The 2012 AERA theme is “Non Satis Scire: To Know is Not Enough.” What steps should the education research community take to make a stronger link between research knowledge and practice?

I think this is a wonderful question, especially because it makes it clear that the research community has some responsibility to link research and practice. All too often, academics think that their work is done when the research report, journal article, or book is written. They have done the research, now it is up to the practitioners to turn that research into practice. But, as I have written in a recent article:

In a world that is increasingly calling for evidence-based decision-making by government and within professions, the task of academic researchers has become more difficult. It is no longer sufficient to do individual academic studies and report them in scholarly journals. If research studies are going to be useful for decisions about policy or practice, the results from academic research need to be organised and contextualised for use by non-researchers.

This need has spawned a whole new field referred to as knowledge transfer, knowledge management or knowledge mobilisation (depending on the context) that has grown from a range of disciplines and has evolved into a distinct field of research and practice. The intention of knowledge mobilisation is to draw from different disciplines that generally do not communicate, resolve competing terms, models and paradigms and aggregate the accumulated knowledge to higher levels so that they can be accessed and utilised across many groups (Earl, 2011).

Practitioners and policy makers are not likely to spend the time that it takes to synthesise and extract the key messages from a wide body of research. And most researchers would say that looking at one study is insufficient for decisions about policy and practice. Hence the gap between research knowledge and practice and
the need to translate the findings into workable policy or practice language.

In recent years, a number of organizations like the Cochrane Collaboration (medicine) and the Campbell Collaboration (social, behavioral, and educational areas) have emerged to produce systematic, transparent, and defensible processes for synthesizing research and making it accessible to others to make well-informed decisions about the effects of interventions in these areas. These organizations, along with a number of other agencies like the EPPI Centre at the Institute of Education, University of London, and The Best Evidence Synthesis Programme in the New Zealand Ministry of Education, are producing rigorous systematic reviews and syntheses of research literature for use by policymakers and practitioners to ensure that research and the decisions that arise from them are well founded and socially robust.

When researchers extend their thinking beyond the production of knowledge to a consideration of knowledge mobilization as a legitimate part of their work, they move outside the narrow frame of research and actively think about their audience(s). If this knowledge is going to be useful, who needs to know about it? Once the audiences are clear, the next question becomes: How can we intentionally link the language of research to the language of practice, so that it is meaningful for the people we hope to influence? This is very new territory for most academics, and it may be uncomfortable. Not everyone will be interested or able to translate their own work into forms that are accessible to practitioners. Some may need to find partners (writers, videographers, etc.) to help them. However it happens, academic research has a challenging task—to maintain the integrity of the work and ensure that the synthesis to make it accessible is accurate and true to the academic work that underpins it, while ensuring that the research actually enters to realm of dialogue and conversation among practitioners who can use it in their daily work in schools.

How has the accountability movement changed how teachers interact with data and how they use data to improve practice?

There is no blueprint that defines accountability, and there are many different approaches around the world ranging from “high-stakes” testing and inspection systems in some countries to reliance on professional judgement and school self-evaluation in others. These different approaches are rooted in cultural history and reflect vastly different philosophical views. Policymakers often try to appeal to both camps by embracing common standards and individual variation, numerical comparability and descriptive sensitivity, assessment designed to improve student learning and assessment that placates demands for system-wide accountability (Hargreaves, Earl, & Schmidt, 2003).

In my work, I lean heavily towards the notion of accountability as a moral rather than a technical issue. High-stakes accountability systems may create a sense of urgency and provide “pressure” for change. However, real accountability is much more than raising test scores. It is a moral and professional responsibility to be knowledgeable and fair in teaching and in interactions with students and their parents. It engenders respect, trust, shared understanding, and mutual support. A number of years ago, Paul LeMahieu and I introduced an important distinction into this discussion by pointing out the distinction between accounting and accountability.

- **Accounting** is gathering, organizing and reporting information that describes performance.
- **Accountability** is the conversation about what the information means and how it fits with everything else
that we know and about how to use it to make positive changes (Earl & LeMahieu, 1997).

I would like to think that “data” need not be perceived as a “four-letter word” but as a catalyst and a tool for the conversations that occur about students, programs, schools, districts, and educational systems, in the service of making changes that will result in better learning for students. In Ontario, where I live and work, data use does not stand alone. The assessment system is low stakes, with an emphasis on providing data from periodic assessments (grades 3, 6, and 9) to teachers and school leaders to help them focus energy to support student learning. The assessment results are a small part of the puzzle, embedded in a strong framework of assessment for learning and a support system to help schools and teachers understand how to use the data in their own context. Just as importantly, there has been considerable support for creating robust, comprehensive, and accurate data systems that can be used by schools, districts, and the province to answer complex questions by linking data about student achievement with other data and over time. At a provincial level, the focus has been on building the capacity in people to use data for considering issues and questions from a range of perspectives, in order to make better and more defensible decisions. This combination has started the Province on the road to being a culture of inquiry, where using data is an integral part of the improvement process.

What are the most effective ways schools can use data to lead change?

A focus on improvement situates educators as the prime consumers of data, in order to make informed decisions. This means thinking about accountability and using data as a part of improvement planning, not because it is mandated but because data can provide a window into the workings of the classroom or school or system that contribute to routinely rethinking and reconstructing professional knowledge and changing practices. In our book *Leading in A Data Rich World: Harnessing Data for School Improvement* (2006), Steven Katz and I identified three key capacities for this kind of leadership. Leaders for informed professionalism will need to:

- develop an inquiry habit of mind,
- become data-literate, and
- create a culture of inquiry in their school community.

