From *Common-Sense Evidence* (Harvard Education Press, 2020)

INTRODUCTION

Using evidence to make decisions is common sense. Any education leaders worth their salt gather a body of information from multiple sources to shape their choices, from big decisions, like whether to change a mathematics curriculum or expand early childhood programming, to small ones, like how to differentiate instruction within a curricular unit. Research is often an important part of that body of information, but it's not the only component. Local values and perceptions matter. So do financial, legal, and other practical constraints that drive successful implementation.

The rhetoric around evidence in education, however, is anything but common sense. In discussions of evidence-based policy and practice, the word *evidence* is often used to mean a single piece of information from a single study. In contrast, the *Oxford English Dictionary* defines evidence as "Grounds for belief; facts or observations adduced in support of a conclusion or statement; the available body of information indicating whether an opinion or proposition is true or valid."

What's more, evidence-based policy takes too narrow a view of what constitutes important information, often limiting the evidence to studies with methodologies that can convincingly establish whether an intervention "worked." This narrow view of evidence permeates the federal Every Student Succeeds Act (ESSA) and constitutes some of the criteria for inclusion in the What Works Clearinghouse (WWC) sponsored by the US Department of Education's Institute of Education Sciences. But it leaves out a vast amount of valuable information, including what educators observe in their own situations. This limited approach also excludes other types of academic research, such as the brain science that helps us understand how people learn to read or qualitative work that helps explain why a policy or an intervention failed so we can improve our next attempt.

By dismissing the complexity of the challenges that education leaders face and instead promoting technocratic "evidence-based" solutions, education leaders become passive recipients of wisdom from the "experts" rather than key players in creating that wisdom. The reduced role of frontline educators in informing

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educational practice and policy is bad news for students, because only by testing ideas and learning from the results can organizations improve over time. And it's especially bad news for students whose families lack the resources to step in when schools fail them.

We've written this book in response to education leaders who tell us they don't want or need technocrats to tell them what to do. Instead, educators want to improve their schools using the best tools and information they can. Our book meets this authentic demand for evidence. We'll show you how to build research skills that will enrich and diversify the information you draw on. To build these skills, you will need to use the existing research base and learn from your own organizations' work. Common-sense evidence means using a wide variety of information sources in service of students—not using research for the mere sake of being perceived as evidence-based.

We are professional researchers, and we love working with people who want to lead with evidence and would like a little help in learning how. After years of formal training in statistics and research methods, we've each spent two decades conducting our own research, reviewing others' research, and trying to make sense of literatures full of contradictory findings. We have taught graduate and undergraduate courses in education policy, economics, and research methods, and we've spent a great deal of time helping professionals, including education practitioners, policy makers, and journalists, interpret research.

Our research colleagues produce work of great value, and we want to help education leaders benefit from this source of information. But as researchers, we also know the limitations of research. Education leaders need to learn how to determine how relevant and convincing the research is and build their own evidence to inform their work. Contrary to the prevailing wisdom, education leaders and practitioners can indeed engage with "real" research. They don't need to be spoon-fed oversimplified results. We ourselves rely on a streamlined, intuitive process in our day-to-day work, and we think educators can too. And the good news is this: the process relies far less on advanced statistics and more on common sense than you might expect.

THE REAL PROBLEMS WITH EVIDENCE USE IN EDUCATION

Advocates of evidence-based policy have lamented for decades that evidence isn't used enough to guide practice in education. To a degree, they have a point. A recent

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nationally representative survey of school and district leaders from the National Center on Research in Policy and Practice found that only about half of survey respondents agreed or strongly agreed with the statement "I find it valuable to consult education research" or "I look for research studies that might be relevant" when confronted with a new problem or decision.[1] And only 54 percent reported that they "conduct studies on programs we select and implement to see how they work" "often" or "all the time." But bemoaning the problem in light of these statistics misses two key points: the available evidence is less helpful than these advocates imagine, and leaders already use more evidence than the advocates think—just in different ways.

Much of the evidence often viewed as most rigorous isn't as helpful as it could be, because it is divorced from the actual needs of the field. This disconnect arises from the academic community's focus on a narrow, methodologically based definition of quality, which overvalues the technical aspects of research and undervalues relevance. In contrast, most of what we suggest in this book would not meet a top peer-reviewed academic journal's requirement for rigor. Don't get us wrong. All else being equal, we'll take greater methodological rigor over less. But rigor has its downsides. It can limit what you can evaluate, where you can evaluate it, and how applicable what you learn will be in a real-life setting.

