

Give best teachers the largest classes, pay them more

Bill Gates



Over the past four decades, the per-student cost of running our schools has more than doubled, while our student achievement has remained virtually flat. Meanwhile, other countries have raced ahead. To build a dynamic 21st-century economy and offer every American a high-quality education, we need to flip the curve; we need to raise performance without spending a lot more.

When you need more achievement for less money, you have to change the way you spend. This year, the governors are launching a program to help colleges get more value for the money they spend. It will develop metrics to show which colleges graduate more students for less money, so we can see what works and what doesn't.

We know that of all the variables under a school's control, the single most decisive factor in student achievement is excellent teaching. It is astonishing what great teachers can do for their students. Yet compared with the countries that outperform us in education, we do very little to measure, develop and reward excellent teaching. We have been expecting teachers to be effective without giving them feedback and training. To flip the curve, we have to identify great teachers, find out what makes them so effective and transfer those skills to others so more students can enjoy top teachers and high achievement.

Our goal is a new approach to development and evaluation that teachers endorse and that helps all teachers improve. The value of measuring effectiveness is clear when you compare teachers to members of other professions - farmers, engineers, computer programmers, even athletes. These professionals are more advanced than their predecessors - because they have clear indicators of excellence, their success depends on performance and they eagerly learn from the best.

The same advances haven't been made in teaching because we haven't built a system to measure and promote excellence. Instead, we have poured money into proxies, things we hoped would have an impact on student achievement. The United States spends \$50 billion a year on automatic salary increases based on teacher seniority. It's reasonable to suppose that teachers who have served longer are more effective, but the evidence says that's not true. After the first few years, seniority seems to have no effect on student achievement.

Another standard feature of school budgets is a bump in pay for advanced degrees. Such raises have almost no impact on achievement, but every year they cost \$15 billion that would help students more if spent in other ways.

Perhaps the most expensive assumption embedded in school budgets - and one of the most unchallenged - is the view that reducing class size is the best way to improve student achievement. This belief has driven school budget increases for more than 50 years. U.S. schools have almost twice as many teachers per student as they did in 1960, yet achievement is roughly the same.

What should policymakers do? One approach is to get more students in front of top teachers by identifying the top 25 percent of teachers and asking them to take on four or five more students. Part of the savings could then be used to give the top teachers a raise. (In a 2008 survey funded by the Gates Foundation, 83 percent of teachers said they would be happy to teach more students for more pay.) The rest of the savings could go toward improving teacher support and evaluation systems, to help more teachers become great.

Compared with other countries, America has spent more and achieved less. If there's any good news in that, it's that we've had a chance to see what works and what doesn't. That sets the stage for a big change that everyone knows we need: building exceptional teacher personnel systems that identify great teaching, reward it and help every teacher get better.

It's the thing we've been missing, and it can turn our schools around.

Adapted from *The Washington Post*

Counter-Blackberry hype

Thanos Gidaropoulos

For an entertaining perspective on how pupils can eschew the temptation of mobile phones, e-mails etc during revision and for a rousing and motivating talk about why revision is important visit: <http://mrgmaths.com/> and click on 'cover'.

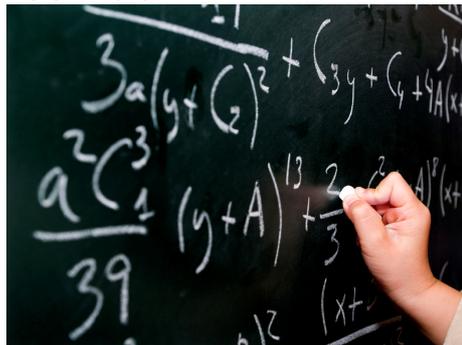


LATEST JOBS:

- Beachcroft School
- The Chafford School
- Woodside High School
- Pimlico Academy
- Highgate School
- Thomas Tallis School
- St James' Catholic High
- St Thomas More Lang. Coll.
- Ashmole Academy

DfE Warning: Maths will be tougher under new curriculum

Helen Ward



More 'challenge' needed in secondaries to keep up with high-performing countries

Secondary maths can be expected to get harder under the new curriculum, a senior civil servant has warned.

