

## Entry points: How Evidence Makes its Way into Schools' Decisions

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**Abstract:** Effective knowledge utilization in education relies on the actions of researchers, information brokers, and practitioners. Understanding which practitioners are involved in school-level decision-making and how they search for evidence will improve understanding of knowledge utilization in schools. In this paper, we examine various practitioners' involvement in school-wide decision-making processes, including the collection and evaluation of evidence and final decision-making. We also investigate the nature and extent of practitioners' search for evidence to inform school-level decisions. Findings from this paper illustrate the central role of teachers in the search for evidence and highlight sources and forms of evidence they rely on to inform decisions.

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### Introduction.

The utility of research lies not in how and what is discovered, but by how that knowledge improves the lives of those it studies. In education, this means identifying and implementing evidence-based policies and practices that lead to improvements in teaching and learning. Foundational work in the social sciences concludes however, that a significant gap exists between research and practice, limiting the impact research can have in real-world settings. The two communities fail to communicate and collaborate resulting in poor knowledge utilization (Dunn, 1980; Landry, Amara & Lamari, 2001). Theories around the causes of the gap are numerous but point to inefficient pathways for communication and dissemination (Gross, Kirst, Holland & Luschei, 2005; Lavis, Robertson, Woodside, McLeod & Abelson, 2003), cultural and attitudinal differences towards research (Broekkamp & Hout-Walters, 2007), and structures, processes and incentives that hinder efficient knowledge transfer (Supovitz & Klein, 2003).

Research exploring barriers to knowledge utilization in school systems describe them as "organized anarchies" (Cohen, March, Olsen, 1972) involving multiple actors, operating in nuanced contexts, yielding many different outcomes. This complexity complicates the focus of this study; to enhance our understanding about how evidence finds its way into school-based policy and practice decisions. The primary research questions that drive this study are as follows:

1. Which practitioners are involved in the collection of evidence, evaluation of evidence, and decision-making regarding school-level decisions?

2. What is the nature and extent of practitioners' search for evidence to inform school-level decisions?

In this remainder of this paper we provide a brief overview of the literature on school-level decision making and practitioners' search for evidence to inform school-level decisions. We then describe the methods for the study that this article draws from. Following is a description of findings related to school-wide decisions and the nature and extent of practitioner's search for evidence. The article concludes with a discussion of the findings with a focus on implications for policy, practice and future research.

### **Literature Review.**

Responding to findings from the literature on knowledge utilization, policy-makers and educators have become increasingly concerned with the research-practice gap and the use of evidence-based practices in schools.<sup>1</sup> Policy-makers define evidence-based practices to have research supporting its use "that involve[d] the application of rigorous, systematic, and objective procedures" (The No Child Left Behind Act, 2002, subpart 37 of section 9101). We adopted that definition for this paper. The policy community has sought to address poor knowledge utilization with federal policies that call for research to inform decision-making at the state, district and school-level (Cooper, Levin & Campbell, 2009; Farley-Ripple, 2010). For example, The *No Child Left Behind Act* of 2001 (NCLB) impressed upon local education agencies (LEAs) the utility of using research to inform decisions that would impact teaching and learning. This push to create tighter linkages between research and practice was bolstered by the *Education Sciences Reform Act* of 2002 (ESRA) which created guidelines for research to inform decisions concerning policy and practice. The drive to utilize research in education has continued to intensify with the *Every Student Succeeds Act* of 2015 (ESSA). The law requires states to submit plans that document how research will be used to inform decisions around policy and practice.<sup>2</sup> In fact, the law makes sixty-two mentions to the use of "evidence-based" practices.

The research community has also begun to respond to the literature on knowledge utilization. Significant efforts have been made to understand how research is incorporated into decision-making in LEAs. A great deal of research has focused on decision-making at the state (Goertz, Barnes, Massell, Fink & Francis, 2013; Massell & Goertz; 2012) and district-level (Farley-Ripple, 2012; Honig & Coburn, 2008), with considerably less attention being paid to decision-making in schools. Those studies that do focus on research use in schools often focus on individuals' use of research (Helmsley-Brown & Sharp, 2010; Biddle & Saha, 2005) as opposed school-wide organizational decisions. While valuable for understanding decisions that

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<sup>1</sup> This policy shift may also be attributed to claims in the second half of the 20<sup>th</sup> century about the lack of rigor of educational research and a need for more research focusing on evaluation of programs and policies.

