Test scores
=
New God in Education
if you judge a fish by its ability to climb a tree...
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Catching Up or Leading the Way: American Education in the Age of Globalization

Yong Zhao
World Class Learners
Educating Creative and Entrepreneurial Students

Yong Zhao
Why Didn’t China Have a Big Party?
<table>
<thead>
<tr>
<th>Math</th>
<th>Sciences</th>
<th>Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shanghai, China</td>
<td>Shanghai, China</td>
<td>Shanghai, China</td>
</tr>
<tr>
<td>Singapore</td>
<td>Finland</td>
<td>South Korea</td>
</tr>
<tr>
<td>Hong Kong, China</td>
<td>Hong Kong, China</td>
<td>Finland</td>
</tr>
<tr>
<td>South Korea</td>
<td>Singapore</td>
<td>Hong Kong, China</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Japan</td>
<td>Singapore</td>
</tr>
<tr>
<td>Finland</td>
<td>South Korea</td>
<td>Canada</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>New Zealand</td>
<td>New Zealand</td>
</tr>
<tr>
<td>Switzerland</td>
<td>Canada</td>
<td>Japan</td>
</tr>
<tr>
<td>Japan</td>
<td>Estonia</td>
<td>Australia</td>
</tr>
<tr>
<td>Canada</td>
<td>Australia</td>
<td>Netherlands</td>
</tr>
</tbody>
</table>
Arne Duncan: “A wake-up call”

Barack Obama: “A Sputnik moment”
A Grattan Institute report, to be released today, shows Australian performance has slipped since 2000, with maths students now more than two years behind children in Shanghai and one to two years behind children in Hong Kong, Singapore and South Korea.

--Sydney Morning Herald, 02-17-2012
http://www.smh.com.au/national/education/australian-students-lag-asia-by-three-years-20120216-1tbt8.html#ixzz1me2MH9mL

We've become a nation of wusses. The Chinese are kicking our butt in everything. If this was in China do you think the Chinese would have called off the game? People would have been marching down to the stadium. They would have walked and they would have been doing calculus on the way down…

--Former Pennsylvania Governor Ed Rendell on the rescheduling of an NFL game, 2010
http://voices.washingtonpost.com/44/2010/12/ed-rendell-were-a-nation-of-wu.html

I am happy to confess I’d like us to implement a cultural revolution just like the one they’ve had in China…Like Chairman Mao, we’ve embarked on a Long March to reform our education system.

--Michael Gove, British Secretary of State for Education
http://www.telegraph.co.uk/education/8227535/Michael-Gove-my-revolution-for-culture-in-classroom.html
Qian Xuesheng: “Why doesn’t China have great talents?”

Wen Jiabao: “China must have entrepreneurs like Steve Jobs”

Kai-fu Lee: The next Apple or Google will appear, but not in China… unless it abolishes its education.
Real Dragon or Paper Tiger: Patent filings in 2008

U.S.A. 400,769 filings  
Japan 502,054 filings  
China 203,481 filings  

Europe 14,525 filings  
U.S.A. 14,399 filings  
Japan 13,446 filings  
China 473 filings

In 2010 China accounted for

20% of the world's population  
9% of the world's GDP  
12% of the world's R&D expenditure  
1% of the patent filings with or patents granted by any of the leading patent offices outside China.  
50% of the China-origin patents were granted to subsidiaries of foreign multinationals

Source: Chinese Innovation is a Paper Tiger http://online.wsj.com/article/SB10001424053111904800304576472034085730262.html?mod=googlenews_wsj
Steve Wozniak: Apple couldn’t emerge in societies like Singapore where ‘bad behavior is not tolerated’ and people are not taught to think for themselves.

Alexis Ong: Wozniak’s comments are really a scathing indictment of the Singapore education system, its strictly regimented curriculum and by-rote study techniques that sustain the city’s “formal culture.”
Why Aren’t the Model Minority Happy?
2008 NAEP Math Scores by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>13 Yr Olds</th>
<th>17 Yr Olds</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>290</td>
<td>314</td>
</tr>
<tr>
<td>Black</td>
<td>262</td>
<td>287</td>
</tr>
<tr>
<td>Hispanic</td>
<td>268</td>
<td>293</td>
</tr>
<tr>
<td>Asian</td>
<td>304</td>
<td>321</td>
</tr>
<tr>
<td>Native Am</td>
<td>274</td>
<td>305</td>
</tr>
</tbody>
</table>

Asian Americans

- 5% of the US population
- 15 to 25% of Ivy League enrollment
- 24% at Stanford
- 46% at UC Berkeley
- 64 percent of Asians versus 52 percent for Caucasians want to hold top positions
- 2% of total 5,520 board seats of the Fortune 500 (98 of them have Asians on their board)

Why Is the U.S. Still Here?
Inside photos showed Alexei doing complicated experiments in physics and chemistry and reading aloud from *Sister Carrie*.

**1958**

Stephen, by contrast, retreated from a geometry problem on the blackboard and the caption advised, "Stephen amused class with wisecracks about his ineptitude." Seated at a typewriter in typing class, Stephen tells us "I type about one word a minute."
Our Nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world.

the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people.

