

“Daring ideas are like
chessmen moved
forward; they may be
beaten, but they may
start a winning game.”



Are American Parents and Students Ready for More Math and Science?

RUTH WOODEN, Ph.D.

President, Public Agenda

Without *drive*, one doesn't compete—without drive, you never even make it into the starting blocks. In Public Agenda's recent research report, "Reality Check 2006: Are American Parents and Students Ready for More Math and Science?," one message comes across loud and clear: There is little drive among parents and students to change math and science education. And if change is going to happen, this is a challenge that can't be overlooked.

The "Reality Check" series examines, in-depth, the thinking of teachers, administrators, parents, students, employers, and college professors on the most pressing issues facing our public education system today. In "Ready for More Math and Science?," we drew our conclusions from a national random sample survey of 1,379 parents of children now in public school and 1,342 public school students in grades six through twelve.

The overall picture is this: While neither parents nor their offspring underestimate the role science and math will play in the future world of work, leaders working for school reform need to do a lot more homework themselves to get these "public education consumers" signed on to the idea that science and math curricula need to be strengthened.

Families are aware of the challenge in a general sense, but relatively few see this as the preeminent issue facing their local high schools. Few seem to absorb its implications in their own personal lives. That is, despite parents' lip service agreement that U.S. schools should be competitive, they don't necessarily see the need to increase math and science coursework for their own kids.

Parents don't necessarily see the need to increase math and science coursework for their own kids.

Parents start from a vastly different mindset than employers who are seeing the skills that many young people bring to the workplace. Majorities of parents say that the high school education that their children are getting will adequately prepare them for college and the work world. What's more, they also say that schools are better now than when they were growing up, and harder, too. So they may not see the urgency.

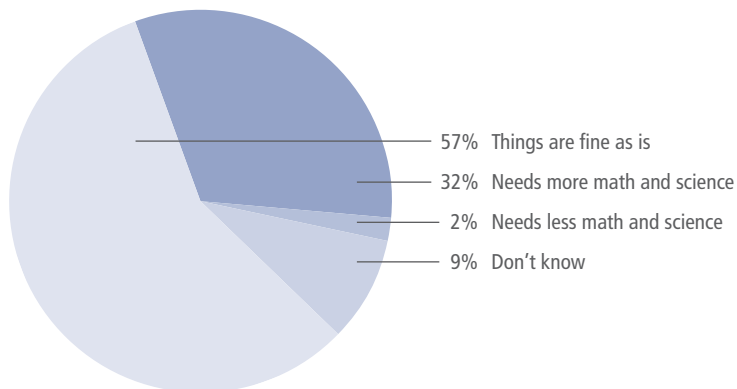
Most parents support proposals to make high schools more competitive. Seventy-one percent say that "updating high school classes to better match the skills employers want" will go a long way to improve education in the United States, and 67 percent say that "greatly increasing the number and quality of math and science courses students take in the high schools" would improve education. Additionally, most parents agree that it's "crucial for most of today's students to learn higher level math skills like algebra and calculus—they are the gateway to success in college and work" rather than "most students don't need to study higher math skills like advanced algebra and calculus—all most really need in life is good basic math skills."

But when the rubber really hits the road, most parents say their child takes enough math and science now. Parents of high school students are even more

likely to say the current situation is satisfactory. In fact, parents' concerns about math and science education have fallen since the mid-1990s. When we asked parents if they thought that kids not being taught enough math and science was a serious problem in 1994, the majority—52 percent—said it was a serious problem; now, only 40 percent say it is a serious problem, and the majority—60 percent—say it is not a serious problem.

Like their parents, most students seem to support revamping high school curricula for a competitive, technologically oriented world. But like their parents, relatively few seem to think about this issue as one that hits close to home. When students are asked about a variety of possible problems at their schools, concerns about lack of emphasis on science and math are near the bottom of the list. Like their parents, students are more concerned about social issues such as a disrespectful atmosphere and cheating. And, despite widely publicized predictions about the role science and technology will play in the future, nearly four in ten students say they would be quite *unhappy* if they ended up in a career with a math or science focus.

MOST PARENTS SAY THEIR CHILD
TAKES ENOUGH MATH AND SCIENCE NOW



John W. Gardner said that “we are continually faced with a series of great opportunities brilliantly disguised as insoluble problems.” That is certainly the case with the challenge of turning kids on to the possibilities of math and science education. There is a lot of openness to the general idea of more rigorous math and science curricula, but there needs to be a lot more work done to create real demand for the courses within schools.

The “Reality Check” research is part of our Education Insights program, a multiyear initiative launched by Public Agenda to expand community and parent engagement in public education. Without a genuine effort to bring a broader group of Americans into the movement, we fear that the momentum for change could weaken, leaving the country with too many school systems beset with weaknesses and inequities. This research certainly reinforces that belief.

