

<http://zhaolearning.com>

Defining High Quality Education

Yong Zhao, Ph. D
Presidential Chair
College of Education
University of Oregon
yongzhao@uoregon.edu
<http://zhaolearning.com>

The book cover features a mustard yellow background with several white stylized fish swimming in various directions. A large red circle on the right side contains a black and white abstract pattern. The author's name is printed in white within this red circle.

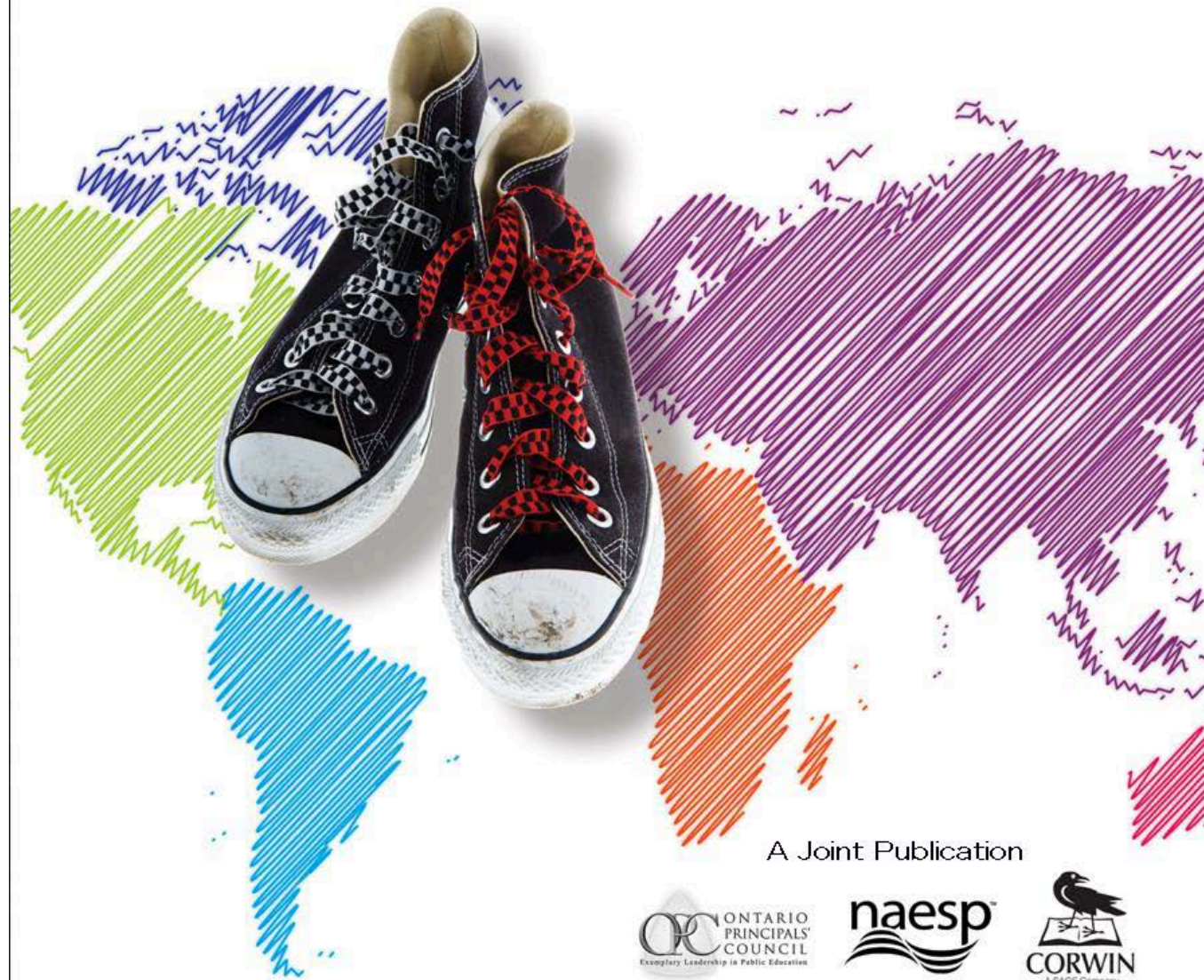
Yong Zhao

Catching Up | or Leading the Way

American Education in the Age of Globalization

World Class Learners

Educating Creative and
Entrepreneurial Students



A Joint Publication

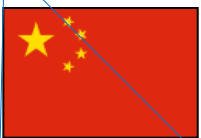


Yong Zhao

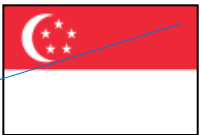
Why Didn't China Have a
Big Party?

