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DEMOCRATIZING EVIDENCE IN EDUCATION

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In this chapter, we invite readers into a dialogue on how we can collectively democratize the evidence movement in education. Significant strides have been made to build and use evidence in U.S. education over the past 15 years (Tseng, 2016), but these efforts have produced mixed responses to their effectiveness and in the degree of support for them among different stakeholders. Many initiatives have been driven by top-down forces and imperatives, with too little attention provided to the perspectives, expertise, and diversity of people who are concerned with education. All too often, teachers have perceived evidence-based policies as something done *to* them rather than *with* them (Finnigan, Daly, & Che, 2013). Educators more broadly have seen research conducted *on* schools and not *with* them. Those perceptions have contributed to a distrust of data and research evidence and of policymakers' efforts to use them to drive change.

A desire to address these issues is already palpable in the education sector, but many of us are grappling with how to make our work more inclusive. Going forward, we believe that the movement for evidence in education could accomplish much more by aligning our efforts with democratic principles. We must aim for a more engaged and evidence-informed "citizenry" in which different stakeholders can meaningfully participate in the production and use of data and research evidence to inform educational improvement.

What would this mean? In a more democratic evidence movement, the power to define research agendas would be shared among a broader cross-section of researchers, practitioners, decision-makers, and communities. In our current context, research questions often arise out of researchers' discussions and debates with each other in academic journals and at scholarly conferences. Imagine instead a world in which the research questions arose from vibrant back-and-forth exchanges between researchers and educators as they jointly addressed the

roadblocks to teaching and learning. Imagine, too, that parents, students, and community stakeholders had a say in determining the unanswered questions that future research should address. And what if the demand for evaluation was not driven primarily and punitively by policymakers but by educators seeking knowledge to enhance their professional work and by parents and community groups invested in improving education? Setting research goals would become less an academic exercise or a policy mandate and more a matter of deliberation, negotiation, and compromise among diverse stakeholders. The process would likely be messier and less efficient, but it would also yield more meaningful agendas.

When it came to evidence-informed decision-making, research and data would not just be a tool for policymakers; evidence would also be accessible to community organizations, parents, students, and the broader public as they seek to drive change in education. There would be a stronger focus on developing a shared understanding of what the research says and what its implications are for practice and policy. Of course, disagreements will remain about values, the proper role of government, and where to direct resources. Data and research evidence cannot resolve those debates, but they can be tools for forging consensus about the problem at hand and the likely outcomes—both intended and unintended—of moving in particular policy directions.

In this chapter, we discuss why it is important to democratize the evidence movement in education and the urgency of tackling it now. We offer our views on what a more democratic evidence system could look like in action by focusing on shared values; redefining relationships, roles, and professional identities; and putting in place new practices and structures. For the purposes of this chapter, we focus intensively on researchers and practitioners, but we see them as only two sets of stakeholders within a broader democratic movement. For work on community stakeholders, we refer readers to Kirshner, Pacheco, Sifuentes, and Hildreth (Chapter 6, this volume).

Why Democratize the Evidence Movement? Why Now?

It is commonly believed that more or better evidence and greater science literacy could settle disagreements. According to recent studies in cognitive and social psychology, however, the primary source of controversies is not a lack of information or a feeble ability to understand it, but differences in people's "goals and needs, knowledge and skills, and values and beliefs" (National Academies, 2017, p. 3). Taken in this light, how evidence is produced, debated, and communicated is as important—if not more so—than having the right evidence or having sufficient evidence.

Researchers Matthew Feinberg and Robb Willer (2013) found that tapping into people's preexisting beliefs influences their support for specific policies. In an experiment, they tested whether using images that resonate with conservative values could increase skeptical Republicans' support for climate change policies. Conservative individuals were shown images of the consequences of climate

change; some saw images that tapped into conservative beliefs about purity (e.g., once-pure water contaminated), and others saw images that invoked liberal beliefs about protection from harm (e.g., a coral reef system harmed by global warming). Climate change skeptics who saw images that appealed to their conservative beliefs reported greater support of climate change policies than those who saw images that appealed to liberal beliefs. The alignment of the message with the viewer's belief system mattered.

