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# LITTLE SOLDIERS

An American Boy,  
a Chinese School, and the  
Global Race to Achieve

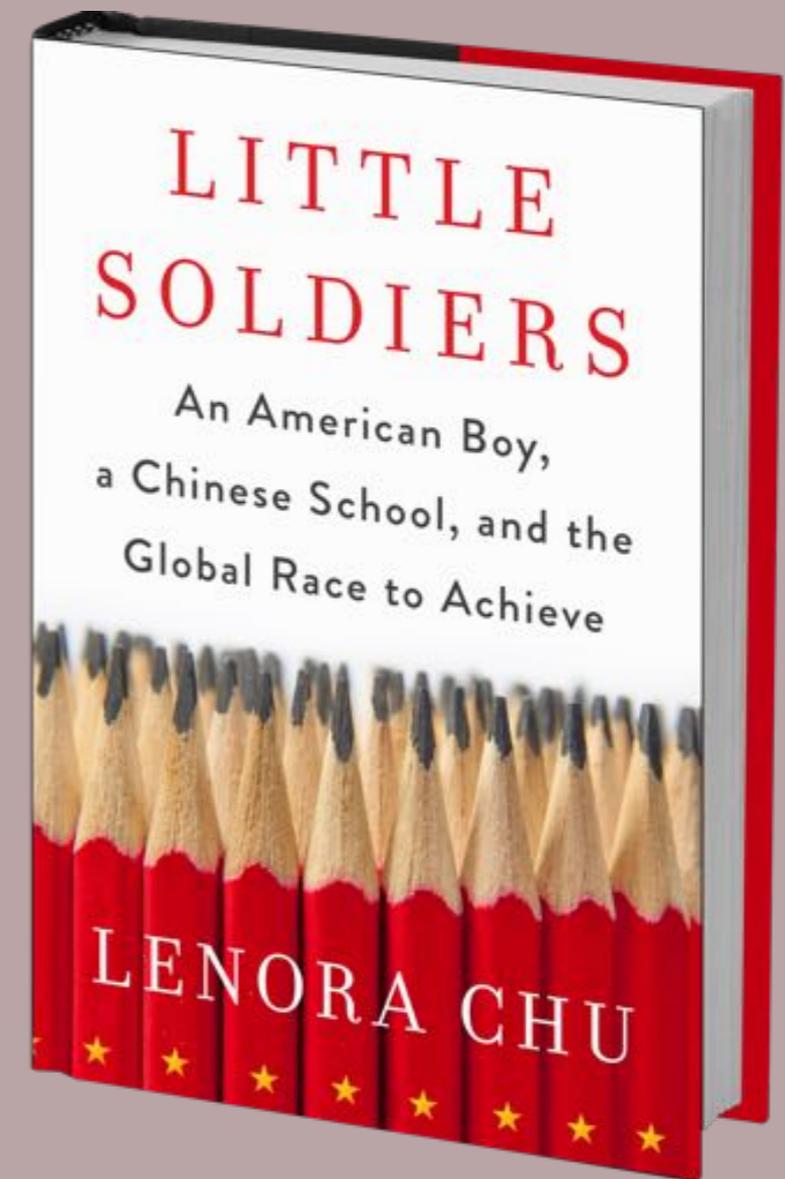
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9.19.2017



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# Three objectives for today's talk

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1

Overview of China's School System, the world's largest

2

Identify areas the government is trying to change

3

Consider what features of Chinese education are worth learning from

# When Western media covers Chinese education they usually do so in extremes.

World's top academic achievers

or

Rote-learning robots  
No Creativity

The Opinion Pages | OP-ED COLUMNIST

## The Shanghai Secret

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**Thomas L. Friedman** OCT. 22, 2013

