Globally Challenged: Are U. S. Students Ready to Compete?

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Learning from the International Experience
Program on Education Policy and Governance
Harvard University
August 2011
International Comparisons

- Extensive assessments of math, science, and reading skills
- International comparisons largely ignored by U.S.
- U.S. scores portend bleak future
- Current recession costs dwarfed by schooling crisis
International Math Rankings - PISA 2009

PISA Math Performance 2009

[Bar chart showing the math performance of various countries in PISA 2009, with rankings ranging from 0 to 600.]
Cognitive Skills and Economic Growth

coef = 1.980, se = 0.217, t = 9.12
Secondary School Completion Rates

Percent
Years of Schooling and Economic Growth

Without quality control

With quality control
Projections of Value of Improved Schooling

• Assume future looks like past
• Improve schools over 20 years
• Calculate added GDP based on history
• Discount future over lifetime of somebody born today
Growth Projections

- Scenario 1
  - Achievement improves by 25 points (1/4 s.d.)
Annual Gains from 25 PISA Points Improvement

Percent addition to annual GDP

Year
Annual Gains from 25 PISA-Points Improvement

Percent addition to annual GDP vs. Year

- 0% to 60% on the y-axis
- 2010 to 2110 on the x-axis

The graph shows an upward trend from 2010 to 2090, indicating increasing annual gains from 25 PISA-Points Improvement. The gains are projected to continue increasing from 2090 onwards.
Growth Projections

• Scenario 1
  - Achievement improves by 25 points (1/4 s.d.)
    - PV = 288% of current GDP
    - $44 trillion for United States
Growth Projections

- **Scenario 1**
  - Achievement improves by 25 points (1/4 s.d.)

- **Scenario 2**
  - U.S. achieves at level of Finland
    - PV = 737% of current GDP in United States
    - **$112 trillion for United States**
Growth Projections

• Scenario 1
  - Achievement improves by 25 points (1/4 s.d.)

• Scenario 2
  - U.S. achieves at level of Finland

• Scenario 3
  - All students to 400 points (basic skills) [19% in U.S.]
    - PV = 567% of current GDP in United States
    - $86 trillion for United States
Math League Tables -- 2009

- 32% proficient in U.S. (NAEP standard)
  - 32nd out of 65 countries
Proficient in Math - PISA 2009

Graph showing the percentage of proficient in math for various countries compared to the U.S. average.
• 32% proficient in U.S. (NAEP standard)
  - 32nd out of 65 countries

• Massachusetts significantly outperformed by 6

• Minnesota significantly outperformed by 11
California competes with . . .
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California competes with . . .
32% proficient in U.S. (NAEP standard)
  - 32nd out of 65 countries

Massachusetts significantly outperformed by 6

Minnesota significantly outperformed by 11

California significantly outperformed by 36
Observations

- Not U.S. having especially difficult to educate
- White students
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  - 42% proficient; 17th in comparison to all in other countries
- College educated parents
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• Not U.S. having especially difficult to educate

• White students
  - 42% proficient; 17\textsuperscript{th} in comparison to \textit{all} in other countries

• College educated parents
  - 44% proficient; 16\textsuperscript{th} in comparison to \textit{all} in other countries
Conclusions

• Not a few bad states
• Not a difficult to educate population
• Very different futures for United States
• Easy to ignore, hard to recover