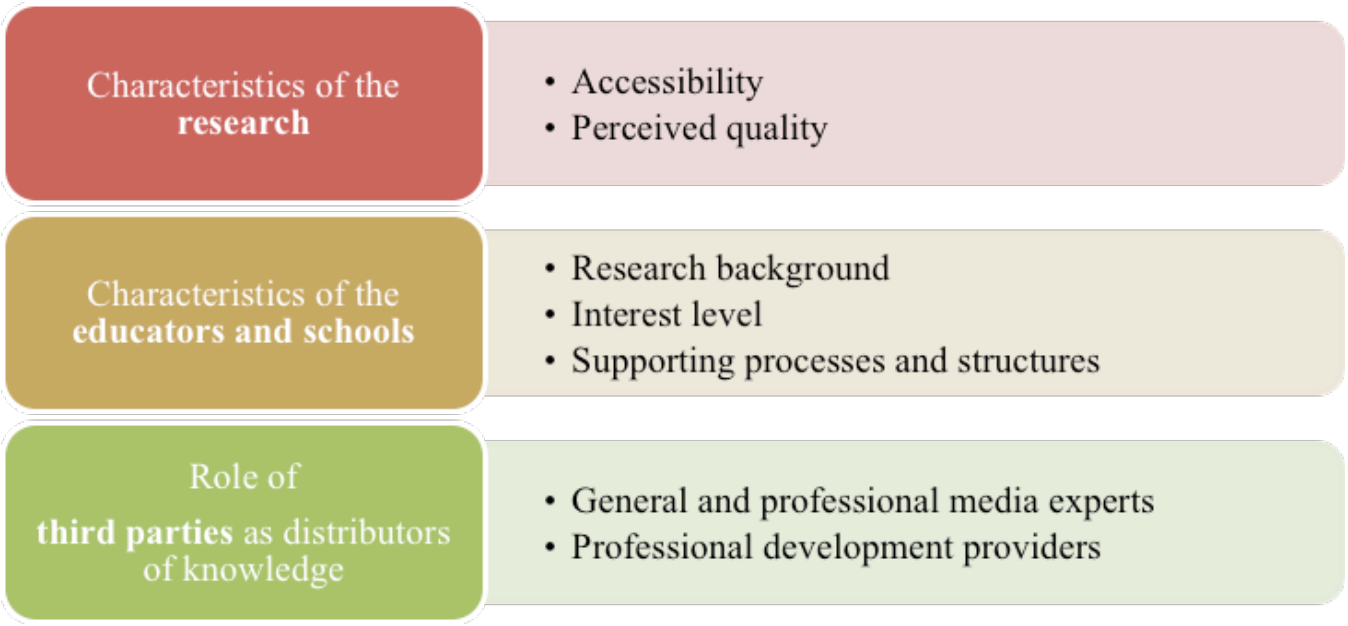
and use of evidence relevant to the organization's work. Much of the available literature addresses characteristics of the research and the work of researchers. This is not surprising considering that this is the area that academics and researchers know best, and this work has yielded useful ideas on how research can be made more relevant, available, and appealing to practitioners and policymakers (e.g., Cordingley, Bell, Evans, & Crawford, 2004; Nutley et al., 2007; Sudsawad, 2007). However, no matter what researchers and their sponsoring institutions do, the use of research takes place in policy and practice settings. This means that the characteristics of organizations and professions, such as the culture, standard practices, and institutional structures of the field, are important to understanding the ways in which research is used, yet this is an area in which our knowledge remains limited.

Factors affecting KMb exist at multiple levels: individual, organizational, and environmental (Berta & Baker, 2004). This part of the paper begins with an overview of the societal context surrounding research use in public services and the education sector. Next, the literature related to the key dimension of the conceptual framework is explored, the characteristics of the system and the people in it. This literature addresses both organizational and individual factors regarding research use in organizations and sets the stage for the findings.

Interest in improving connections between research, policy, and practice has been growing in education and other sectors (Davies et al., 2000; Lemieux-Charles & Champagne, 2004; Nutley et al., 2007). Although there is broad agreement across sectors that "evidence-based" policy and practice are essential to improving outcomes, there is still frequent discussion of the gap that exists between research, policy, and practice in all areas of public policy (Davies et al., 2000; Lemieux-Charles & Champagne, 2004; Pfeffer & Sutton, 2000; Sudsawad, 2007). Consequently, a growing body of work investigates and explores issues relating to research use (or the lack thereof).