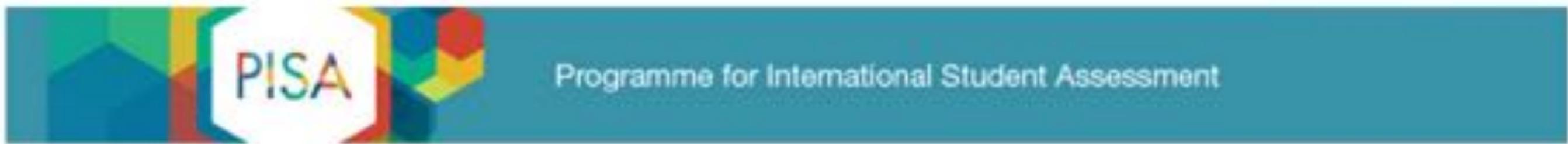
**CHINA POWER**

### How China Kills Creativity

By taking emotion out of the classroom, Chinese education may also be destroying any chance of creativity.



# WHICH IS IT? DEPENDS ON WHOM YOU ASK.



- PISA 2009, 2012: Shanghai No. 1 in math, reading science.



## CHINESE REACTION

**“PISA... doesn’t mean we have a good fundamental education.”**

*- Zhang Minxuan, SH Normal Univ.*

**“Taiwan, South Korea, Japan scored right behind Shanghai, but they spend 1/3rd to 1/2th the time in study.”**

*- Yang Dongping (Chinese ed reformer)*



## U.S. REACTION

**“A wake-up call.”**

*- Arne Duncan*

**“The Shanghai Secret.”**

*- Thomas Friedman*

**“Fifty years later, our generation’s Sputnik moment is back.”**

*- President Obama*

# Rainey



# Little Jun





# Overview of China's Education System



# How Big is China's School System?

## Students (primary-uni)



**200** million  
**75** million

## Budget

(public primary, secondary)



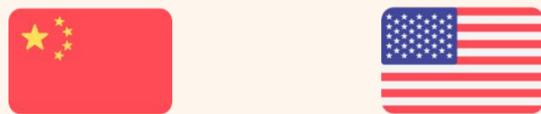
**\$188** billion  
**\$584** billion

## Per pupil expenditures



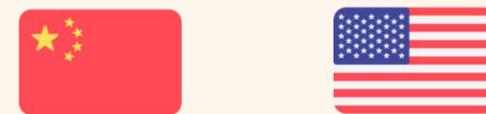
**\$1,600**    **\$11,600**

## Public primary and secondary schools



**270,000**    **100,000**

## University degrees awarded each year



**7 million**    **1.9 million**

**Yet: America has 4,800 higher education institutions, compared with China's 2,845**



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# **CHINA: 1.4 billion people**