<sup>2</sup> As of Q1 2018, states have submitted their ESSA plans for federal review.

individual educators make, many changes to policies and practice are decided by the school as a single unit.

*Leadership and schools as learning organizations.* Recent scholarship on decision-making in schools has expanded to changes in practice that incorporate various stakeholders in the decision-making process (Spillane, 2012). For example, the use of distributed leadership and professional learning communities (PLCs) has gained momentum in recent years. Distributed leadership is an organizational model that centers on “engaging expertise wherever it exists within the organization rather than seeking this only through formal position or role” (Harris, 2004, p. 13). This means engaging practitioners in ways that utilize professional knowledge and networks to foster improvement. Studies of distributed leadership indicate its ability for schools to build capacity for continuous improvement, utilizing evidence to ground decisions about professional practice (Boscardin, 2005; Hallinger & Heck, 1996). In their review of leadership in schools for example, Leithwood & Reil (2003) indicate that leaders in a distributed model can help staff understand changes needed to improve teaching and learning and facilitate the transfer of knowledge to practice.

The rise of professional learning communities has also captured the interest of researchers interested in their potential to shrink the research-practice gap. PLCs are a model for capacity building among school-based practitioners that focus on improving professional practice (Newman et al., 1996; Vescio, Ross & Adams, 2008). The PLC model is a framework that rests on a few central themes: creating shared missions and values, creating collaborative teams working on specific goals and a focus on outcomes (Rentfro, 2007). PLCs engage in “extensive conversations about curriculum, instruction, and student development” (Newmann et al., 1996, p. 182), sharing strategies, identifying evidence and making decisions collectively.

The literature suggests that PLCs have the capacity to improve student achievement by bringing research to bear on school-wide decisions affecting practice (Berry et al., 2005; Hollins et al., 2004; Supovitz & Christman, 2003). For example, Hollins et al., 2004 studied teachers who were attempting to improve literacy in their African-American elementary school student population. Findings from that study revealed that teachers as part of their PLCs were able to search for, identify, review and implement scientific evidence on culturally relevant teaching school-wide. That led to a 28% reduction in students falling below the 25<sup>th</sup> percentile in reading scores over three years (1998-2000) compared to the district-average of 12%. Similar findings have been reported in schools serving rural students (Berry et al., 2005) and across different levels of the k-12 system (Phillips, 2003).

Organizational change at the school level, specifically the use distributed leadership and professional learning communities have been linked to increases in evidence-use at the school level. School-based capacity building of this nature can contribute to better decision-making around policy and practice. Decisions are being made by a broader swath of individuals and are beginning to show positive impacts for students. Findings from studies of these organizational changes suggest that the shifts we have seen have shrunk the research practice gap in those

organizations as structures and processes were created that facilitated practitioners' engagement with research. Evidence suggests that use of research evidence has had a positive impact on professional practice and student outcomes (Levin, 2008; Hollins, et al., 2004; Dimmock, 2012). These findings support our claim that more efforts need to be made to increase our understanding of decision-making and evidence use in schools.

*Accessing Research.* Research on knowledge utilization largely focuses on production and dissemination of information but has yet to develop a sound base of knowledge about how practitioners access information (Dearing & Krueter, 2010). We understand that traditional academic routes for dissemination (e.g., publishing in academic journals) are not the preferred method for end users. For example, research suggests that that language barriers between the two communities and perceptions that research does not focus on problems practitioners face contribute to low usage of these traditional methods (Nelson, 2012; Ratcliffe et al., 2004). Instead, modes of communication including policy briefs and reports, and summaries of findings with direct practice implications are more often reported as useful types of evidence (Che, 2012; Judkins et al., 2014; Louis 2012).

