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Using evidence
in the US

Vivian Tseng and Cynthia Coburn

Introduction to evidence use in the US

Research-based evidence has an important role to play in many sectors in the US, including healthcare, mental health, child welfare, employment, environmental management and criminal justice. However, it is in education that many of the evidence debates are sharpest. In this chapter we focus on the use of evidence to shape public education in the US.

In many ways, we are at an inflection point in the use of evidence in US education. Since the early 2000s the 'what works' agenda (more often capitalised as What Works) has been the dominant framework for driving the use of research and data in education policy making. Unlike in most countries, the agenda has been characterised by a strikingly narrow focus on evidence of the impact of interventions (that is, did it work?), and has neglected a broader set of concerns including the need for interventions and wider system issues. In contrast, the evidence-based education agenda in the UK (see Chapters Seven and Thirteen) has focused on a wider range of issues, such as addressing cost and implementation concerns, as well as seeking to engage teachers and school leaders at all stages of research development, synthesis and use.

In this chapter, we take stock of where we are in the what works agenda in the US, and provide some reflections on future developments if our goal is to create more research-informed education policy. Although the narrow agenda since the early 2000s has left an indelible footprint, other developments have risen to the fore in national conversations: developments in the learning sciences (a new subfield at the intersection of learning and cognition), alongside broader insights from the continuous improvement movement and from studies of research use. As these various streams of work come together, the possibility emerges of building more robust mechanisms and

infrastructure for producing and using research evidence to address a range of pressing problems of practice and policy, and to do so in ways that promote local ownership. This melding of influences also raises the potential for evidence-building and evidence-use efforts to be more collaborative – bringing research, practice and policy communities into closer alignment around a shared goal of educational improvement.

In what follows, we explore the evolving debates about what counts as evidence, how such evidence is produced and synthesised and which strategies are showing promise for encouraging and enabling more ready use of evidence.

The nature of evidence

What counts as evidence in US education has been hotly contested, but definitions built into federal policy have had a strong influence. Soon after the turn of the millennium, two major pieces of federal legislation shaped the debate about what constituted evidence, and created the influential Institute of Education Sciences (IES).

The No Child Left Behind (NCLB) Act

The NCLB Act (2001) ushered in a new era for the use of research and data in US education. More than ever, data and research were elevated as key levers for educational improvement (Honig and Coburn, 2008). Schools and districts would be held accountable for student- and school-level performance on standardised tests in reading and math. Furthermore, weighty stakes would be attached to schools' performance: failure to meet performance targets would result in an escalating series of sanctions, from being placed on a watch-list to wholesale restructuring of schools.

In the NCLB Act, Congress introduced the term *scientifically based research*, defining it as 'research that involves the application of rigorous, systematic, and objective procedures to obtain reliable and valid knowledge relevant to education activities and programs'. Although the definition included 'methods that draw on observation or experiment', the law also called out a preference for random-assignment experiments. Thus, not only were legislators defining what constituted rigorous research, but they were also singling out a particular research design (see Chapter Eleven for a broader account of what counts as evidence). In addition, the Act linked the use of federal funds to the selection of programmes that were 'scientifically based'. Reading First (Box 17.1), a competitive state grant programme intended to assist

low-income, low-performing schools in raising reading achievement, was an early example of this linkage. So potent were this legislation and the administrative actions that followed that in subsequent years the term 'evidence' would become synonymous with RCTs in some education policy and practice circles.

In the NCLB era, the what works agenda was grafted onto a top–down accountability framework. This most recent push for accountability, as in past versions, was characterised by a drive towards centralisation, standardisation and control as the rational means for bringing order, effectiveness and efficiency to the 'soft and undisciplined field' of education (Mehta, 2013, p 5). Data and research evidence were seen as key tools to accomplish these aims.

The Education Sciences Reform Act and the Institute of Education Sciences

In short order, Congress also passed the Education Sciences Reform Act (ESRA) of 2002, signed into law by President George W. Bush. As with NCLB, evidence-based policy advocates found much to celebrate, and President Bush described ESRA as 'an important complement' to NCLB that would 'substantially strengthen the scientific basis' of classroom teaching (Rudalevige, 2009). The Act also created the Institute of Education Sciences (IES), a research arm

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Box 17.1: The Reading First programme

The Reading First programme was part of the NCLB Act. It was a leading example of the promotion of programmes identified as research based. To receive funds under this programme, states had to develop plans for increasing teachers' use of scientifically based instructional approaches by adopting scientifically based curricular materials. Reading First invested heavily in monitoring teachers' use of these materials and approaches, requiring that states provide guidance for teachers and monitor their practice to ensure fidelity of implementation. Teachers in many states experienced this approach as an assault on their professional judgement, leading to resistance (Achinstein and Ogawa, 2006; Kersten, 2006; Kersten and Pardo, 2007). There were also widespread complaints about the 'Open Court police' – those who monitored the implementation of a widely adopted programme in support of Reading First called Open Court. The approach to scientifically based research in Reading First was particularly intense, but similar approaches were built into a range of federal policies.