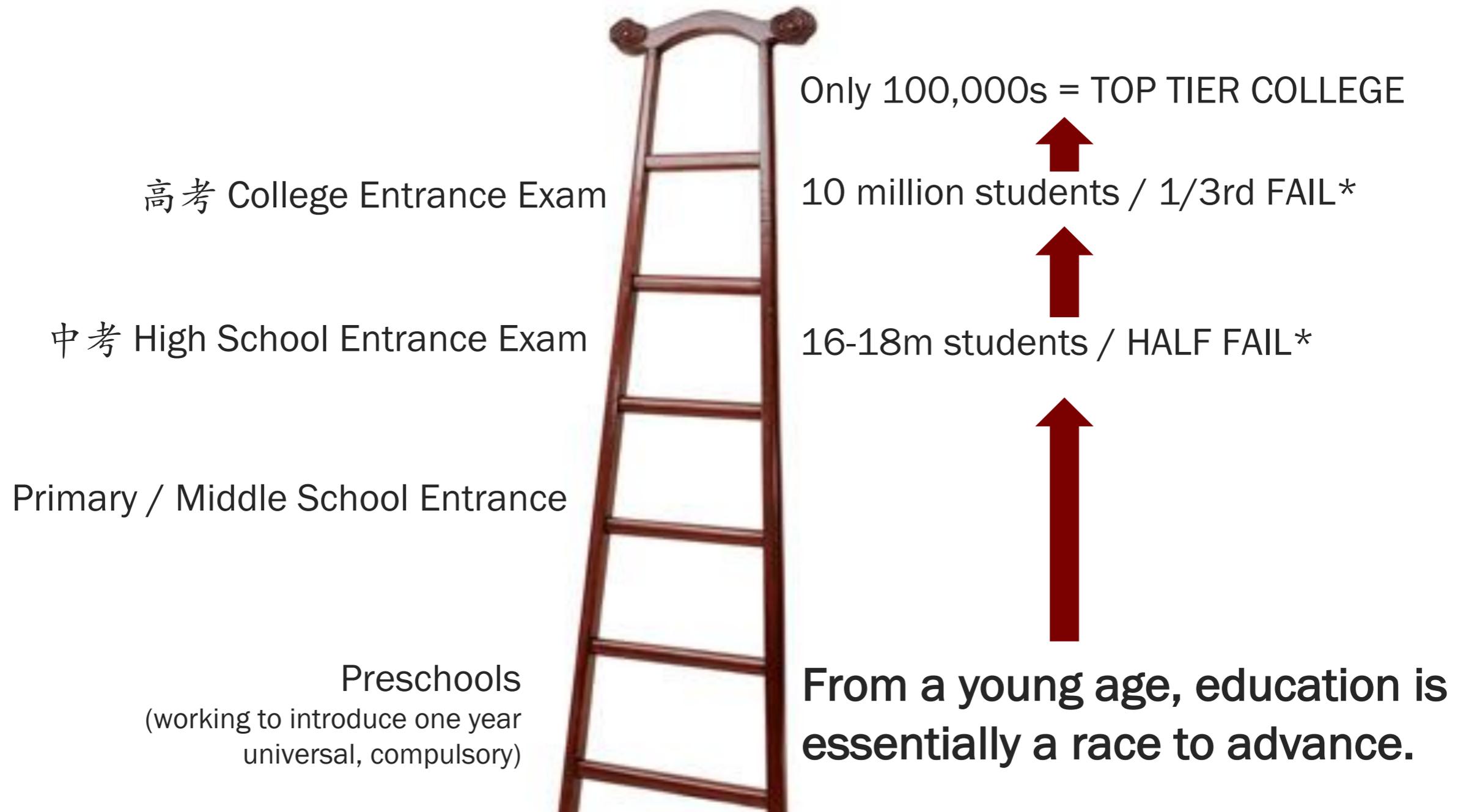
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**Shanghai: City of 26 million**  
**A city and an administrative province**  
**Special Pilot District for Education**



# Exam-based System

## The odds are tough



**Approx. 18 million babies born each year in China.**

\*“fail” indicates failure to advance into next level of “academic” education. Vocational ed not included.)

# Tests, tests, tests.



# The country stops for two days.

National High School Entrance Exam  
(zhongkao)



National College Entrance Exam  
(gaokao)



# This Framework Drives Values, III Effects on Students



- Crushing academic pressure
- No time for sports or exercise
- Outside Prep Classes the norm for most children throughout China
- Students are 'test-taking automatons'
- Where are students' creative skills, independent expression?
- Socio-emotional competencies?

Source: Chinese government documents, surveys, and Chinese news media

送考： Parents waiting outside a test site

# Inequality: System is not a true meritocracy

## Money buys:

- Test preparation, tutors, outside classes
- Back-door entry to schools
- Paths out of the system: International schools, schools abroad

## Location helps:

- Entrance Exam Content vary by province
- Top-tier universities take more kids from certain areas
- Rural School Quality, teacher talent lags



**≡ INEQUALITY**

“

I have traveled across more than twenty countries all over the world, and not a single one of them has as big a gap as China. The gap is one hundred years in economics, ideology, and concept.”

