



# Per student spending by country

*The U.S. ranks #1 in K-12 spend per pupil, yet achievement lags behind other nations.*

## 2007 TIMSS Rankings

	<u>U.S. 4<sup>th</sup> Graders</u>	<u>U.S. 8<sup>th</sup> Graders</u>
Math	9 <sup>th</sup> (of 35)	6 <sup>th</sup> (of 47)
Science	5 <sup>th</sup> (of 35)	10 <sup>th</sup> (of 47)

## 2006 PISA Rankings – U.S. 15 Year Olds

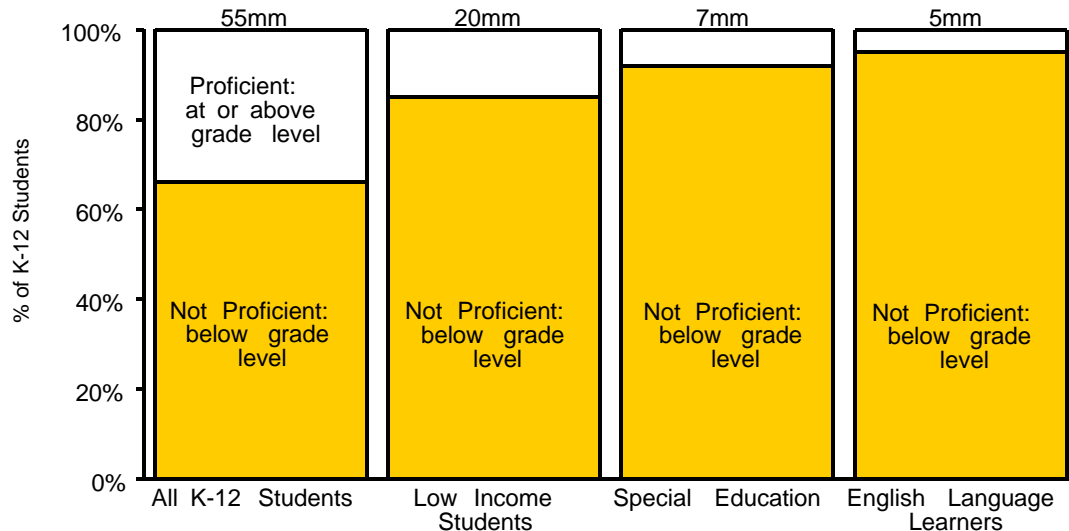
Math	24 <sup>th</sup> (of 29)
Science	17 <sup>th</sup> (of 29)

# Children Are Being Left Behind



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## Academic Progress (2009)



Source: DOE NAEP 2009 Subject Areas Reading and Math.

# Growing emphasis on education in developing nations

- **There is increased political focus, and widespread recognition, amongst developing nation governments that investment in education leads to sustainable development/economic growth and is a pre-requisite to global competitiveness**
- **Governments are also looking to attract their fair share of inward investment associated with the tide of outsourcing that relies on a skilled workforce – emulating the success of countries like India**
- **Education and technology are the most important components of “intangible infrastructure”**

Spearman's Rank Correlation Co-efficients 2006 data

	Education	Healthcare	Financial	Tech	Business services
Education	1.00	0.72	0.77	0.85	0.80
Healthcare	0.72	1.00	0.62	0.75	0.55
Financial	0.77	0.62	1.00	0.77	0.76
Tech	0.85	0.75	0.77	1.00	0.84
Business services	0.80	0.55	0.76	0.84	1.00

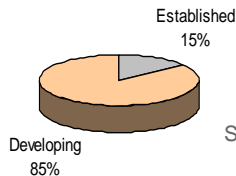
**The closer to 1.0, the more significant a factor correlates to the thesis that “Intangible Infrastructure” determines a country’s level of economic activity and wealth creation**

Source: Credit Suisse Intangible Infrastructure Indices.