Similarly, Dan Kahan and his colleagues (2012) set out to investigate why good evidence isn't more effective in resolving disagreements. The researchers surveyed the attitudes and beliefs of 1,000 Americans, then administered a test to evaluate their math skills, and finally presented them with various scenarios that required them to use those skills to evaluate information and make a recommendation. When the scenario was related to an issue on which participants did not have strong views, their math skills predicted their answers. That is, participants with stronger math skills were more likely than those with weak skills to make the right recommendation. However, when the scenario was related to an issue for which participants held strong views, math ability ceased to be predictive of how well they did. In fact, people with stronger math skills were *less* likely to make the correct choice when such a choice conflicted with their beliefs.

Like Feinberg and Willer (2013), Kahan and colleagues (2012) concluded that the problem was not one of needing more information or a stronger ability to judge it. Instead, the researchers attributed this phenomenon to the ways people's preexisting beliefs influence how they process information. In general, individuals want to avoid the tension that arises when they confront information that conflicts with their beliefs. It is much easier to resolve this tension by changing how you look at a specific piece of evidence rather than by changing your beliefs or how you look at the world.

It might be tempting at times to see the world as divided between those on the evidence side and those outside it, but the studies just discussed suggest that this distinction might be more situational. It depends on the issue at hand, the specific context, and people's beliefs. Rather than staking out "sides" for or against evidence, we may be better off broadening and opening up the evidence movement to account for real-world complexities and the ways people's beliefs and values influence their positions on social issues. There must be room for different stakeholders to participate in building and using evidence to improve education.

Evidence as Weapon Versus Evidence for Dialogue

The need for the evidence movement to become more democratic is urgent because of increasing concerns about the political motives behind research and its use:

You know, you can find research to support anything. The problems we have in our society today . . . People are now using research to say that all the

problems are the teacher, and if you can correct the teacher, all our problems go away, which is ridiculous. . . . The point is research can be slanted to support many different viewpoints.

(Daly & Finnigan, 2011)

This view of research as a political weapon is not inevitable. In *Teaching in Context*, Elaine Allensworth (2017, pp. 156–157) explains how evidence can also be used to facilitate productive conversations:

In 2009, schools in Chicago started using data on early warning indicators in the ninth grade to help students have a strong transition to high school and keep them on track to graduation. Before this, conversations in schools about issues around dropout often focused on factors other than student course performance. School staff considered dropout and course failure to be problems that were outside of their control, that stemmed from students' lives outside of the school. By focusing attention on students' grades and attendance, conversations became about how students were performing in school and what school staff and parents could do to support better attendance and performance in classes, rather than trying to fix problems outside the school, such as crime and teenage pregnancy. . . . By keeping the focus on data related to outcomes everyone cares about for the student, . . . conversations can move away from finger-pointing about who is to blame for problems at school (the student, the parent, the teacher) to making plans for improving how students are actually doing in school.

As this example suggests, research evidence can be used as a tool for productive dialogue rather than as ammunition to take down another argument. Research can help different stakeholders come to a shared understanding of the problems that they care about and to jointly determine the productive directions to take and the solutions to try out. But to have these kinds of dialogues, we need to reenvision the relationship between the research community and other stakeholders and we need a different infrastructure for connecting research, policy, and practice (Tseng & Nutley, 2014).

Some might think that this is a particularly challenging time with regard to science. There has been extensive commentary and debate about whether we are in a post-truth, post-fact, post-evidence environment (Brown, 2016; Stewart, Dubow, Hofman, & van Stolk, 2016). These challenges are all the more reason to reflect on where we have been in our evidence work and where we want to go. In this time of uncertainty and reevaluation, a window of opportunity has opened for redefining the role of education research in policy, practice, and broader public discourse. There are related efforts led by organizations around the world, including Sense About Science, Evidence for Democracy, the African Institute for Development Policy, the Alliance for Useful Evidence, and the Scholars Strategy

Network. How we come out of this period will depend a great deal on whether we use this as a time to consider alternative ways of thinking and working or whether we retrench.