— Zhou Nian Li, education professor at East China Normal University

**Full of contradictions. Shanghai PISA #1 in the world...  
Countryside schools fall far behind.**



**Eighteen Days Before High School Entrance Exam.  
Rural Henan County.  
She Fails the Exam. She Goes to Work.**



# Barriers to creativity, independent expression



- **Collectivist thought**
- **Group over individual**
- **Authoritarian, top-down classroom**
- **Risk-taking punished in the classroom**
- **Exam metrics that keep children bent over textbooks**
- **Little time to practice being creative, expressing original thought**



# Political Curriculum



# 军训Jun Xun — military training



# Other problems with the System

Education concepts, teaching methodologies, content are *outdated*

Students lack adaptability, flexibility



Shortage of skilled, innovative teachers systemwide

Education systems are inflexible; schools lack autonomy



# What is China Trying to Change?

# China's Attempts to Reform

- Policies Stretching Back Two Decades
- Addressing Preschool all the way through University
- “Quality Education Reforms”
- National Education Reform Plan 2010-2020
- Lightening the Emphasis on Entrance Exams
- Incenting Teachers to go to Rural Areas
- High-Performing / Low-Performing Mentoring Programs



## EXAMPLES IN SHANGHAI

- Two Chances for College Entrance Exam
- Psychologists installed in middle and high schools
- Shortened School Day
- Limited Homework in Early Primary



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# China's National Plan for Medium and Long-term Education Reform and Development 2010-2020

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## Introduction

Lofty goals — a 27,000 word document

“

Giving priority to developing education and raising its modernization level are key to attaining the **goal of building a moderately prosperous society** in all respects, and making China a prosperous, strong, democratic, culturally advanced and harmonious modern **socialist country**.

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# China's National Plan (cont.) 2010-2020

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## Section

## I

## High-level Goals

**“Build a country rich with human resources”**

- Popularize Education
- Equal education for everyone
- Quality Education (student sociability, health, etc)
- Lifelong Education (vocational and continuing education)

# China's National Plan (cont.) 2010-2020

## Section

## II

## Development Goals — In Words

- Popularize Education
  - **Universal preschool (for at least one year)**
  - High School: Increase to 90 percent enrollment
  - Higher Education: Increase to 40 percent enrollment (to 35 million students);
  - Eliminate illiteracy in young and elderly
  - **Extend average years of education from 9.5 to 11.2 years**
  - Aim of 20 percent of working-age population to be college grads
  - Deliver equal education to everyone (ethnic minorities)
  - **Quality Education** (boost ideological awareness, moral conduct, scientific and cultural attainment, and physical health).
  - **Enhance Special Education**

# China's National Plan (cont.) 2010-2020

## Section II

### Development Goals – In Numbers

**Box 1: Major goals for education development from 2009 to 2020**

Indicators	Units	2009	2015	2020
<b>Preschool education</b>				
Number of children in kindergartens	Million	26.58	34.0	40.0
Gross attendance rate for those entering kindergartens 1 year before starting school	%	74.0	85.0	95.0
Gross attendance rate for those entering kindergartens 2 years before starting school	%	65.0	70.0	80.0
Gross attendance rate for those entering kindergartens 3 years before starting school	%	50.9	60.0	70.0
<b>Nine-year compulsory education</b>				
Number of students in school	Million	157.72	161.0	165.0
Retention rate of students	%	90.8	93.5	95.0
<b>Senior middle school education*</b>				
Number of students in school	Million	46.24	45.0	47.0
Gross enrollment rate	%	79.2	87.0	90.0
<b>Vocational education</b>				
Number of students in secondary vocational schools	Million	21.79	22.5	23.5
Number of students in higher vocational colleges	Million	12.8	13.9	14.8
<b>Higher education**</b>				
Total enrollments	Million	29.79	33.5	35.5

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# China's National Plan (cont.) 2010-2020

