

President's Message

Using Research to Improve Teaching

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Federal policymakers and the public have raised a call for teaching and decision making in schools to become more evidence-based—to use research to guide our practice. As educators, we welcome this call. After all, what we care about most is how well our students learn.

I have not published research myself, but throughout my career in the classroom and at the district, state, and national levels, I have needed to know what research had to tell me so that I could be a better teacher or help others be better teachers. I have also yearned to connect to the research community and let them know what questions I was hearing every day: *What teaching approach is most effective? Should we track our students? Will using calculators help or hurt my students' learning? How should the curriculum be structured to maximize students' learning?*

Why is making these connections between research and practice so challenging? Some might point to a lack of available research findings in a format that is easy to grasp. Others might mention that sometimes research seems to give us conflicting results or that particular studies are not designed to be immediately applied in the classroom. We might observe a widespread lack of interest from classroom teachers and district leaders in research articles or sessions on research at conferences. We might also note that teachers face tremendous pressure to focus on short-term test results and to pursue these test results using techniques and materials that may contradict what research tells us about how children learn mathematics. And more recently, we have seen much discussion about defining research in increasingly narrow, quantitative ways that seem to exclude a great deal of high-quality work in the mathematics education research community.

The fact is that we need to know more about many things. A recent report from the National Research Council, "On Evaluating Curricular Effectiveness: Judging the Quality of K–12 Mathematics Evaluations," alerted us to the fact that we don't yet have as much information as we might like to answer questions about which programs seem to be most effective for students. We have much to learn about what it takes to implement a program well and how we can measure results with respect to the fidelity of implementation. But there are also many things we do know. *Principles and Standards for School Mathematics* is built on a strong research base that is described in a comprehensive partner volume—

A Research Companion to "Principles and Standards for School Mathematics." In addition, a quick source of research pertaining to many current issues of interest to mathematics teachers and other leaders is *EdThoughts: What We Know about Mathematics Teaching and Learning*. In recent years NCTM has produced many research publications, including *Lessons Learned from Research* and *Putting Research into Practice in the Elementary Grades: Readings from Journals of the NCTM*. The *Journal for Research in Mathematics Education* is respected around the world as a peer-reviewed forum for sharing high-quality studies. And all three of NCTM's school journals periodically publish short articles on research targeted to the practitioner. Do we have access to research? Absolutely. Do we need even better access? Positively.

NCTM is once again positioned to take a leadership role among the academic disciplines by strengthening the bridge that connects research to the practice of teaching and the outcome of learning.

As a council of education professionals, let us create new resources that put usable information into the hands of those directly responsible for students' learning. Let us create new mechanisms for asking the research community for help on the questions that we most need answered. Let us use research to guide policy decisions that support improvements in teaching and learning. Let us expand the group of individuals and institutions whose focus is not primarily on teaching or primarily on research but primarily on the link between the two.

You can help us to make research findings more accessible by letting us know what your concerns and questions are. What do you most need to know to improve teaching and learning in your classroom, school, or district? Send your thoughts to research@nctm.org. We will use your input as a guide as we seek to provide answers.

Join me in discussing issues and questions related to linking research and practice in a President's Chat, 4:00–5:00 p.m. ET, on Thursday, April 14, at www.nctm.org. What are your biggest challenges in implementing research-based practices? If you are a researcher, what challenges do you face in translating research findings for practitioners? What existing research resources are most valuable to you? How can NCTM best focus its resources on using research to improve teaching and learning? Ω