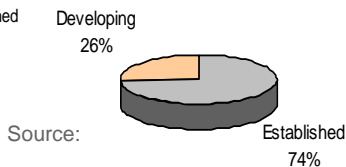
# However, significant structural gaps persist

- Developing countries account for 26% of global spending on education but 85% of the world's population

## Population Split:

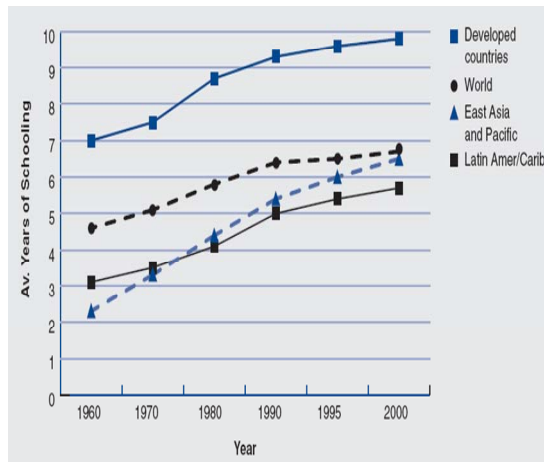


## Education Spend:



- Despite increased spending and focus, significant gaps and structural challenges persist in the provision of quality education for all

- Aggregate 2009-2013 GDP growth in developing markets forecast at 4%-8% vs. 0%-4% in established markets
- Education spending is c.4.8% of GDP in developing markets, well below the 6.0% in established markets
- We expect developing markets to exhibit higher growth rates in education spending than established markets

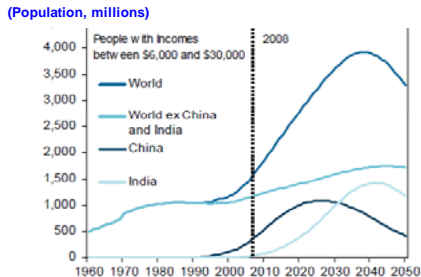


Sources: HMM Analysis, OECD Programme for International Student Assessment (PISA).

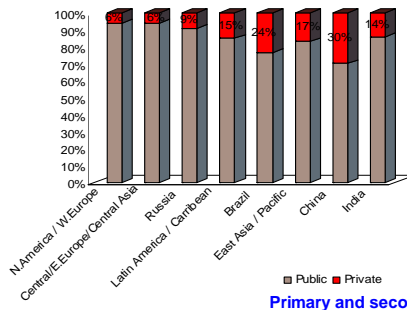
# New and burgeoning middle classes are increasingly 'filling the gaps' in public education provision with personal expenditures

- An additional 2 billion people will join the middle class in developing economies by 2030<sup>(1)</sup> – 70 million per year
- This segment increased from 1% in China in the 1990s to 35% today, and is expected to reach 70% by 2020. India is expected to grow at a similar rate but 10 years behind
- Education expenditure accounts for a major share of the middle class's disposable income
- As incomes rise, consumers devote a larger portion of household budgets to education, driven by weaknesses in public services a strong link between education and higher salaries<sup>(2)</sup>

Projected Rise of the "World Middle Class"



Private education expenditure as % of total



Source: Goldman Sachs Economics Paper #170.

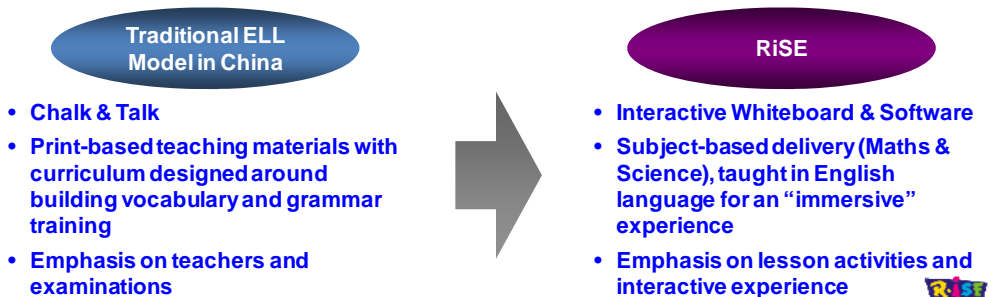
# Immersive Language Learning Proposition



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RiSE was the first in market to offer a unique subject-based teaching method of using the interactive whiteboard combined with proven educational software

