Using Data in Evidence-Based Policy Processes through Building Research-Practice Partnerships

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Department of Research and Evaluation, Seattle Public Schools

The Department of Research & Evaluation (R&E) supports evidence-based decision-making, accountability and organizational learning through performance measurement and strategic mixed methods research to benchmark district progress and identify effective and promising practices for improving educational equity and excellence in Seattle Public Schools. R&E partners with district leaders, external researchers, and community stakeholders to conduct rigorous research and evaluation activities aligned to district strategic goals and objectives.
Abstract

ESSA envisions that schools adopt evidence-based practices for improvement and asks states and districts to monitor and evaluate these improvement efforts going forward. It even defines the rigor levels of evidence that can and should be used. The issue is that states and districts are often not accustomed to using data for decision-making and may not have the research capacity to analyze large volume of data in the theory-driven and methodological sound ways. In order to fulfill this obligation, partnering with researchers is one way to address the data use capacity issue; however, successful, in-depth partnership on data use is hard to establish in reality. In this policy brief, we review relevant literature and also use one long-standing collaboration between university-based researchers and Seattle Public Schools as an example. We discuss key procedures of data use that directly translate research into practice and the conditions that are conducive for such process, including but not limited to, the partnership team composition, institutional infrastructure, and partnership activities and routines. We aim to provide first-hand, actionable knowledge on how researchers and district policymakers can directly use research and data in program design and policy decision making.
Introduction

States and school districts are seeking for evidence-based interventions and strategies. This movement has gained momentum in recent years, propelled by the No Child Left Behind of 2001 and especially by the Every Student Succeeds Act (ESSA) of 2015. The term “evidence-based” appears 64 times across the various titles and programs of ESSA, including but not limited to, school improvement, pre-school education, targeted services for at-risk students, and teacher professional development. The non-regulatory guidance of using evidence to strengthen education investments defines four levels of evidence, from “strong,” to “moderate,” to “promising,” to “demonstrate a rationale” (U.S. Department of Education, 2016). This non-regulatory guidance also suggests iterative inquiry cycles for selecting programs and services, then examining, reflecting, and further adjusting existing programs. In this policy brief, practitioners and researchers collectively use real life examples to illustrate how a research-practice partnership has facilitated a district's evidence-based strategies and places.

Evidence-based is an appealing concept to practitioners. A national survey conducted by the National Center for Research-Practice Partnership showed that educational leaders endorsed the idea that data and research can be valuable and useful to practice (Penuel et al., 2016). Thorough research investigation and data analytics will increase the chance of potential success through detailed planning, foreseeing potential risks, and managing them at the beginning, and therefore reduce the odds of failure. Such efforts also add legitimacy to practitioners' work, and therefore, these leaders are in a better position to claim credit for potential success. Even if the program fails, these leaders can still claim credit for being able to communicate about lessons learned or suggest ways to make the program better in future rollout (Kane, 2017).

Although appealing, evidence-based policy processes are far from common in practice. States and districts are confronted with difficulties of using research and data to inform their practices. Many states and districts lack sufficient infrastructure for generating and using research. They either do not have a systematic and reliable database, or they do not have the technology to meaningfully and intuitively display data. They can also be in the situation of “data rich, information poor” in that they do not have the capacity to analyze their existing data, or conduct systematic inquiry (such as field research to understand implementation), or make sense of relevant research generated by external researchers. Moreover, the time lag between conducting research and publication of research make
it less useful to practitioners. Lastly, practitioners often question whether national studies or studies conducted in another context would apply to them.

One plausible solution for the efficient use of research and data is through a successful Research-Practice Partnership (RPP). Researchers have long been customized to generating and disseminating rigorous evidence as defined in ESSA’s non-regulatory guidance, while the rigor of evidence may be new to policymakers. More and more researchers strive to make their work relevant to practice, while practitioners know the real issues and questions and can best judge how useful the research is to practice. It seems a win-win for both researchers and practitioners to collaborate, right? Not quite yet. Successful RPPs need long-term, strategic cultivation.

In this policy brief co-written by researchers and practitioners, we illustrate one RPP between Seattle Public Schools (SPS) and researchers from the University of Washington College of Education (UW COE) and the University of North Carolina at Chapel Hill. This RPP focuses on data use and evidence-based human resources management in SPS. We summarize key lessons we have learned from this long-term collaboration. Research and data generated through this partnership have informed the district’s Collective Bargaining Agreement (CBA), shaped the assessment and implementation of the district’s five-year strategic plan, and informed the rollouts and evaluations of several key human resources programs. We hope that the lessons we have learned can be useful to other school districts or state education agencies in their pursuit of evidence-based interventions and strategies.