2009 PISA Results

Math



Shanghai, China



Singapore



Hong Kong, China



South Korea



Taiwan



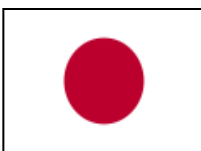
Finland



Liechtenstein



Switzerland



Japan



Canada

Sciences



Shanghai, China



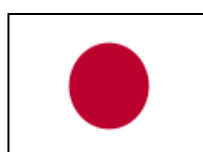
Finland



Hong Kong, China



Singapore



Japan



South Korea



New Zealand



Canada



Estonia



Australia

Reading



Shanghai, China



South Korea



Finland



Hong Kong, China



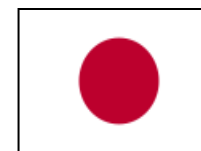
Singapore



Canada



New Zealand



Japan



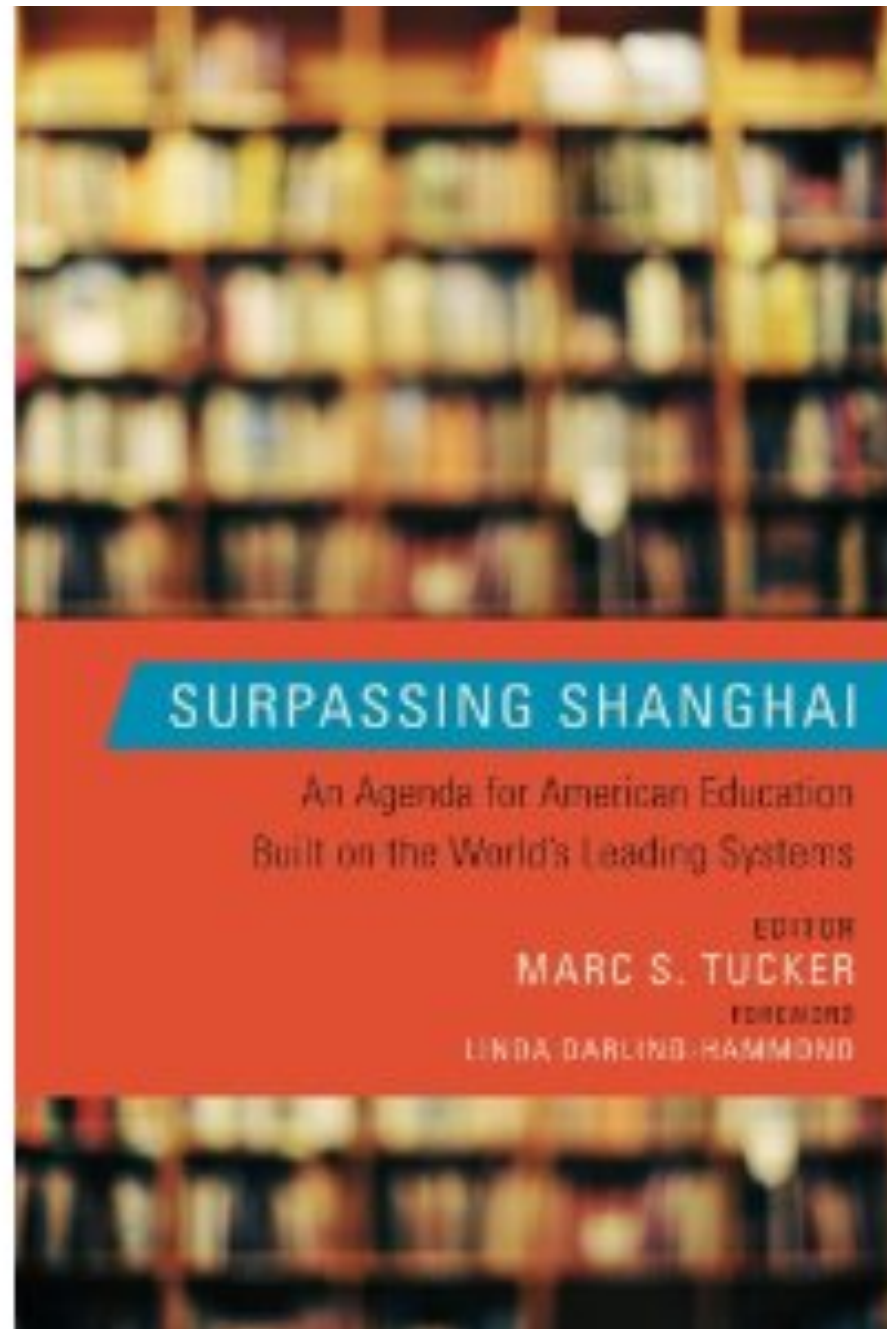
Australia



Netherlands

<http://www.oecd.org/dataoecd/54/12/46643496.pdf>

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

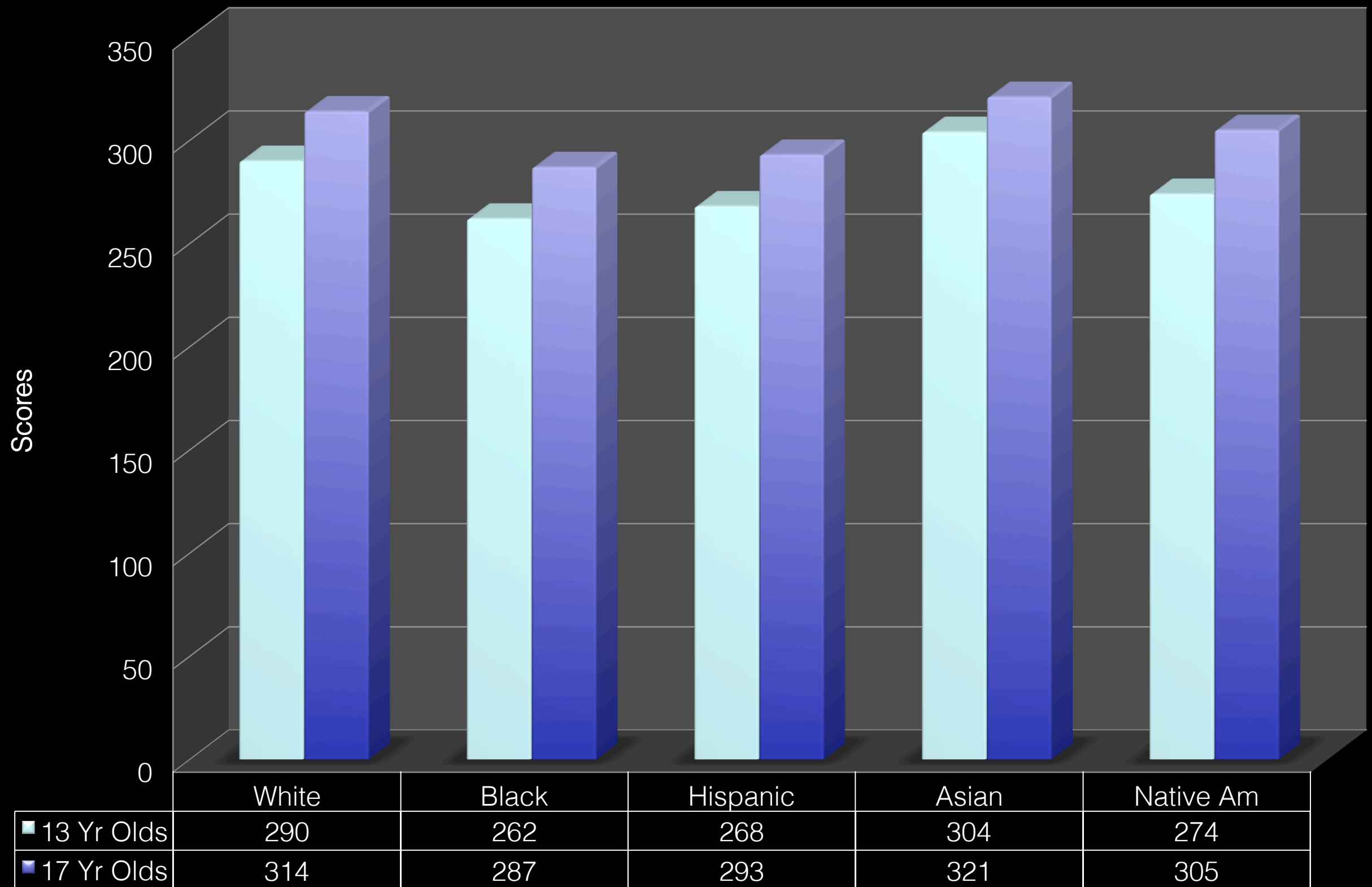


Steve Wozniak: Apple couldn't emerge in societies like Singapore where 'bad behavior is not tolerated' and people are not taught to think for themselves.

Alexis Ong: Wozniak's comments are really a scathing indictment of the Singapore education system, its strictly regimented curriculum and by-rrote study techniques that sustain the city's "formal culture."

Why Aren't the Model
Minority Happy?

2008 NAEP Math Scores by Race/Ethnicity



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)

http://www.worklifepolicy.org/documents/TopAsianTalent_PressRelease_7.20.11.pdf

<http://aapress.com/business/report-only-96-asians-hold-fortune-500-board-seats/>

Why Is the U.S. Still Here?

Alexei vs Stephen: Curriculum and Time

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."



*To Glenn Seaborg
With appreciation*

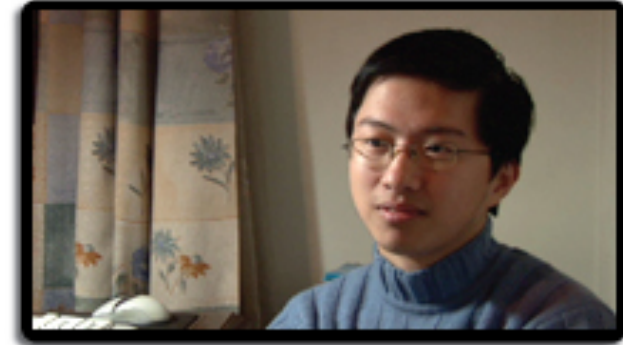
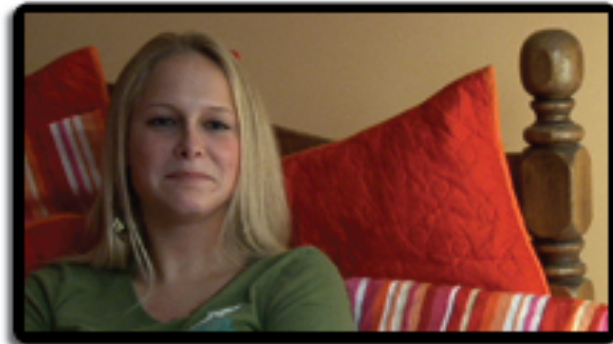
1983 Japan

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.

Elephant vs. doctor: Aspirations



2 Million Minutes

Bob Compton

Source: <http://www.2minutes.com/pressblog6.html>

A Long History of Bad Test-takers

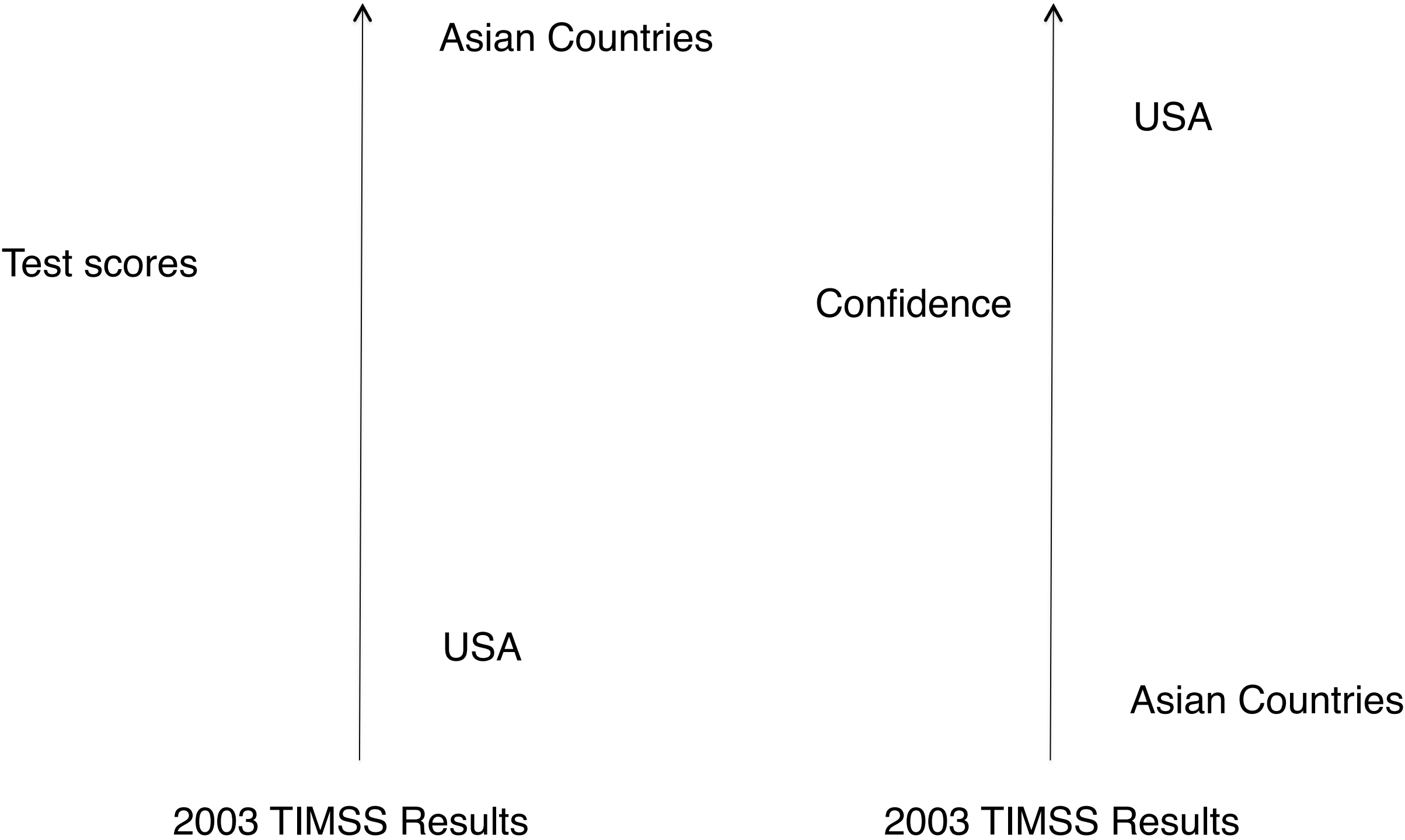
- 1960s
 - FIMS: 12th out of 12 countries
 - FISS: 14th out of 18 countries
- 1970s/1980s
 - SIMS: 12, 14, 12, 12 out of 15 (number systems, algebra, geometry, calculus)
 - SISS: 14th (biology), 12th (chemistry), 10th (physics) out of 14
- 1990s—2007: TIMSS (8th graders)
 - 28th out of 42 in 1995
 - 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.

