

How the Common Core State Standards Can Lead to National Economic Success

Lisa Wiggin

Loyola University Chicago School of Law

Education Law and Policy

Research shows that the level of cognitive skills of a nation's students, as measured by performance on reading, math, and science tests, has a large effect on that country's subsequent economic growth rate.¹ A study of the cognitive skill levels of students from 50 countries between 1964 - 2008 showed that a highly skilled workforce can raise economic growth by about two-thirds of a percentage point every year.² The Organisation for Economic Co-Operation and Development (OECD) further estimates that each additional year of schooling among the adult population raises a nation's economic output by between 3 percent and 6 percent.³ As the labor market becomes increasingly global, more jobs can go to the best-educated workers regardless of where they live.⁴ In order to compete economically, the United States must provide its students with the cognitive skills necessary to compete with global standards of education. This paper will show that increasing cognitive skills through the Common Core Standards, coupled with meaningful testing, can enable the U.S. to maintain a strong economic position.

I. International Educational Disparity

The Organisation for Economic Co-operation and Development (OECD) was established in 1961 to encourage individual governments to cooperate in developing economic policies.⁵ In 2000, the OECD administered its first evaluation of nations' educational practices. Called the Programme for International Student Assessment (PISA), it is administered every three years to 15-year-old students in randomly selected schools worldwide to evaluate their skills in reading,

¹ Hanushek, Eric A., Dean T. Jamison, Eliot A. Jamison, and Ludger Woessmann. "Education and Economic Growth." *Education Next* Vol. 8, no. 2 (Spring 2008). Accessed May 16, 2015. <http://www.educationnext.org/education-and-economic-growth/>.

² *Id.*

³ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 10. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

⁴ *Id.* at 5.

⁵ "History." *OECD*. Accessed May 16, 2015. <http://www.oecd.org/about/history/>.

mathematics, and science.⁶ The test measures students' readiness to participate in the economies of their societies by assessing their ability to apply their knowledge to real-life situations.⁷

The 2012 results for the United States are sobering. In math, the United States ranked 26th of the 34 OECD countries⁸ and 34th of the 65 countries taking the test. The United States ranked 17th in reading among OECD countries and 24th among the total 65 countries.⁹ Its score of 481 was below the OECD average of 494, and significantly below top-ranked Shanghai-China at 613.¹⁰ In reading, the United States score was 498, slightly above the OECD average of 496, but still well below Shanghai's top score of 570.¹¹

The PISA report also reveals that 26% of U.S. students do not reach the PISA baseline of Level 2 mathematics proficiency, the level at which students “demonstrate the skills that will enable them to participate effectively and productively in life.”¹² This proportion is higher than the OECD average (23%) and it has not changed since 2003.¹³ Studies show that higher math performance at the end of high school translates into substantially higher future earnings; an increase of one standard deviation in math scores translates into a 12 percent boost in wages.¹⁴ This suggests that over a quarter of our nation's children are not developing the baseline skills to compete in a global workplace. Nor are many U.S. students reaching their full potential in math.

⁶ “About PISA.” *OECD*. Accessed May 16, 2015. <http://www.oecd.org/pisa/aboutpisa/>.

⁷ *Id.*

⁸ OECD Country Note - United States. *Programme for International Student Assessment (PISA) Results from PISA 2012*, 2. Accessed May 16, 2015. <http://www.oecd.org/unitedstates/PISA-2012-results-US.pdf>.

⁹ OECD. *PISA 2012 Results in Focus: What 15-Year-Olds Know and What They Can Do With What They Know*, 5. 2014. Accessed May 16, 2015. <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>.

¹⁰ *Id.*

¹¹ *Id.*

¹² OECD Country Note - United States. *Programme for International Student Assessment (PISA) Results from PISA 2012*, 2. Accessed May 16, 2015. <http://www.oecd.org/unitedstates/PISA-2012-results-US.pdf>.