**Literature Review and Conceptual Framing**

Our discussion adopts Fowler’s broad definition of policy that includes a dynamic, value-laden process through which a public school system handles an education issue (Fowler, 2000). It includes both districts’ implementation of state and federal policies and their design and implementation of their own initiatives codified in CBAs or approved by the District’s School Board or its Superintendent.

To help us understand the issues in decision making that many school districts face, we draw on the “Garbage Can” theory that describes the chaotic reality of organizational decision making (Cohen, March, & Olsen, 1972). Oftentimes, politicians and educational leaders have their own solutions or
answers looking for problems/issues, and issues and feelings looking for decision situations in which they might be aired. The “garbage can” model symbolizes the choice opportunity or decision situation (for example, a meeting where ideas are discussed and decided on) as a “garbage can” that participants are chaotically dumping problems and solutions into, as they are being generated. The process of how problems, solutions, decision-makers and opportunities merge and policies are generated can be highly due to chance. This process leads to conflicts and incoherent programs and practices, which ultimately lead to inefficiency.

To combat such chaos and irrationality, modernists introduced the notion of effective government actions that are informed by reasoning, and approaches where research, framework, and evidence take the center stage in the decision-making process (Davies et al., 1999; Plewis, 2000). This rational decision-making model sees policy as a purposive course of action in pursuit of objectives based upon careful assessment of alternative ways of achieving objectives and effective implementation of the selected course of action. Rationality is enhanced by also evaluating the extent to which implementation of the policy actually achieves these objectives. The evaluation completes the cycle and provides feedback for improvement; this feedback may start a new cycle of policy processes by suggesting a modified current solution, or a new solution, or a new policy issue (Parsons, 1995; Sanderson, 2002).

Associated with different stages of the policy process, there can be four different types of evidence:

(1) At the issue identification stage, the evidence on the problems and needs that require public policy interventions. For example, do we really have a teacher access issue? In other words, do certain groups of students indeed have a lower likelihood to access to high quality teachers than other students? Are low quality teachers disproportionately located in certain schools than other schools? How severe is this issue? A thorough analysis of the district’s own data, not just based on anecdotal evidence, is critical important to inform the real issue.

(2) At the policy formation stage, the evidence on the likely effectiveness of policy options to inform decisions on what policy actions to take. Let’s say that the district indeed has teacher access issue, should we use financial incentive to redistribute teachers? What are the essential features of a successful program? How much incentive is large enough to change the distribution? Or
professional development that targets teachers in certain schools would be a more effective strategy?

(3) At the policy implementation stage, the evidence on the process of policy implementation that leads to an improved understanding of the problem and the policy program itself. For example, are the essential features of the program implemented in ways as they are designed? What are stakeholders’ reaction to the implementation? What are the necessary conditions or major barriers? What are the initial impacts? What works and what does not in the near term? How could we make an adjustment in the next stage of the implementation?

(4) At the policy evaluation stage, the evidence on the policy effectiveness (comparing to the costs) to inform decisions on whether to continue this policy. Is this policy or program cost-effective comparing to other programs? What mechanisms lead to its effectiveness/ineffectiveness? Should policymakers continue investing in this program?

Our Solution

In reality, there are at least two major barriers for practicing evidence-based policies: one is the notion of relevant “theory”--a systematic, coherent knowledge--that can guide the inquiry process and obtaining of evidence. The second concern is the awareness and use of scientific methods that influence the “robustness” of such knowledge. Our discussion below is intended to illustrate how a successful RPP can facilitate evidence use in one school district’s human resources management.

Partnership Background and History

In the Spring of 2017, SPS and UW COE team started to meet on a monthly basis to discuss a possible collaboration based on mutual interests. We set out to address questions that are not only relevant to SPS practices, but also that can contribute to the foundation of knowledge in the literature. After several initial conversations, in September 2017 the UW team drafted a memo of a variety of possible questions related to HR issues, from teacher hiring and selection, to mentoring and professional development, to evaluation and dismissal. For each possible research area, the memo included three aspects: the current understanding of the issues in the field; what additional
questions that could be asked; and what data and methods were needed to investigate these questions. The memo provided information to assess both the interest and feasibility of pursuing a given research question.