The relationships between research, policy, and practice are complex and are certainly not unidirectional. Virtually every analysis of the literature also notes that the increased interest is not yet matched by enough solid empirical evidence, especially in education, where empirical inquiry is much more limited than in health. Efforts to increase the use of evidence are themselves not yet soundly based on good evidence.

Figure 1: The Use of Research in Complex Systems



Still, the body of empirical and conceptual work, largely arising from the health sector (e.g., Amara, Ouimet, & Landry, 2004; Belkhodja, Amara, Landry, & Ouimet, 2007; Lavis, Ross, & Hurley, 2002; Lavis, 2006; Lemieux-Charles & Champagne, 2004; Author, 2004; Mitton et al., 2007; Nutley et al., 2007), is increasing our understanding of the relationships among research, policy, and practice in education and in other fields. Empirical work from the health sector and social policy are outlined because evidence in education is virtually nonexistent and this field is just emerging. Education is just beginning to grapple with the many issues and challenges surrounding research use both methodologically and practically.

Work on KMb to date can be read as having both optimistic and pessimistic conclusions. On one hand, it is clear that research does affect policy and practice in all fields, sometimes in important ways (Levin, 2004, 2008). It is quite easy to point to policies and practices that have changed based on better evidence—everything from antismoking regulations to seat belts in cars to improving prenatal nutrition to ending corporal punishment in schools. On the other hand, it is equally clear that research is rarely the determining factor either of policy or of professional practice, especially in the short term. The literature consistently shows policies and practices persisting despite strong evidence to the contrary across sectors and, in other cases, very limited adoption of policies or practices shown to be effective (Maynard, 2007; Pfeffer & Sutton, 2000). The research suggests that although awareness and training of professionals is necessary to change practice, so too are changes in structures, processes, and routines in order to encourage more use of research.

Some empirical work has addressed issues of organization practices and research use. In health, research has established that there is considerable knowledge of research by many leaders in policy organizations such as ministries and delivery organizations such as hospitals (Lavis et al., 2002). However, self-report is likely to overestimate research use when compared with behavioral measures (Dobbins, Rosenbaum, Plews, Law, & Fysh, 2007; Davies & Nutley, 2008). A consistent finding in the literature is that simply providing information about research findings and implications does not change people's behavior. Knowledge of research findings is also insufficient because it does not necessarily translate into policy and practice, a subject of frustration for many researchers.

Rather, behavior is rooted in social settings, which means that interpersonal connections are vital to changing what people do. The primary determinants of practice, whether by professionals or anyone else, are related to people's habits and their social settings or, to put it another way, what their friends, colleagues, and superiors value (Cordingley, 2008; Nutley et al., 2007; Levin, 2004, 2008; Maynard, 2007). As examples, Strauss, Tetroe, and Graham (2009); Morris and Clarkson (2009); and Maynard (2007) all discuss the gaps between knowledge of effective health care and actual practice, ascribing these gaps in part to lack of effective structures in the health system to connect the two.

Bhattacharyya, Reeves, and Zwarenstein (2009) also note that health care practice falls far short of available evidence and then outline the various implementation steps that may help remedy the situation. They show that with careful implementation work, the adoption of effective practices can be improved significantly.

Belkhodja et al. (2007) talk about the "absorptive capacity" of organizations in regard to research, comparing this to processes of learning in individuals. Their survey of a large number of managers in various health care organizations in Canada found quite low levels of research absorption in most organizations. They identify specific knowledge integration activities and research backgrounds of managers as important influences on research take-up, noting how these elements are connected to organizational culture and learning.

The more limited evidence from the education sector is quite consistent with findings from the health sector. Many articles have

been written lamenting the gap between research and practice in education (e.g., Schaps, 2008). Other research (e.g., National Research Council, 2003) shows that there are many areas of education in which effective practices are not widely used (such as practices known to increase student engagement), whereas ineffective practices (such as tracking or retention in grade) remain in wide use despite the general availability of contrary knowledge. The research showing the poor effects of retention in grade, for example, goes back decades.