Prior work also suggests that more direct connections between researchers and practitioners may have utility. Conferences held by practitioners' national professional associations and regional organizations have been cited as important sources of information (Biddle & Saha, 2002; Huang et al., 2003). For example, Huang et al. (2003) found that practitioners valued professional and regional conferences as a source for receiving contextually relevant resources related to their practice. Findings on opportunities for research to be disseminated at these conferences remain limited however, but Fusarelli (2008) suggests the cause is related to the lack of attendance and presentations by researchers as opposed to vendors. Much of the literature identified only focuses on school leaders' search for research to inform school-level decisions therefore failing to account for the role of other practitioners in the decision-making process. In summary, the literature on research use sees dissemination, translation of evidence and cultural attitudes as primary barriers to knowledge utilization in education.

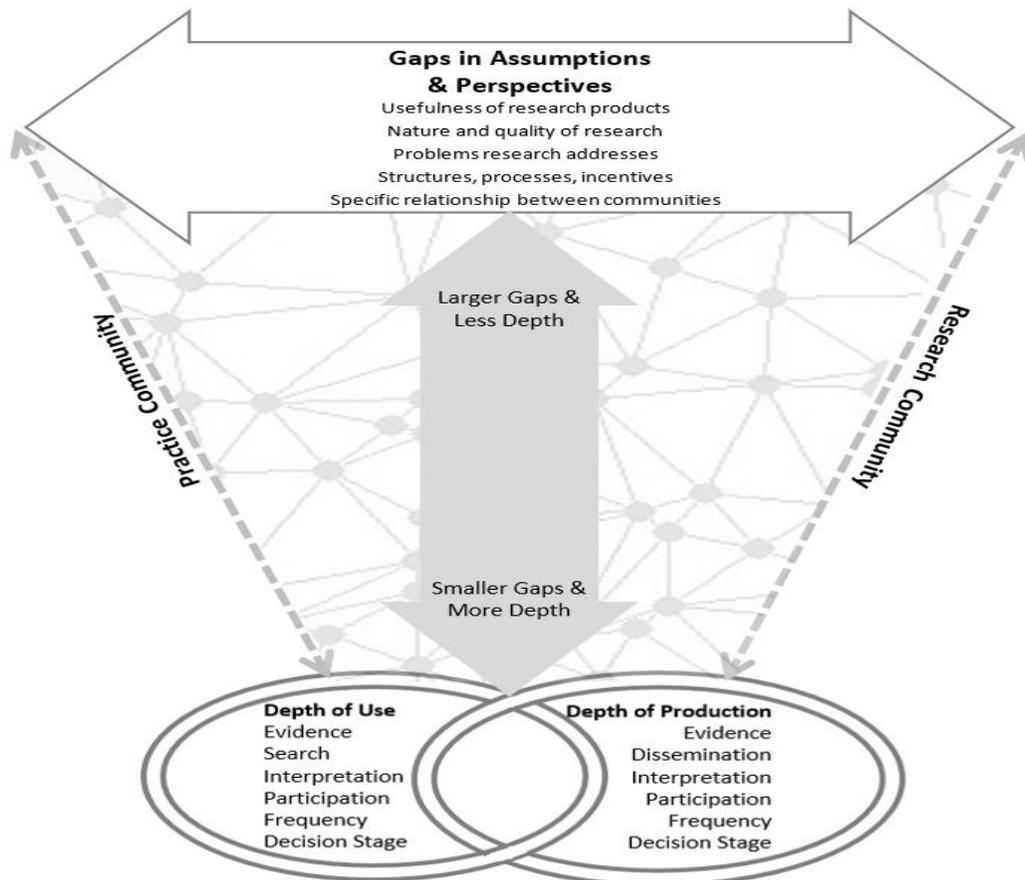
Findings presented in this paper highlight how different practitioners participate in the decision-making process. Findings also describe how evidence used to inform policy and practice decisions is sought after by practitioners. We know that decisions around instructional improvement often occur at the school level. What research has yet to identify are the ways in which research is incorporated into school-based decisions concerning instructional improvement. Through a better understanding of who is involved in the different aspects of the decision-making process, researchers, policymakers and brokers of research will be better situated to disseminate and share evidence to those searching for it. More effective translation and dissemination of research can also lead to greater levels of and more efficient communication between researchers and. Through these and other mechanisms, schools' use

of research can be expanded and deepened through a deeper understanding of school-level decision-making and practitioners’ search for evidence.

