



RESPONSES TO Q&A

How Poverty Affects Schools

1. Do other countries include ALL students in their percentage variation graph we just saw? For example, is special education a variable in all countries graphed?

Special thanks to Mari Taylor, Lake Stevens for researching this item.

The short answer: No. According to the Organisation for Economic Co-operation and Development (OECD), individual countries and economies self-select for participation in Programme for International Student Assessment (PISA). Not all participating countries aspire to a free public education for all children and therefore the sample of students participating includes fewer disadvantaged and/or special needs students.

A study by the Economic Policy Institute and Stanford University found that *"U.S. scores in reading and math on the PISA are low partly because a disproportionately greater share of U.S. students comes from disadvantaged social class groups."*¹

*"You can't compare nations' test scores without looking at the social class characteristics of students who take the test in different countries... Nations with more lower social class students will have lower overall scores, because these students don't perform as well academically, even in good schools. Policymakers should understand how our lower and higher social class students perform in comparison to similar students in other countries before recommending sweeping school reforms."*²

Additionally, the Stanford study concluded that errors in selection samples also contributed to ranking problems by using a disproportionate number of low-income students' scores from U.S. schools.³

Using the PISA database⁴, NASSP (National Association of Secondary School Principals) highlights poverty rates reported by the countries being tested, springing the U.S. to the top of the heap in many categories. (See below.) Notably, some participating countries do not even report poverty rates.⁵

¹Stanford News, [Poor ranking on international test misleading about U.S. student performance, Stanford researcher finds](http://news.stanford.edu/news/2013/january/test-scores-ranking-011513.html), retrieved on 10/13/2013 from <http://news.stanford.edu/news/2013/january/test-scores-ranking-011513.html>

²Stanford News, [Poor ranking on international test misleading about U.S. student performance, Stanford researcher finds](http://news.stanford.edu/news/2013/january/test-scores-ranking-011513.html), retrieved on 10/13/2013 from <http://news.stanford.edu/news/2013/january/test-scores-ranking-011513.html>

³Economic Policy Institute, [What do International Tests Really Show about US Student Performance?](http://www.epi.org/publication/us-student-performance-testing/), Retrieved 10/13/2013 from <http://www.epi.org/publication/us-student-performance-testing/>

⁴OECD, Programme for International Student Assessment, retrieved 10/13/2013 from <http://www.oecd.org/pisa/pisaproducts/>

2. How do other countries show their PISA data and do they include special populations?

Two major challenges come into play when comparing PISA scores internationally: 1) The US policy of free public education and 2) income inequality in participating nations. Many of the nations surveyed have very low income inequality (think Finland) and/or only educate the more affluent portion of the population (think Shanghai). *"When differences in countries' social class compositions are adequately taken into account, the performance of U.S. students in relation to students in other countries improves markedly."*⁶

"Because social class inequality is greater in the United States than in any of the countries with which we can reasonably be compared, the relative performance of U.S. adolescents is better than it appears when countries' national average performance is conventionally compared".⁷

3. Are there any reports that show a relationship of test scores and the lack of technology for low income students?

Special thanks to Sue Goding, Highline School District for researching this item.

From the NY Times, [Study Gauges Value of Technology in Schools](#), "In a review of student survey data conducted in conjunction with the federal exams known as the [National Assessment of Educational Progress](#), the nonprofit Center for American Progress... found that no state was collecting data to evaluate whether technology investments were actually improving student achievement." There is lots of anecdotal evidence that the hardware, whether in the home or at school, makes no difference. It is how it is used in instruction that makes the difference. Even Sal Khan says technology is not a silver bullet.

As far as technology in the home of low income students, there have been a couple of reports, summarized in another NY Times article, [Computers at Home: Educational Hope vs. Teenage Reality](#), that found that student achievement went down for low income students when they acquired technology and internet at home.

The study by Duke University, [Scaling the Digital Divide](#), mentioned in the NY Times article, looked at the effect of when students got their computer reported, "Students who gain access to a home computer between 5th and 8th grade tend to witness a persistent decline in reading and math test scores." Students who had a computer before 5th grade have test scores that trend higher over time. Students who had a computer and lost access, their math scores remained low, but their reading scores improved slightly. The report concluded, "For school administrators interested in maximizing achievement test scores, or reducing racial and socioeconomic disparities in test scores, all evidence suggests that a program of broadening home computer access would be counterproductive."

However, all this sounds discouraging, but the [National Center for Academic Transformation](#), a Pew funded program that helped community colleges and universities pilot ways to redesign courses using technology to reduce costs, have found that by redesigning courses, higher ed institutions could save costs and improve student achievement. Their redesign of math courses has led to a closing of the achievement gap, and in the case of Alabama, black students have the highest achievement and in Idaho, Hispanic students have the highest achievement

⁵ NASSP Blog, [PISA: Its Poverty not Stupid](#), Retrieved 10/13/2013 from http://nasspblogs.org/principaldifference/2010/12/pisa_its_poverty_not_stupid_1.html

⁶ Stanford News, [Poor ranking on international test misleading about U.S. student performance](#), Stanford researcher finds, retrieved on 10/13/2013 from <http://news.stanford.edu/news/2013/january/test-scores-ranking-011513.html>

⁷ Economic Policy Institute, [What do international tests really show about US student performance?](#), Retrieved 10/13/2013 from <http://www.epi.org/publication/us-student-performance-testing/>

According to the OECD, “Countries/economies interested in participating in PISA contact the OECD Secretariat. The PISA Governing Board then approves membership according to certain criteria. Participants must have the technical expertise necessary to administer an international assessment and must be able to meet the full costs of participation.”⁸

Participation requirements immediately place significant limitations on the highest need schools/economies from participating in PISA.

However, the Joint Research Centre’s Institute for Prospective Technological Studies study found a relationship between intensity of computer use and increased PISA scores.⁹

4. What is the name of the book and webinar you mentioned during the webinar?

The book is *The Coming Jobs War: What every leader must know about the future of job creation*, by Gallup Chairman Jim Clifton.

The documentary is *American Winter*, shown at the Seattle International Film Festival, Spring 2013.

⁸ OECD (Organisation for Economic Co-operation and Development, PISA FAQ, Retrieved 10/13/2013 from <http://www.oecd.org/pisa/pisafaq/>

⁹ European Commission Joint Research Center, ICT and Learning: Results from PISA 2009, Retrieved 10/13/2013 from <http://ipts.jrc.ec.europa.eu/publications/pub.cfm?id=5703>

Excerpt from **NASSP Analysis of 2009 Pisa Scores**

Free and Reduced Meal Rate	PISA Score
Schools with < 10%	551
Schools with 10-24.9%	527
Schools with 25-49.9%	502
Schools with 49.9-74.9%	471
Schools with >75%	446
U.S. average	500
OECD average	493

With strong evidence that increased poverty results in lower PISA scores the next question to be asked is what are the poverty rates of the countries being tested? (Listed below are the countries that were tested by PISA along with available poverty rates. Some nations like Korea do not report poverty rates.)

Country	Poverty Rate	PISA Score
Denmark	2.4%	495
Finland	3.4%	536
Norway	3.6%	503
Belgium	6.7%	506
Switzerland	6.8%	501
Czech Republic	7.2%	478
France	7.3%	496
Netherlands	9.0%	508
Germany	10.9%	497
Australia	11.6%	515
Greece	12.4%	483
Hungary	13.1%	494
Austria	13.3%	471
Canada	13.6%	524
Japan	14.3%	520
Poland	14.5%	500
Portugal	15.6%	489
Ireland	15.7%	496
Italy	15.7%	486
United Kingdom	16.2%	494
New Zealand	16.3%	521
United States	21.7%	500

LEVELING THE PLAYING FIELD

A more accurate assessment of the performance of U.S. students would be obtained by comparing the scores of American schools with comparable poverty rates to those of other countries.

Schools in the United States with less than a 10% poverty rate had a PISA score of 551. When compared to the ten countries with similar poverty numbers, that score ranked first.

