# The Case for STEM Education as a National Priority:
## *Good Jobs and American Competitiveness*

**Why is STEM Education a National Priority?**

"60 percent of U.S. employers are having difficulties finding qualified workers to fill vacancies at their companies."

*-Council on Foreign Relations*[1]

"Jobs in computer systems design and related services – a field dependent on high-level math and problem-solving skills – are projected to grow 45 percent between 2008 and 2018."

*-National Math and Science Initiative*[2]

"In the current overall employment market, unemployed people outnumber job postings 3.6 to one. In the STEM occupations, job postings outnumbered unemployed people by 1.9 to one."

"STEM employment is expected to grow 17% between 2008 and 2018, far faster than the 10% growth projected for overall employment"

*-Change the Equation*[3]

"The average wage for all STEM occupations [in 2014] is $85,570, nearly double the average for all occupations ($47,230)."

"There were over 8.3 million STEM jobs in May 2014, representing about 6.2 percent of total U.S. employment."

"Ninety-three of the 100 STEM occupations had mean wages significantly above the all-occupations average."

*-U.S. Department of Labor*[4]

"Nine out of the 10 highest-paying college majors are in engineering fields."

*-CNN Money*[5]

"Skills issues, specifically a shortage of skilled workers and a lack of science, technology, engineering and math (STEM) graduates in the U.S. compared to other countries, seem to have gained a new prominence and are now among the top trends that HR professionals think will affect the workplace in the coming year."

*- Society for Human Resource Management*[6]

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1 http://www.cfr.org/united-states/us-education-reform-national-security/p27618
2 http://www.nms.org/Portals/0/Docs/Why%20Stem%20Education%20Matters.pdf
3 http://changetheequation.org/stemdemand
4 http://www.bls.gov/news.release/pdf/ocwage.pdf
5 http://money.cnn.com/2015/05/07/pf/college/highest-paying-college-majors/index.html
6 http://www.shrm.org/Research/FutureWorkplaceTrends/Documents/13-0146%20Workplace_Forecast_FULL_FNL.pdf

**How is the U.S. Doing in STEM Education?**

"Although most parents of K–12 students (93 percent) believe that STEM education should be a priority in the U.S., only half (49 percent) agreed that it actually is a top priority for this country."

"Only one in five STEM college students felt that their K–12 education prepared them extremely well for their college courses in STEM."

*-Microsoft STEM Survey*[7]

"Out of 65 education systems American students rank 27th in math and 20th in science."

*-Program for International Student Assessment*[8]

"A total of 56 percent of postsecondary students who declared STEM majors in their freshman year left these fields over the next six years."

*- U.S. Department of Education*[9]

"38 percent of students who start with a STEM major do not graduate with one."

"44 percent of 2013 U.S. high school graduates are ready for college-level math."

"36 percent of 2013 U.S. high school graduates are ready for college-level science."

*- National Math + Science Initiative*[10]

"Fifty-four percent of the nation's 4th graders and 47 percent of its 8th graders report that they "never or hardly ever" write reports about science projects. Thirty-nine percent of 8th graders report that they "never or hardly ever" design a science experiment."

"The average mathematics literacy score of U.S. 15-year olds declined about 9 points from 2003 to 2006, and then rose about 13 points in 2009, placing the United States below 17 of 33 other members of the Organization for Economic Co-operation and Development (OECD)."

"The average science literacy score of U.S. 15-year-olds was not measurably different from the 2009 OECD average, though it improved by 3 points from 2006 to 2009. The U.S. score was lower than the score of 12 out of 33 other OECD nations participating in the assessment."

"About half of Americans said that their local public schools did not put enough emphasis on teaching science and math, an equal portion (48%) said the emphasis was about right, and just 2% said there was too much emphasis on teaching science and math in the local schools (Rose and Gallup 2007)."

*-National Science Foundation's 2012 Science and Engineering Indicator*[11]

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[7] http://news.microsoft.com/2011/09/07/microsoft-releases-national-survey-findings-on-how-to-inspire-the-next-generation-of-doctors-scientists-software-developers-and-engineers/
[8] http://nces.ed.gov/surveys/pisa/pisa2012/pisa2012highlights_1.asp
[9] http://nces.ed.gov/pubs2014/2014001rev.pdf
[10] https://nms.org/AboutNMSI/TheSTEMCrisis/STEMEducationStatistics.aspx
[11] http://www.nsf.gov/statistics/seind12/