- The RiSE offering targets pre-K to K-6 children with or without English language background
- Product and service offering positioning is unique in the local market, combining subject-based English language learning with HMH Learning Technology's exclusive curriculum-based software (Destination Math and Destination Reading )
- Curricula taught in an interactive, immersive learning environment, mimicking the idea of a US school classroom



# E-learning in India



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## OPPORTUNITY:

- India is one of the largest education markets in the world with circa 40% of the 1.1bn population in the 5-24 age group

## SOLUTION:

- In partnership with S.Chand, a local publisher, we have a JV developing highly differentiated services for both the private education market and for government schools

## RESULTS:

- Private Schools: Destination Success provides high-quality, interactive, curriculum aligned, blended content to the K-12 segment in English, Math, Biology, Chemistry and Physics
- Government Schools: aligned with several State ministries for forthcoming government content tenders
- K-8 Learning Centres, through Rise and Risekids, provide unique assessment-based digital content, core competency and test score improvement in Math, English & Science



# Singapore faced many challenges when it became an independent nation in 1965

- GDP < S\$2,700 (or about US\$1,000 then)
- 14% unemployment rate
- 50% of population was illiterate
- Out of every 1,000 students, only 440 completed Grade 10
- High mortality rates





# Singapore, Today



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***“We want our young to think independently, to explore with confidence, and to pursue their passions. Education is not just about training for jobs. It is about opening doors for our children, and giving them hope and opportunities. They are our future.”***

*Mr Lee Hsien Loong, Prime Minister, Nov 2007*



# An Education System That Stands Out

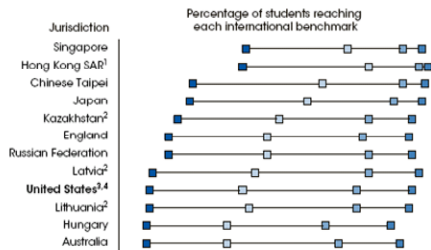


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- **Singapore ranked 1<sup>st</sup> in the quality in education system**
  - Global Competitiveness Report 2007-2008
- **Singapore ranked one of the world's best-performing school systems**
  - McKinsey Report, published 2007
- **Singapore students ranked among the top in mathematics and science**
  - Trends in International Mathematics and Science Study (TIMSS) 2007
- **Singapore ranked 4<sup>th</sup> among 45 education systems**
  - Progress in International Reading Literacy Study (PIRLS 2006)

# Global Trends - Maths and Science Education

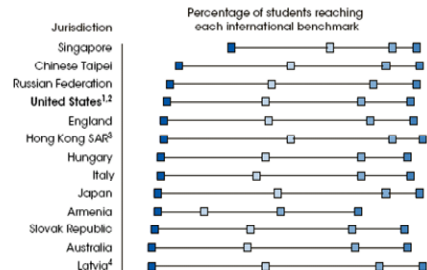
## Maths



Advanced (625)	High (550)	Intermediate (475)	Low (400)
41*	74	92	98
40*	81	97	100
24*	66	92	99
23*	61	89	98
19*	52	81	95
16*	48	79	94
16*	48	81	95
11	44	81	97
10	40	77	95
10	42	77	94
9	35	67	88
9	35	71	91

And yet, despite resources that are unmatched anywhere in the world, ... in 8th grade math, we've fallen to 9th place. Singapore's middle-schoolers outperform ours three to one.

## Science



Advanced (625)	High (550)	Intermediate (475)	Low (400)
36*	68	88	96
19*	55	80	97
16	49	82	96
15	47	78	94
14	48	81	95
14	55	88	98
13	47	78	93
13	44	78	94
12	51	86	97
12	27	52	77
11	42	75	92
10	41	76	93
10	47	84	98

-Mr Barack Obama  
President, United States of America

Source: Trends in International Maths and Science Survey.