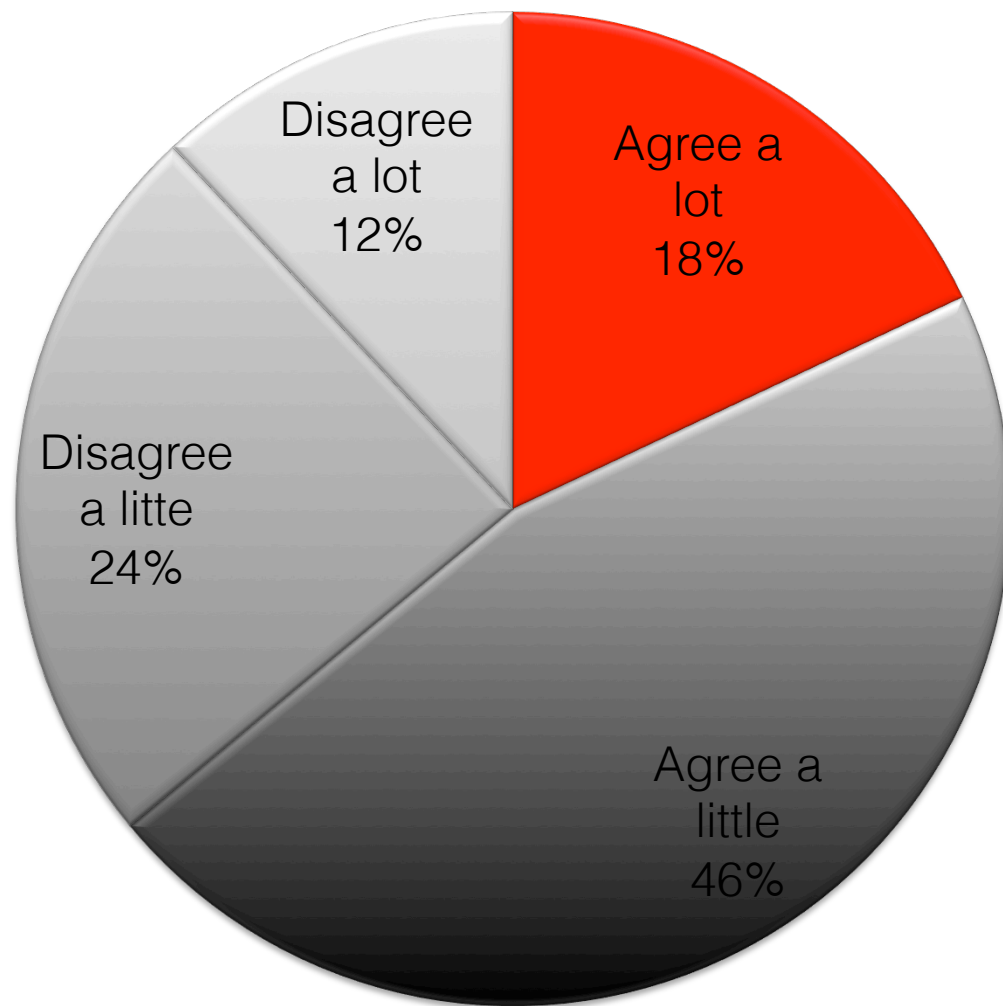
--President Obama, 2011 State of the Union Address

Possible Explanations

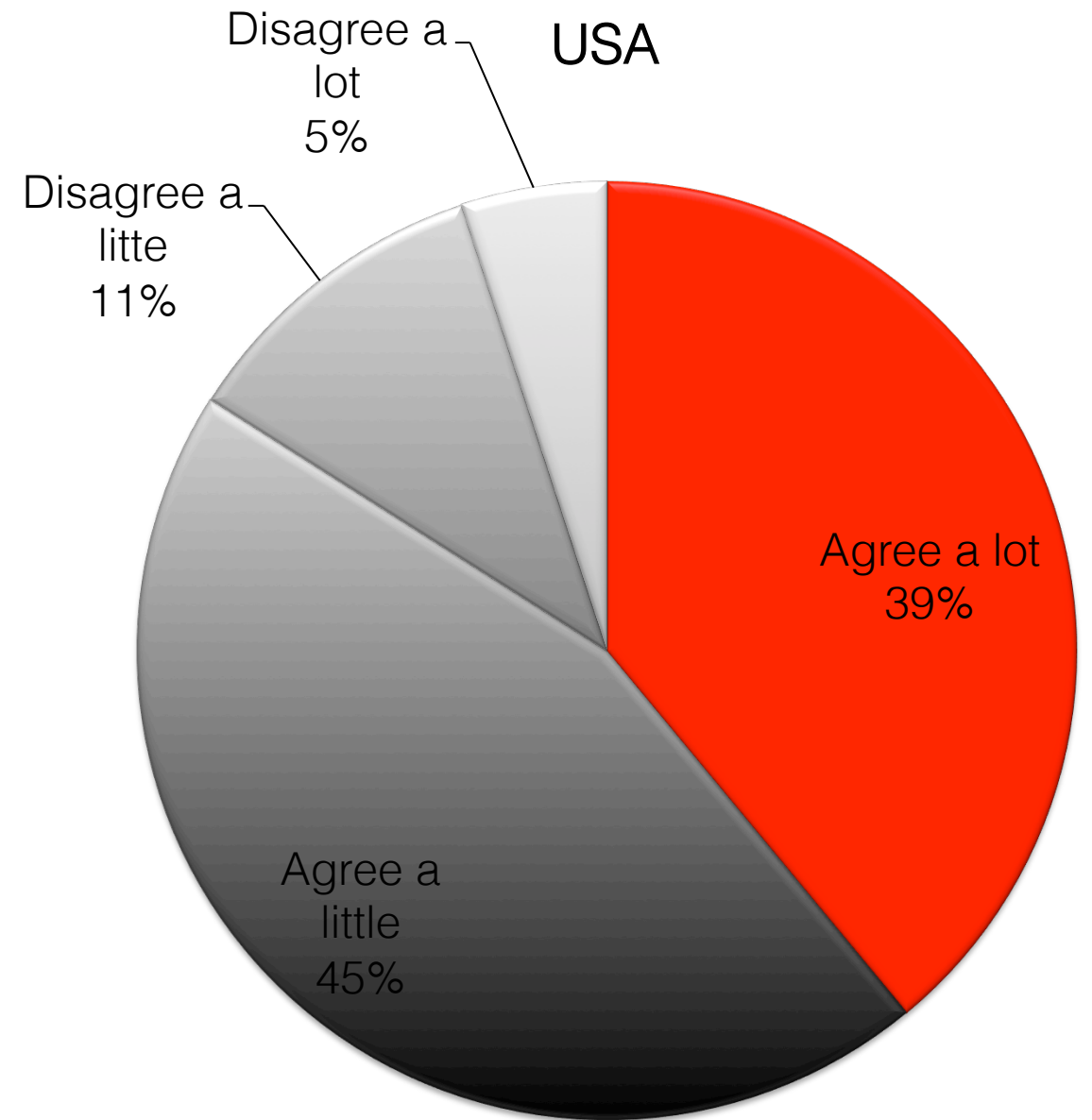
Explanation #1



Singapore



USA



Responses to “I usually do well in Math”