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of the Department of Education, which was to become influential in shaping what counted as robust research in US education.

While the ESRA legislation left room for research priorities 'focused on understanding and solving particular education problems and issues', the IES evolved to concentrate on evaluation questions (ESRA, 2002, s115(a)), and RCTs were heralded as the 'gold standard' for assessing intervention impacts. While it is not entirely clear why what works evidence gained such prominence, one potent influence came from medicine (Haskins and Margolis, 2015). A common narrative among evidence-based policy advocates was that the widespread use of experiments was what enabled medicine to become an evidence-based field, and, if other fields were to become evidence-based, then they too should embrace experimental methods. Like analogous agencies in human services, justice and labour, the IES's focus on what works questions and RCTs was codified in agency funding priorities and programmes. For example, the IES structured its funding scheme as staged models that resembled the phases of clinical drug trials. The first step involved exploratory research; in the second stage, the findings would be used to develop interventions to improve student outcomes; and subsequent stages then tested the efficacy and effectiveness of the interventions in increasingly larger experimental trials, in more sites and under less controlled conditions.

Structures for the production and synthesis of evidence

In support of this emphasis on a particular type of research question and the associated research design, the IES championed focused capacity building. It provided large-scale investments in training pre- and post-doctoral students to conduct RCTs. Moreover, the agency launched the What Works Clearinghouse, a web-based repository to synthesise and report evidence on the effectiveness of educational interventions. Other government agencies also developed clearinghouses, including: the Department of Justice (Crime Solutions); the Substance Abuse and Mental Health Services Administration (National Registry of Evidence-based Programs and Practices); the Office of Juvenile Justice and Delinquency Prevention (Blueprints for Violence Prevention); and the California Clearinghouse for Evidence-Based Practice in Child Welfare. The IES's work was a leader in a nation-wide effort to document and promote experimentally 'proven' interventions.

Professional associations also supported this movement. The Society for Research on Educational Effectiveness (SREE) and its *Journal of Research on Educational Effectiveness* were established to further the

cause of more rigorous (read: experimental) evaluations in education. The Society for Prevention Research – a professional association of researchers 'committed to identifying and disseminating the most effective ways of preventing problems of human behavior' – established standards of evidence for identifying interventions that fit the stages of *efficacy*, *effectiveness* and *dissemination* (Flay et al, 2005: p 152) and, for a time, conference presentations were organised by these stages at the organisation's meetings.

Given the intensely partisan politics in the US, it is significant that the what works agenda enjoyed considerable support in both the Republican Bush administration and the subsequent Democratic Obama administration. Under Bush, the Office of Management and Budget (OMB) created the Program Assessment Rating Tool (PART; Box 17.2) and required that federal agencies use it to gauge the effectiveness of government programmes. In support of this, and amid concerns about lack of rigour in assessing effectiveness in this process, the Coalition for Evidence-Based Policy developed additional guidance for federal agencies identifying RCTs as the strongest method for assessing effectiveness (Owen and Larson, 2017). The Coalition went on to conduct reviews of programme evaluations in various areas and organised training workshops on RCTs. Language that prioritised random assignment evaluations increasingly appeared in OMB policy, regulations and guidance on budget scoring, as well as in congressional appropriations (Gueron and Rolston, 2013; Owen and Larson, 2017).

Building on that work, the Obama administration furthered the what works agenda by linking evidence of intervention effectiveness directly with funding decisions. Under Obama, the OMB expanded its work with PART and called for rigorous evaluations that could focus government funding on what works. The financial crisis of 2008, and the period of austerity that followed, allowed policy makers to attach stronger incentives to evaluation evidence. In laws passed during and after the recession, the federal government invested over US$6 billion in 'tiered evidence grant making initiatives' (Box 17.2). In a tiered evidence design, interventions with more rigorous evidence of impact were eligible for the largest grants, while those with less rigorous or emerging evidence were eligible for smaller grants (Haskins and Margolis, 2015).