One issue with rigor is that programs, often developed by nonprofits or other external vendors, are easier to evaluate rigorously than practices are. *Programs* are based on clearly defined protocols that all participants implement similarly, whereas *practices* are ideas about education that educators can customize to their settings.[2] If we only build evidence on programs, then a push for evidence-based practice morphs into a push for vendor-based practice. That push also leaves out core practices employed in every district—for example, what time to start the school day, how to configure grade spans across schools, and how to assign teachers to classrooms. Changes to these core practices could substantially improve outcomes, often at little additional cost.[3] Further, most research designs evaluate a given program or strategy as if it operates in isolation, when in reality many factors interact in the complex, social process of educating humans.

Rigorous evaluations require resources that many districts lack, such as access to a research professional with substantial expertise. Rigorous evaluations also require a large number of participants, and often a large number of schools. This means lots of research gets conducted in atypical contexts, so the findings might not easily translate to other settings. And when outside researchers, rather than

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education leaders, set the agenda, the outsiders are less attuned to real-world political and fiscal constraints, as well as how things are actually implemented.

All of these downsides suggest that the most rigorous research—the kind most people mean when they talk about evidence-based practice—is designed by and for researchers, rather than for practitioners. The supply of evidence is not meeting the actual demands of the field. So when practitioners say they see little value in research, who can blame them?

Furthermore, education leaders are already incorporating research into the body of information they are using to guide their work. They are just doing it in ways that are hard to observe—even for the leaders themselves—and they could be doing it more intentionally and efficiently. When advocates of evidence-based policy claim that educators don't use research, they have in mind what Carol Weiss, a scholar of research use, would call *an instrumental use of research*: actively consulting research to inform a decision.[4] But Weiss's work and many related studies have demonstrated that research also influences policy and practice conceptually—by shaping ideas and beliefs, providing frameworks for understanding, shifting the options under consideration, and altering the terms of debate.[5] Practitioners who use research in this way may not be able to provide specific citations to the individual pieces of research that have influenced their thinking. Indeed, they may not even realize that research is the source of some of their ideas. But its influence is there just the same. And while much of the existing academic research may miss the mark for education leaders' needs, the popularity of sources like Edutopia and EdReports suggests education leaders are hungry for information on topics related to real problems of practice.

But there's a big challenge. Education leaders are not typically trained in how to evaluate research evidence, let alone how to generate their own. Without building strong research skills, they may unintentionally be swayed by weak evidence, particularly when it confirms what they already believe to be true. Education leaders, like all other humans, are subject to cognitive biases that can limit the range and quality of information they use. Rather than searching rationally for information to answer our questions, we humans are hardwired to be more likely to notice information that aligns with what we already believe and to overlook or dismiss information that is inconsistent with our beliefs.[6] Recognizing this tendency—and knowing how to avoid it—helps leaders avoid being persuaded by faulty data and gain access to the full body of information on an issue, not just what they already believe to be true.

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OVERVIEW OF THIS BOOK

In this book, we'll develop several case studies to show how expert leaders, who are novices to research, use and build evidence. We created these case studies from conversations we have had with education leaders throughout our careers. While none is based on any single educator's story, all the cases are based on real challenges we've seen educators face. They are meant to be realistic examples, rather than exemplars of best practice. We've constructed these examples to show leadership at the school building, district, and state levels, and on three topics (absenteeism, academic performance, and workforce development) to demonstrate how our principles apply across a variety of education settings and issues. We hope that you see a version of yourself and the challenges you face reflected in at least one of the cases.

First we'll introduce Superintendent Rebecca Sisti of the Lincoln School District. Chronic absenteeism rates in her schools—four elementary schools, a middle school, and a high school—are too high. She has been paying close attention to the average daily attendance rates for years, but until this measure was added into the state accountability system, she hadn't noticed how many students were missing 10 percent or more of the school year. The chronically absent students are missing at least eighteen days out of the year—on average, at least two days every month. That amounts to considerable academic content they never have the opportunity to learn. And now the chronic absenteeism rate counts as part of her ranking, and her schools are below average—some of them so far below that they're getting uncomfortably close to the state's criteria for putting a school into turnaround status. She needs to do something, but she doesn't know what. We will present Rebecca's challenges as a case study throughout the book to illustrate what leading with evidence looks like in practice.