Democratizing Evidence in Action

What will it take to achieve a more democratic evidence system, where diverse stakeholders have a voice in both the production and use of research evidence? A democratic political system is bolstered when there are respectful relationships, shared values, well-defined roles and identities, and a supportive infrastructure. In the sections that follow, we discuss how we might rethink these same elements to create a more democratized evidence system.

About a decade ago, the second author attended a meeting bringing together district administrators and educators with education researchers to learn about promising school improvement approaches. The meeting started well, at least from the researchers' perspectives: After all, they were able to present the latest research evidence on school improvement to practitioners. Soon, however, the meeting degenerated into recriminations against the research side and the practice side. The practitioners complained about being dragged to "yet another meeting" at which researchers presented irrelevant studies and then told practitioners what to do. In turn, the researchers expressed frustration and disdain that educators neither read nor used their research. This disagreeable dynamic went on for a day and a half.

This all-too-common story illustrates how important it is to foster productive relationships and to work toward shared values. Educators too often feel like second-class citizens, spoken down to by research "experts" in these mixed-role settings. Researchers who care about education and feel their work could benefit educators are frustrated that they are distrusted. In this environment, the parties are at an impasse, and forward movement is all but impossible.

One of the more important benefits of a democratic system is that it can help a diverse citizenry reconcile differences in a peaceful manner, enabling collective action and progress. To democratize evidence, we must bridge the different perspectives and interests held by various stakeholders in our education system. We need to recognize the interdependencies of different people—teachers, administrators, parents, students, policymakers, and researchers—and the varying roles they play within our education system.

Building Relationships

If researchers disrespect educators—for example, by assuming that they disregard research evidence in their teaching—and, in turn, if educators disparage researchers as "ivory tower" intellectuals who produce nothing of practical value, then we cannot build a system in which evidence informs change. Fortunately, there's a

lot to build on in developing more constructive relationships between educators and researchers.

Across the country, we are witnessing an emerging field of research–practice partnerships (RPPs) in education (Coburn, Penuel, & Geil, 2013). As the recently formed National Network of Education Research–Practice Partnerships describes, these efforts are “long-term mutually beneficial formalized collaborations between education researchers and practitioners” that focus on “producing more relevant research, improving the use of research evidence in decision making, and engaging both researchers and practitioners to tackle problems of practice” (National Network of Education Research–Practice Partnerships, n.d.).

If the key to success in real estate is “location, location, location,” then the key to effective partnerships is “relationships, relationships, relationships” (Barton, Nelsestuen, & Mazzeo, 2014, p. 2). While robust relationships among researchers, educators, and policymakers certainly exist outside of RPPs, these entities have codified some of the relational elements that foster success. Chief among them is *mutualism*, a commitment to “sustained interaction that benefits both researchers and practitioners” (Coburn et al., 2013, p. 3). Partnerships depart from the typical ways researchers and practitioners work together wherein one group or the other sets the agenda. For example, “collaborative” work often entails researchers reaching out to practitioners because they need a site to conduct their studies or practitioners contracting with a researcher to fulfill specific technical needs. While there may be some negotiation around the work, those adaptations are often made around the edges, and the project goals do not rise to the level of being co-defined. In RPPs, there is a commitment to jointly setting the research agendas and the projects that stem from them (Coburn et al., 2013).

Working Toward Shared Values

Identifying shared values can provide a foundation for productive relationships. Values that we think are necessary to promote a more democratic evidence system fall into three categories: interpersonal (values regarding social interaction), scientific (values that support rigorous research evidence), and civic (values that promote democratic engagement). In the next sections, we discuss these mutually reinforcing values and the relationships they can generate.

