



CONTROLLER'S MONTHLY REPORT #4

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K-12 Education in Nevada: Facts, Data and Strategies for Improvement

The first three Controller's Monthly Reports (CMRs) addressed state spending, revenues and a budget proposal by the Controller and a group of Assembly members that requires no new or increased taxes, yet secures the key values of Nevadans. This one addresses K-12 education, the second largest and second fastest growing item in Nevada's state budgets, and highlights the best strategies to improve our schools. Nevada Revised Statutes 227.110(2) provides: "The State Controller may recommend such plans as he or she deems expedient for the support of the public credit, for promoting frugality and economy, and for the better management and more perfect understanding of the fiscal affairs of the State." *Budgeting for K-12 must start by reviewing what works in education policy and spending, for evidence shows that much increased spending does not significantly improve student achievement, while some effective policies and practices are not costly.*

Although the United States spends far more than most nations per child on education, it ranks near the bottom for math achievement and near the middle in reading among countries in the Organization for Economic Cooperation and Development (OECD), which administers international standardized tests. The Slovak Republic performs at the same level as the United States, despite spending only 46% as much per child. South Korea, the highest achieving among 34 OECD member countries, ranks among the bottom 10 in spending and spends only 59.5% as much as the U.S. per child.² The data in Table 1 demonstrates that there is no robust or meaningful correlation in K-12 education between inputs (measured by spending per student) and outputs (measured by student test scores).

1. How education dollars are spent is at least as important as how many dollars are spent. Data from both the national and international levels show little relationship between how many tax dollars are spent on a child's education and how much the child learns. The District of Columbia is the highest-spending jurisdiction in the United States, yet it has the worst performance on standardized national tests. For the other top spending states, performance in New York and Alaska is poor, but relatively high in New Jersey and Wyoming. Among the bottom five spenders, Utah and Idaho perform very well while North Carolina scores in the middle and Oklahoma and Mississippi perform rather poorly.¹





**Table 1: Per-pupil Spending and Student Achievement -- Data Available for Developed Countries
Results of the OECD's Programme for International Student Assessment (PISA, 2012)**

Rank by Total Score	Country	Mean PISA Maths Score	Mean PISA Reading Score	Mean PISA Science Score	Mean PISA Total Score	s per Pupil from Age 6 to 15, in US Dollars	\$/Point, Mean PISA Total Score	Mean PISA Total to OECD Mean	Rank by Per-pupil Spending
1	Korea	554	536	538	1627	\$69,037	\$42.42	0.76	25
2	Japan	536	538	547	1621	\$89,724	\$55.34	0.99	19
3	Finland	519	524	545	1588	\$86,233	\$54.30	0.97	20
4	Estonia	521	516	541	1578	\$55,520	\$35.18	0.63	30
5	Canada	518	523	525	1567	\$80,397	\$51.32	0.92	22
6	Poland	518	518	526	1562	\$57,644	\$36.92	0.66	28
7	Netherlands	523	511	522	1556	\$95,072	\$61.09	1.09	13
8	Switzerland	531	509	515	1555	\$127,322	\$81.86	1.46	3
9	Ireland	501	523	522	1547	\$93,117	\$60.20	1.08	14
10	Germany	514	508	524	1545	\$80,796	\$52.28	0.94	21
11	Australia	504	512	521	1537	\$98,025	\$63.76	1.14	10
12	Belgium	515	509	505	1528	\$97,126	\$63.56	1.14	11
13	New Zealand	500	512	516	1528	\$70,650	\$46.25	0.83	24
14	United Kingdom	494	499	514	1507	\$98,023	\$65.03	1.16	8
15	Austria	506	490	506	1501	\$116,603	\$77.69	1.39	5
16	Czech Republic	499	493	508	1500	\$54,519	\$36.34	0.65	29
17	France	495	505	499	1499	\$83,582	\$55.74	1.00	18
18	Slovenia	501	481	514	1497	\$91,785	\$61.33	1.10	12
19	Denmark	500	496	498	1495	\$109,746	\$73.43	1.31	6
20	OECD average	494	496	501	1492	\$83,382	\$55.90	1.00	17
21	Norway ¹	489	504	495	1488	\$123,591	\$83.07	1.49	2
22	United States	481	498	497	1476	\$115,961	\$78.55	1.41	4
23	Luxembourg	490	488	491	1469	\$197,598	\$134.52	2.41	1
24	Spain	484	488	496	1469	\$82,178	\$55.95	1.00	16
25	Italy	485	490	494	1469	\$84,416	\$57.48	1.03	15
26	Portugal	487	488	489	1464	\$70,370	\$48.06	0.86	23
27	Hungary	477	488	494	1460	\$46,598	\$31.92	0.57	31
28	Iceland	493	483	478	1453	\$93,986	\$64.66	1.16	9
29	Sweden	478	483	485	1446	\$95,831	\$66.25	1.19	7
30	Israel	466	486	470	1422	\$57,013	\$40.08	0.72	26
31	Slovak Republic	482	463	471	1416	\$53,160	\$37.55	0.67	27
32	Greece	453	477	467	1397	--	NA	NA	NA
33	Turkey	448	475	463	1387	\$19,821	\$14.29	0.26	34
34	Chile	423	441	445	1309	\$32,250	\$24.64	0.44	32
35	Mexico	413	424	415	1252	\$23,913	\$19.10	0.34	33