Over this period, then, the evidence agenda was advanced nationally by legislative reforms, government agencies and professional organisations. At the heart of these shifts lay ideas about the primacy of what works questions, RCTs as the strongest research design for

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Box 17.2: Federal programmes to encourage what works

The Program Assessment Rating Tool (PART)
PART was developed under the US Office of Management and Budget (OMB) to assess and improve programme performance. PART reviews were intended to identify programme strengths and weaknesses so as to inform funding and management decisions aimed at making the programme more effective. The PART tool deployed 25 to 30 questions across four categories: programme purpose and design; strategic planning; programme management; and programme results.

Tiered-evidence grant making
'Tiered-evidence grant making' was a strategy designed to direct federal funding to states, localities and non-profits to support effective interventions. Larger funds were awarded as the rigour and extent of evidence on programme effectiveness was established, and smaller pots of money were available to those having less rigorous evidence (Haskins and Margolis, 2015). This strategy was used not only in education, but also for community-based programmes, workforce development and international assistance.

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producing evidence on those questions and the need for strong push efforts to disseminate evidence–based interventions across the nation.

Early and on-going critiques

While the what works movement greatly increased the rigour of research on the effectiveness of education programmes and practices, the movement has not lacked critical friends or even dissidents. The approach generated controversy among researchers who were concerned that the movement privileged a narrow range of research questions and designs. Early critics argued that a narrow focus on causal inference excluded other methodological approaches that can inform educational improvement. Erickson and Gutierrez (2002) contended that efficacy studies in the absence of studies of implementation provide little information on how or why an approach is successful, and little guidance for implementing programmes at scale. Bryk and colleagues (2015) maintained that it was unlikely that efficacious programmes would be widely implemented without the structures and processes that enable practitioners to learn how to implement them in local contexts, problem–solve issues that arise and share knowledge across sites. Others expressed concern that questions about staffing, costs and

funding were also left largely unanswered (arguments that are echoed in Chapters Ten and Eleven).

Practitioners too raised concerns. Programme adoption decisions are relatively rare, and many practitioners regarded research on ways to improve existing systems and practices as being more valuable (Yohalem and Tseng, 2015). In addition, local decision makers were interested in knowing whether interventions would work in their contexts and with their students, and experimental trials too rarely provided that information. Moreover, some worried that a focus on adopting programme models contributed to a search for 'silver bullet' solutions, at the expense of steady incremental improvement. Perhaps the most significant tension arose with teachers, who felt at the mercy of federal policy makers in Washington, DC – actors far removed from the day-to-day work of schools. Consequently, teachers and service providers sometimes perceived evidence as something done *to* them, and not *with* them.

Supporters of the what works agenda also called for course corrections as the field matured. In an address to the SREE, Hedges (2018) noted the lack of information on the generalisability of intervention impacts and called for more research examining variation in intervention effects, as well as better matching of the research approaches to the intervention complexity. Others, responding to the expense of large-scale experiments or the frequency of null findings, argued for different approaches: lower-cost experiments that capitalise on administrative data (Coalition for Evidence-based Policy, 2012), mechanism experiments (Knowles and Ludwig, 2013), designing descriptive and experimental research in novel ways (Hill et al, 2013).

Fractious debates over evidence often pivoted around the centrality of RCTs and top-down policy directives. But, over time, there has been a gradual softening of some of these divisions and a widening acknowledgement of the need to address a greater diversity of questions, which in turn call for other research designs and methods. There has also gradually been recognition that getting evidence used remains an enduring challenge.

Key approaches to encouraging and enabling evidence use

As the what works agenda was ascending in federal policy, other efforts were brewing to reconfigure the relationship between research and practice. Whereas the what works policy framework was undergirded by the centralising forces of the federal government (Mehta, 2013; Haskins and Margolis, 2015), other approaches were initially more

bottom-up and organic. Advances in studies of research use (for example, Nutley et al, 2007), progress within the learning sciences and new continuous improvement research and research–practice partnerships all provide the inspiration for a new framework for building an evidence-informed education system.

To be clear, a new framework does not entail abandoning evaluation and the significant progress made in developing and testing interventions. However, it does suggest a different starting point for bridging research, practice and policy: one that is rooted in the pressing questions of practice (which include – but are not limited to – understanding what works). The framework also encompasses the varied research designs and methods that are needed to address the wide array of practice-relevant questions (see Chapter Ten) and the need to forge more productive relationships between researchers, practitioners and policy makers (see Chapter Twelve).