Interpersonal Values

Three interpersonal values stand out in building a more democratic system: respect, humility, and curiosity (see also Palinkas, Short, & Wong, 2015, for a discussion of intra- and interpersonal characteristics). Of these three values, mutual respect is perhaps the most fundamental. In a functioning evidence system, researchers and practitioners respect what the other brings to the table. Respect can engender trust, and trust is the glue that holds relationships together and makes collective action possible, even when disagreements arise.

Humility is also vital given the enormous complexity and difficulty of educational improvement. With humility, researchers and practitioners can acknowledge the limitations of what they “know,” remain open to the possibility of being wrong, and be willing to learn and improve their own knowledge and work over time.

Finally, everyone in the democratic evidence system must remain curious about each other, about the work, and about whether there are better—but unexplored—ways to improve education. Educators cannot shut their classroom doors and look only to their own experiences, without consideration of external sources of evidence, to guide their actions. Researchers too must look beyond academic walls and consider how their work can be more relevant to improving education.

Scientific Values

Core scientific values such as a commitment to systematic observation and analysis, appropriate skepticism, and openness to alternative hypotheses must also be widely shared if we are to build a more democratic evidence system. A National Research Council report (2012, p. 3) observes that science “is a process of producing knowledge directed by systematic and rule-governed efforts that guard against self-deception—against believing something is true because one wants it to be true.”

Nearly 15 years ago, Paula and Keith Stanovich made the hopeful observation that the values of science are well aligned with those held by educators. They wrote, “Researchers and educators are kindred spirits in their approach to knowledge, an important fact that can be used to forge a coalition to bring hard-won research knowledge to light in the classroom” (2003, p. 35). In their experience, educators

believe that some explanations and methods are better than others. . . . They believe that there are valid, if fallible, ways of finding out which educational practices are best. Teachers believe in a world that is predictable and controllable by manipulations that they use in their professional practice, just as scientists do.

(Stanovich & Stanovich, 2003, p. 35)

Maintaining skepticism about what we think we know and openness to alternative hypotheses are important values that science can contribute to education decision-making. We do not presume that it will be easy. As Stanovich and Stanovich (2003) acknowledged, it is challenging for educators and policymakers—and researchers themselves—to adhere to these scientific values. The authors observed:

[Some] educators reject public, depersonalized knowledge in social science because they believe it dehumanizes people. Science, however, with

its conception of publicly verifiable knowledge, actually democratizes knowledge. It frees practitioners and researchers from slavish dependence on authority. . . . Empirical science, by generating knowledge and moving it into the public domain, is a liberating force.

Civic Values

The civic values of dialogue, negotiation, and optimism also need to be mobilized to support a more democratic evidence movement. Dialogue is necessary for the resolution of difference. It allows researchers, practitioners, and other stakeholders to come to an understanding of others' viewpoints, and that knowledge is critical for defining research agendas that matter to a broad public. Dialogue is also critical for interpreting research findings. Research evidence never speaks for itself: human beings must always make sense of what research results mean for particular problems at hand (Honig & Coburn, 2008; Tseng, 2012). Researchers bring to that dialogue an analysis of what constitutes more plausible versus less plausible conclusions that can be drawn from studies, given the methods and designs that were employed. Practitioners also need to be at the table to consider plausible explanations because they have the experiential and practical on-the-ground knowledge of what is possible.

In a diverse democracy, negotiation is always necessary. Disagreement is inevitable, but negotiation and compromise allow diverse stakeholders to forge a path forward. Transparency is also key because stakeholders must be able to appraise and comment on the evidence upon which decisions are based (O'Neil, 2016; Sense About Science, 2016). As researchers and practitioners deliberate over research priorities or the policy implications of research findings, there must be a give-and-take. How democratic societies—and a democratic evidence movement—navigate, deliberate, and negotiate those differences is critical.

Finally, democratic societies are often characterized by optimism and faith in the future based on confidence that, if given the chance and the necessary tools, people who are affected by a problem can also resolve it.