A number of studies report that both managers and professionals tend to rely more on their own experiences and the views of colleagues than they do on research evidence (Dobbins et al., 2007; Maynard, 2007). As Pfeffer and Sutton (2006, p. 5) note, "decisions….are frequently based on hope and fear, what others seem to be doing, what senior leaders have done and believe has worked in the past, and their dearly held ideologies – in short, on lots of things other than facts." In an extensive review of the research on research use, Mitton et al. (2007) reported that views of other colleagues were the most powerful factor in affecting practices but that explicit mechanisms within the organization to connect research to people were also important.

Yet we also know that experience can be inconsistent with bodies of available research and can be a poor guide for decision making. Summarizing a substantial body of evidence from psychology, years ago, Kiesler and Sproull (1982) showed that people are not good at using experience to derive sound conclusions. A more recent analysis with very similar results can be found in Tavris and Aronson (2008).

Evidence to this effect abounds. Feinstein (1988, cited in Maynard, 2007) wrote that "the exercise of judgment is rarely a good substitute for evidence." An American physician asserted that "the agreement of experts has been a traditional source of errors through medical history." Examples spring readily to mind, such as the rejection of hand washing by physicians or, more recently, the rejection of the view that ulcers could be caused by bacteria. The same is true in education; expert opinion is not always consistent with evidence. This may be one reason that education is so susceptible to adoption of practices that turn out to be ineffective fads and are soon abandoned.

Educators, like other professionals, have relatively limited direct knowledge of current research. Their beliefs and practices are primarily determined by personal experience and the views and practices of colleagues (Cordingley et al., 2004). Educators do not typically read research directly (Hemsley-Brown, 2004); their knowledge of external research findings comes primarily through work practices such as professional development events (Levin et al., 2010). On the other hand, there is evidence that educators report understanding the importance of research (e.g., Biddle & Saha, 2002) and believe that they are making use of it.

Professional development and learning in education are not necessarily well grounded in evidence, either (Timperley, Wilson, Barrar, & Fung, 2007). One reason for this is that education also has a long tradition of considering teaching as a craft rather than a science, hence the belief that teachers can and should have their own approaches to teaching.

Cordingley et al. (2004) reviewed evidence on teachers' adoption of new practices and the role of research. They noted that personal recommendations from colleagues affected what research was even considered by teachers let alone whether it was accepted. Aspects of the organization such as networks, professional development, or leadership could affect the way teachers use research, but this does not often occur. Coburn and Talbert (2006) also studied the use of evidence in school districts and concluded that it was greatly affected by structures within the district such as networks, dissemination practices, and the role of leadership. Individuals' conceptions of valid evidence, evidence use, and research-based practice varied according to the nature of individuals' roles and work. They conclude that "organizational structure shapes individual beliefs by influencing patterns of social inter-

action through which they develop" (p. 472) and leaders play a key role in fostering or interrupting use of research (p. 491).

All of this suggests that organizational practices may have an important role in affecting the way in which people in organizations think and work and that it may be possible to shift patterns of practice by creating organizational supports and incentives that give greater prominence to the consideration of research findings and their implications (Cordingley, 2008; Levin, 2008; Walter, Nutley, & Davies, 2003). This is why research practices and systems within schools and districts are important.

Very little empirical work has been done to map those structures or assess their impacts. This study, then, sought to measure the degree to which participating schools and districts were involved in using research and the kinds of practices they had in place to support that goal. The literature does not provide many specific examples of changes to increase KMb ; they are typically discussed as broad categories such as those mentioned earlier (professional development, leadership and so on). In the implications section at the end of this paper, a number of possibilities to increase research use (both individually and organizationally) are provided that arise from the findings.

Methods

An online survey was used to gather data from education leaders (superintendents, principals, and others with designated leadership roles in schools or districts) about research practices in their districts..

Sample

Eleven districts with a total of about 100 secondary schools initially agreed to take part in the survey. Ten of these districts had been participants in the larger project of the CEA. The districts were in four different provinces and ranged in size from very small (total enrollment of a few thousand with two or three secondary schools) to quite large (enrollments of more than 50,000 with 30 secondary schools). The total potential pool of respondents (superintendents, principals, and vice principals of secondary schools and others in leadership roles as defined in each district) was estimated at approximately 350. The survey was conducted online using the web application Survey Wizard. Each district provided a contact person for the study. The contact person provided eligible respondents with the URL for the survey, thus ensuring that it was fully anonymous to the researchers. However, this approach also made it more difficult to follow up with nonrespondents.