Using research for policy and practice

The stimulus for an alternative framework can be found first in empirical studies of research use. Conceptual and empirical work on research and knowledge utilisation initially reached a zenith in the late 1970s and early 1980s, when academics such Weiss, Caplan, Cohen, Patton and others produced a spate of publications on the relationship between social science and public policy. That work waned in the 1980s, but in the late 2000s the William T. Grant Foundation (a philanthropic agency supporting research on children and youth) sought to reinvigorate the field by launching an initiative to support studies of the use of research evidence in policy and practice (Tseng, 2008; Granger, 2014). In 2014 the IES also jumped into this field by funding two national Research and Development Centers on Knowledge Utilization. The National Academies have also produced two reports (National Academies of Sciences, Engineering, and Medicine, 2012; 2017) to stimulate empirical study of the communication and use of research evidence: *Using Science as Evidence in Public Policy* (2012) and *Communicating Science Effectively: A Research Agenda* (2017).

In contrast to the narrow evidence definition propagated by what works proponents, studies of research use consistently find that education policy makers and practitioners define evidence more widely. For many, evidence includes social science research as well as administrative data, expert testimony, experience and parent and community input (Honig and Coburn, 2008; Asen et al, 2011). In addition, the what works schema presumes a rational, linear model

of policy making and practice change, whereby decision makers have a choice to make (whether to adopt a programme or practice) and seek information to make that choice (using what works evidence). But research on the use of research highlights the more variable, contingent and contested nature of policy making (Nutley et al, 2007; and see Chapter Two) and the situated complexities of practice (see Chapter Three). Research use requires consideration of various types of evidence and a grappling with the more complex ways in which research can inform, alongside other types of evidence, considerations and interests (McDonnell and Weatherford, 2013; Mosley and Gibson, 2017; see Chapter Twelve).

In addition, studies of the use of research reveal multiple pathways through which research is used in policy or impacts on practice. Research is sometimes used instrumentally to make a decision, such as which programme to adopt, but it also plays an important role by informing understandings of problems and orienting decision makers towards certain types of solutions. This form of research use, termed conceptual use by Carol Weiss (1977; and discussed more in Chapter Twelve), has been shown to be quite consequential, able in the longer term to reshape basic understandings, framings and cognitive models, and thus to open up new directions for innovative policy and programmes. For example, in a large-scale survey, district leaders and school principals reported that research provided a common language, a set of ideas and a framework for guiding reform efforts, in addition to information on programme adoption (Penuel et al, 2016). In-depth observational and interview data reveal that research can enable district administrators to see a problem that had not previously been visible and thereby shift the solutions that are considered (Farrell and Coburn, 2016).

Research–practice partnerships (RPPs)

Recent studies also suggest that the use of research evidence can be encouraged by direct and sustained interaction with research partners (Farrell et al, 2018). The burgeoning field of RPPs can be traced to ideas from the educational and improvement sciences, and the collaboration model pioneered by the Chicago Consortium on School Research. Collectively, partnerships around the country are testing out an alternative framework to bridge research and practice.

In the late 1980s researchers began developing design-based approaches to scholarship with the aim of creating closer connections with – and greater impacts on – practice. The approaches call on

researchers to work closely with practitioners to design new curricula, pedagogical approaches, tools and systems that support educational improvement. The innovations are then tested in classrooms, schools and districts, and are studied by researchers, with the findings used to enhance the innovations iteratively (Brown, 1992; Collins, 1992). The work is often small scale, involving a small number of classrooms or schools, but a few researchers have focused on design and implementation work in entire districts (Penuel et al, 2011; Cobb and Jackson, 2012). Design-based research became part of the national discussion of the research–practice relationship through reports from the National Academy of Education and the National Research Council (Donovan et al, 2003). While design-based research did not gain traction in federal policies such as NCLB, it did influence the National Science Foundation, a key public funder. The reports also inspired doctoral training programmes to train novice researchers to work in design research partnerships with schools and districts.