**An Inquiry Habit of Mind**

Leaders who use data productively have a mindset of being in charge of their own destiny, always needing to know more, and creating or locating the knowledge that will be useful to them along the way. It is not a linear or mechanistic process, but an iterative one, with a series of decisions, actions, and feedback loops guiding the process. Leaders with an “inquiry habit of mind” are not technicians organizing and manipulating data in prescribed ways, like following a paint-by-number picture; instead, they are investigators—collecting and interpreting evidence in ways that advance their understanding, living with ambiguity, and taking a range of perspectives as they use the data to focus their questions, explore ideas, and make changes in practice.

**Data Literacy**

There is probably nothing in education that garners more public attention than data about schools. However, interpretation and application of data by educators, and by the public, are often woefully inadequate, and sometimes very wrong. If school leaders are going to be active in interpreting and using data, as well as challenging and disputing interpretations or uses that they believe are contestable, they must become “data-
literate.” Being data-literate means being sure what the questions are and determining what data is reasonable to answer them; being able to assess the quality of the data, having sufficient expertise in data interpretation (quantitative and qualitative) to engage with the data and make sense of it in relation to the issues under investigation. Data may provide the tools for measuring educational concepts, but the real expertise comes in thinking and interpretation.

A Culture of Inquiry

Leaders have little chance of using data unless the school or system as a whole is also committed to routinely challenging existing beliefs and practices and using data to make sense of their environment and to think about their future. This means a dramatic shift in mindset so that data become a core part of organizational culture, even a topic of routine conversation. Leaders have the role of creating the conditions in which data can become an integral part of decision-making. They can do this by providing opportunities for others to become inquiry-minded and data-literate, by facilitating, sponsoring, mentoring, and convincing others to engage with the data and think about it, even (and especially) when it is hard work, stimulating an internal sense of urgency, making time for consideration of data, and clarification of what it might mean in the local context and challenging others to rethink their beliefs and practices, in light of the evidence.

How can we build data literacy in schools? How do we move from data literacy to data knowledge to improved practice?

Data use for improvement is much more than a technical activity. It requires people to change their thinking and their practices and is sometimes a challenging undertaking. My thinking about using data in the service of wise decision-making is grounded in a conviction that improved learning outcomes for students is the ultimate goal and that more and better learning for students depends on informed professional judgment that results in changes in classrooms and schools. This means new learning for educators—teachers and leaders.

My perspective about the ways in which data shapes practice in productive ways has been influenced by the work of Helen Timperley and her New Zealand colleagues in the Best Evidence Synthesis: Professional Learning and Development, a synthesis of studies about professional learning with demonstrated impact on student learning. This review provides a backdrop for thinking about how teachers and leaders can use data to identify what they need to know, make informed decisions about changes to practice, build their capacity, and check on the success of their ventures over time. Professional learning that contributed to student learning was deeply grounded in the reality of the teachers’ own classrooms and was linked to new learning for the teachers, with both practical and theoretical explanations about the way that they could change their practices to serve their students better. The authors encapsulated this work in a powerful inquiry cycle for changing practices to influence student learning. Inquiry and professional learning are inseparable in this model; they merge in a forward-moving, progressive way.

Our recent work looking at the impact of networks and professional learning communities, described in the book Building and Connecting Learning Communities also identifies that collaborative inquiry is one of the most powerful enablers of changes in practice to influence student learning. Collaborative inquiry drives school improvement when teachers collectively consider evidence about the current state of affairs, question ineffective teaching
routines, examine new conceptions of teaching and learning, and support one another in making changes in practice.

In what ways is data transforming practice?

Data can have a powerful and positive effect on the nature of decision-making in schools and systems. When policy makers, leaders, and practitioners make decisions that are informed by defensible evidence, they can focus and target what they do. But education systems and schools need much more than data to change practice. Data are a small, but essential component of the complex process of educational change. Data provide the tools for thinking about and planning for change, at all levels—from decisions about what and how to teach individual students in the classroom to decisions about where to allocate scarce resources across a system. Data do not provide right answers or quick fixes. Instead, they are necessary but not sufficient contributors to conversations in pursuit of deeper understanding. Data offer decision-makers an opportunity to view a phenomenon through a number of different lenses, to identify key issues, to put forward hypotheses, to challenge beliefs, and to pose more focused questions. Interpretation requires time, thoughtfulness, reservation of judgments, and open challenge of, as well as support for ideas. Interpretation then is thinking—formulating possibilities, developing convincing arguments, locating logical flaws, and establishing a feasible and defensible notion of what the data represent.

What do you see as one of or the most pressing issue related to educational change today?

Education is facing many challenges, as it struggles to transform itself and keep up with societal change. When I think about my own fields of school improvement and data use, the most pressing issues are tied to the sheer amount of new knowledge there is for educators and educational researchers to assimilate and bring to bear on their practice. The learning curve is daunting. Data have become ubiquitous. In the last several decades, educational systems have moved for having almost no data collected systematically, usually collected as part of specific projects, through a period of having only large-scale assessment data as part of an accountability system, and more recently, to building large data warehouses full of discrete items of information. There is no question that we have data. Now we have to become experts at using it wisely—becoming a culture who care to know, who want to move past personal biases or loud voices and use a wide range of evidence to investigate our own practice. And then comes the hard part—using what we learn to change what we do, even when it means changing beliefs and long-standing behaviors.

References


educational change with heart and mind. ASCD Yearbook (pp. 149-168). Alexandria, VA: Association for Supervision and Curriculum Development.