Correlations between TIMSS Math Score and Confidence and Enjoyment

	Grade	Correlation
Confidence	4	-0.58
	8	-0.64
Enjoyment	4	-0.67
	8	-0.75

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



Explanation #3



Shanghai, China



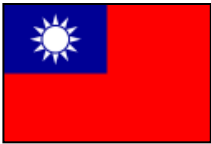
Singapore



Hong Kong, China



South Korea



Taiwan



Finland



Liechtenstein



Switzerland



Japan



Canada



United States



Slovenia



Australia



Greece



Portugal



United Kingdom



Spain



Ireland

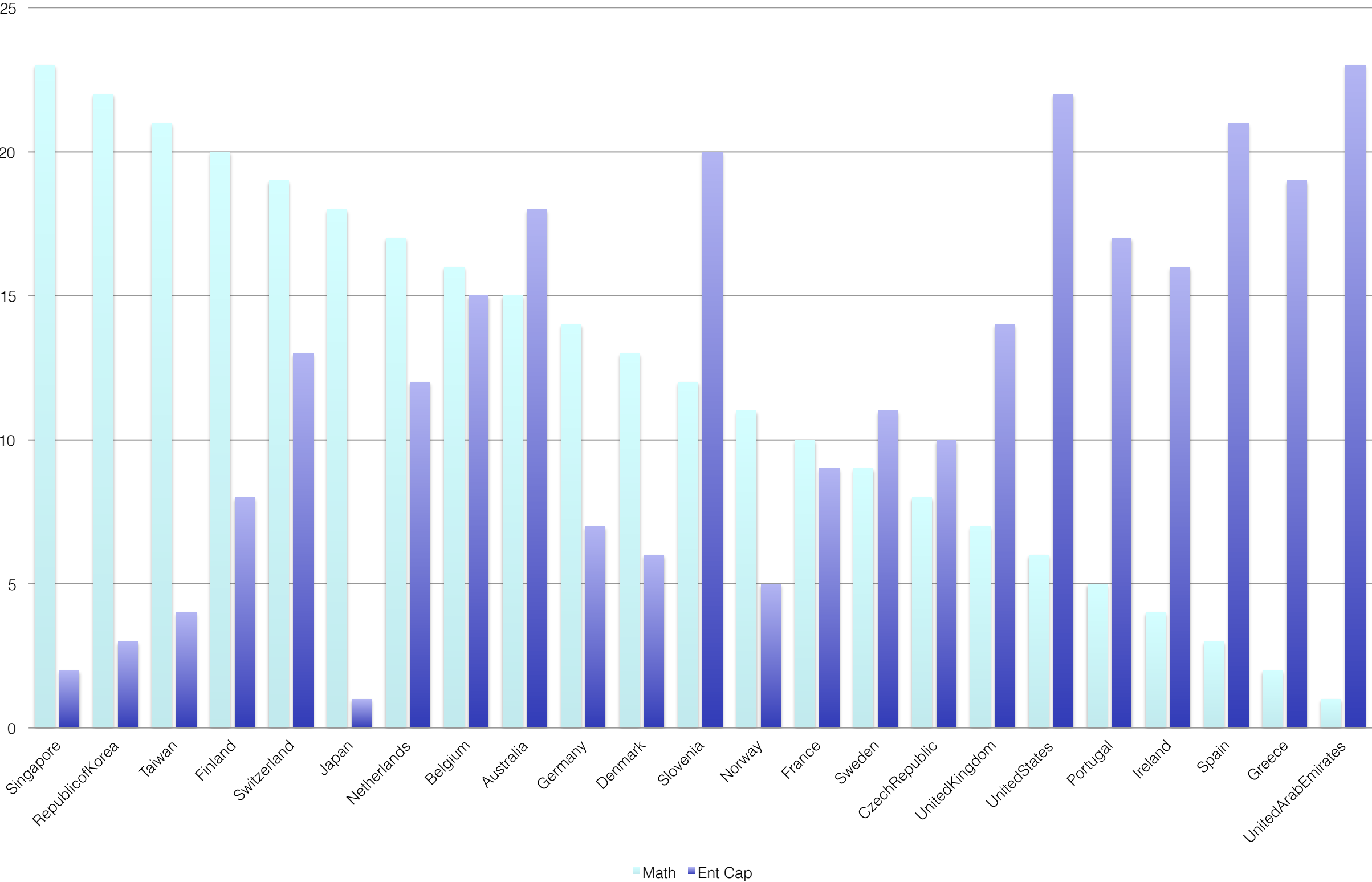


Iceland



Netherlands

Ranking by 2009 PISA Math and 2011 Perceived Entrepreneurship Capabilities



Correlations between PISA and Entrepreneurship Indicators

	PISA Reading	PISA Math	PISA Sciences
Perceived Capabilities	-.595**	-.586**	-.608**
Nascent Entre Rate	-.693**	-.636**	-.678**
New Biz Ownsp Rate	-.371*	-.374*	-.392*
Total Early Stage Entre Activity	-.658**	-.620**	-.658**

Data source: OECD PISA 2010, Global Entrepreneurship Monitor, 2010

Explanation #4

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>

Explanation #5



The Ultimate Explanation



The Side-effects

Drug Facts

Active ingredient (in each tablet)

Chlorpheniramine maleate 2 mg.....Antihistamine

Uses temporarily relieves these symptoms due to hay fever or other upper respiratory allergies: ■ sneezing ■ runny nose ■ itchy, watery eyes ■ itchy throat

Warnings

Ask a doctor before use if you have

- glaucoma ■ a breathing problem such as emphysema or chronic bronchitis
- trouble urinating due to an enlarged prostate gland

Ask a doctor or pharmacist before use if you are taking tranquilizers or sedatives

When using this product

- drowsiness may occur ■ avoid alcoholic drinks
- alcohol, sedatives, and tranquilizers may increase drowsiness
- be careful when driving a motor vehicle or operating machinery
- excitability may occur, especially in children

If pregnant or breast-feeding, ask a health professional before use.

Keep out of reach of children. In case of overdose, get medical help or contact a Poison Control Center right away.

Directions

adults and children 12 years and over	take 2 tablets every 4 to 6 hours; not more than 12 tablets in 24 hours
children 6 years to under 12 years	take 1 tablet every 4 to 6 hours; not more than 6 tablets in 24 hours
children under 6 years	ask a doctor

Drug Facts (continued)

Other information ■ store at 20-25°C (68-77°F) ■ protect from excessive moisture

Inactive ingredients D&C yellow no. 10, lactose, magnesium stearate, microcrystalline cellulose, pregelatinized starch

THIS MEDICINE MAY AFFECT MENTAL ALERTNESS AND/OR COORDINATION. IF AFFECTED, DO NOT DRIVE A MOTOR VEHICLE OR OPERATE MACHINERY.



THIS MEDICINE MAY CAUSE DROWSINESS AND MAY INCREASE THE EFFECTS OF ALCOHOL. IF AFFECTED DO NOT DRIVE A MOTOR VEHICLE OR OPERATE MACHINERY.

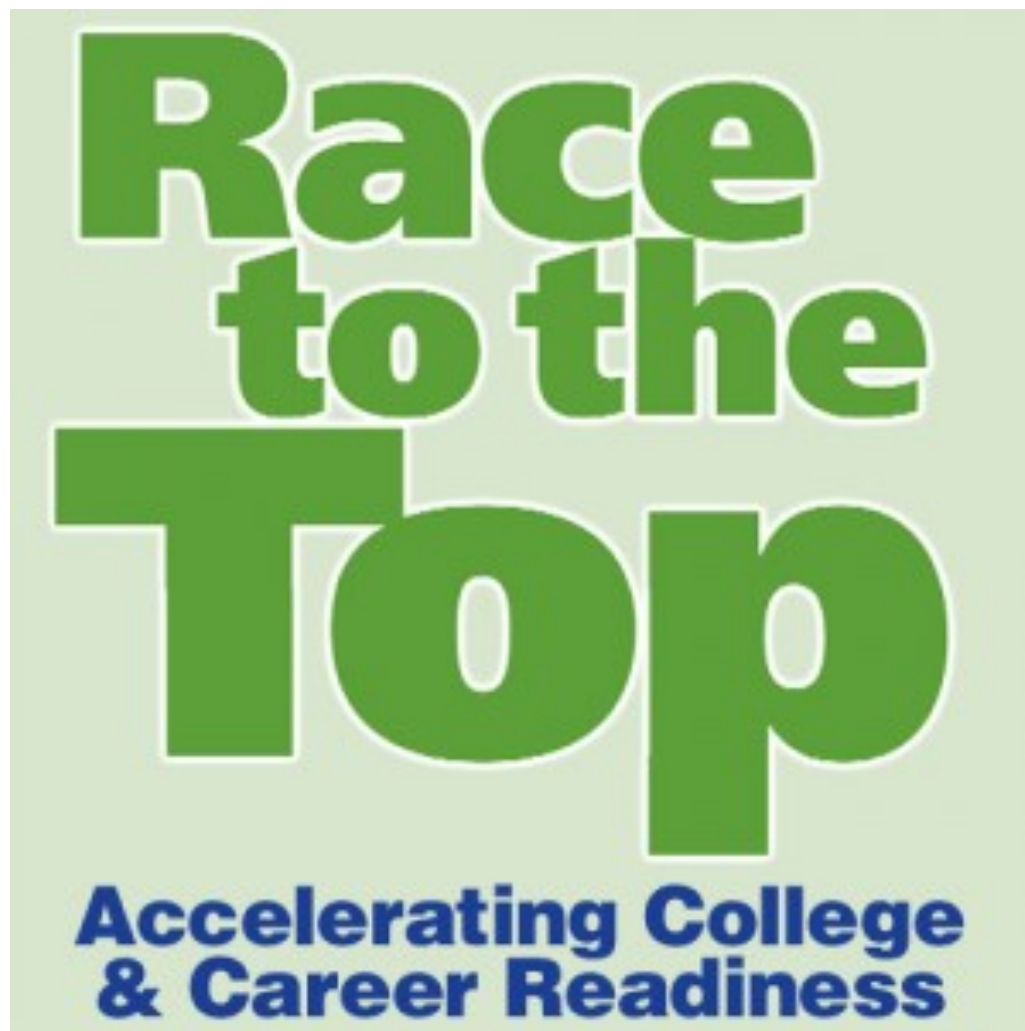




COMMON CORE

STATE STANDARDS INITIATIVE

PREPARING AMERICA'S STUDENTS FOR COLLEGE & CAREER





Look and Learn **ABCs** Magnetic Book

Pre-K
Ages 3-4

Magnetic
storybook that
reinforces:

- Letter recognition
- Letter and picture association

Includes
26
letter magnets!



