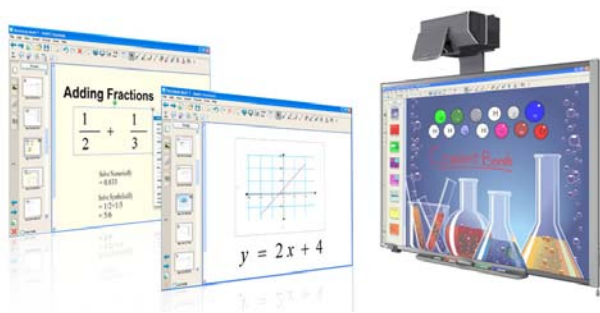


Math and Science Really Do Matter

by Nancy Knowlton

For a number of years, some of the biggest names in the technology world – Gates (Microsoft), Chambers (Cisco) and Barrett (Intel) – have been decrying the decline in math and science skills among today's young learners. Certainly there are some star performers, students who will undoubtedly make great contributions in the future, but relative achievement levels are generally declining along with interest in careers in these disciplines.

While this generation is the most switched-on ever, student performance on standardized math and science tests has been declining at an alarming rate, and fewer students in western countries choose careers in math or science. It isn't just technology CEOs sounding the alarm – teachers and administrators alike have noticed the decline.



At the same time, we hear that many parents are unconcerned. They say they don't understand what the fuss is about, and they are satisfied with the education their children receive. So where is the disconnect?

Good enough

Many people today think back to their own time in school and say, "If it was good enough for me, then it should be good enough for students today." But times today are not just different – they are radically different.

Career paths and employment options available 10 to 20 years ago no longer exist for today's children. The so-called soft landings aren't so soft anymore, with much assembly work moving to developing countries. People can no longer comfortably provide for their families with service industry jobs.

High standards

Some people ask if performance standards are simply too high, commenting that university-level work is commonly expected in high school. Well, this is true in many courses of study, not just in math and science. Thinking that we should reduce expectations to give the appearance that all is well is not just misguided – it's dangerous.

Vision of the future

More than ever, parents need to understand the world in which their children will contribute and compete. Technology will soon be everywhere. It will continue to evolve rapidly and often in surprising ways. Children must develop

the skills to adapt quickly and respond thoughtfully to change or they will not be able to keep pace with their peers. Some children will also go on to invent tools that enable a comfortable and productive life in ways never imagined before.

Key to the future

It sounds trite, but math and science hold many of the keys to life in the future. There are serious challenges ahead that will only be solved by well-educated mathematicians and scientists, and we need the best and brightest minds on the job.

Qualified teachers

In addition to students' growing disinterest in math and science, teacher shortages in these areas magnify the problems. Many instructors, for example, are asked to teach outside their areas of specialization because science and math teachers are so desperately needed. The teachers' lack of subject-area expertise then leads to frustration and feelings of inadequacy, and many quit teaching altogether, further compounding the problem.

Near-term considerations

Not everyone has the skill or interest to excel in math and science courses, and, indeed, this diversity of skill and interest makes the world both interesting and balanced. However, we must find a special outlet for those children with the ability to solve, discover and invent.

We must find a way to increase the number of students who have an interest in pursuing math and science in post-secondary education – and that means putting highly qualified teachers into more K–12 classrooms.

Standards must remain high, and students need to be supported yet challenged in math and science courses.

The role for parents

Parents need to appreciate that the world is different today and that their perspective on education may no longer be current. They need to support and embrace the views from professionals – namely the teachers and administrators charged with teaching children to thrive in, and contribute to, an increasingly complex, technological world.

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