Based on this memo, all partners engaged in several rounds of discussions to further hone our research questions and decide which questions can be answered in the short term versus long term. By November 2017, we decided to focus on beginning and struggling veteran teacher support and development. SPS had just begun to pilot the Peer Assistance and Review (PAR) initiative and was eager to understand more about how it works. The district had some understanding, although anecdotally, about their teacher workforce quality and distribution, as well as differential teacher supports provided by individual schools. However, to better support new policy designs and implementations (e.g., PAR), SPS needed to go beyond these fragmented, less accurate, anecdotal hunches; rather, decision-making needs to be driven by more rigorous, systematic evidence. For the research team, we saw the SPS Data Warehouse and the PAR initiative as rare, fruitful opportunities to enrich the literature on teacher talent management systems and labor policies. Collectively, we decided on a set of research questions that we wanted to explore immediately, such as (a) conducting an evaluation study of the impacts of PAR; (b) examining the status of teacher diversity, teacher effectiveness and retention, and their variation across schools; and (c) strengthening SPS data collection and measurement system. Other questions we saved for the longer-term included discussions of (d) assessing the impact of different pathways to diversifying teacher workforces (such as the Academy for the Arising Educators, the Seattle teacher residency program) and (e) incorporating an equity-centered essay as a tool for selecting equity-oriented teacher candidates.

In January 2018, we established a two-way data sharing agreement (DSA). The DSA articulates our agreed practices of protecting data privacy during data transfer, storage, analysis, and reporting stage. With the two-way data sharing agreement, SPS shares its administrative data, while the UW's Education Policy Analytics Lab (EPAL) agrees to help design and administer surveys and interviews, and share the data (anonymously but with research IDs) back to SPS, as well as to clean administrative and statewide data with SPS. Over the years, our partnership has expanded to other issues that are more prominent to the district at a given time, some of which are illustrated below.
RPP Supporting the District’s Evidence-based Policy Processes

Our RPP focuses on the following aspects in an iterative cycle: issue identification, policy formation, implementation, and evaluation. For each policy process, we use several examples of our RPP’s work to illustrate how we collectively bolster the district’s use of research evidence to inform their practices.

First, issue identification. The RPP supports the district’s analytical capacity to facilitate a rational approach of identifying the real problem that needs policy interventions. This process replaces or combats the chaotic process when policymakers look for an issue to fit their “already conceived” solution or agenda. Using the process of how we identify policy levers of addressing the student achievement gap as an example, anecdotal experience by district leaders suggest that inequitable distribution of teacher quality might be one key source of opportunity gaps in schools. The researchers were able to link teacher coursework with student coursework, as well as other teacher demographics, teacher performance, and student and school information. We were able to examine how the access to teacher quality differs at the course-level within schools, as well as across schools in the district. The other advantage of this partnership is that researchers bring deep expertise in calculating value-added measures of teacher performance, and in forming composite measures of teacher quality in conjunction with other measures including years of certified teaching experience, an indicator for being a national board certified teacher, evaluation rating, and teacher attendance. Regardless of using each individual measure or different approaches of creating composite measures, we consistently found that Title I schools or focal schools serving a larger proportion of African American students had fewer proportions of high-quality teachers. Although these findings are not new in the literature, it has been very useful for the district to see their own data. These findings inform the district to direct resources to teacher recruitment, support, and retention in Title I schools and focal schools. In another example, we examined the patterns of requests for substitute teachers when home classroom teachers were absent. We found that the rates at which their substitute teachers are filled vary significantly across teachers and schools: Black and multiracial teachers’ requests were filled at a lower rate than other teachers, while teachers whose absences were filled at higher rates than their counterparts include teachers with more experience, teachers with higher evaluation scores, active National Board Certified teachers, and teachers with higher value-added schools, teachers in high schools, teachers in non-Title I schools, and teachers in schools
with lower proportions of historically underserved students of color. These types of evidence prompted the systemic examination of teacher absences and substitute teacher requests related to equity, which are codified in the newly re-negotiated teacher’s collective bargaining agreement in summer 2019.

Second, *policy formation*. At this stage, our RPP functions to impede a chaotic decisional culture by interjecting a logical framework for analyzing the likely effectiveness of possible solutions and articulating a logic model (or theory of action). Some examples of such evidence include memos that synthesize literature on the effectiveness of possible policy designs and make concrete suggestions on topics such as teacher performance-based incentives or incentives for recruiting and retaining teachers in hard-to-staff positions and schools. We also shared memos on measurement issues of teacher retention, teacher diversity, and culturally responsive teaching as related to the district’s 5-year strategic plans. Moreover, our RPP also serves the function to help the district systematically conceptualize their program before fully rolling it out. Starting in 2017, SPS started to envision a systemic overhaul of its educator professional growth and support systems by implementing a Peer Assistance and Review (PAR)—which is a joint-labor management strategy between the district and union. Drawing on years of studying PAR programs nationwide and contextualizing PAR program within SPS contexts, the RPP facilitated the development of a PAR logic model that establishes a shared language and framework to plan program implementation, as well as guide the evaluation of PAR programs (such as data collection, data analysis, and interpreting findings, see Figure 1).
Figure 1. SPS PAR implementation and evaluation logic model