**Conceptual Framework.**

*Two Communities.* This study is one in a series of studies being conducted by a federally funded knowledge utilization research center. The purpose of the center is to examine barriers to connecting research and practice. Figure 1 depicts the framework that guides the work of the center and this study. Here we utilize the “two-communities” (Caplan, 1979) metaphor to describe the gap that exists between the research and practice communities. The metaphor hypothesizes that underutilization of research is rooted in cultural differences between the research and practice communities. Our framework also draws on Dunn’s (1980) theory that the gap between research and practice centers on products, inquiry, problems, structures, and processes/incentives around research production and use. Applying these theories to a contemporary study of education, we interpret these five categories to be related to (1) assumptions about the usefulness of research products, (2) the nature and quality of research, (3) problems that research addresses, (4) the structures, processes, and incentives surrounding research production and use and (5) the relationships between communities. Where we find large gaps in assumptions and perspectives between the communities we expect to find low levels of research use by the practitioner community.

Figure 1. Conceptual Framework



*Depth of Use.* The framework guides this study with the attention it pays to depth of research use by practitioners. This piece of the framework conceptualizes depth of use along six dimensions: evidence, search, interpretation, participation, frequency, and decision stage. Depth of use refers to the ways in which evidence is used in systematic ways that are likely to result in improvements in policy and practice. It acknowledges that decision-making and evidence use is a complex process and attempts to capture the ways in which evidence is used to inform decisions and the types of evidence used by practitioners. This study centers on two aspects of depth of use; evidence and search.

*Evidence.* The relative influence of rigorous evidence compared to other sources of evidence (e.g., magazines, informal communication, etc.) is at the heart of researchers and policy-makers concerns. The literature suggests that decision makers utilize a variety of evidence sources to inform policy and practice decisions (Coburn, Toure & Yamashita, 2009, Farley-Ripple, 2010). These may include information from academic journals, general web searches, and information from professional development sessions. Therefore, our study attends to a variety of forms and sources of evidence to understand the relative importance of scientific research with other forms of evidence that might influence decision-making. Evidence is conceptualized as ranging from no engagement with scientific research to considerable use of scientific research in decision making.

*Search.* Another goal of this study was to improve our understanding of the nature and extent of practitioners' efforts to locate the evidence they rely on to inform decisions. The literature suggests that practitioners' search for evidence is constrained by several factors related to attitudes towards research and other forms of evidence and organizational structures, processes and incentives related to research use. For example, studies indicate that practitioners prefer internal sources of evidence (Williams & Cole, 2007; Massell & Goertz, 2012), often cursorily examine evidence due to time constraints (Kennedy, 1982) and have an over-reliance on evidence that aligns with their beliefs and attitudes (Honig & Coburn, 2008; Spillane, 2000). Shallow depth of use along the search continuum is characterized by a limited search for evidence and a reliance on familiar resources. Deep search is conceptualized by seeking out multiple sources of evidence to inform decision-making. We use this framework to direct our investigation of evidence-use and decision making in schools.

## **Methods.**

*Methodology.* Survey analysis was the primary method used to answer this study's research questions. Development of the survey followed an iterative process. The conceptual framework that shaped this study was developed with the support of an advisory panel of research, policy, and practice experts. The framework was used to create a semi-structured interview protocol that was administered to a small sample of research producers and brokers (n=5) and school leaders (n=5) to provide feedback on the framework. Following these stages, a blueprint for the survey was drafted. The blueprint was also critically reviewed by our advisory panel.

The survey instrument was tested through cognitive interviews with school leaders (n=10) and teachers (n=30). A sample size of 40 allows for major complications with the survey

to be detected with 75% probability or greater (Blair & Conrad, 2011). Three rounds of cognitive interviews were held prior to the administration of the pilot. Interviews were held in-person or via telephone. Respondents were asked to complete the survey while answering questions about the construction of certain items. Participants also discussed their interpretations of questions and their responses with the interviewer. Cognitive interview data was used to revise the instrument prior to the administration of the survey.

*Participants.* The pilot study was conducted in the Spring of 2017. Schools were recruited via convenience and snowball sampling (Creswell, 2013). Districts and schools were contacted through multiple means of communication (i.e., phone and email) to participate in the study based on prior relationships with the recruitment coordinator and in some cases, cold-calls. A monetary incentive was provided to schools for their participation in the study.