¹³ *Id.* at 1.

¹⁴ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 10. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

Only 2% of students reach the highest level (Level 6), below the OECD average of 3% and well below the Shanghai-China average of 31%.¹⁵

In addition to having cognitive scores that make it difficult for American students to compete in the global economy, they are also hindered from competing in the domestic economy when they do not attain the levels of education necessary to succeed. Students who do not complete college are significantly hampered in their employment prospects as adults. In 2012, 84% of people aged 25-34 with a bachelor's degree or higher were employed, compared to 69% of people in the same age group who had only a high school education. Meanwhile, the rate of college attainment has declined. As recently as 1995, America was still tied for first in the proportion of young adults with a college degree, but by 2006 it had dropped to 14th, which was below the OECD average for the first time.¹⁶ That same year it also had the second-highest college dropout rate of 27 countries.¹⁷ Unfortunately, the odds that a young person in the U.S. will be in higher education if his or her parents do not have an upper secondary education are just 29%, one of the lowest levels among OECD countries.¹⁸

Employment levels for those who did not complete high school are even worse, at only 56%.¹⁹ Although the U.S. had the best high school graduation rate in the world forty years ago, by 2006 it ranked 18th out of 24 industrialized countries.²⁰ To develop a workforce which is

¹⁵ OECD Country Note - United States. *Programme for International Student Assessment (PISA) Results from PISA 2012*, 2. Accessed May 16, 2015. <http://www.oecd.org/unitedstates/PISA-2012-results-US.pdf>

¹⁶ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 11. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

¹⁷ *Id.* at 6.

¹⁸ OECD Country Note – United States. *Education at a Glance: OECD Indicators 2012*. Accessed May 15, 2015. <http://www.oecd.org/unitedstates/EAG2012%20-%20Country%20note%20-%20United%20States.pdf>.

¹⁹ Institute of Education Sciences. "The Condition of Education: Trends in Employment Rates by Educational Attainment." National Center for Education Statistics. Accessed May 16, 2014. http://nces.ed.gov/programs/coe/indicator_tba.asp.

²⁰ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 11. December 19, 2008. Accessed May 16, 2015. <http://www.nga.org/cms/center/publications>.

prepared for employment in both the global and domestic markets, it is essential that the U.S. develop national education policies that encourage students to complete high school and college.

II. Educational Disparity Among States

The likelihood of a student going to college is affected by the differences in educational outcomes among states. Three states - Connecticut, Florida, and Massachusetts - participated in the 2012 PISA test as individual education systems.²¹ Massachusetts performed in math above the U.S. average, as well as above the OECD average.²² Its score of 514 would have placed it in 16th place among the 65 countries taking the exam.²³ Connecticut scored above the U.S. national average, but its score was not measurably different than the OECD average. Its score of 506 would have placed it 23rd of 65.²⁴ Florida's average score was below both the U.S. national average and OECD average. Its score of 467 would have put it in 41st place among the 65 test-takers.²⁵

In reading, Massachusetts and Connecticut performed quite well, scoring above both the U.S. national average and the OECD average. Massachusetts' score of 527 and Connecticut's score of 521 would have ranked them 6th and 10th, respectively.²⁶ Florida's score of 492 would have ranked it 27th, within the range of both the U.S. and OECD averages.²⁷ Massachusetts' and Connecticut's higher scores yielded more successful results: their high school students went

²¹ Institute of Education Sciences. "Fast Facts: International Comparisons of Achievement." National Center for Education Statistics. Accessed May 16, 2015. <https://nces.ed.gov/fastfacts/display.asp?id=1>.

²² Massachusetts Department of Elementary and Secondary Education. *PISA 2012 Results*, 8. January, 2014. Accessed May 16, 2015. <http://www.doe.mass.edu/mcas/2012-PISAresults.pdf>

²³ OECD. *PISA 2012 Results in Focus: What 15-Year-Olds Know and What They Can Do With What They Know*, 5. 2014. Accessed May 16, 2015. <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>.

²⁴ Massachusetts Department of Elementary and Secondary Education. *PISA 2012 Results*, 8. January, 2014. Accessed May 16, 2015. <http://www.doe.mass.edu/mcas/2012-PISAresults.pdf>, OECD. *PISA 2012 Results in Focus: What 15-Year-Olds Know and What They Can Do With What They Know*, 5. 2014. Accessed May 16, 2015. <http://www.oecd.org/pisa/keyfindings/pisa-2012-results-overview.pdf>.

²⁵ *Id.*

²⁶ Massachusetts Department of Elementary and Secondary Education. *PISA 2012 Results*, 14. January, 2014. Accessed May 16, 2015. <http://www.doe.mass.edu/mcas/2012-PISAresults.pdf>

²⁷ *Id.*

directly to college at rates of 73.2% and 78.7%, respectively, as opposed to only 63.1% of Florida's.²⁸

III. Educational Disparity Among Social Classes

Some critics argue that because social class inequality is greater in the United States than in comparable countries, the relative performance of U.S. adolescents is better than it appears.²⁹ Critics believe that U.S. average performance appears to be relatively low partly because we have so many more test takers from the bottom of the social class distribution.³⁰

However, a comparison of the socio-economic status of the most disadvantaged quarter of students across OECD countries puts the United States around the OECD average.³¹ The difference in the United States is that two students from different socio-economic backgrounds vary more in their learning outcomes than students from different backgrounds in other countries.³² Indeed, the data show that American 15-year-olds rank in the top third when it comes to gaps between students from different family backgrounds.³³ According to OECD, in 2006, the U.S. ranked fourth out of 30 countries in the relative impact that socioeconomic background had on students' PISA science achievement.³⁴

The experiences of other countries demonstrate that it is possible to overcome the educational difficulties of social class. Among the 11 other OECD countries that, like the U.S.,

²⁸ NCHEMS Information Center for Higher Education and Policymaking and Analysis. "College Participation Rates: College Going Rates of High-School Graduates - Directly from High School, 2010" Accessed May 16, 2015. <http://www.higheredinfo.org/dbrowser/index.php?submeasure=63&year=2010&level=nation&mode=data&state=0>.

²⁹ Carnoy, Martin, and Richard Rothstein. "What Do International Tests Really Show About U.S. Student Performance?" January 28, 2013. Economic Policy Institute. Accessed May 16, 2015. <http://www.epi.org/publication/us-student-performance-testing/>.

³⁰ *Id.*

³¹ OECD Country Note - United States. *Programme for International Student Assessment (PISA) Results from PISA 2012*, 4. Accessed May 16, 2015. <http://www.oecd.org/unitedstates/PISA-2012-results-US.pdf>.

³² *Id.*

³³ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 14. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>

³⁴ *Id.*

had more than 10 percent immigrant students, all of them performed higher in math and nine performed higher in science.³⁵ Poland was able to decrease the proportion of achievement variation across its schools from 51 percent to 12 percent between 2000 and 2006, increasing its PISA reading achievement by 29 points - almost a year's worth of learning.³⁶

Germany responded to disappointing PISA 2000 results by investigating best practices of high-performing countries and adopting common, jointly developed "national education standards."³⁷ Over time, scores of German adolescents from all social class groups have been improving, and at a faster rate than U.S. improvement, even for social class groups and subjects where U.S. performance has also been improving.³⁸

IV. Common Core

Germany's success is notable because it has a federal-style education system where states retain a great deal of authority over education.³⁹ In the United States, the States have sole authority to control the education of their citizens, and the law prohibits any national regulation of education. The federal government may not "...exercise any direction, supervision, or control over the curriculum, program of instruction, administration, or personnel of any educational institution..."⁴⁰ The federal "Department of Education shall not increase the authority of the Federal Government over education or diminish the responsibility for education which is

³⁵ *Id.* at 21.

³⁶ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 16. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

³⁷ *Id.*

³⁸ Carnoy, Martin, and Richard Rothstein. "What Do International Tests Really Show About U.S. Student Performance?" January 28, 2013. Economic Policy Institute. Accessed May 16, 2015. <http://www.epi.org/publication/us-student-performance-testing/>.

³⁹ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 37. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

⁴⁰ 20 U.S.C.A. § 1232a (West 2014).

reserved to the States and the local school systems and other instrumentalities of the States.”⁴¹

Last, “...no State shall be required to have academic content or student academic achievement standards approved or certified by the Federal Government...”⁴²

Despite the fact that the States bear the responsibility of educating the national workforce, the U.S. was the only OECD country in June, 2008 with a federal-style education system where most state leaders had no regular and reliable information to compare student performance internationally.⁴³ There was also little information to compare U.S. students from one state to the next: by the early 2000s, every state had its own grade-level standards and definition of proficiency for those grade levels.⁴⁴ To address this lack of meaningful information, the National Governors Association Center for Best Practices (NGA Center) and the Council of Chief State School Officers (CCSSO) worked together to develop the Common Core State Standards in 2009.⁴⁵

The NGA and CCSSO examined the best state standards in the United States, the practices of high-performing countries around the world, and the research and literature on what students need to know for success in college, career, and life.⁴⁶ An alignment study between the Common Core State Standards for Mathematics and PISA suggests that a successful implementation of the Common Core Standards would also yield significant performance gains

⁴¹ 20 U.S.C.A. § 3403 (West 2014).

⁴² 20 U.S.C.A. § 7907 (West 2014)

⁴³ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 19. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

⁴⁴ Common Core State Standards Initiative. *About the Standards: Development Process*. Accessed May 16, 2015. <http://www.corestandards.org/about-the-standards/development-process/>.

⁴⁵ *Id.*

⁴⁶ Common Core State Standards Initiative. *About the Standards: Frequently Asked Questions*. Accessed May 16, 2015. <http://www.corestandards.org/about-the-standards/frequently-asked-questions/>.

in PISA.⁴⁷ Such a measurable improvement in the cognitive skills measured by PISA would help the economy. A study of the relationship between cognitive skill level in math and per capita GDP of 50 countries over the years 1960 - 2000 showed that countries with higher test scores experienced far higher economic growth rates.⁴⁸ Thus, implementation of the Common Core Standards is likely to lead to economic growth for the United States.

Well-formed standardized expectations also make it possible for states to put students on track to succeed in college, leading to higher employment. A standardized achievement goal makes it possible for state leaders to compare students, not only within the state itself, but also to students of other states in the nation. Uniform standards make it possible to detect and address discrepancies among students, ensuring that all students achieve at a level that makes them economically productive.

V. Student Testing

In order to detect educational discrepancies, local and state educators must have meaningful assessment results to compare. Most high-performing nations use multiple mechanisms to monitor school performance, including annual student assessments in key grades and whole-school reviews or “inspections.”⁴⁹ Many critics object to testing for a variety of reasons. Some complain that testing interferes with the true nature of learning, wasting valuable instruction time and encouraging educators to “teach to the test.” Others believe that tests are inherently flawed in that they reflect the test-maker’s value system for what is considered important to know. A third consideration is that test data will be used to unfairly evaluate

⁴⁷ OECD Country Note - United States. *Programme for International Student Assessment (PISA) Results from PISA 2012*, 1. Accessed May 16, 2015. <http://www.oecd.org/unitedstates/PISA-2012-results-US.pdf>

⁴⁸ Hanushek, Eric A., Dean T. Jamison, Eliot A. Jamison, and Ludger Woessmann. “Education and Economic Growth.” *Education Next* Vol. 8, no. 2 (Spring 2008). Accessed May 16, 2015. <http://www.educationnext.org/education-and-economic-growth/>.

⁴⁹ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 30. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

teachers. While these concerns are legitimate, the United States cannot ensure that students across the country receive the education necessary for the development of a competitive workforce until any disparities among educational outcomes are fully revealed and addressed. The only proper means of evaluating educational outcomes is by an apples-to-apples comparison of students within and across the states.

Much of the skepticism of testing is a reaction to a decade of testing that almost exclusively emphasized multiple-choice tests of low-level skills.⁵⁰ However, the Common Core Standards emphasize more meaningful school work that prepares students for future education and work.⁵¹ The Common Core approach invites the replacement of a former test-and-punish philosophy with one that aims to assess, support, and improve.⁵² According to one study, students in countries with centralized exams scored on average 16 points higher in math and 11 points higher in science.⁵³

Such assessment information can be particularly helpful to identifying children who need additional support. For example, in Singapore, schools use a national examination to identify upper elementary grade students who are having difficulty in math. Those students then receive special instruction based on an adapted curriculum framework taught by trained Mathematics Support Teachers.⁵⁴ On average, about 30 percent of Finnish students receive additional help every year when they encounter difficulty at a particular point in time.⁵⁵

⁵⁰ Alvarez, Joshua. "Transforming Assessment to Improve Teaching and Learning." Stanford Center for Opportunity Policy in Education. December 8, 2014. Accessed May 16, 2015. <https://edpolicy.stanford.edu/blog/entry/1291>.

⁵¹ *Id.*

⁵² *Id.*

⁵³ Woessmann, Ludger. "Why Students in Some Countries Do Better." *Education Next*. Vol. 1, No. 2 (Summer 2001). Accessed May 16, 2015. <http://educationnext.org/whystudentsinsomecountriesdobetter/>.

⁵⁴ National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 30. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

⁵⁵ *Id.*

There remains a concern, however, that even the best new assessments cannot evaluate important higher-level skills such as those required for long-term research, or the abilities to communicate orally or visually through presentations.⁵⁶ In response, some schools have chosen to supplement standardized tests with portfolios of writing samples, research, or art works as well as oral presentations and scored discussions.⁵⁷ These assessments engage students in intellectually challenging work that reflects 21st century skills.⁵⁸

Two decades of research has shown that the effective use of high-quality assessments over time improves teaching as well as learning.⁵⁹ When teachers use, score, and discuss assessments, they learn which pedagogical methods are most effective for their students.⁶⁰ However, if such assessments are used to evaluate teachers, account must be taken of other factors such as a disproportionate number of students with greater educational or emotional challenges.⁶¹ Top-performing nations recognize that quality of classroom instruction is the most critical element of any education system, and they work to build cultures that combine high expectations with strong support and empowerment of teachers.⁶²

VI. Conclusion

Cognitive skill level and educational attainment are important factors in domestic employment and global economic competitiveness. The United States must endorse educational policies that raise both the cognitive performance level of its high school students as well as their

⁵⁶ Alvarez, Joshua. "Transforming Assessment to Improve Teaching and Learning." Stanford Center for Opportunity Policy in Education. December 8, 2014. Accessed May 16, 2015. <https://edpolicy.stanford.edu/blog/entry/1291>.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Darling-Hammond, Linda. "Evaluating Teacher Evaluation." Stanford Center for Opportunity Policy in Education. February 29, 2012. Accessed May 16, 2015. <https://edpolicy.stanford.edu/blog/entry/573>.

⁶² National Governors Association, the Council of Chief State School Officers, and Achieve, Inc. *Benchmarking for Success: Ensuring U.S. Students Receive a World-Class Education*, 27. December 19, 2008. Accessed May 16, 2015 <http://www.nga.org/cms/center/publications>.

continued success as college students. Under our legally-mandated federal system of educational management, the States' cooperation in implementing and testing students under the Common Core Standards is the best way to attain economic success for the nation.