Third, policy implementation. At this stage, we practice problem-based, theory-driven iterative data inquiries. Our inquiry is grounded on theories relevant to the policy itself, ranging from areas of effective teaching frameworks (Danielson’s Framework for Teaching, Teaching Tolerance), to teacher professional growth and coaching (effective professional development programs), to teacher labor markets (supply and demand, utility maximization). The researchers on the team take a leadership role in structuring the shared learning with our district partners around an iterative inquiry process. Using the PAR study as an example and based on our PAR logic model, we use four sources of evidence to collect evidence on PAR implementation: the Consulting Teachers’ (equivalent to peer mentors) logs, exit and follow-up surveys for professional development participants, annual teacher surveys, and interviews with both PAR participating teachers and Consulting Teachers. Let us further use log data as an illustration of how we use process data to refine program design for future implementation. These log data were generated by mentor Consulting Teachers throughout the year,
which documented their interactions with each mentee via the date of each interaction, the length of
the visit, and the type of work accomplished (such as classroom visits, learning-focused
conversations, resource gathering, report writing, data conversations, etc.). Researchers then were
able to explore questions of (a) how Consulting Teachers spent their time and the variation of
Consulting Teachers’ practice, (b) how intensive the support provided by Consulting Teachers to each
participant is, and (c) for which type of mentees the Consulting Teachers spent more or less time on
which type of activities. When we contrasted Consulting Teachers’ assessments of mentee teacher
performance with principals’ evaluation scores for the same mentee teacher, findings revealed more
lenient, inflated ratings by principals for most teachers. This finding suggests to the district that, in
future PAR implementation, they will need to more fully integrate evaluating principals into the
process. One immediate step would be to strengthen principals’ ability (via training and other
mechanisms) to provide a more authentic and accurate evaluation for teachers in order to more
appropriately trigger the process of identifying resources for supporting teachers’ growth and exit
persistently ineffective teachers.

Fourth, policy evaluation. Continuing using PAR program as an example, our RPP are currently
conducting data analyses of the year-1 PAR impacts on teachers’ instructional practice, retention, and
absences, and student test scores. We will derive longitudinal, detailed, and quantitative measures
for teacher demographics, professional backgrounds, effectiveness, labor market outcomes, and
working conditions from district and state administrative datasets, as well school and neighborhood contexts from federal administrative data files. We plan to use an approach similar to the essence of interrupted time series modeling to compare PAR teachers’ effectiveness and retention to pre-PAR cohorts of beginning or struggling veteran teachers’ performance and retention rate. To further strengthen the causal inference, we also plan to develop matched samples from other districts as comparisons to the PAR participants. Compared to other ad hoc evaluation studies, the partnership enables researchers to collect rich process data as aforementioned to inform, triangulate, and explain findings from administrative data analysis. In other words, our administrative data analyses may not be the most rigorous design, our rich process data enable us to build a detailed, contextualized portfolio for the program, which better facilitates district decision making.
Conditions that Sustain RPPs and Evidence-based Policy

Literature has discussed extensively about effective RPPs and the necessary conditions for sustaining one (e.g., Booker, Conaway, & Schwartz, 2019; Henrick, Cobb, Penuel, Jackson, & Clark, 2017). Here we will foreground several conditions that are critical for sustaining this partnership and data use in the district.

First, an effective RPP leadership team that values authentic collaborations. We summarize three features of effective RPP team. The first feature is that team members deeply value relevant and rigorous research. All three lead researchers (Sun, Bastian, & Plecki) have a long history of collaboration with one another and have published extensively in beginning teacher growth and support, teacher labor markets, teacher collaboration, and educator evaluation. Importantly, we are always seeking projects that are at the intersection of transformative ideas that can significantly contribute to the literature, use innovative and rigorous methods, and address real, authentic issues in practice. These values are shared by our district partners. Dr. Clover Codd has been an effective teacher, principal, and district administrator. In her senior cabinet-level position overseeing the Human Resources division, she is committed to using findings from this research partnership to inform her practices. She has been working closely with the research partners to develop research questions, interpret findings, and actively participate in the iterative cycle of improvement. She never easily dismissed negative findings or findings that “may make her work look bad”. She is not afraid to admit that “we have a problem in our district” when it comes to supporting teachers of color and improving teacher attendance. The following sentiment summarizes a district leader’s improved experience with data use: “As an administrator who is responsible for thousands of employees, we can so easily be buried into our daily business. I often want to say that ‘I do not have time for this.’ But the [partnership] meetings always turn out to be the most productive use of my time and the highlight of my day.”