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## Section

## III

## System Reforms

- Professional cultivation of teacher talent
- Reform Exam and Enrollment Systems
- Separate government functions from school operations
- Strengthen decision-making power at province, school level
- Promoting international exchange and cooperation

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# China's National Plan (cont.) 2010-2020

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## Section IV

### Measures to “Guarantee” Reform

- Improve quality of teachers, training, heighten status/benefits
- Increase education investment (to 4% of GDP)
- Increase funding in rural and ethnic areas
- Increase management / oversight of funding
- Nationwide online educational service network (modernization of content, methodology)
- Promote Rule of Law

# Surveys Show Little Reform Progress

- You Cannot Change Behavior if you do not change the DRIVERS of Behavior
- Many initiatives were part of previous reform plans
- Competition for fiscal funding (agriculture, science & technology, social security and health)
- Implementation of these ideas depends heavily on the efforts of government and authorities.



“

“Lessen the Burden” policy has been going on for more than half a century, but the burden on students has in fact increased greatly.”

— *Luo Chongmin, former Yunnan education minister*

“

As far as education reform is concerned, it is easier said than done. The drafting of the Plan itself is a top-down education reform in which all social sectors are involved.

— *Liu Pengzhi, Principal of the Middle School Affiliated to the China Renmin University*

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# Two Teachers on Reform

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“

Reform takes time. It hasn't strongly impacted my teaching style, and the plan hasn't been discussed at work. We were told during a school staff meeting and provided theoretical instruction but implementation will take time.

— *Teacher Wang: Chinese teacher at Shenzhen Senior High School*

## CONCLUSION

Reform is also driven by market-choice, changing attitudes and international collaborations (as it is by policy).

“

Administrators and principals pay more attention to the reform plan than teachers.