We are raising a new generation of Americans that is scientifically and technologically illiterate.

1983 Japan
Elephant vs. doctor: Aspirations

2 Million Minutes
Bob Compton

Source: http://www.2mminutes.com/pressblog6.html
A Long History of Bad Test-takers

• 1960s
  – FIMS: 12th out of 12 countries
  – FISS: 14th out of 18 countries

• 1970s/1980s
  – SIMS: 12, 14, 12, 12 out of 15 (number systems, algebra, geometry, calculus)
  – SISS: 14th (biology), 12th (chemistry), 10th (physics) out of 14

• 1990s—2007: TIMSS (8th graders)
  – 28th out of 42 in 1995
  – 15th in 2003
  – 9th in 2007
…America still has the largest, most prosperous economy in the world. (Applause.) No workers -- no workers are more productive than ours. No country has more successful companies, or grants more patents to inventors and entrepreneurs. We’re the home to the world’s best colleges and universities, where more students come to study than any place on Earth.

--President Obama, 2011 State of the Union Address
Possible Explanations
Ranking by PISA Math Score and Perceived Entrepreneurial Capability

- 2009 PISA Math
- Perceived Entrepreneurial Capability
### Correlations between PISA and Entrepreneurship Indicators

<table>
<thead>
<tr>
<th></th>
<th>PISA Reading</th>
<th>PISA Math</th>
<th>PISA Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Capabilities</td>
<td>-.595**</td>
<td>-.586**</td>
<td>-.608**</td>
</tr>
<tr>
<td>Nascent Entre Rate</td>
<td>-.693**</td>
<td>-.636**</td>
<td>-.678**</td>
</tr>
<tr>
<td>New Biz Ownsp Rate</td>
<td>-.371*</td>
<td>-.374*</td>
<td>-.392*</td>
</tr>
<tr>
<td>Total Early Stage Entre Activity</td>
<td>-.658**</td>
<td>-.620**</td>
<td>-.658**</td>
</tr>
</tbody>
</table>

Data source: OECD PISA 2010, Global Entrepreneurship Monitor, 2010
Responses to “I usually do well in Math”
Correlations between TIMSS Math Score and Confidence and Enjoyment

<table>
<thead>
<tr>
<th>Grade</th>
<th>Confidence Correlation</th>
<th>Enjoyment Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>-0.58</td>
<td>-0.67</td>
</tr>
<tr>
<td>8</td>
<td>-0.64</td>
<td>-0.75</td>
</tr>
</tbody>
</table>

Tom Loveless (2006): How Well Are American Students Learning
http://www.brookings.edu/~media/Files/rc/reports/2006/10education_loveless/10education_loveless.pdf
Explanation #2

Lady Gaga
Lady Gaga
What matters?

Diversity of talents
Creativity
Entrepreneurship
Passion
In our travels to China it was everywhere, that laser-focus on education…This public school in Shanghai where the children are two years old. By three they are in school from 8 until 4, already learning phrases in English…On average Chinese students attend schools 41 more days than American students a year and with extra lessons on the weekend, Chinese students receive 30% more hours of instruction.

--ABC World News with Diane Sawyer, 2010
http://abcnews.go.com/Politics/china-debuts-top-international-education-rankings/story?id=12336108#.Tz5va0xU2Fc

Over 80% of parents send their children to tutorial school…Compared with other societies, young people in Shanghai may be much more immersed in learning in the broadest sense of the term. Naturally they learn more, what they learn and how they learn are subjects of constant debate. Critics see young people as being “fed” learning because they are seldom left on their own to learn in a way of their choice. They have little direct encounters with nature, for example, and little experience with society either. While they have learned a lot, they may not have learned how to learn.

--OECD, 2011
http://dx.doi.org/10.1787/9789264096660-en
The Ultimate Explanation
The future: The Age of Globalization

The stone age did not end because they ran out of stones
Cost of inputs: China Labor 2%
Cost of inputs: Non-China Labor 3%
Cost of inputs: materials 22%
Unidentified profits 5%
Korea Profits 5%
Japan Profits 1%
Taiwan Profits 1%
E.U. Profits 1%
Non-Apple U.S. Profits 2%
Apple Profits 58%

Apple Employees:
43,000 US, 20,000 overseas
People working on Apple Products:
700,000
Apple profit: 400,000 per employee

Entrepreneurs:

Business entrepreneurs
Social entrepreneurs
Intrapreneurs
Policy entrepreneurs
Entrepreneurial Qualities

Confidence  Friends  Risk-taking
Passion  Creativity  Motivation
It is a miracle that curiosity survives formal education.
---Albert Einstein
From Accident to Design: Students as Global Entrepreneurs
Individual differences
Multiple intelligences
Cultural diversity
Curiosity, passion, creativity
Enhanced Human Talents
Entrepreneurship-oriented Education

What: Student Autonomy

Where: The Global Campus

How: Product-oriented Learning
What: Student Autonomy

• Curriculum
• Governance
• Environment

How: Product-oriented Learning

• Authentic product
• Drafts and review
• Persistence and discipline

Where: The Global Campus

• Global partners
• Global markets
• Global resource
OBA
http://globaleducation.uoregon.edu
http://zhaolearning.com