# Qualifications of Singapore Teachers



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Level	Non-graduates	Graduates
Primary	5, 928	6, 669
Secondary	1, 070	10, 602
Junior Colleges	11	2, 524



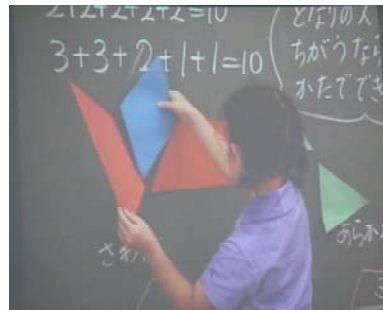


# TIMSS

Trends in International Math and Science Studies

## Math

Grade 4	Sweden	Median	U S A	Japan	Singapore
Advanced	3	5	10	23	41
High	24	26	40	61	74
Intermediate	69	67	77	89	92
Low	93	90	95	98	98



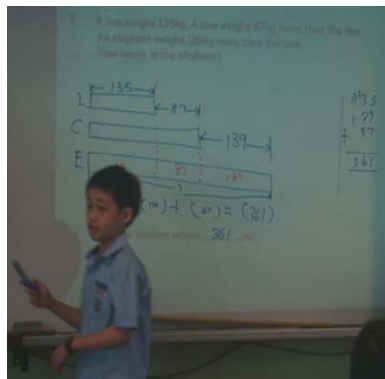
Elementary School in Japan

# TIMSS

Trends in International Math and Science Studies

## Math

Grade 8	Average	Hong Kong	Singapore	Korea	Taiwan
Advanced	2	31	40	40	45
High	15	64	70	71	71
Intermediate	46	85	88	90	86
Low	75	94	97	98	95



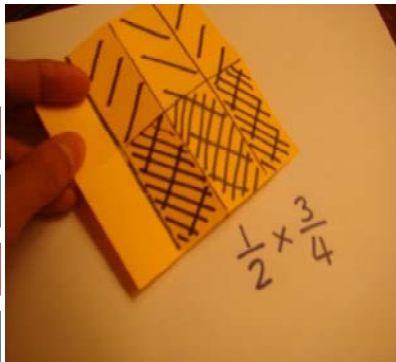
Telok Kurau Primary School

# TIMSS

Trends in International Math and Science Studies

## Math

Grade 8	Average	Indonesia	Thailand	Malaysia	Singapore
Advanced	2	0	3	2	40
High	15	4	12	18	70
Intermediate	46	14	44	50	88
Low	75	48	66	82	97



Effective Methods in Teaching Mathematics



**% of Students Int'l Benchmarks (TIMSS) 2007      Science**



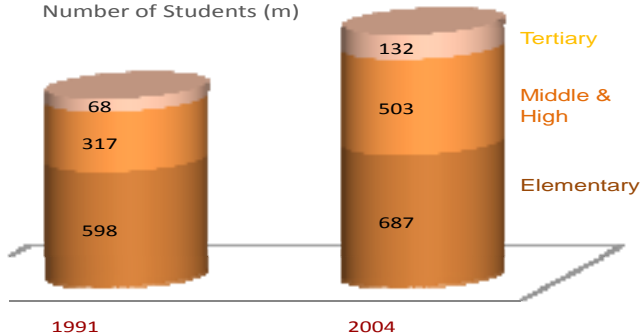
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	Advanced	High	Intermediate	Low
Singapore	36	68	88	96
Taiwan	19	55	86	97
Russia	16	49	82	96
USA	15	47	78	94
England	14	48	81	95



## Global Trends in Education : Participation

Number of Students (m)



Source: UNESCO, World Bank

- More students enrolled in elementary school

- Proportion of students moving on to middle and high school and then tertiary education has increased significantly

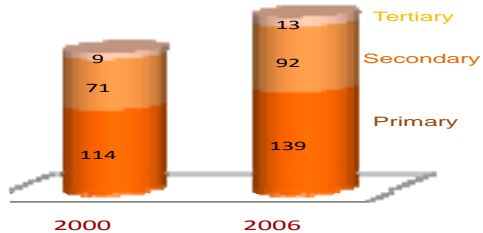
- Increased demand for teachers and teacher education



## Global Trends: Participation & Investment



Enrolments in India (m)



Source: UNESCO

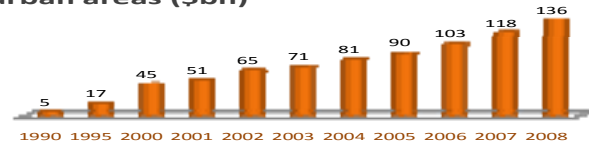
Indian consumers spend an estimated \$50 billion every year on private educational institutions and services. This is in addition to the \$30 billion invested by the government each year in the education sector.