Redefining Professional Roles and Identities

Closely related to the values and relationships that are required to build a more democratic evidence system are the new professional roles and identities that must be assumed. In our vision of a more democratic future, researchers are not the exclusive producers or arbiters of empirical knowledge. Educators are not simply the willing or unwilling consumers of this knowledge. Both groups assume responsibilities in developing and using evidence. Doing so does not deny the significance of experts: Researchers have expertise in scientific methods, just as educators have expertise in teaching. But the boundaries of expertise do not need

to be rigidly defined. In a democratic evidence movement, roles would be more fluid and there would be room for different forms of participation. Some teachers want to deeply engage with research, and others prefer to be consumers of the findings. But all would gain from a system in which teachers' collective voices shape research agendas and the policy priorities that stem from the findings.

Researchers will also need to reconsider their roles, and not all researchers will choose the same form of participation. Some researchers will want to work side by side with teachers to improve practice while others will prefer to stick with doing research in their offices. The more important point, as Fleischman (2014, p. 23) observed, is that “complexity, and the stubborn entrenchment of many critical social issues, requires [researchers and] evaluators to rethink their roles. Evaluators should consider behaving as co-developers, ‘critical friends,’ informants, and conveners, rather than experts with all the answers or equivocators with no solutions.” Although there are only a few places that prepare researchers to take on these collaborative roles, resources to support role redefinition are increasing. For example, researchers at the University of Washington Institute for Science and Mathematics Education outlined core operating principles for researchers working in RPPs (Bell, Rhinehart, & Peterman, 2015):

- Act as a thoughtful and responsive sense-maker.
- Work to build interpersonal relationships with teachers and students, and be transparent in your work.
- Co-design, co-teach, and co-research in response to problems of practice.
- Understand and work within the realities, needs, and demands of classrooms and educational systems.

In a new book, Penuel and Gallagher (2017) suggested additional ways that researchers can support educators' work: surfacing tensions between the central office and schools, identifying those people who need extra help, brokering relationships to other researchers, and identifying funding opportunities.

Educators will also need to take on new roles, identities, and skills as we democratize the evidence movement. For practitioners, the core operating principles for working in RPPs might include the following:

- Remain open-minded about the value of research, and ask questions when the findings go against your instincts; help researchers identify potential blind spots by sharing your expertise and knowledge of the local context.
- Demand training on how to use research and data to improve your practice, your school, and the teaching profession.
- Communicate your needs to researchers, allowing time and space for the back-and-forth engagement.
- Learn about the constraints under which researchers operate and work with them to build better infrastructures and incentive systems.

Intermediaries will need to reimagine their roles as well. Well-meaning consultants often end up working on the wrong problem, misunderstanding the client organization's culture, or ignoring the possibility that constant change can make today's solutions obsolete tomorrow. In *Humble Inquiry* (2013), Edgar Schein outlined a new approach. He argued that consultants and coaches must jettison the old idea of professional distance and work with their clients in a more personal way, emphasizing openness, curiosity, and humility. Schein showed how to create an atmosphere of trust and caring so that clients can share what is on their minds. Consultants and clients can then jointly discover what needs to be done. Working together from the outset also speeds things up; it obviates the need for elaborate diagnostic tests and avoids solutions that might look good on paper but don't fit an organization's on-the-ground reality.

Building a New Infrastructure Focused on Learning

Producing and using evidence simply to sift through what works and what doesn't is a recipe for disappointment (Tseng, 2016). The evidence democracy we espouse here would shift our research priorities and structures from a focus on "proving" to "improving." It would harness various types of evidence from a rich array of sources, and it would be supported by an infrastructure geared toward learning and continuous improvement.

A learning system will need to facilitate ongoing, seamless engagement between researchers, practitioners, and policymakers around research, data, expertise, and experience (Tseng, 2015). Additionally, it will need to foster engagement within agencies across research and program departments, across actors at varying levels, and in the broader ecosystem, which includes parents and community members. Smart incentive systems, cross-functional agency teams, intermediary organizations, and RPPs can all be elements of that infrastructure.