Instructional staff from 32 schools in three states were administered the research use survey across the two pilot phases. A total of 580 educators responded to the survey. Table 1 describes the distribution of respondents by role.

Table 1. Number of Participants by Role.

<b>Role</b>	<b>Count</b>
Administrators	25
Classroom Teacher (not special education)	344
Special Education Teachers	79
Instructional Coaches/Specialists	51
Other Instructional Staff (e.g., ESL teachers, interventionists)	69
District Staff	12
Total	580

*Data Collection and Measurement.* Data was collected via an online survey. The survey was administered through the Qualtrics survey platform. Our first research question is concerned with educators’ involvement in making policy and practice decisions at the organizational level. Our work conceptualizes decision-making in three stages, (1) collection of evidence, (2) evaluation/interpretation of the evidence, and (3) making a final decision. Respondents were first asked to specify and briefly describe an organizational decision they were familiar with that was made in the past year. We then asked respondents to indicate their familiarity with the different aspects of the decision process (4-point Likert-type scale; 0=Not Familiar to 3=Very Familiar). Respondents who stated that they were not familiar with a particular organizational decision were routed to a different path in the survey that inquired instead about a personal practice decision that required them to search for evidence. This feature enabled us to elicit information only from educators who would be operating with a high degree of familiarity with the specific decision, giving us first-hand accounts of the decision process. The “high-familiarity” respondents were then presented with a list of roles/titles (e.g., principal, teacher, instructional coach, etc.) and were asked to specify which professionals were

central actors in the decision-making process and at what stage. Participants could select multiple stages for multiple practitioner titles.

Our second research question focused on educators' search for evidence. Respondents who were familiar with the decision process were asked a series of questions about the nature and extent of their search for evidence. The survey asked respondents to rank the top three sources of evidence they relied on for informing the decision. This list included getting evidence from a peer, from practitioner conferences, professional development, and academic journals to name a few. Participants were also asked to rank the three most common formats (e.g., research briefs, books, etc.) they consume when searching for evidence to inform a decision. Lastly, participants responded to questions about the extent of their search. For example, participants were asked "Approximately how much time did you personally spend collecting information that informed this decision?". Responses for the extent of search items were on either a five or six-point Likert-type scale ranging from a small to a substantial amount of time spent searching for evidence.

### **Analysis.**

Latent Class Analysis (LCA) was used to identify which school-based professionals were involved in the different aspects of decision-making. LCA is a statistical technique used to identify latent or unobserved relationships among observable variables (Hagenaars, J. & McCutcheon, A., 2002). Surveys in which participants did not select any part of the process making (i.e., collection of information, evaluation of information, and decision-making) for a particular title were counted as missing data. Averages for each stage for each title were calculated across participants to create an aggregate file with an observation for each title (n = 19) and a variable for each stage (i.e. collecting information, evaluating information, decision making). The statistical computing software Mplus was used to run 4 LCA models on the aggregate file with 2- through 5-class solutions. Frequencies were calculated for the nature and extent search items based on valid percentages including "I don't know" categories where they existed in the survey.

### **Results.**

#### *RQ1. Practitioner Involvement in Decision-Making*

Table 2 presents descriptive information for the practitioner roles most involved in decision-making. Data describes the percent of respondents who indicated that a practitioner was involved that aspect of decision-making. Teachers (including special education), instructional coaches and paraprofessionals/assistant teachers were cited as the most involved practitioners during the collection of information stage (>65%). Teachers, curriculum supervisors, principals and assistant principals (APs) had the greatest involvement evaluating information among the roles inquired about. Lastly, respondents indicated that the primary

decision-makers were administrators (principal/AP, superintendent), and the school board. Teachers maintained involvement in the latter two stages, evaluation of information and decision-making, but to a declining degree as practitioners moved through the decision-making process.

Table 2. Involvement in Decision-Making.

