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A GUIDE FOR POLICYMAKERS
How Government Can Improve Education

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LEARN BETTER FOR POLICYMAKERS

How Government Can Improve Education

Ulrich Boser

Almost ten years ago, the U.S. Department of Education released a document that should have revolutionized how people learn. Some of the nation's leading learning scientists developed the report, and behind each recommendation, there was a bookcase worth of evidence, outlining the “consensus on some of the most important concrete and applicable principles to emerge from research on learning and memory.”

The report's conclusions were dramatic, at least relative to the behaviors of most people who aim to learn anything. The document underscored the value of quizzing. It talked about the value of spacing learning out over time. It argued for more “explanatory questioning,” and the value of seeing “connections” across different examples.

Like so many government reports, there weren't many exciting examples or interesting graphics. The text was dry, written in governmentese. In fact, just the title of the document could provoke an unhealthy stammer: “Organizing Instruction and Study to Improve Student Learning.”

But all in all, what's remarkable is that the report had so little impact. Most teacher education programs ignored the document. Same with most schools—and corporate training programs. In a survey of the American public that I once helped conduct, few people had heard of many of the key ideas, despite the fact most respondents described themselves as knowledgeable about teaching and learning.

This is surprising, if only for the fact that small tweaks in learning can make an enormous difference.



Some years ago, researcher Louis Deslauriers and some colleagues decided to roll out a simple intervention in an introductory college science class. If a student did poorly on the first exam, Deslauriers or one of his colleagues would meet with the students for around 20 minutes and provide some research-backed advice.

Deslauriers and his team also underscored the importance of mental doing. “Do not simply reread,” Deslauriers would explain. “Attempt to ‘do’ each learning goal by generating your own explanations.” As part of the meeting with each student, Deslauriers also talked about developing plans and goals, advising people to learn “in a targeted manner, to improve your ability with a specific learning goal.” Finally, Deslauriers would tell students to take various approaches to engaging an idea, to make sure that they could explain a concept in various ways.

The effects of the advice were impressive. Most students saw their outcomes skyrocket, with test scores jumping by more than 20 percentage points, or about two grade levels. What's more, the students

in Deslauriers class didn't study any longer. The new approaches didn't take any additional time. The students simply studied better.

Given this sort of research, most schools and universities often seem struck in the Middle Ages. Stanford's Jo Boaler recently put out a guide for parents that argued that adults should "never tell kids they are wrong" in math. (It's not clear how the students would ever know that they're right.) Teachers often ask about a child's "learning style." (Again no research on this idea.) Relatively weak approaches like underlining key points of text remain a common practice in many classrooms. (The practice doesn't add much.)

Below are some ways for policymakers to push out the new science of learning and help individuals gain better learning methods and strategies—and improve the nation's system of schooling.

PROMOTE LEARNING TO LEARN

Students should learn how to learn, and policymakers should consider the following:

- Encourage schools to teach students learning strategies like goal-setting, self-quizzing, and thinking about thinking.
- Improve schools of education so that they're focused on giving educators practical teaching skills based on the science of learning.
- Fund training programs that give educators a better understanding of how students gain new skills and knowledge.

IMPROVE CURRICULUM

The nation's education system needs better instructional materials that support richer forms of learning. There are some clear solutions, and policymakers should:



- Fund programs and initiatives that make learning more active and engaging, like the use of "clickers."
- Promote better textbooks and other instructional materials that they do more to support effective student learning, such as spacing out learning over time.
- Make programs of study more personalized and relevant to student interests, allowing students to learn at their own pace.

PROMOTE SMART TECHNOLOGY USE

While technology can go a long way to promote more effective ways to learn, it also can distract, reducing our ability to gain new expertise. When it comes to learning, policymakers should do more to invest in good practice, including:

- Encourage learning technology that provides clear academic benefits like computer-based simulations.
- Require institutions to track outcomes so that the public has a better sense of what works.
- Ensure that all students have reliable access to high-speed Internet either at home or at school.



EMBRACE SOCIAL LEARNING

Learning is often just as emotional as it is rational, and policymakers need to do more to support the social aspect of schooling, such as:

- Encourage more diversity in schools and examine housing policies that contribute to social isolation.
- Promote better school culture including the greater use of support staff like guidance counselors.
- Encourage more parental involvement and provide parents with better tools to help their students at home.

REDESIGN LEARNING ENVIRONMENTS

Most classrooms look the same as they did in the Middle Ages: a lot of passive lecturing, not so much mental doing. Policymakers should do more to spark more innovation in this space, redesigning classrooms based on the science of learning, including:

- Encourage—and fund—educational “start ups,” which take more innovative approaches to teaching and learning.
- Measure learning outcomes, not processes, to encourage more experimentation.
- Provide students with more opportunities to have real-world experiences like internships and externships.

SUPPORT THE EMOTIONAL SIDE OF EDUCATION

Students can't learn if they don't feel emotionally ready to learn. Policymakers can help by making classrooms more emotionally supportive, including:

- Fund programs that give students the skills to manage their emotions like the Becoming a Man program.
- Support efforts that take a more holistic approach to learning and help schools offer free dental or child care.
- Promote better school climate and do more to make schools safe and welcoming.