— *Teacher Zhang: Researcher at Shanxi Education Sciences Institute*

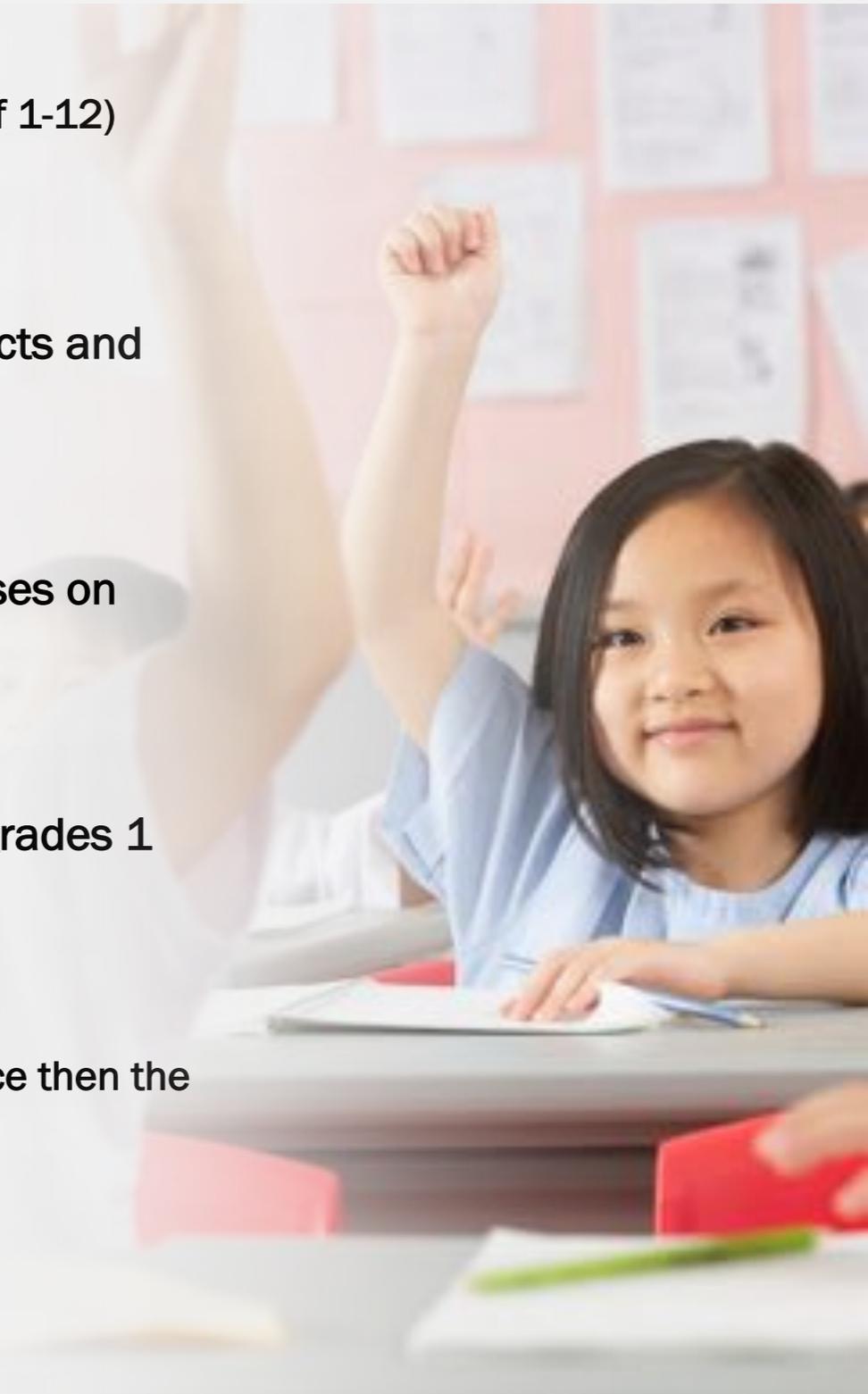
“

Having more choices is changing the way parents/students think about education. Parents with economic resources are choosing private, international or schools abroad. This is changing the thinking: Gaokao will decide my life

— *Wang and Zhang*

# Trends in Chinese Education

- Funding moving from centralized to de-centralized
  - Local governments now mostly responsible for funding and admin of 1-12) (Contributes to inequality)
  - Gov't funding has increased 19% year-over-year for last decade
- Schools afforded increasing freedom to adopt extracurricular subjects and teaching materials.
- Expansion of vocational education to meet workforce needs
- Increasing stratification in higher education: Project 211/985 focuses on boosting standing of China's top-tier universities internationally
- Tightening on Western curriculum in the classroom
- Burgeoning private school sector: 10,735 private schools offering grades 1 through 9, with more than 12 million students.
- Increasing pipeline out of China into overseas education
  - Chinese began landing in the U.S. after Cultural Revolution, and since then the numbers have been increasing 30% year over year.
  - Currently about half a million students going overseas at all levels
  - About 2/3rds of that in the United States





**Educational  
Comparisons**

U.S. vs. China  
What can we learn?

# Cultural Differences

姓名	出生日期	2013.5		2013.11	
		体重	身高	体重	身高
张一洋		17.25	101.6	19.40	106.8
徐高越		19.00	105.9	20.00	109.1
沈淑婷		22.15	111.9	23.00	116.5
王梅桐		21.10	✓	21.50	110.5
梁宇林		17.20	100.3	17.50	104.3
张涵辰		18.25	105.5	18.40	110.1
周子婷		21.60	114.2	23.00	117.6
何佳桐		16.55	102.5	17.25	106.6
徐嘉薇		19.25	112.0	20.10	115.8
张添逸		17.80	108.1	19.80	113.3
金冠宇		21.00	115.3	22.00	118.8
李高蕊		17.30	106.7		
任佳琪		15.50	104.0		