This study was approved by the Research Ethics Board at the University of Toronto and embodied standard ethical practices for research. Participants volunteered and were free to decline to answer any question or withdraw from the study at any time. All participants remained anonymous in the electronic surveys, so the researchers were unable to identify any individual responses.

The survey was administered from mid-May to mid-June 2008, and 188 usable responses were obtained after several rounds of reminders issued by our district contacts. This is more than half of the total population and thus was a very good response rate for a survey of this kind. However, because the survey data are fully anonymous, the characteristics of respondents and nonrespondents cannot be compared. Because of the varying size of the districts, the number of respondents in several of the districts was too small to allow any inferences about interdistrict differences, so none are reported. However, on the whole, differences between districts were small and always smaller than the differences among respondents within districts.

Survey

In total, 85 survey items were derived from the literature on research take-up in organizations. The items explored district research practices by asking education leaders about research-related activities that the literature suggests are

connected to greater knowledge mobilization. The survey asked about the following:

- Overall perception of research use in the district.
- Individuals' research-related activities.
- Research-focused events or practices in the district.
- Extent of research use in various meetings.
- District research capacity.
- Use of data for school and district planning.

Several graduate students who were also educational leaders piloted the survey. The survey items were revised based on their feedback.

Research on knowledge mobilization faces significant methodological challenges (Levin, 2008). Among these, the most problematic are the many different ways in which one might define both "research" and "use" and the challenge of assessing people's practices in complex social settings such as schools. Many studies of research use ask participants about their opinions and beliefs or ask generally whether research is used in their settings. However, the literature suggests that such responses are often inconsistent with actual behavior (Davies & Nutley, 2008; Dobbins et al., 2007; Manfredo & Shelby, 1988; Lavis, Robertson, Woodside, McLeod, & Abelson, 2003). This survey was designed to minimize questions about general impressions or beliefs and focus more on the existence and frequency of specific practices or behaviors. While one still cannot be fully confident in the accuracy of self-reporting, these kinds of responses are less likely to be affected by social desirability, are easier to check, and are easier to compare among respondents in the same organization.

Findings

Characteristics of Respondents

One hundred eighty-eight education leaders responded to the initial survey. Basic demographic information included the following:

- 55 percent were male.
- 30 percent were principals, 30 percent were vice principals, 10 percent were superintendents, and 30 percent had other roles.
- 30 percent had been in their current roles for less than two years, 30 percent had been in their roles from three to five years, and 40 percent had been in their roles for six or more years.
- 70 percent of respondents had (61 percent) or were working on (9 percent) a master's degree, while 17 percent had a bachelor's degree, and 8 percent held or were working on (4 percent) a doctorate.

In considering the next set of responses regarding research use, it is important to keep in mind that no baseline data in this area exist; hence, it is difficult to assess what levels of research use would be considered moderate or good. This study will help provide some evidence in this domain for future reference.

Extent and Nature of Research use at the Organizational Level

Overall, the respondents were positive about the extent to which research is used in their districts. More than 80 percent of respondents agreed (51 percent) or strongly agreed (34 percent) that "the important role of research was evident in the ways their district related research to practice." Across districts the responses were highly positive, and mean scores on items did not differ very much.

Respondents were asked about the frequency of various research-related practices in their districts. The responses indicated that the districts already have a range of research-related activities. Two-thirds of respondents reported that their district was involved in joint research projects with outside researchers. Among other research activities, 85 percent reported that districts encouraged research-related professional development, 83 percent reported that the district supported action research, 61 percent said that the district provided funds for research generation and use, 78

percent said that data were incorporated into district and school reporting requirements, 78 percent said that the district sponsored research-focused events, 73 percent said that districts provided opportunities for informal networking related to research, 74 percent reported that research articles were circulated within the district, and 65 percent reported that districts provided staff with time to engage in research-related activities. There was little variation in these practices among districts, which is not surprising given high overall positive responses. In some instances, leaders did not know if resources were available in their districts to support research generation and use (27 percent), to build ongoing relationships with external researchers (22 percent), to provide informal networking opportunities (16 percent), and to incorporate data into reporting (16 percent).

One has to interpret these positive results with caution because other survey results and interactions with participants during the intervention phase of the study showed some discrepancy between the reported importance of research and actual research use. Although districts reported that many practices to support research use are available, other evidence suggests that the extent of research use in districts still remains modest[2] despite increased capacity. So while school districts in recent years have increased their capacity to support and participate in research-related activities, they have not necessarily capitalized on available resources. Capacity is not synonymous with actual use.