A



B



C



WARNING

CHOKING HAZARD—Small parts
Not for children under 3 years of age.

The Fun and Easy Way to Learn the ABCs!

Individual differences
Multiple intelligences

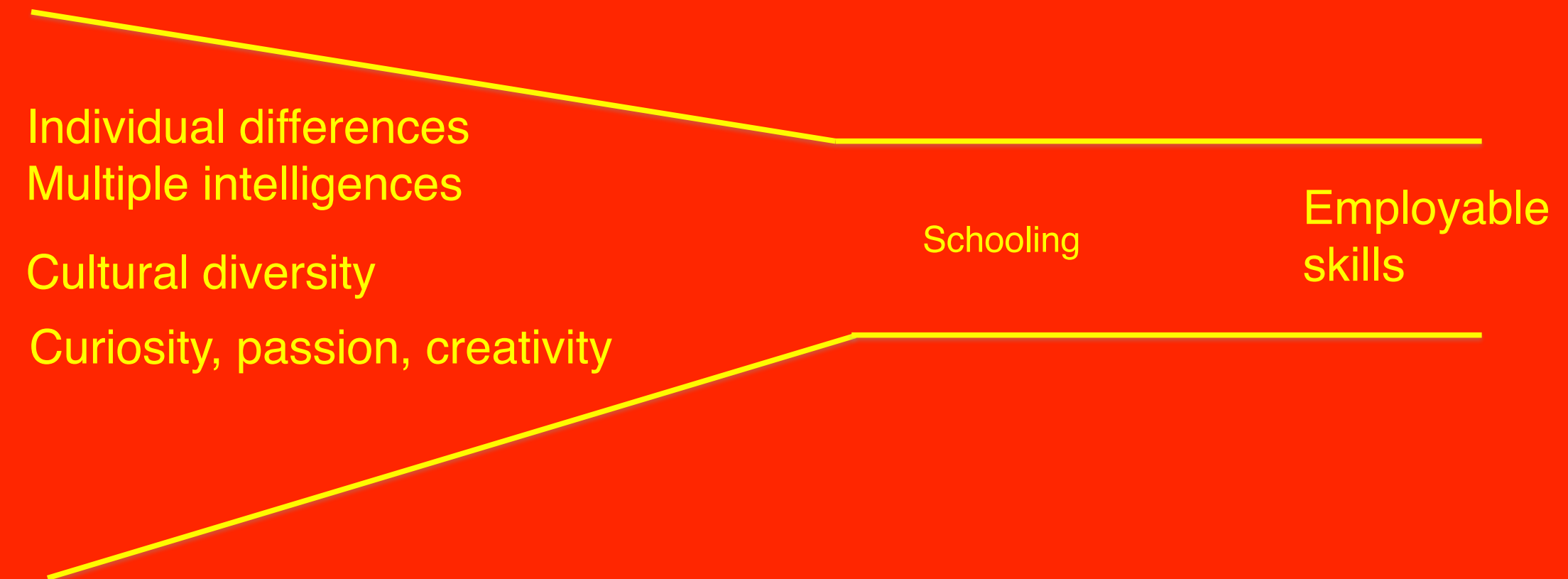
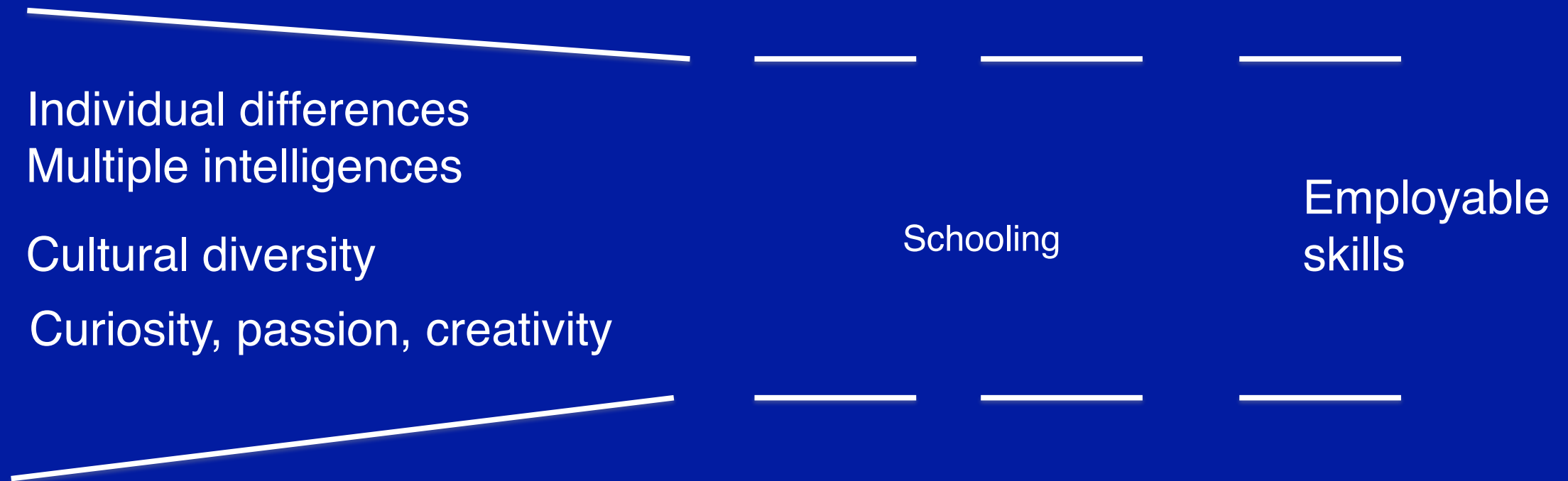
Cultural diversity

