A Comparison Study of Implementing 21st Century Skills in the US and China

DR. KE XU
徐可博士
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Outline

- The Flattened World
- US and China Education Systems – The Grass Is Greener on the Other Side
- Does PISA Tell the Whole Story?
- Are 21st Century Skills New?
- How Both Countries Respond?
- Description of the Study
- Finding and Discussion
- Thoughts and Questions
Globalization is “what happens when the movement of people, goods, or ideas among countries and regions accelerates” (John Coatsworth, p. 38).
Friedman (2007) cataloged globalization into three stages.

Globalization 1.0 was from 1492 to around 1800. It was about countries globalizing.
Globalization 2.0 lasted from 1800 to 2000. It was about corporations globalizing.
Globalization 3.0 started from 2000. It was about the newfound power for individuals to collaborate and compete globally.
The Changing Job Market

- **US:**
  53% of Recent College Grads Are Jobless or Underemployed

- **China:**
  570,000 graduates unemployed, and Why so?
The Changing Job Market

- **Spain:** Desperation, anger grows for Spanish youth, with 51 percent unemployed
  
  [Link](http://www.cbsnews.com/8301-18563_162-57449322/desperation-anger-grows-for-spanish-youth-with-51-percent-unemployed/)

- **South Africa:** Young, jobless and desperate – Degrees with no guarantees
  
  [Link](http://www.citypress.co.za/SouthAfrica/News/Young-jobless-and-desperate-Degrees-with-no-guarantees-20120616)
What Caused High Unemployment?
Why? Because ...

To create the same value in the US, it takes:

1910:  
1940:  
1970:  
2005:  

[Diagram showing the number of people required to create the same value over time]
Need for Education Has Changed

Since the 1960s, there has been a radical shift in the types of jobs available and the skills required to meet the demands of those positions (Pink, 2006).

Therefore, it is clear that students today will need a new skill set including critical thinking, complex problem posing and finding, flexibility, oral and written communication, and teamwork skills to compete in a rapidly changing world (Wagner, 2008).
Schooling Has Not Changed

Industrial Model for Information Age

个人差异
多种智能
多元文化
兴趣
热忱
创造力

学校教育

就业技能

传统教育在二十一世纪的副作用？
Schooling Has Not Changed

If you judge a fish by its ability to climb a tree, it will live its whole life believing it’s stupid.

---Albert Einstein
Does a Good Score Tell the Whole Story?

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China Has Not Celebrated
The Concern in China

- Qian Xueseng: “Why couldn’t Chinese schools develop great talents?”
- 钱学森之问：“为什么我们的学校总是培养不出杰出人才？”
- Wen Jiabao: “China must have entrepreneurs like Steve Jobs”
The Reality: Breakdown of iPhone profits

Figure 1. Distribution of value for iPhone, 2010

- Cost of inputs: China labor: 1.8%
- Cost of inputs: materials: 21.9%
- Unidentified profits: 5.3%
- S. Korea profits: 4.7%
- Japan profits: 0.5%
- Taiwan profits: 0.5%
- E.U. profits: 1.1%
- Non-Apple U.S. profits: 2.4%
- Apple profits: 58.5%

Cost of inputs: Non-China labor: 3.5%
The Challenge

- Kaifu Li: The next Apple or Google will appear, but not in China...unless it abolishes its education.

-> Calling for more skill development instead of only knowledge learning.
Additional Observation

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 of Caucasians want to hold top positions
- 2% of total 5,520 board seats of the Fortune 500

21st Century Skills Are Important – Are They New?

Flexibility & Adaptability

Adapt to Change

- Adapt to varied roles, job responsibilities, schedules and contexts
（水无常形，兵无常势）
- Work effectively in a climate of ambiguity and changing priorities
（时进则近，时退则退，动静不失其时）
21st Century Skills – New Skills?

Be Flexible

• Incorporate feedback effectively
  （他山之石，可以攻玉） （前事之不忘，后事之师）
• Deal positively with praise, setbacks and criticism
  （知错就改，莫善大焉）
• Understand, negotiate and balance diverse views and beliefs to reach workable solutions, particularly in multi-cultural environments
  （殊途同归）
21st Century Skills – New Skills?

Initiative & Self-Direction
Manage Goals and Time

• Set goals with tangible and intangible success criteria
  （九层梯台，起于累土；千里之行，始于足下）
  （运筹帷幄之中，决胜千里之外）

• Balance tactical (short-term) and strategic (long-term) goals
  （欲速则不达）（一屋不扫，何以扫天下）

• Utilize time and manage workload efficiently
  （天行健，君子以自强不息）
  （人之所能，不能兼备，弃其所短，取其所长）
Be Self-directed Learners

• Go beyond basic mastery of skills and/or curriculum to explore and expand one’s own learning and opportunities to gain expertise (师傅领进门，修行在个人)
• Demonstrate initiative to advance skill levels towards a professional level (默而识之，学而不厌)
• Demonstrate commitment to learning as a lifelong process (知之者不如好之者，好之者不如乐之者)
• Reflect critically on past experiences in order to inform future progress (学而不思则惘，思而不学则怠) (循序渐进，熟读而精思)
How Do Both Countries React?

美国 Common Core

中国 教改
The Study

The World

Map from MapQuest
Methodology

- Qualitative Phenomenological Study
  - Participants
  - Multiple Data Sources
    - Principal and teacher interviews
    - School and classroom observation
    - Documents collected
  - Data Analysis
    - Color coded
    - Inductive
    - Allow themes to emerge
Study Findings

- **Theme 1:** Core Subjects Not Displaced, but rather 21st Century Learning Taught through Core Subjects.
- **Theme 2:** 21st Century Skills are Integrated through Traditional Curriculum.
- **Theme 3:** Leaders’ Role & Strong Leadership
- **Theme 4:** Language Program as a Means to Promote Global Education
Study Findings

- Theme 5: Cross-culture Partnership and Networking
- Theme 6: Technology as a Tool to Advance Learning & Assessment
- Theme 7: Assessment as a Means to Help Implement 21st Century Skills
- Theme 8: Professional Development Advances Instructions of 21st Century Skills
Implication and Recommendations

Recommendation 1: Whereas it is appropriate to teach general 21\textsuperscript{st} century skills, it is important for educators to realize 21\textsuperscript{st} century skills can be taught and they’re best taught in the context of the academic curriculum.
Implication and Recommendations

Recommendation 2: The use of 21st century skills involves both cognitive/social skills and the motivation to use those skills.
Implication and Recommendations

Recommendation 3: If we want 21st century skills to transfer to problems in different situations, we must train teachers to show students how to transfer these skills from classroom to the outside world.
Implication and Recommendations

Recommendation 4: Twenty-first century skills should be taught in an interdisciplinary manner.
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