As shown in Figure 2, these districts did sponsor or organize a variety of research-related events.

Nearly half of the respondents reported that all three categories, research-focused events, research-related resources, and other formal and informal networking opportunities, were offered infrequently in their districts.

As noted in the literature review, research also has increased impact when it is included in the routine events and processes of an organization. Figure 3 (next page) shows the reported frequency of discussion of research matters at various school and district events.

On the whole, these data suggest a modest use of research in regular meetings and events; there is no category of regular system events where more than 40 percent of respondents report frequent discussion of research, except professional development events, where over 75 percent of respondents report that research is often or always discussed. Moreover, data from elsewhere in the survey (not reported here) showed that these educators consider professional development to be a less important source of information influencing their practice compared with personal experience and interaction with colleagues.

Figure 2. Frequency of Education Leaders Reporting District Research Activities/Strategies

	Rarely or Never	Yearly	Monthly	Weekly or More	Total	Missing
Research-focused events	74 (45.7)	61 (37.7)	9 (5.6)	18 (11.1)	162 (100)	26
Research-related resources	30 (18.3)	49 (29.9)	71 (43.3)	14 (8.5)	164 (100)	24
Other formal or informal networking opportunities	31 (19.1)	46 (28.4)	72 (44.4)	13 (8.0)	162 (100)	26

Numbers in parentheses are row percentages.

Figure 3. Frequency of Research Discussions at Various Events Reported by Education Leaders

	Never	Rarely	Sometimes	Often	Always	Total	Missing
Staff meetings	4 (2.3)	33 (19.3)	73 (42.7)	56 (32.8)	5 (3.0)	171 (100)	17
Principal meetings	0 (0.0)	13 (9.0)	66 (45.8)	53 (36.8)	12 (8.3)	144 (100)	44
Board meetings	2 (1.6)	20 (16.4)	62 (50.8)	31 (25.4)	7 (5.7)	122 (100)	66
Professional development events	0 (0)	3 (1.8)	38 (22.5)	100 (59.2)	28 (16.6)	169 (100)	19
Parent/community events	5 (3.2)	42 (26.9)	90 (57.7)	19 (12.2)	0 (0)	156 (100)	32
Informal networking events	5 (3.3)	28 (18.5)	79 (52.3)	38 (25.2)	1 (0.7)	151 (100)	37
Administrative meetings	2 (1.3)	17 (10.7)	74 (46.5)	60 (37.7)	6 (3.8)	159 (100)	29

Numbers in parentheses are row percentages.

Research Capacity

When leaders were asked if their district had research infrastructure, such as dedicated staff, 45 percent thought yes, 39 percent thought no, and 16 percent did not know. In fact, all the larger districts in the study did have such units, although most of them were quite small. These responses were not consistent within districts. That is, some respondents in districts with research units did not know that they existed. Of those who did report that their district had a research unit, 40 percent did not know how many staff were in it, even approximately. Similarly, only about a third of respondents knew whether the district posted research links and findings on its website. Insofar as research units play an important role in the overall research enterprise in school districts, awareness of their existence and work was fairly low in most districts. One exception was a school district that has made a consistent effort in knowledge mobilization: 94 percent of respondents from this district knew that the infrastructure existed, suggesting that efforts to give a higher profile to research do have an impact.

District Data Use

A growing dimension of use of evidence in education involves the use of various kinds of student achievement data to guide policy and practice. The districts in this study reported regular use of a number of data sources for a variety of purposes, with a majority of respondents reporting consistent use of all the data sources mentioned in the survey. Data reported as being used by most respondents were high school graduation rates (91 percent) and elementary school literacy levels (84 percent). Other kinds of data being analyzed regularly included secondary school credit accumulation (73 percent), suspension/expulsion numbers (68 percent), special education referral rates (60 percent), and achievement data by ethnicity and socioeconomic status (58 percent). It should also be noted that 12 percent to 26 percent of education leaders, depending on the data source, did not know whether these data sources were analyzed within their districts.