Curiosity, passion, creativity

Schooling

Employable
skills

It is a miracle that curiosity survives formal education.
---Albert Einstein

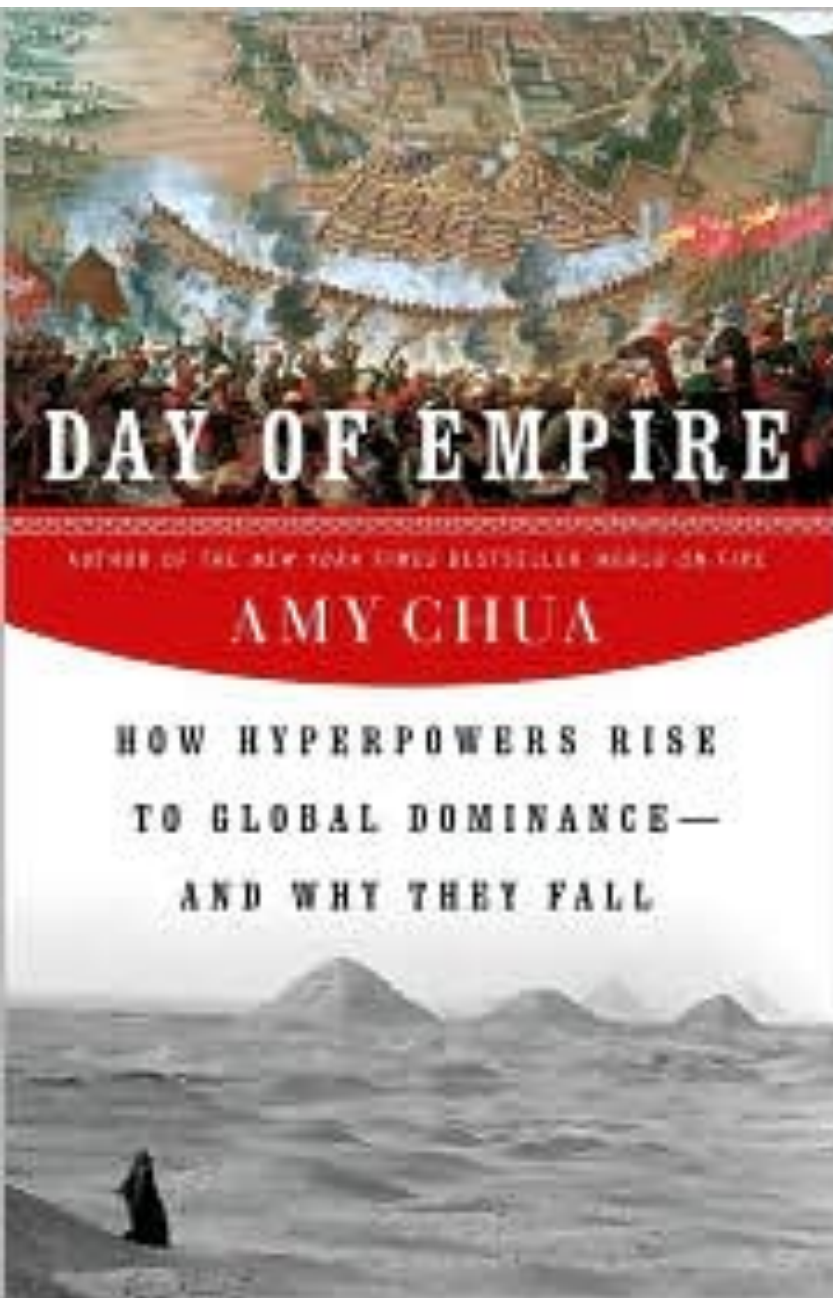


The future: The Age of Globalization

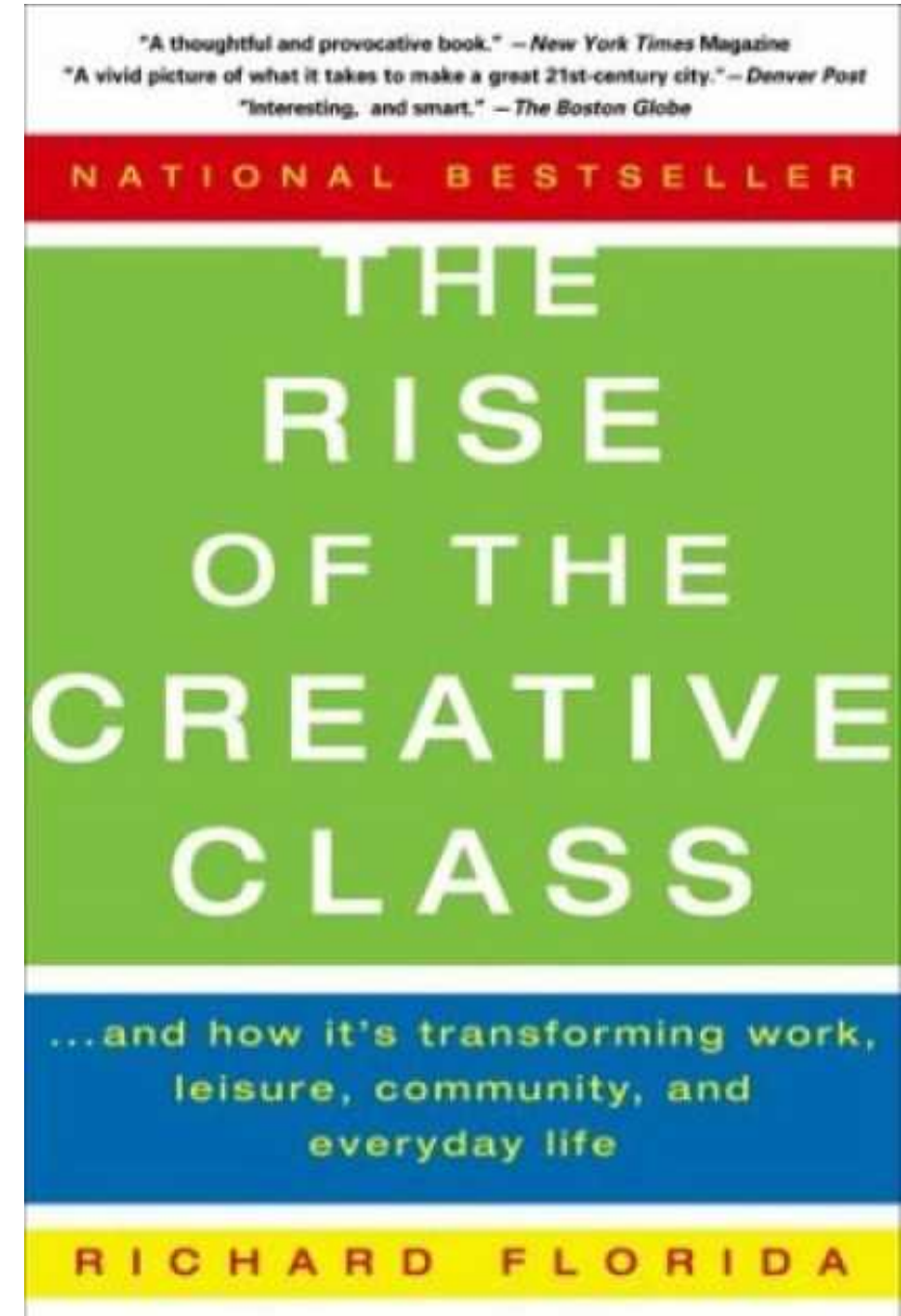


The stone age did not end because they
ran out of stones

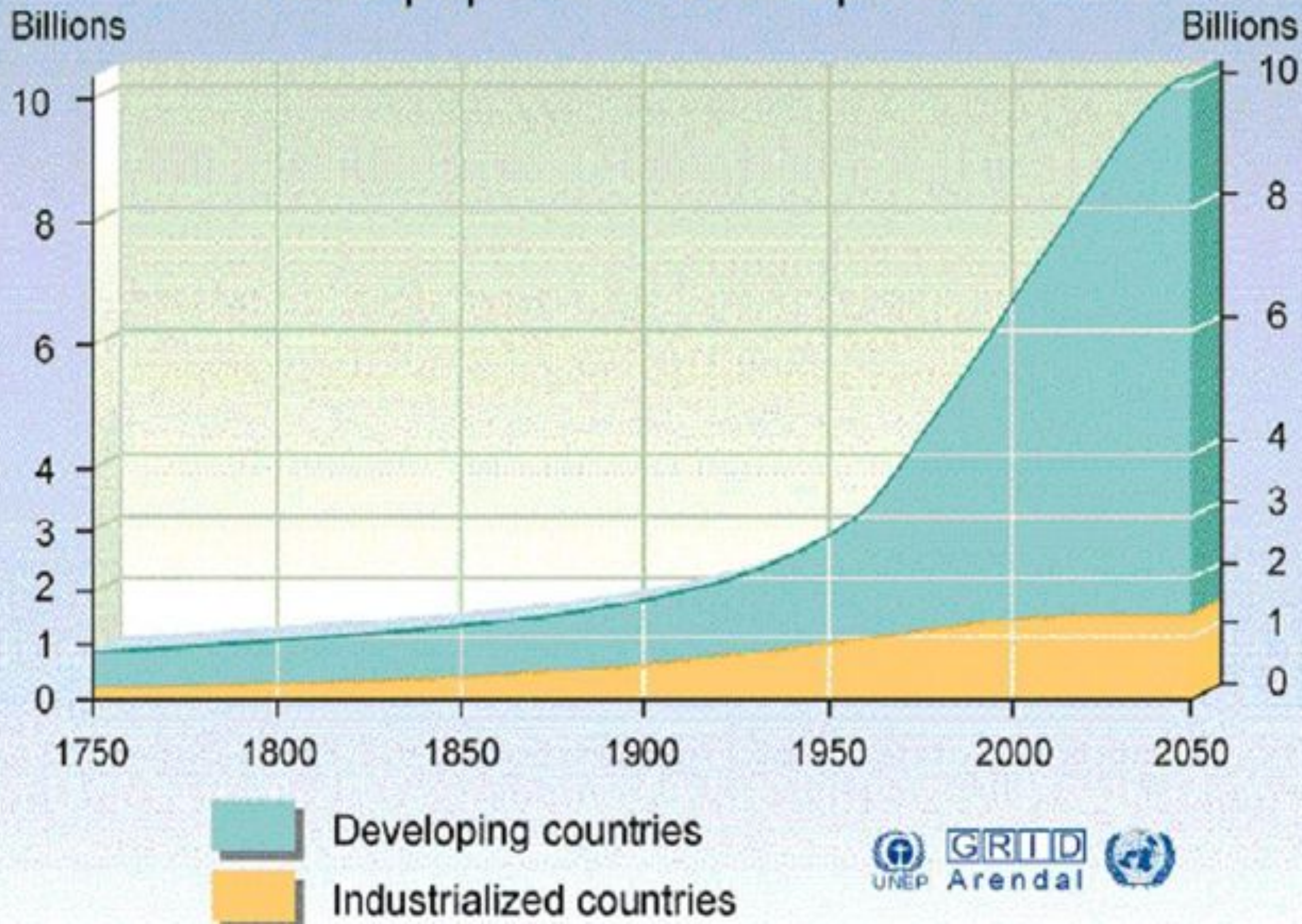
What matters?