In addition, our collaboration extends to other members in the Human Resource Division who are program directors, managers responsible for daily operations of different aspects of HR practices, including Lindsay Berger (the TPEP/PGE program manager), Christopher Drape (Consulting Teacher Manager), Andrew Dillhunt (PAR program manager), and Sheila Redick (Executive Director of HR Strategies and Operations). They have the ability to make immediate reflections and connections of
data and research to their practice, and are not afraid of admitting shortcomings of their practice. They include researchers to their on-going workgroup meetings to plan and co-design programs and measures. They also bring researchers to co-lead difficult conversations within districts of using data to reflect their practices and make adjustments.

The second feature is that an effective RPP needs a broker who facilitates key processes and discussions. As the Director of Research & Evaluation, Dr. Eric Anderson serves this role. He co-sets research goals for this project, refines research questions, facilitates data sharing and analysis, and communicates findings to relevant constituents in the district and community. Most importantly, he meets with researchers biweekly on a regular basis or sometimes several times per week to align the district's interest with researchers' agenda. He often leads the team through uncharted terrains, such as difficult conversations about the deep rooted, persistent race and equity issues. He also navigates the schedules of both researchers and district leaders, and set the pace of different activities; so that the research is timely and relevant to the district’s decision making. This partnership would not have sustained if not without Dr. Anderson’s strategic cultivation of SPS's institutional culture and structure that allows research and data to be crucial part of decision-making.

The last feature we stress here is that team members have flexible boundaries. Although our partnership was set up around PAR, the researchers are willing to adjust our inquiries to attend SPS's evolving priorities, such as measurement issues for their five-year strategic plan around diversifying the teacher workforce and developing teachers' culturally responsive practices. Reciprocally, district partners are also flexible to attend to researchers' new interests and needs. For example, researchers have recently become interested in paraeducators' workforce and working conditions, and the district partners are flexible to support this research agenda.

Second, collective policy and practice engagement internally and externally. Collective dissemination can serve as a useful incentive strategy for all partners. For example, we recently facilitated a joint panel discussion among union and district leaders by using data from the first year of PAR implementation. Participants indicated that the conversation was more powerful, thought- provoking, and in-depth than conversations that would have been facilitated by either the district or union. Externally, we co-write researcher-oriented or practitioner-oriented articles for publication. We co-presented our work to stakeholders in SPS, policymakers in the state and nationwide, as well as to researchers at
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regional and national conferences, such as WERA (Washington Educational Research Association), AEFP (Association for Education Finance and Policy), and APPAM (Association for Public Policy Analysis and Management). These activities incentivize partners keeping working on the issues and document our practice to our best ability so that we can share them with a broader audience. They also help create an accountability mechanism to get work done within a timeframe to meet the deadline of journals and conferences.

Third, the broader resources and culture of promoting data use and support RPP. In recent years, both federal and private foundations have emphasized research-practice partnerships (IES, Spencer, W.T., Arnold Ventures). For example, SPS has won four competitive research-practice partnership grant awards: teacher talent management (IES award #R305H190121, UW PI, Sun; IES Award # R305H150035, UW PI: Michael Pullmann), English Language Learners (ELLs) (IES Award # R305H170019, UW PI: Manka Varghese), and teacher racial equity teams (Spencer Award # 201800074, equal co-PIs Ann Ishimaru, Min Sun, and Filiberto Barajas-Lopez). This history of collaboration with researchers on multiple fronts cultivates SPS as an institution that values research and is interested in growing its capacity of using research in their decision making. Due to these partnerships, SPS’s reform efforts have been co-developed with researchers at UW and nationwide, or drawn on research frameworks (e.g., Bryk et al.’s Networked Improvement Community (NICs), Danielson Framework for Teaching, Hammond’s Culturally Responsive Teaching, Bryk et al.’s Five Essential Supports for School Improvement). Access to these types of resources for both researchers and school districts is probably one of the most instrumental investments in building long-lasting changes in K-12 education systems.
Conclusion

Our experience confirms that the evidence-based requirements in ESSA provide state and local leaders with a powerful lever for pursuing interventions and programs that have better potential to benefit students' learning. In this policy brief, we use our experience to illustrate how to use data and research to bolster more rational decision making at different stages of the policy process, and what conditions sustain research-practice partnership and data use in a school district. We anticipate that some of these lessons can be extended to other educational agencies (such as at state or school), but some may be more restricted to Seattle contexts. We hope this policy brief generates more interests in discussions about ways to promote evidence-based policies and practices.
References