	Collecting Information	Evaluating Information	Decision Making
Principal	54.07	<b>77.78</b>	<b>71.11</b>
Teacher(s)	<b>80.77</b>	66.15	42.31
Curriculum Supervisor	54.46	<b>79.21</b>	<b>82.18</b>
Superintendent	36.73	60.2	<b>86.73</b>
Special Ed. Teachers	<b>81.4</b>	<b>69.77</b>	37.21
Instructional Coach(es)	<b>75.31</b>	<b>79.01</b>	56.79
Asst. Principal(s)	62.82	69.23	<b>70.51</b>
School Board	24.32	50	<b>82.43</b>
Support Staff	67.39	60.87	30.43
Central Office Staff	58.14	69.77	46.51
State or Federal DOE	41.46	48.78	53.66
Parents	48.57	45.71	37.14
Paraprofessionals/Assistants	<b>71.88</b>	37.5	18.75
Research Staff	66.67	70	26.67
Program Developers	34.48	58.62	48.28
External Consultant(s)	55.17	65.52	34.48
External Researcher(s)	40	52	36
Other	66.67	33.33	0

Of the four models that were run in the LCA, the 3-class model had the highest entropy statistic (0.973) while maintaining parsimony and interpretability. Additionally, each of the titles in the 3-class model had one predominant class membership probability of .934 or higher. Group 1 had 3 members (15.8%), group 2 had 6 members (31.6%), and group 3 had 10 members (52.6%). Figure 3 depicts the three classes with each node representing each of the three stages of decision-making evaluated in this paper (1=Collect, 2=Evaluate, 3=Make Decision).

Group 1 of the LCA model includes practitioners such as paraeducators who were primarily involved in collecting information or research but were not as involved in evaluating the information or making the decision. The second group included had more involvement in evaluating information and making the decision such as parents, superintendents and other external entities. These people were much less likely to be involved in collecting information.



Table 4. Class Membership and Membership Probabilities by Practitioner Title

<b>Practitioner Title</b>	<b>Class Assignment</b>	<b>Class 1 Probability</b>	<b>Class 2 Probability</b>	<b>Class 3 Probability</b>
Assistant Principals	3	0.000	0.001	0.999
Central Office Staff	3	0.000	0.021	0.979
Instructional Coaches	3	0.000	0.000	1.000
Curriculum/Instructional Supervisors	3	0.000	0.000	1.000
External Consultants	3	0.000	0.022	0.978
External Researchers	2	0.000	0.998	0.002
Paraeducators/Teaching Assistants	1	1.000	0.000	0.000
PTA or Parents	2	0.005	0.993	0.002
Principals	3	0.000	0.000	1.000
External Program Developers	2	0.000	1.000	0.000
Research/Evaluation Staff	3	0.000	0.000	1.000
School Boards	2	0.000	1.000	0.000
Special Educators	3	0.000	0.000	1.000
State or Federal Staff	2	0.000	0.999	0.001
Students	1	1.000	0.000	0.000
District Superintendents	2	0.000	0.995	0.005
Support Services Staff	3	0.000	0.066	0.934
Teachers	3	0.000	0.000	1.000
Someone Else	1	1.000	0.000	0.000