Diversity of talents
Creativity
Entrepreneurship
Passion

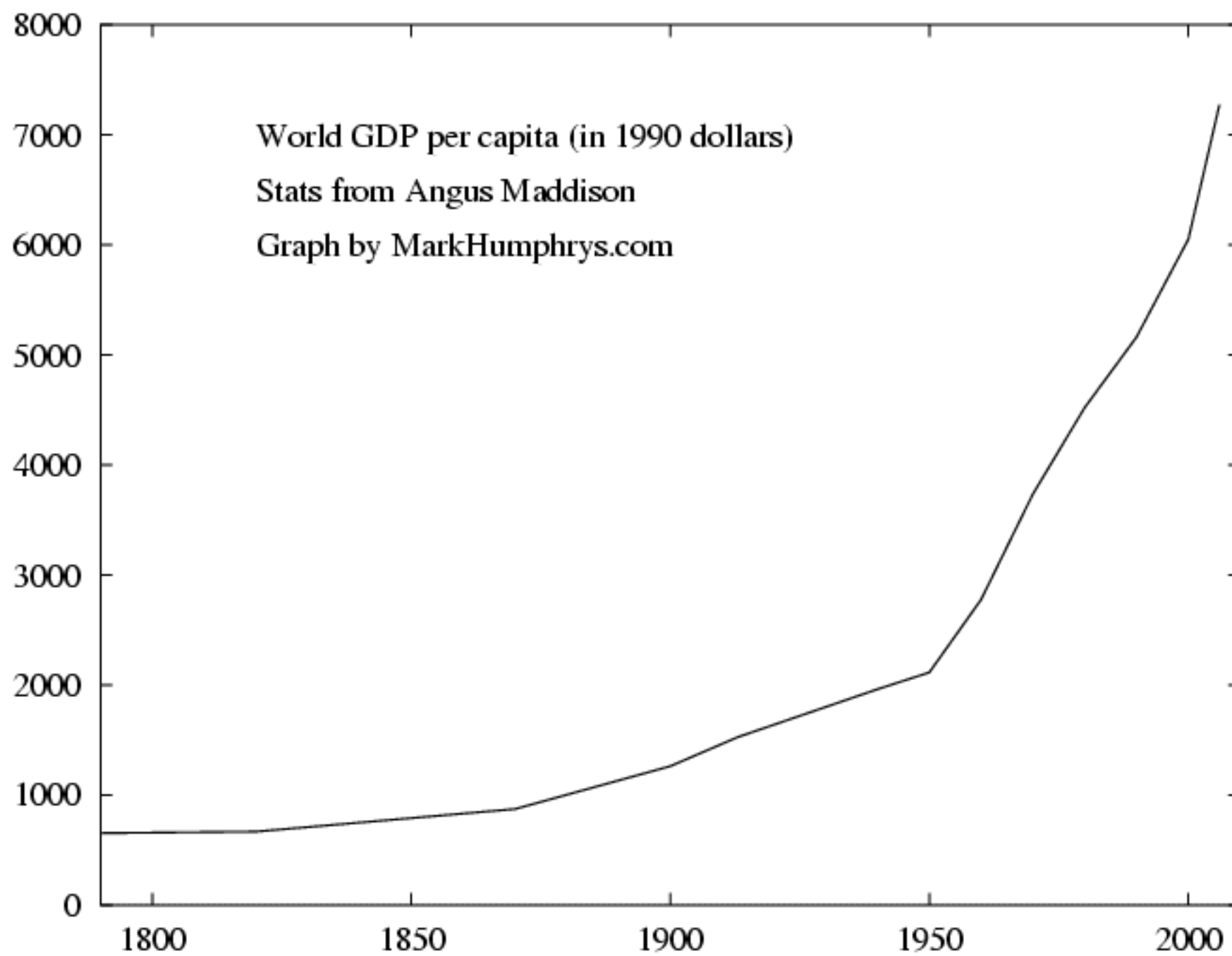


World population development



The world's workforce is rising steadily . .



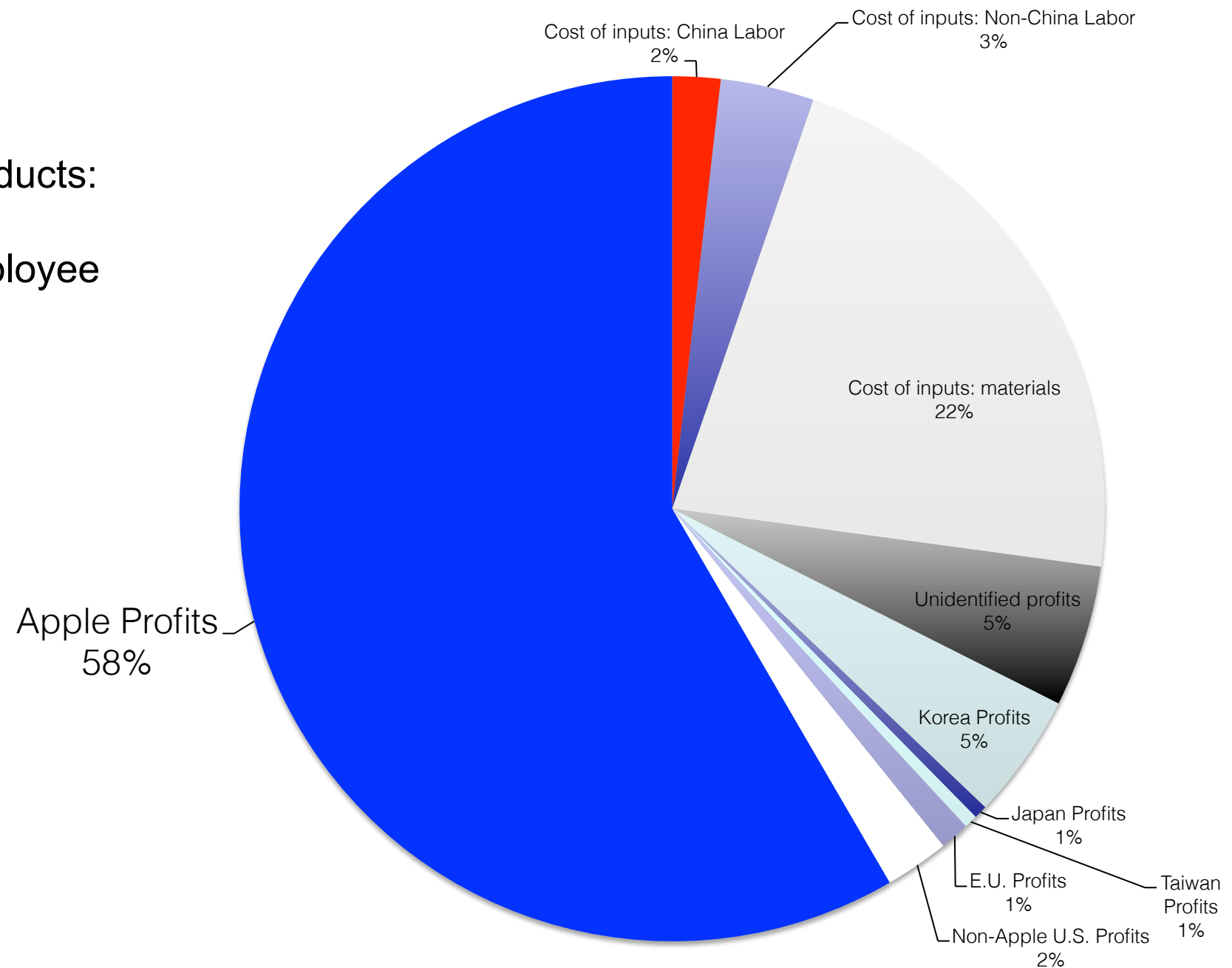


No company loves us enough to stay forever..