This new evidence democracy would also require its own version of civics education. As suggested earlier, both researchers and educators will need new kinds of learning opportunities, either in their professional training or in-service, so that they can perform their new roles well. Some practices that have emerged through RPPs may become standard operating procedures of this infrastructure and shape other kinds of researcher-educator relationships. For example, the University of Chicago Consortium on School Research has, since its inception, followed a "no-surprises" policy with its partner, the Chicago Public Schools, such that "the school system is always made aware of the contents of Consortium reports prior to public release" (Consortium on Chicago School Research, 2007, p. 9). This allows the agency to prepare a thoughtful response rather than scramble in the middle of a media frenzy. Many of these partnership practices are codified through formal charters, operating principles, and memoranda of understanding, which should facilitate their application by others.¹ As technology advances, digital tools and social media platforms are also providing new ways of codifying and facilitating partnership practices (see Garcia and Hunt, Chapter 11, this volume).

Finally, we need to build new structures while tearing down those that impede an evidence democracy. Both RPPs and labor-management collaborations (LMCs) are undergoing robust development (Rubinstein & McCarthy, 2016; Tseng, Easton, & Supplee, 2017). Whereas RPPs bring researchers and local or state education agencies together, LMCs take place between school districts, unions, and sometimes businesses and community organizations. Both forms of partnerships seek to redefine relationships that are conventionally in tension or distanced from one another. RPPs put practitioners and researchers on equal footing in defining research agendas, and LMCs contest the notion that labor-management relations must be adversarial. Both are long-term ventures bringing together diverse stakeholders with unique as well as shared interests to jointly identify priorities and goals, as well as ways to accomplish them. The RPP movement has already organized 23 partnerships through the National Network of Education Research–Practice Partnerships. Other organizations, such as the Research + Practice Collaboratory, the Carnegie Foundation for the Advancement of Teaching, and the Strategic Education Research Partnership, also promote and connect RPPs.

The federal government has played a central role in developing this infrastructure. The Institute of Education Sciences of the U.S. Department of Education has demonstrated leadership in creating and repurposing structures to encourage a more democratic evidence system. Its Regional Educational Laboratory program has supported more than 70 partnerships across the nation. The Institute’s National Center for Education Research has created two national knowledge utilization centers and initiated grant programs that promote RPPs. The National Science Foundation has also supported design research partnerships focused on STEM learning. Looking ahead, further structural enhancements to federal research and evaluation agencies and offices would give other education stakeholders an increased voice in setting research priorities by requiring their participation on advisory boards for research and technical assistance projects and structuring an effective process for joint deliberations.

Conclusion

Efforts to improve the production and use of research evidence in education have made great strides in the past two decades, but the potential for research to inform educational improvement is still largely untapped. Top-down structures that have incentivized proving over improving—and that have focused on narrow definitions of what works rather than broader conceptions of what matters to diverse stakeholders—have fueled misconceptions and recriminations in the research, policy, and practice communities. It is difficult to imagine a productive way forward if we do not build more productive relationships, work toward shared values, rethink our professional identities and roles, and build an infrastructure that leverages the best research has to support learning.

In a more democratic evidence system, practitioners, parents, students, community stakeholders, and researchers would jointly influence the ways research is

carried out, and they would participate in deliberations over the findings and their implications for educational improvement. From the definition of policy problems and research agendas through to the implementation of initiatives, diverse stakeholders would be at the table, and they would still be there to assess what's working, what isn't, and what needs to be improved. If we can engage with this diverse array of expertise and perspectives in education, the evidence movement's best days may well be ahead of us.

Looking to the future, we hope that readers will join us in bringing about a more democratized evidence movement to improve education for all students.

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Note

- 1 See the William T. Grant Foundation Research–Practice Partnerships website: rpp.wtgrantfoundation.org

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