1

Group over Individual

2

Privacy unimportant

3

Posting scores okay

4

Authoritarian culture

5

Teacher Knows Best



# Some Chinese practices we might learn from (vs. Western approach)



**Chinese belief in effort**

Western emphasis on “genius” or innate talent



**Ongoing teacher training, part of workday**

Training more likely to be extracurricular



**Memorize What Needs Memorizing**

Memorization gets a bad rap



**Respect for teachers and education**

*Surveys show half of Chinese would encourage their kids to choose teaching as a profession*

**Respect for teachers and education**

*Less than a third of Americans would do the same*



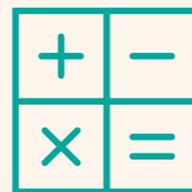
**Open-ness to new ideas**

Collaboration and exchange not a priority



**Parents = full partners in a child's education**

Teachers beholden to parents/child



**Math teaching is rigorous with a focus on conceptual learning**

Mile-wide, inch-deep



 **Chinese Approach**

 **Western Approach**

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# Practice #1

## Chinese belief in Effort over Talent

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- Anything is possible with *chiku*, or eating bitter
- Real Learning is actually very difficult
- Competition as a motivator
- Rankings and assessments demonstrate a goal

“

There is little difference in the intelligence of my students.

– *Mao, Chinese teacher at Shanghai high school*

Western beliefs

Learning should be fun, academic ability is innate

Reality

Over-emphasizing innate talent gives children a free pass

# Practice #2: Chinese Attitude toward Math

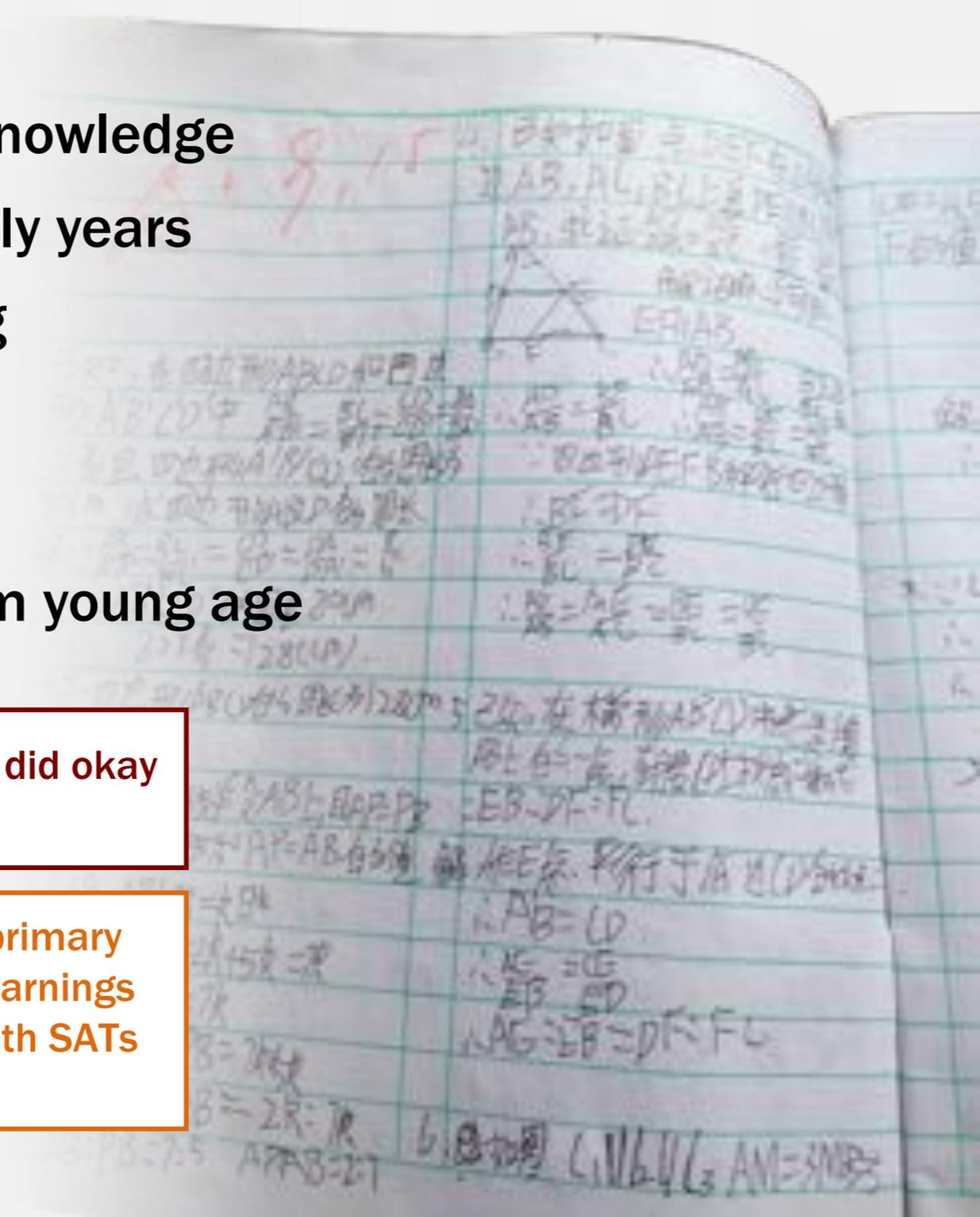
- Focus on rigor, coherence
- Teachers have a high-level of content knowledge
- Focus on memorizing math facts in early years
- Journey onto conceptual understanding
- Emphasis on “direct instruction”
- Cultural belief that math is important
- Families begin informal instruction from young age