Large numbers of respondents reported using these data or other research for district and school improvement plans and annual reports (around 85 percent in each case). Still, even

Figure 4. Amount of Time Spent by Education Leaders per Month on Research-Related Activities

	None	Up to 2 Hours	2–5 Hours	6–10 Hours	10+ Hours	Total	Missing
Research-related events	43 (24.7)	39 (22.4)	32 (18.4)	30 (17.2)	30 (17.2)	174 (100)	14
Research-related reading	7 (4.0)	53 (30.5)	49 (28.2)	31 (17.8)	34 (19.5)	174 (100)	14
Research-related networking	39 (22.8)	49 (28.7)	37 (21.6)	25 (14.6)	21 (12.3)	171 (100)	17

Numbers in parentheses are row percentages.

for these relatively obvious uses, some respondents either did not use the data in their districts or did not know if the data and other research were used in different types of reports. Two other areas of data use were also surveyed. Some 66 percent reported using data and other research to report to parents and the community on system progress, while 28 percent reported that outcome data were used as part of performance appraisal. The latter number suggests a need for further exploration of the extent and ways in which data on student outcomes are part of performance management in schools and districts.

Individual Participation in Research-Related Activities and Events

Education leaders were asked about how much time they spend each month participating in three types of research-related activities: reading, events, and networks. As Figure 4 shows, these time commitments are generally modest.

Though a small number of respondents seemed to be quite intensively engaged in research-related activities, a much larger proportion reported very little or no such involvement.

Respondents were also asked about their individual participation in research-related activities (Figure 5).

On average, respondents reported attending 1.5 research-focused events, with the highest participation levels in provincial events and professional conferences (such as those put on by principals' organizations). However participation was very uneven; some respondents had attended no events at all, and no single

Figure 5. Number of Research-Focused Events Outside of School District Attended by Education Leaders in Last Year

	One	Two	Three	More Than Three	Total	Missing
Provincial department/ministry–sponsored events	46 (37.1)	41 (33.1)	12 (9.7)	25 (20.2)	124 (100)	64
Professional conferences	61 (44.5)	43 (31.4)	16 (11.7)	17 (12.4)	137 (100)	51
Events sponsored by an education institute such as college or university	70 (70.7)	22 (22.2)	4 (4.0)	3 (3.0)	99 (100)	89
Events sponsored by another outside organization	49 (51.6)	29 (30.5)	7 (7.4)	10 (10.5)	95 (100)	93
Academic research conferences	36 (80.0)	8 (17.8)	1 (2.2)	0 (0.0)	45 (100)	143

Numbers in parentheses are row percentages.

category was attended by 75 percent or more of the respondents.

Discussion

These data provide some useful indicators of the status of research use in Canadian school districts. This is the first study to produce data measuring research use by education leaders in school districts in Canada or, to our knowledge, anywhere else. If one considers the elements that might characterize an organization with a strong commitment to the use of research and evidence, the survey provides both positive and negative elements.

On the positive side, these respondents, from districts of various sizes in various parts of the country, report a strong interest in the use of research. The idea that policy and practice should be grounded in the best available empirical evidence appears to have wide support. Though this may seem a trivial finding, it was not so long ago that many education leaders would have dismissed education research as having little or nothing to contribute to practice (e.g., Holdaway, 1986; Gaskell, 1988). The change in attitude toward the importance of research is a vital element in improving knowledge mobilization in education systems.

The districts and their leaders are not just paying lip service to research use, either. The survey results show that these districts support research-related activities in a variety of ways, including not only professional development opportunities but also the integration of research materials and findings into various district activities and processes (such as school and district improvement plans and reports). As indicated by the literature review, the evidence shows that the integration of research into various standard practices and social networks is fundamental to increased and lasting use of research. These data show that Canadian school districts are making efforts to incorporate research evidence and local data into district activities.

However, one could not reasonably conclude that the existing state of affairs is optimal, either. In general, the behavioral data in the survey showed weaker use of research than did the attitudinal data. The practices regarding effective finding, sharing, and use of research are not yet as widespread as awareness that research is important. Levels of knowledge among these leaders about their own districts' research-related activities were sometimes weak. For example, some school leaders were not aware of whether their district had an organized research capacity or whether or not resources were available for research-related activities. Research discussions are still not a regular feature of events such as staff meetings or board meetings. And although support for research-related activities is available to districts, a large proportion of respondents do not appear to be very involved in such activities. Activity still appears to depend heavily on volunteerism or on a few interested people rather than being deeply embedded in daily practices.

Additional support for this interpretation comes from the way districts report using evidence on student achievement in that this use corresponds to reports and school plans that are required by government policy, suggesting that data use increases with formal requirements and policies, what Weiss, Murphy-Graham and Birkland (2005) refer to as "Imposed Use".