We'll also develop the case of Maria Gonzalez, the math department chair in a large urban middle school. In the past few years, she has seen student performance on the state math test drop substantially between seventh and eighth grades. She wants to figure out how the teachers in her department can improve student performance on the eighth-grade exams. Finally, we've created a case around a chief state school officer. He has many rural districts in his state. He often hears from his rural superintendents about their troubles hiring teachers, especially the superintendents' inability to find teachers certified in special education, English as a second language, and physics. He doesn't know how widespread these problems are or what exactly his local leaders are doing to try to solve them—but he knows that they are spending a lot of time talking about it at their regional meetings.

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This book provides concrete steps for seeking out and interpreting research, conducting your own studies, and integrating what you learn. Although we focus on how to use evidence for organizational improvement, we aren't asking you to sign on to a highly standardized or detailed continuous improvement system here. We want to make evidence use intuitive and accessible even to those who don't have the bandwidth for the most sophisticated systems. At the same time, many districts have found value in working with systems such as Plan-Do-Study-Act, the Data Wise Project, and improvement science, so we have structured our approach to be flexible and work in conjunction with them.[7]

We include suggestions to apply your learning at the end of each chapter in the book. The prompts will help you use evidence to think about a problem you face in your work. If you are reading on your own, we encourage you to take a moment and jot down some notes. Each prompt sets you up to continue to the next step. If you are using this book with a group or in a training session, these "Apply Your Learning" sections are good places where you can stop, individually reflect on what you have learned, and then discuss these ideas and findings.

We recommend reading the entire book to start, then returning to relevant chapters as you work. In the real world, this process will be much less linear. You will loop back to the beginning or go through a few steps multiple times, and sometimes you'll be working on multiple steps at once. The nonlinear progress of research makes the ordering of steps somewhat artificial, but the order presented in the book makes the most sense for understanding our approach.

In chapter 1, we start with your problem. We show how to turn a problem of practice into questions that research can answer. We explain why it's important to ask three kinds of questions—to diagnose the problem, assess implementation, and evaluate impact—even though evidence mandates often focus only on questions of impact. Chapter 2 shows how to get started looking for answers when your questions can be answered with existing research. We recommend initially looking for a big-picture overview and then turning to individual studies when you can't find an overview or when you need to dig deeper. Consider nonacademic sources, but follow the money to understand the source and any potential biases. We'll walk through resources like the WWC and Google Scholar and show how to find academic studies for free. When you do need to turn to an individual study, chapter 3 will show you how to pull key information out of it to determine how relevant and convincing the study is for your question. We explain why you don't need to read the entire study and show you what to look for. Chapter 3 also explains how

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to focus on practical significance without being blinded by claims about statistical significance or effect size.

We next turn from our view of what makes research relevant and convincing to how ESSA defines its levels of evidence. Chapter 4 tackles what ESSA says about evidence, as well as what it leaves out, including basic and qualitative research. It explains how ESSA's narrowest definition of evidence applies to relatively few schools and how the law tries to encourage school districts to continuously study their own efforts. Chapter 5 teaches just that: how to learn from your own data. We demonstrate how to make comparisons to answer your current questions, in your own situation, and how to combine comparisons to make them more convincing.

All these answers aren't helpful unless you can interpret and share what you learn, from the existing research and your own data, in an accessible way. Chapter 6 shows how to interpret and communicate your findings, using words and data displays. Still, you may still have some uncertainty. Where will the time come from? How will you get everyone on board? Chapter 7 explains how to build and sustain a culture of evidence use in your organization. Whether you are a beginner, an intermediate, or an advanced research user, you'll learn where to start and what options you have for promoting this culture.

While evidence is critical for improving education outcomes and increasing equity in education systems, it is—and should be—only one of many considerations in your decisions. In fact, that's exactly how our democratic system is designed. It's a feature, not a bug, of our educational system that leaders consider stakeholder perceptions, political concerns, financial constraints, and capacity as they do their work. The approach in this book acknowledges this reality so that you can use evidence in real life.