At the same time, researchers at the University of Chicago were developing what has come to be known as a Research Alliance (Coburn et al, 2013). The Chicago Consortium on School Research (CCSR) was established as early as 1990 to produce independent research on Chicago Public Schools (Roderick et al, 2009). Over the years, CCSR evolved towards a closer collaboration with the district in order to jointly define research questions, produce independent findings on those questions and share findings in ways that would inform the district's and other stakeholders' work. By the mid-2000s, researchers inspired by CCSR began forging long-term partnerships with the districts in their cities. The Baltimore Education Research Consortium was launched in 2006, the Research Alliance for New York City Schools in 2008, the Los Angeles Education Research Institute in 2009, San Diego Education Research Alliance in 2010 and the Houston Education Research Consortium in 2011.

A third partnership approach emerged in the early 2010s. Anthony Bryk, a founder of CCSR and a veteran of design-based research, became president of the Carnegie Foundation for the Advancement of Teaching. Bryk and colleagues united improvement science concepts and methods from healthcare with the idea that networks can be leveraged to accelerate learning across sites, and began forming Networked Improvement Communities (Bryk et al, 2015). Networks varied, but they shared a focus on rapidly designing, testing and reshaping education practices in order to improve education systems and outcomes.

Coburn and colleagues (2013) examined these three strands of work and identified a set of cross-cutting principles for RPPs (Box 17.3). They defined these partnerships as 'long-term, mutualistic collaborations between practitioners and researchers that are intentionally organised to investigate problems of practice and [develop] solutions for improving district outcomes' (ibid, p 2). RPPs are guided by a set of principles that contrast with the what works framework. What works approaches place a high premium on researcher independence: researchers should work with detachment from practitioners, so that they can objectively assess intervention impacts and report findings without bias. Moreover, researchers' involvement with a programme is often short-lived, lasting only as long as the specific evaluation contract or grant. In contrast, RPPs emphasise long-term commitments from researchers and are designed to build relational trust and deep knowledge of the interventions or systems under study. The thinking is that, with greater trust and engagement, practitioners are more likely to use the research. Trust also enables partners to continue to collaborate, even when research findings are disappointing – such as when evaluations yield null effects or show that a policy is potentially harmful to students. With more knowledge of the system and its context, researchers can study topics that are rooted in educators' needs, draw more accurate inferences from the data and offer recommendations that fit the local context.

Proponents of RPPs argue that these long-term collaborations shift researchers' and practitioners' focus from one of *proving impact* to that of *improving services*. Under the what works agenda, practitioners were often pressed to prove that their interventions were effective and worth further dissemination and funding; RPPs, in contrast, focus on creating

Box 17.3: Key features of Research–Practice Partnerships (RPPs)

Research–Practice Partnerships:

1 are long-term;
2 focus on problems of practice;
3 are committed to mutualism;
4 use intentional strategies to foster partnerships; and
5 produce original analyses.

Source: Coburn et al, 2013.

and using knowledge to serve local improvement goals (Henrick et al, 2017). In addition, under what works, the focus on disseminating and scaling up evidence-based programmes meant that research was often being pushed into districts with a one-size-fits-all approach. With RPPs, however, research is intended to be co-developed with districts and tailored to the local context. Lastly, because RPP agendas stem from the interests of districts, a broader range of research questions arise and a more diverse array of research designs and methods are used. While some RPPs conduct evaluation studies (including RCTs), those studies sit alongside other types of study in the partnership portfolio.

RPPs grew in the 1990s and 2000s but did not catapult onto the national stage until John Q. Easton became the second director of the IES in 2009. Bringing his experience of leading CCSR to the federal agency, Easton established a grants programme to support the development of new RPPs. While they are promising, RPPs are not a panacea: they represent useful strategies for connecting research and practice in local communities, but critics say they face limits to the generalisability of findings and ability to inform improvement in other contexts (Kelly, 2004). Moreover, many RPPs have sprung up in urban communities where research universities are available to partner with districts; and partnerships have had limited reach into rural communities. In those places, it may be more fruitful to forge partnerships between a network of rural districts, or a regional or state agency, and researchers. Other critics argue that, by working closely with practitioners, researchers lose their objectivity (Kelly, 2004; Anderson and Shattuck, 2012), a concern that some types of RPP grapple with more than others.

A loosening policy landscape

The policy context for research use in US education is shifting. The Every Student Succeeds Act (ESSA), the successor to the NCLB, was signed into law in late 2015. Legislators maintained a focus on evaluation evidence but responded to the political backlash against federal law makers by devolving greater authority to state governments. This devolution shifted the political and policy discourse away from getting states to comply with federal policy, and towards supporting states and localities in improving schools.