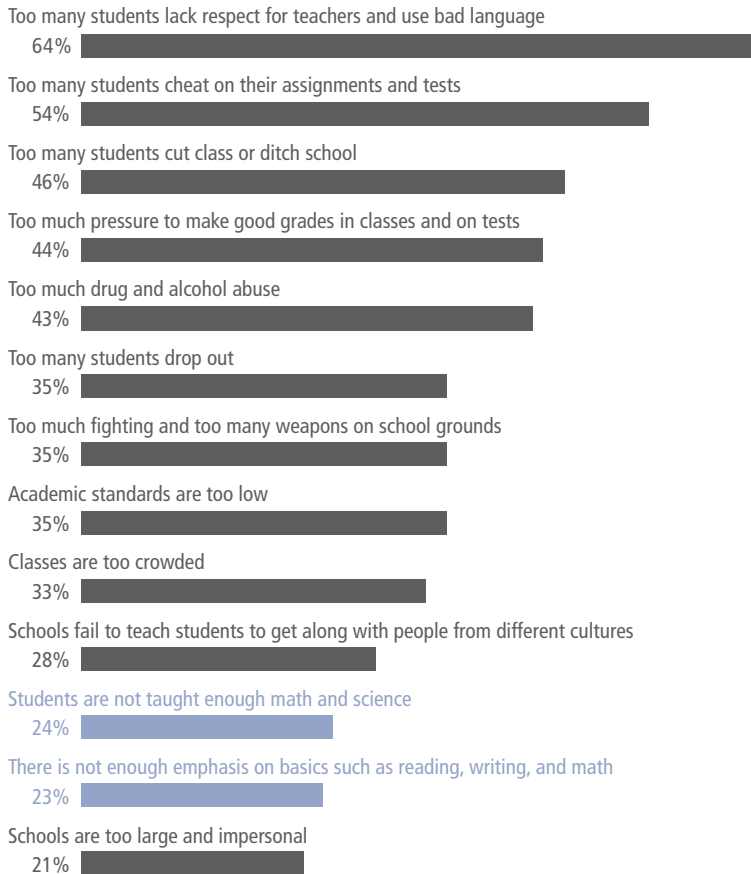
As leaders in government, business, philanthropy, and education move forward to address the inadequacies of our math and science education efforts, as they build a strong leadership consensus to act, they would be well advised to also reach out to parents and students directly. Based on this research, we believe that leaders must reach out to American families and help them understand the economic and educational challenges the country faces and involve them in strategies to find effective solutions. But perhaps the most important role for American leadership is to create an inspirational vision of the opportunities that math and science careers can provide to today’s students.

The fact that there is a problem in the country—that the United States is falling behind other countries in technological training—is not a compelling story to get a thirteen-year-old to take advanced algebra. We need to rely less on sticks and instead identify the carrots that will entice parents and students.

Other Public Agenda research indicates that parents have a much greater influence on their children’s choices than most people think. This is especially true with regard to career choices. One task is to encourage parents to present math and science careers as good options for their children.

And finally, young people, for all their ironic, even cynical coolness today, respond to big visions and heroic action. I sense that they have very limited

LACK OF MATH AND SCIENCE COURSES IS NEAR THE BOTTOM OF STUDENTS’ LIST OF CONCERNS



understanding of what careers are available to them as scientists, beyond the lab coat image. I would actually point to the allied health field as an example of an emerging career field that has grown dramatically and offers a very wide range of careers in health, other than doctors, dentists, and nurses. We need to do a better job of introducing kids to the vast possibilities of interesting careers that involve math and science.

The Ewing Marion Kauffman Foundation is stepping up to the plate in the Kansas City region and setting a powerful example for the entire nation. By launching its ten-year education initiative focused on improving math, science, and technology achievement among Kansas City area students, the Kauffman Foundation is taking action on just the issues that have been identified in Public Agenda's research. Public Agenda has joined the Kauffman Foundation in a comprehensive effort to understand where Kansas City area students, parents, teachers, education leaders, and other key constituencies stand on these issues and to get them engaged in improving math and science outcomes. Public Agenda's work with the Foundation started in 2006 with local focus groups and interviews on this topic, as well as the development of a public engagement toolkit to help communities and stakeholders work together to improve math and science education results. This will be followed by a public opinion survey of parents and students and, later, a public engagement campaign.

I urge those who believe in the power of math and science to engage with students today to understand their dreams and hopes, as the Kauffman Foundation is doing. We must develop an inspiring vision that will help build a whole new generation of talented and innovative math and science professionals to keep the United States at the very top of the technological competition.

WHAT DO YOU THINK?
Tell us at yourthoughts@kauffman.org

Ewing Marion
KAUFFMAN
Foundation

4801 Rockhill Road
Kansas City, Missouri 64110
www.kauffman.org

010715M CM