Implications: Ways to Increase Research Use in School Districts

This empirical work in combination with other studies (e.g., Cordingley, 2008; Hemsley-Brown, 2004; Levin et al., 2010; Qi & Levin, 2013) suggests ways in which the use of research could be further strengthened in schools and districts. It is particularly important to make such practices more regular and systematic rather than sporadic and based on individual initiative. A consideration of the ways in which schools and districts operate suggests some possibilities to increase research use. Actions that might give greater weight and profile to research could include the regular circulation of relevant research materials, discussion of research findings at staff meet-

ings, the use of research in setting school and district plans, hiring of staff who have some research skills or background, building on graduate work being done by staff members, and including research materials and findings in professional development activities (though from our data, the latter appears to be reasonably common already). Structures that already exist within schools, such as staff committees working on priority issues, could also serve as vehicles to discuss relevant research. Many of these changes in processes are small and could be done by most schools or districts without enormous effort.

Such practices are not difficult to put in place. For example, one can make discussions of research and evidence a standard part of the agenda for all major meetings in a school or district, especially by linking the discussion to ongoing issues of importance in the organization. So if a meeting of principals were to discuss, for example, ways of improving parent engagement, then the principals would automatically give some attention to the current research on this issue and to data on current practices. Putting those systems in place raises the profile of research and creates the expectation among all parties that this kind of work is something to which they need to pay attention instead of something to do when some time can be found.

Similarly, districts could reassess the kinds of support they provide for research in terms of effectiveness. Districts are using the most common practices, such as supporting conference attendance or action research. However, these activities also rely substantially on interested parties and volunteers. From a system impact perspective, it seems likely that the same resources and effort could yield more impact if they were connected to ongoing investigation of a few key organizational issues. For example, districts might provide dedicated resources for principals to participate in study groups, working with external research experts, on priority items. These investigations could, over time, build broad understanding across a district of the implications of research for practice in a few key areas rather than dissipating many small-scale efforts across many different issues, as appears presently to be the case in most districts.

Another avenue to support increased KMb in school districts is to provide support for network development and sustained collaboration across schools within a district or across districts. Networks are a potentially powerful mechanism for professional growth, behavior change, and improved practice if they are carefully structured and focused (Katz, Earl, & Ben Jaafar, 2009). Building networks within and across education organizations could provide shared systems for finding, sharing, and using research. Currently, schools and districts often operate in isolation, although education professionals are often struggling with similar challenges, leading to inadequate use of evidence.

Implications for Further Research

This study investigates a field in which there has been little empirical work anywhere and virtually none in Canada. Much more still needs to be learned about the ways in which educators, schools, and school systems find, share, and use research and other forms of evidence. In particular, more evidence is needed regarding the practices being used to share research in schools and the impact of those practices on what teachers and principals do, because it is already well known that knowledge of research findings does not necessarily lead to changes in practices. Accordingly, research attention should shift away from attitudes toward research, or even surveys of knowledge of research, to consider more fully the relation between knowledge and practice and ways in which those connections could be strengthened. Later publications from other parts of this study will report on some of these issues, but this is an area that would benefit from a much more substantial body of evidence. The William Grant Foundation in the United States (www.wtgrantfoundation.org) has recently launched a research program addressing these questions.

Conclusion

The picture surrounding research use in education is not nearly as bleak as some critics would suggest. Our data show that Canadian school districts are interested in making use of research to shape their work, and they have taken a number of steps in that direction. At the same time, districts could do even more to take advantage of research, and much of it would not require a great deal of effort. If we assume that research can help schools and teachers improve teaching and learning for themselves and their students, more progress is needed. This paper has outlined some of the actions already in place and the direction they provide for further steps. Canadian schools are fortunate to have committed and competent educators who work hard to improve the lives of their students and who possess considerable openness to the potential contribution of research to their work. Our data suggest that school districts could make KMb more of a focus and more systematic and, in that way, could increase the impact of efforts to connect research to practice in schools.

End notes

1. For a more complete understanding of the many aspects of knowledge mobilization, see www.amanda-cooper.ca and www.oise.utoronto.ca/rspe .

2. The designation of "modest" is our research team's interpretation of baseline data considering the levels of activity reported across the sample because no external baseline of research use among education professionals exists for comparison due to this being the first study of its kind.

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