The national curriculum is currently being reviewed and a new one is likely to be in place by September 2013.

Jon Coles, director general for education standards at the Department for Education, told a conference last week that standards in primary maths held up when compared to other high-performing countries. But he added that results did not appear to compare so well at secondary level, and more of a "challenge" might be needed.

Speaking at the Advisory Committee on Mathematics Education conference, Mr Coles said: "This (curriculum review) is a very serious attempt to examine in very precise detail what is actually happening in the classrooms of other countries that are outperforming us, and to learn from that evidence.

"At secondary level, I think we will see an upping of the challenge and expectation." He added that it was too early to say what this would mean for GCSEs.

"We cannot fully reform GCSEs until we have fully implemented the new national curriculum," he said. "We can't rush this. We have to make sure that schools have adequate time to prepare, particularly if there is greater demand in the curriculum."

While the number of students achieving a C in GCSE maths and those going on to do A-levels and degrees in the subject has increased in the past 10 years, the latest international study from Pisa found that 15-year-olds in Shanghai were more than two years ahead of students in England.

Jane Imrie, deputy director of NCETM, said: "I think the challenge is already there in the curriculum: the issue is how we get it into the classroom. We need to allow that challenge to happen and that may be about the way we assess maths.

"It's not as simple as saying 'now do calculus at GCSE rather than AS-level'. It is not about putting harder content in because the more content there is, the more time you spend on technique and not on using maths.

"It would be like spending all your music lessons learning harder and harder scales and arpeggios but never playing a piece of music."

The conference also heard that the evidence for primary maths pointed towards covering fewer areas in more depth.

Tim Oates, who chairs the panel of experts overseeing the curriculum review, told the conference it was becoming clear that some high-performing countries covered fewer things in greater detail at primary - which then led to a much more dense secondary curriculum.

He added: "In response to those people saying there is rather naive cherry-picking from other systems going on, I want to reassure them that this is absolutely not the case. There is considerable sophistication in the approaches that are being adopted within the review in terms of transnational comparisons."

The review of the national curriculum is open for submissions until 14 April.

MATHS renaissance

'It is thrilling'

Maths teaching has experienced a popularity boost this year, with more than 33 per cent of those inquiring about teaching considering a maths specialism.

The figure is up from 26 per cent in 2010, the Training and Development Agency for Schools (TDA) telephone information line poll shows.

It reveals that in London, 36 per cent of those considering teaching favoured maths and 45 per cent were considering changing career to teach the subject.

TDA chief executive Graham Holley said: "It is thrilling to see maths teaching enjoying such a renaissance. We are determined to capitalise on the increasing interest ... to ensure future economic prosperity."

Technology + freedom = magnificent maths

Professor Sir John Holman

A tougher maths curriculum may not get many cheers in classrooms ("DfE warning: maths will be tougher under new curriculum", 25 March), but it is essential if the UK is to match our economic competitors.

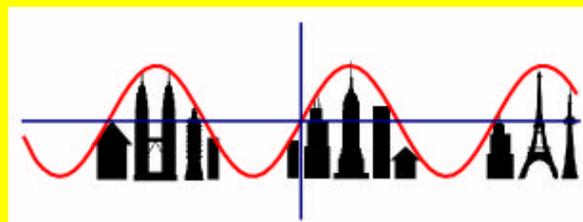
A survey of 24 developed countries for the Nuffield Foundation has found that England, Wales and Northern Ireland have the lowest participation levels in post-16 maths, with only 20 per cent of such students studying the subject. In most other developed countries at least 50 per cent of post-16s studied maths; in a third, it was studied by all.

Is it time to make some kind of maths compulsory in post-16 education? Until there are popular and well-understood post-16 maths qualifications standing alongside A-levels, we are likely to remain at the bottom of this table.

Professor Sir John Holman, Department of Chemistry, York University. Published in the **TES**

PUZZLE –

What film does this caption depict? **AB**



ISSUE 7 SOLUTION:

21 years old

NOTES:

