K-12 Research Idaho
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The "Link" Between Education Spending and Student Performance: A Twisted Link (Revised)

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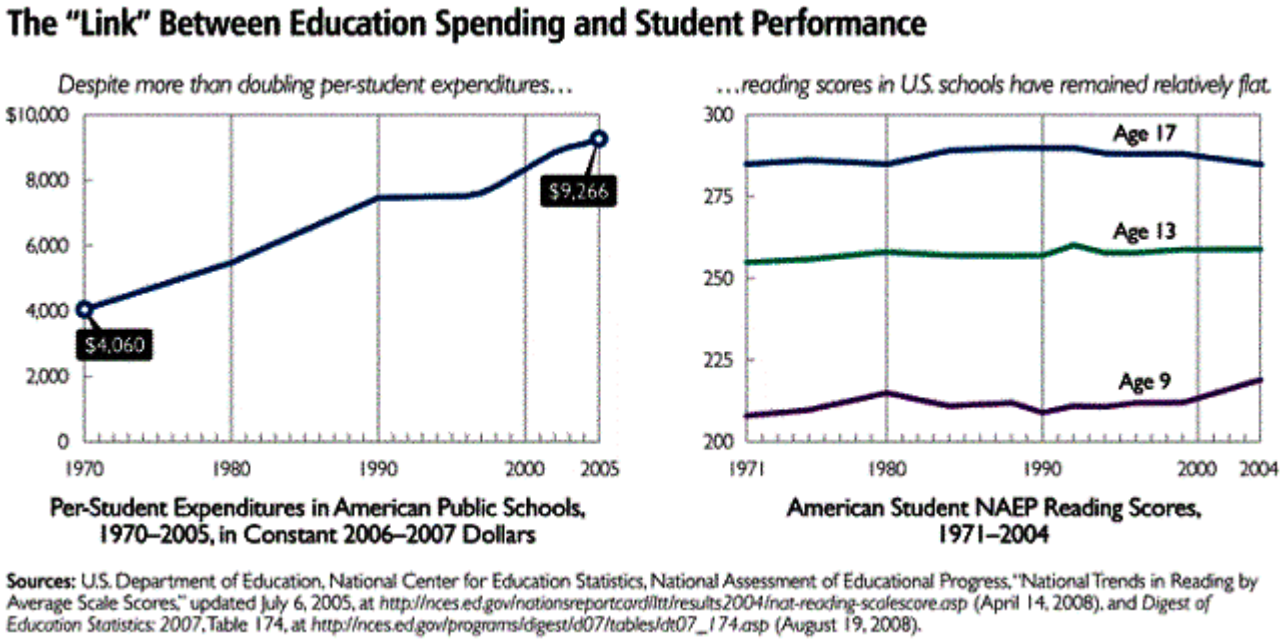
Spending Up, Achievement Flat.

The Heritage Foundation published an article "demonstrating" that spending more on education would not likely improve academic performance (Lips, Watkins, and Fleming, 2008). "A basic comparison of long-term spending trends with long-term measures of student academic achievement challenges the belief that spending is correlated with achievement. The chart below compares real per-pupil expenditures with American students test scores on the long-term National Assessment of Educational Progress (NAEP) reading examination from 1970 to 2004. While spending per pupil has more than doubled, reading scores have remained relatively flat."