*RQ2. Search for Evidence*

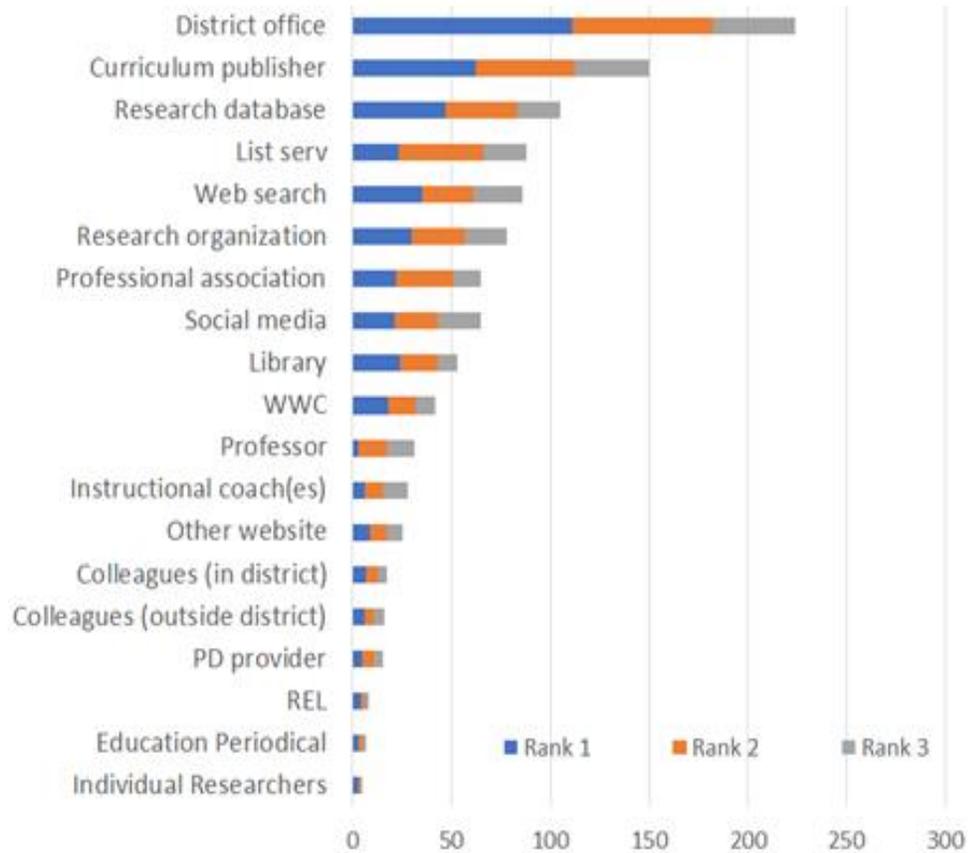
*Format/Type of Evidence.* To understand what types of evidence practitioners’ rely on to inform decisions, we asked respondents to rank the three forms of evidence they relied on most. Table 5 describes participants’ responses. Practitioners indicated that they relied most on the experiences of other practitioners (n=290; e.g. their peers and coaches). Formats that followed included materials received from professional development sessions (n=266) and information received at practitioner conferences (n=219). Behind this “big-three”, were books (n=101), research reviews (n=80) and evaluation reports (n=77), and research journals (n=77) and briefs (n=50). Magazines, blogs, news, district research and dissertations were the least relied upon types of evidence.

Table 5. Ranking of Types of Evidence.

<b>Types of Evidence</b>	<b>Rank 1 (n)</b>	<b>Rank 2 (n)</b>	<b>Rank 3 (n)</b>	<b>Total (n)</b>
<b>Other Educators</b>	149	73	68	290
<b>PD Materials</b>	101	105	60	266
<b>Conferences</b>	66	86	67	219
<b>Books</b>	30	31	40	101
<b>Research Reviews</b>	26	30	24	80
<b>Research Journals</b>	25	31	21	77
<b>Evaluation Reports</b>	25	24	28	77
<b>Research Briefs</b>	11	19	20	50
<b>Magazines</b>	7	12	22	41
<b>Blogs</b>	5	6	18	29
<b>News</b>	3	14	15	32
<b>District Research</b>	3	9	10	22
<b>Dissertations</b>	2	1	0	3

*Sources of Evidence.* To investigate the sources of evidence practitioners relied on most to inform organizational decisions, respondents were asked to rank sources they used to find evidence to inform their decision. Figure 4 depicts the rankings. Practitioner’s overwhelmingly relied on information from their district offices to make policy and practice decisions. Information from curriculum publishers and research databases followed. Evidence from professional listservs were also ranked highly. To inform school-level decisions, educators least relied on education periodicals and evidence from individual researchers.

Figure 4. Practitioners' Rankings of Research Sources Relied on Most.



*Extent of Search.* In looking at potential barriers for practitioners accessing and using research, we asked about the resources required to access and use research, namely time and funds, about a specific school-level or individual-level education decision they were familiar with. Gathering and evaluating information most frequently took less than a month to complete (21%). When asked about the amount of personal time spent collecting information, participants most often spent about an hour (27%) or five or more days (27%). Fewer participants reported spending between a few hours and a couple of days. Fifty-nine percent of participants agreed or strongly agreed that they didn't have enough time to look up research on their own.

Having information that was free to access was deemed very important to 68% of participating practitioners and moderately important in 24% of the survey responses. The majority of practitioners (56%) in the study did not pay a fee to obtain their information. Of those who reported paying a fee, 31% spent less than \$50; however, 26% spent more than \$500. Most often, participants said that some or most of the information used to inform the decision was publicly available (44%). Twenty-four percent of participants reported that none of the information they used was publicly available.