Western beliefs

“Oh I was terrible at math, and I did okay in life.”

Reality

Math skills developed during primary school continue to matter for earnings 20–30 years down the line; Math SATs predictive of earnings



# Practice #3: Respect for Education

## Ongoing Teacher Training

- Time for professional development is built into workday
  - Teaching is a craft that can be studied, improved
  - Tradition of videotaping, group discussion

## Cultural reverence

- 1/2 Chinese would encourage children to pursue teaching as profession (<1/3<sup>rd</sup> for U.S./Europe)
- Parents are full partners in Chinese education
- Most Chinese homes have a desk for the child
- Informal education begins at home
- Belief that education is closely tied to prospects of individual *and* nation

## Early signaling

- Truancy or absence not tolerated
- Parents must sign test papers, daily homework

Western beliefs

“Nerd penalty”—academics and “coolness” mutually exclusive

Reality

Academic proficiency closely tied with earnings, volunteerism, status in later life



# Practice #4: Memorize What Needs Memorizing

- You can't just "Look It Up"
- Real Learning doesn't happen unless information is imprinted in long-term memory
- A storehouse of information helps process new information coming in
- Expert-level problem solving derives from large amounts of information

Western beliefs

"Memorization is bad, rote-learning robots"

Reality

Some information should be committed to long-term memory

# Practice #5: Learning from Other Cultures

## Pipeline of students, teachers into and out of China

- Four million foreigners have studied in China over past two decades
- More than 200 countries represented
- Roughly half a million Chinese go abroad each year

## Ongoing teachers and student exchanges with institutions abroad

## Reform plans drawn from policies and curriculum of other countries



北京十一学校  
BEIJING NATIONAL DAY SCHOOL

- Models after U.S. high school
- Student “unions”
- Teachers, students are equals
- Individuality is on the menu
- Military Training has been lightened

Western beliefs

Fewer formal exchanges

Reality

Our communities are a melting pot — we should adapt, learn from each other



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# Conclusions

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“

Maybe the hybrid of American and Chinese systems is perfect.

— *Liu Jian, a mathematician working for the Ministry of Education*

“

The speed of change in the way we educate is staggering. We will reach 2030 and none of the things we are talking about will be relevant at all.

— *Mexican education expert, 2016*



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# My kindergarten class in Shanghai.

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