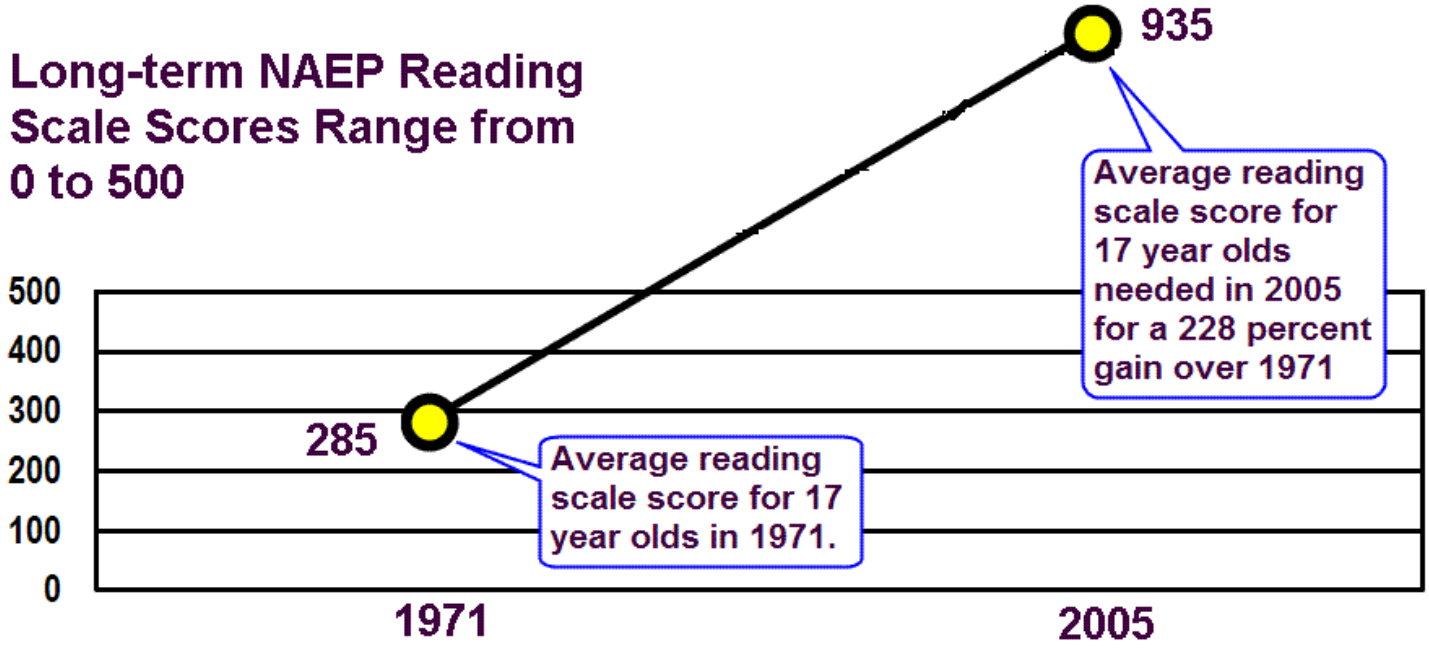
"Expertise Imbalance" Hurts Public Schools.

The "link" between education spending and student performance promoted by the Heritage Foundation and others has over the years become as "gospel doctrine," not to be questioned. Economists and others who have conducted and reported their analyses regarding the relationship between education expenditures and students achievement very well understand dollars. When it

comes to understanding of and attention to the statistical and psychometric particulars of student achievement data, however, similar expertise seems either to be generally absent or conveniently ignored. This "expertise imbalance" has led time and time again to mistaken conclusions followed almost certainly by an unwarranted condemnation repeated throughout the media about how poorly America's "expensive" public schools are performing.

Impossible for NAEP Average Scores to Match Cost Increases!

The expectation that NAEP scale scores should keep pace with *percent increases* in per-pupil expenditures is bogus. From 1971 to 2005, per-pupil costs (ratio data) increased 228 percent. In 1971, the public school 17-year-olds average NAEP reading score (interval data) was 285. A 228 *percent gain score* for reading over 1971 would require that 17-year-olds have an average reading score of 935 in 2005. As shown in the chart below, however, a reading score of 935 is simply impossible because it is not on the NAEP scale.



Dollar Value of a NAEP Average Scale Score?

The goal of a cost/benefit analysis is to determine whether an undertaking is worthwhile. Cost/benefit analysis is a calculation that compares what efforts will cost with benefits received to determine which is greater. In its simple form, cost/benefit analysis is carried out using only financial costs and financial benefits. A more sophisticated approach to cost/benefit analysis is to try to put a financial value on these intangible costs and benefits. This can be highly subjective (U.S. Legal, 2009).

It would useful if future studies about the relationship between education expenditures and student performance focus on conducting more sophisticated cost/benefit analyses where the identical metric is used to describe both the costs and the benefits. In a properly conducted cost/benefit analysis, inflation would impact both costs and benefits. **What is the "past, present, and future" dollar value of a NAEP average scale score?**

References:

Lips, D., Watkins, S., and Fleming, J. (2008, September 8). *Does spending more on education improve academic Achievement?* Retrieved September 3, 2014, from http://www.heritage.org/research/reports/2008/09/does-spending-more-on-education-improve-academic-achievement

Stoneberg, B. (2014, July 18). *Comparing spending and academic results is unrealistic*. Available online at http://www.idahoednews.org/voices/academic-and-spending-patterns-are-unrealistic-comparisions/

U.S. Legal, Inc. (2009). *Cost benefit analysis law & legal definition*. Retrieved September 14, 2014, from http://definitions.uslegal.com/c/cost-benefit-analysis/

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