ESSA largely operates within the what works agenda by promoting the adoption of evidence-based interventions. The legislation defines 'evidence-based' using a hierarchy based on research designs to assess intervention effectiveness (see also Chapter Eleven). Because

of widespread concerns that the evidence base was too sparse, the legislation includes room for interventions that lack empirical evidence but for which there exists 'a rationale that is based on high-quality research findings' that will be subjected to 'ongoing efforts to examine the effects'. Referred to as the 'evidence building' or 'under evaluation' level, it provides an access point for new interventions to get onto the evidence ladder (West, 2016).

The on-going tensions between centralised top–down approaches (driving research *into* practice) and more decentralised bottom-up strategies (connecting research *and* practice) reflect tensions seen elsewhere in this book (see Chapter Three). For now, the pendulum seems to be swinging towards more pluralistic approaches in US education, but it remains to be seen if this trend will continue and take hold.

Concluding remarks

Shifting political times may open a window for more fundamental transformations in the relationships between research, practice and policy. Here, we have offered three recommendations for rethinking the role of research evidence in the future.

First and foremost, policy makers need to focus more on *evidence use* rather than *evidence products*. Recent policy documents, such as *The Promise of Evidence-Based Policymaking* (Commission on Evidence-Based Policymaking, 2017), produced by a bipartisan commission, still focus largely on evidence production. Building an infrastructure to support meaningful and routine use of evidence is a more difficult challenge, and requires drawing on the emerging research knowledge about how to support research use and deploying political leadership to take this work to the next level.

Second, RPPs and similar efforts should play a more central role in research use. Through these long-term collaborations, researchers assist decision makers in answering high-priority questions, thereby drawing tighter connections between research and real-world dilemmas. But there is more that partnerships can do to promote use of the research that is produced (Tseng, 2017). The ESSA legislation provides opportunities for RPPs to better support school improvement: they can help state and local agencies to meet the requirements for evidence-based programmes and strategies under the new law by supporting districts to adapt their existing programmes, develop new ones and test both old and new (Penuel and Farrell, 2017; Penuel et al, 2017). In addition, RPPs can aid states, districts and schools in identifying

measures of school quality for their accountability systems. To be successful, however, researchers and leaders of education agencies will need to build their capacity to work together productively to foster more substantive and meaningful research use.

Third, the work of building and using research should be rooted in democratic principles and include more bottom-up strategies. In a chapter on 'democratizing evidence in education', Tseng et al (2018) argue for 'a more engaged and evidence-informed citizenry' in which different stakeholders can meaningfully shape the production and use of research to inform educational improvement. In a more democratic evidence movement, the power to define research agendas would be shared among researchers, practitioners, policy makers and communities. This has many echoes with the arguments laid out in Chapters Ten to Twelve. Rather than research questions arising from researchers' discussions with each other or from policy makers' accountability demands, questions would stem from vibrant back-and-forth exchanges between researchers, educators, parents, students, policy makers and community stakeholders. The demand for evaluation would come not just from policy makers or foundations seeking to make funding decisions, but also from practitioners seeking to improve their work and parents concerned about their children's education. Setting research priorities would become less an academic exercise and more a matter of deliberation, negotiation and compromise among diverse stakeholders.

In addition, research and data would not serve as monitoring and evaluation tools only for managers and policy makers. Evidence would also be accessible to community organisations, parents, students and the broader public as they seek to drive improvements in education. There would be a stronger focus on developing a shared understanding of what the research says and its implications for practice and policy. Of course, disagreements will remain about values, the proper role of government in education and where to direct resources. As we know from studies of research use, data and research evidence alone cannot resolve those debates. However, research and data can be tools for forging consensus about the scope and nature of the problems at hand and the likely outcomes of moving in particular policy directions.

To be clear, we should not throw out the proverbial baby with the bath water. Much has been gained in education from the what works agenda, including the strengthening of doctoral training in research on causal inference and the accumulation of evidence on the efficacy of curricula, instructional approaches and programmes. Rather, we suggest a shift in our understanding of decision making itself: moving from

the established focus on rational, technocratic and top-down models of decision making to other approaches that acknowledge decision making as interpretive, social, situated and more bottom-up (see also Chapter Three). In the new framework, we advocate for different research methods to address a range of local problems and questions that include but are not limited to questions about what works. We need greater participation from a range of stakeholders to set research priorities; we need capacity-building efforts that support researchers in developing skills to work with diverse stakeholders in new ways; and we need government agencies and communities to use research to support their improvement efforts over the long term.

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