- **40-50** years, average life expectancy of Fortune 500 companies
- **12.5** years, average life expectancy of all firms
- **3,000,000** jobs lost annually by existing US companies
- **50%** increase in labor force in developing countries by 2050

- Sources:
- <http://www.businessweek.com/chapter/degeus.htm>
- <http://www.kauffman.org/>
- <http://www.economist.com/node/18227144>

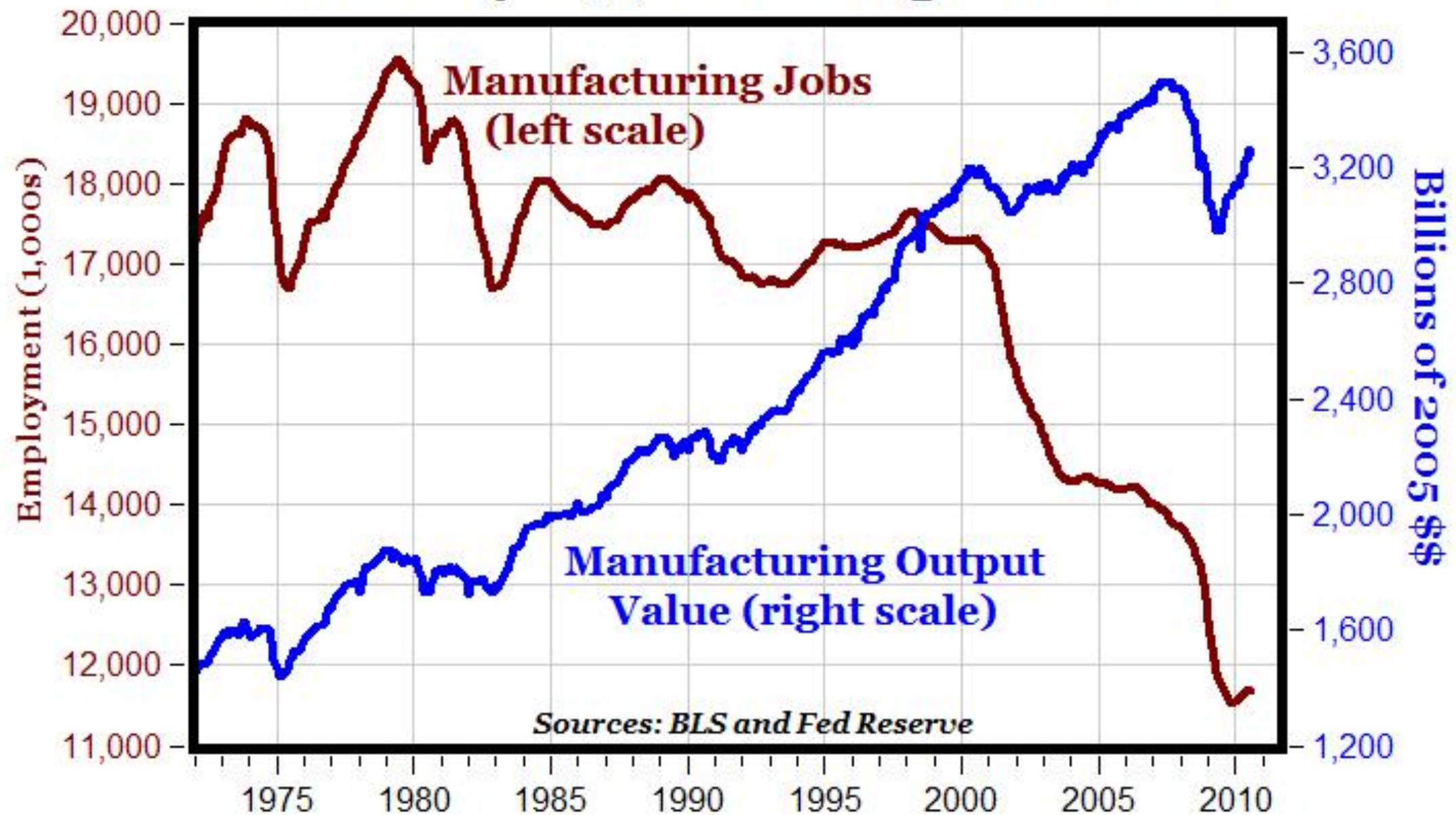
Distribution of Value for iPhone 2010



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

U.S. Manufacturing: Output vs. Jobs

January 1972 to August 2010



<http://www.dailymarkets.com/economy/2010/10/03/increases-in-u-s-worker-productivity-more-than-chinas-currency-responsible-for-loss-of-u-s-jobs/>

Today skills, no matter how complex, that can be exported through outsourcing or offshoring are vulnerable. Even some highly skilled jobs that can be outsourced, such as reading radiographs, may be in danger of having stable or declining demand. Skills for which a computer program can substitute are also in danger.

---Claudia Goldin and Lawrence Katz, 2009

Daniel H. Pink (2005). A Whole New Mind: Moving from the Information Age to the Conceptual Age. New York: Penguin.

Information Age: L-Directed Thinking

- Sequential
- Literal
- Functional
- Textual
- Analytic

**Asia
Automation
Abundance**

Conceptual Age: R-Directed Thinking

- Simultaneous
- Metaphorical
- Aesthetic
- Contextual
- Synthetic

Can someone overseas do it cheaper?
Can a computer do it faster?
Is what I am offering in demand in an age of abundance?

Entrepreneurs:

Business entrepreneurs

Social entrepreneurs

Intrapreneurs

Policy entrepreneurs

Entrepreneurial Qualities

Confidence

Friends

Risk-taking

Passion

Creativity

Motivation

From Accident to Design: Students as Global Entrepreneurs

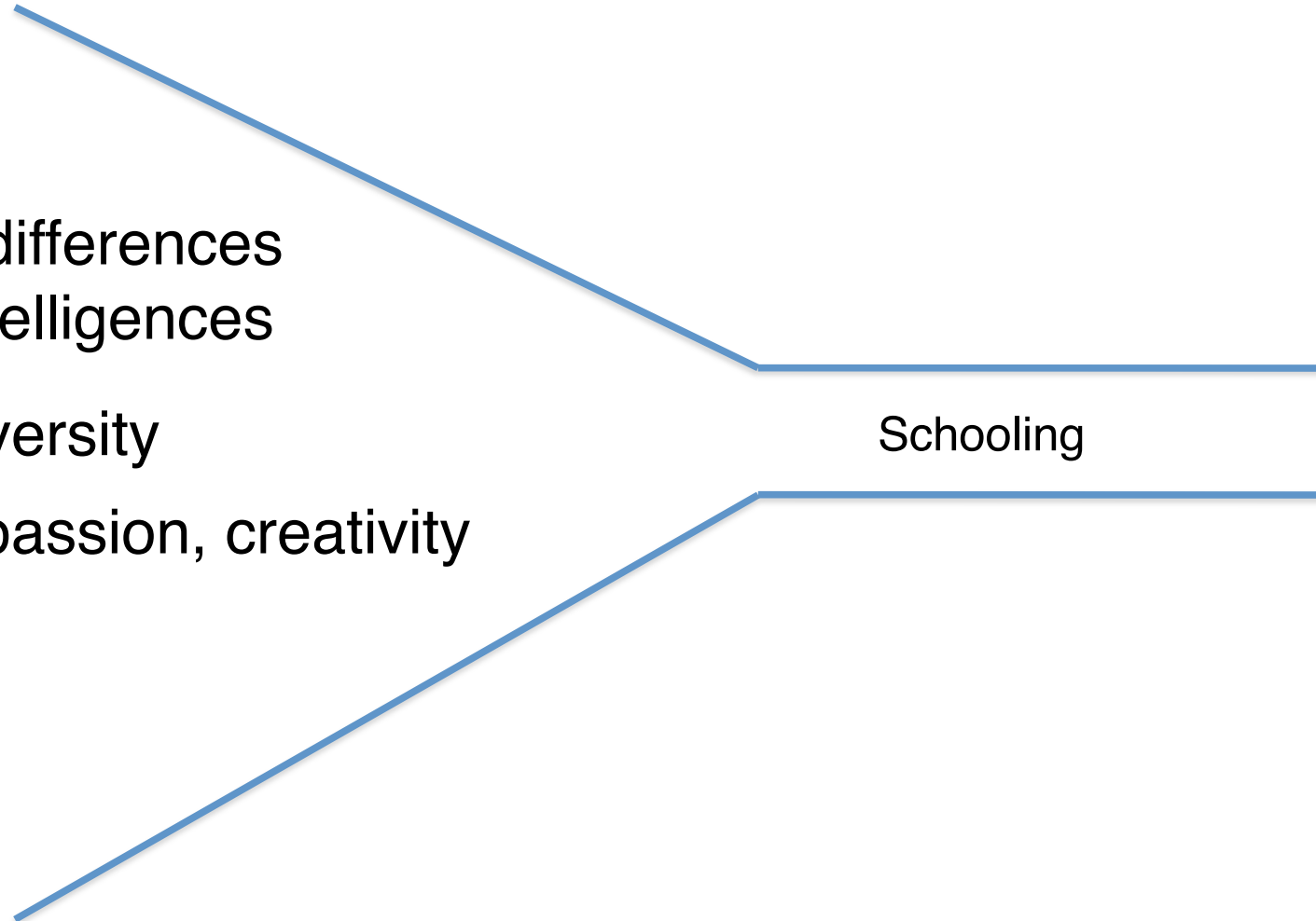
Individual differences
Multiple intelligences

Cultural diversity

Curiosity, passion, creativity

Schooling

Employable
skills



Individual differences
Multiple intelligences
Cultural diversity
Curiosity, passion, creativity

Schooling

Enhanced
Human Talents

The Difference between a \$10,000 Education
and a \$10 Education

Strength-based Personalized Learning

Capitalize on Strengths: Strengths-based Education

Making Learning Real: Project-based Learning

Global Competence: The Globe as the Campus

Three Principles

Freedom to learn: Choice

Real outcomes:

Authentic products or services

High expectations:

Disciplined and sustained work

Three Indicators

Freedom to learn: Broad Curriculum/Diversity
of Opportunity

Real outcomes:

Authentic products or services:

Authentic Audience

High expectations:

Disciplined and sustained work: External
Professional Guidance

OBA

<http://globaleducation.uoregon.edu>

<http://zhaolearning.com>