Country	Poverty Rate	PISA Score
United States	<10%	551
Finland	3.4%	536
Netherlands	9.0%	508
Belgium	6.7%	506
Norway	3.6%	503
Switzerland	6.8%	501
France	7.3%	496
Denmark	2.4%	495
Czech Republic	7.2%	478

In the next category (10-24.9%) the U.S. average of 527 placed first out of the ten comparable nations.

Country	Poverty Rate	PISA Score
United States	10%-24.9%	527
Canada	13.6%	524
New Zealand	16.3%	521
Japan	14.3%	520
Australia	11.6%	515
Poland	14.5%	500
Germany	10.9%	497
Ireland	15.7%	496
Hungary	13.1%	494
United Kingdom	16.2%	494
Portugal	15.6%	489
Italy	15.7%	486
Greece	12.4%	483
Austria	13.3%	471

For the remaining U.S. schools, their poverty rates over 25% far exceed any other country tested. However, when the U.S. average of 502 for poverty rates between 25-49.9% is compared with other countries it is still in the upper half of the scores.

MATHEMATICALLY SPEAKING

The results of the latest PISA testing should raise serious concerns. However, the overall ranking of 14th in reading is not the reason to be concerned. The problem is not as much with our educational system as it is with our high poverty rates. The real crisis is the level of poverty in too many of our schools and the relationship between poverty and student achievement. Our lowest achieving schools are the most under-resourced schools with the highest number of disadvantaged students. We cannot treat these schools in the same way that we would schools in more advantaged neighborhoods or we will continue to get the same results. The PISA results point out that the U.S. is not alone in facing the challenge of raising the performance of disadvantaged students.

U.S. % Poverty	Other Countries	PISA Score
U.S. (<10%)		551
	Korea	539
	Finland	536
U.S. (10-24.9%)		527
	Canada	524
	New Zealand	521
	Japan	520
	Australia	515
	Netherlands	508
	Belgium	506
	Norway	503
U.S. (25-49.9%)		502
	Estonia	501
	Switzerland	501
	Poland	500
	Iceland	500
U.S. (Average)		500
	Sweden	497
	Germany	497
	Ireland	496
	France	496
	Denmark	495
	United Kingdom	494
	Hungary	494
	Portugal	489
	Italy	486
	Slovenia	483
	Greece	483
	Spain	481
	Czech Republic	478
	Slovak Republic	477
	Israel	474
	Luxembourg	472
U.S. (50-74.9%)		471
	Austria	471
	Turkey	464
	Chile	449
U.S. (over 75%)		446
	Mexico	425

Additional observations from PISA results:

- Shanghai, China topped the list with 556 but is not included in this [NASSP] analysis because Shanghai is a city not a country and because [only 35% of Chinese students ever enter high school](#) and because "[when you spend all your time preparing for tests, and when students are selected based on their test-taking abilities, you get outstanding test scores.](#)"
- Of all the nations participating in the PISA assessment, the U.S. has, by far, the largest number of students living in poverty--21.7%. The next closest nations in terms of poverty levels are the United Kingdom and New Zealand have poverty rates that are 75% of ours.
- U.S. students in schools with 10% or less poverty are number one country in the world.
- U.S. students in schools with 10-24.9% poverty are third behind Korea, and Finland.
- U.S. students in schools with 25-50% poverty are tenth in the world.
- U.S. students in schools with greater than 50% poverty are near the bottom.
- There were other surprises. Germany with less than half our poverty, scored below the U.S. as did France with less than a third our poverty and Sweden with a low 3.6% poverty rate.
- Having recently listened to Sir Michael Barber talk about the amazing progress of the reforms in the United Kingdom, I was absolutely shocked to see that the UK, with 25% less poverty, scored below the U.S. average.

ⁱ Yong Zhou, [A true wake-up call for Arne Duncan: The real reason behind Chinese students top PISA performance](#), Retrieved 10/13/2013 from <http://zhaolearning.com/2010/12/10/a-true-wake-up-call-for-arne-duncan-the-real-reason-behind-chinese-students-top-pisa-performance/>