## Discussion.

Results from this study suggest that several different types of professionals (e.g., teachers and instructional coaches) are involved in different aspects of school-wide organizational decisions. This finding corroborates and extends prior research on practitioner involvement in decision-making. Among the decision categories, the LCA model showed that practitioners fit into three different classes of participants, (1) practitioners with relatively high involvement in all three stages of decision-making (i.e., collection of information, evaluation of information, and decision-making), (2) those involved primarily in search and evaluation, and (3) participants primarily involved in evaluation and decision-making.

Teachers were the most commonly cited practitioners involved in the search for information. They remained involved however, throughout the evaluation and decision-making stages. Those in search for evidence relied most heavily on information that was transmitted through close proximity, including information from other colleagues and information gleaned from conferences and professional development sessions. Second to these are types of evidence that can be considered traditional academic publications including books, academic papers, and research reports.

The findings from this study have important implications for researchers who are the creators and disseminators of scientific evidence. First, data indicating that traditional dissemination routes are being accessed by practitioners is promising. Though claims are made about the slow pace of research and its ability to inform current problems that schools face, these forms of dissemination are still sought out by practitioners. Traditional dissemination paths however, fall secondary to more direct forms of interaction during practitioner's search for evidence.

As federal, state and local policy has shifted towards more localized decision-making in schools, it is imperative that pathways to connect scientific evidence to practice strengthen. Practitioners value proximity in their search for evidence. Whether they be academic institutions or other types of research organizations, the research community as a whole should increase their efforts to connect with practitioners through more direct communication pathways. Over the past decade we have seen a rise in formal research-practice partnerships between research organizations and districts/schools. Regional Education Labs have also taken on the role of conducting and disseminating research to specific audiences. The policies have had a positive impact injecting rigor into evidence use and decision-making in schools (Carlson et al, 2015; Coburn, Penuel, Geil, 2013, Wentworth, Mazzeo & Connolly, 2017). The Institute for Education Sciences, the research arm of the federal Department of Education has also made funding streams available for researchers to engage in low-cost, short duration studies at the state and local level. These adjustments to policy and practice in the research community should continue to be made to address the research-gap.

Academic institutions also have unique opportunity to institutionalize research-to-practice connections. Publishing in academic journals does and should remain a central qualification for tenure at colleges and universities. While this form of work is a valuable incentive for producing knowledge, it may also conflict with efforts to increase connections between research and practice. Colleges of education can begin to reshape their work by providing incentives for professors and research staff to build connections with practitioners. For example, these institutions can increase emphasis in tenure on outreach to schools, develop and institutionalize research-practice partnerships, create a series of professional awards for work in this arena, and incentivize dissemination through multiple outlets. Lastly, researchers can better avail themselves of opportunities to connect with practitioners by attending practitioner events, including conferences and local school-board meetings. The benefits are not only for practitioners but can also further the development of research and theory. Through these and other policy and practice changes the research-practice gap can shrink, leading to increased depth of use of scientific evidence to inform school-wide decisions.

### **Limitations and Future Research.**

*Sampling.* This pilot study included 32 schools from three states in the Mid-Atlantic and New England. Regional similarities in policy and practice may have had an impact on responses. Additionally, schools were recruited from only five of districts, increasing the likelihood that similar practices among clusters of schools were reported on. The use of convenience and snowball sampling also limits claims to generalizability. Still, nearly 600 practitioners took our survey and provided responses that yielded valuable insight into the use of evidence in school-wide decisions. The field test, which will begin in the Spring of 2018 will be nationally representative, drawing from 300 schools across the United States. Sampling procedures will be undertaken to ensure a nationally representative sample is identified.

*Analysis.* We also note a limitation in the data used to estimate the latent class model. Since non-response to the involvement question for a particular title could mean either that the person was not involved or that the participant was unaware of the person's involvement, the data over represented missing values (rather than over assign no involvement values). As a result, the LCA fails to capture practitioners who were not involved in any of the stages of incorporating research into decision making. The final field test of the survey will include additional options for non-participation as well as for participants who are unaware of another practitioner's involvement.

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