— India Digital News Monitor

Enrolments in China (m)



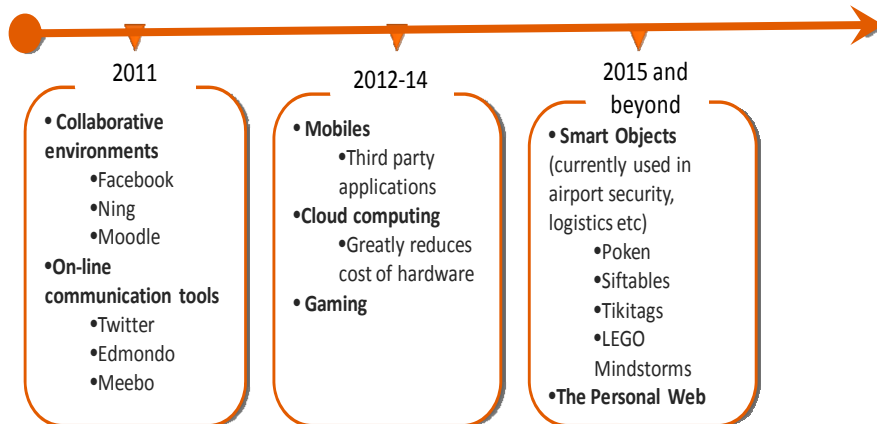
China: Private education expenditure & related services in urban areas (\$bn)



Source: National Statistical Bureau of China

# Educating an Unwired World

## Trends in ICT for education



For the Net Gen, using the technology is as natural as breathing. **Technology is like the air.**

Don Tapscott, *Grown Up Digital*

# Educating an Unwired World

## Value Proposition

- Rise of **content aggregation**
- **Mall concept** for Learning Management Systems
- Content in print may become **commoditized** – digital offering will be differentiating factor
- **Content locked** in personal learning devices

## Content

- Learning will continue to be **experiential, differentiated, customized**: print will continue to dominate, digital will be a necessary order winning factor
- New genres in digital learning content – **gaming technology**
- Rates of change and adoption of technology in different markets will differ based **on availability of funding, infrastructural readiness and ability of teachers**
- Assessment will become increasingly **customized, globalised and diagnostic**.

## Structural

- **New forms of collaboration** – consortia to provide complete solutions
- Coupled with wireless broadband, cloud computing will **increase access to educational content exponentially**
- Implications for **vertical integration** – content converters
- **Investments in hardware infrastructural resources** to store and process info

# Macro Factors Impacting Education

## Political

- **Political will and might to incorporate technology in education, funding from International Organizations**
- Race to the Top Funding in US - committed to districts that adopt innovative, world-class and technology driven curricula
- World Bank-committed funding for education – US \$ 3.2 billion 2010-2012 going mainly to Sub-saharan Africa and Latin America

## Economic

- **Rise of private education segment – no longer enclave of the elite but emergence of a middle segment that is exerting pressure upwards and downwards**
- Increase in middle class's ability to 'purchase' quality education in emerging economies – India, China, Indonesia, Thailand, Latin America
- Emergence of branded education – the Singapore Education brand

## Technology

- Rate of broadband penetration
- **Current focus of investment in education in on building up infrastructural capability – next phase access and content**
- Anytime anywhere learning

## Environmental

- Increased environmental consciousness
- Increase in pandemic scares requiring capability for **home-based access to learning**

## Social

- **From digital migrants to digital natives**
- Globalization – learning from varied sources – Singapore math and science – rise of world-wide benchmarking of performance and achievement
- An increased 'educated-parent' population demanding sound learning and education
- The increasing diversity of learners

## Legal

- **Changes to 'ownership' of intellectual property**