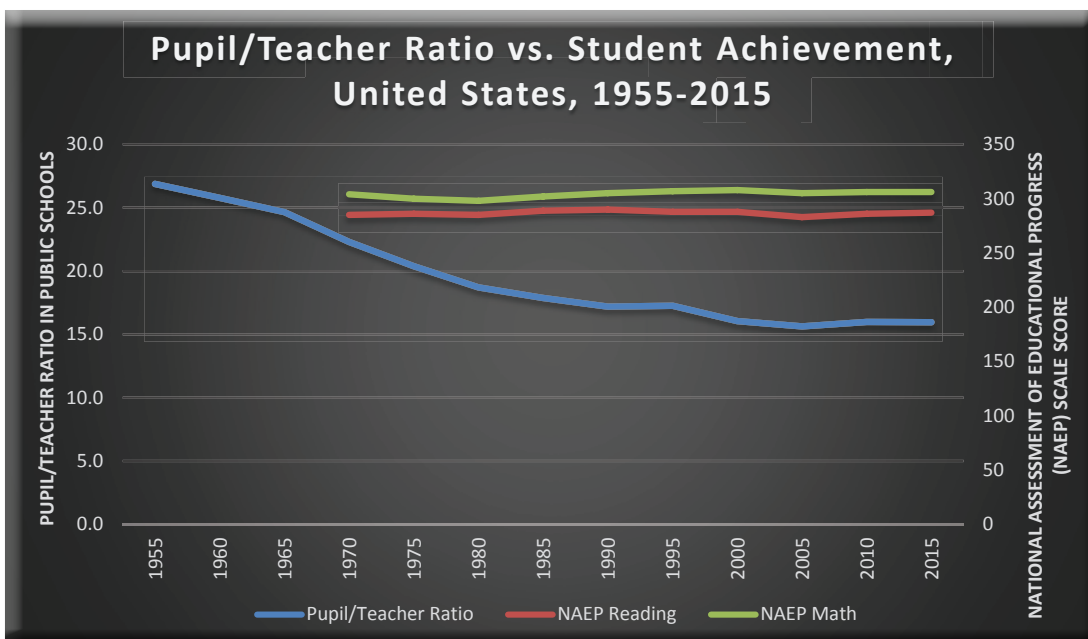
Of course, factors other than money influence children’s learning. Statistics show that an inability to converse fluently in the language of instruction, a lack of parental involvement, and a disadvantaged socioeconomic background all have significant negative impacts on student achievement. Jurisdictions where these traits are more common face heightened educational challenges. The OECD notes, however: “The share of students from disadvantaged backgrounds in the United States is about average...while the socioeconomic status of the U.S. student

population as a whole ranks clearly above the OECD average.”³ Therefore, the U.S. should be among the highest achieving nations, if its vast education resources were deployed effectively. The absence of America among the highest performers demonstrates that we have not deployed our resources as effectively as most other advanced nations. Similar comparisons apply among our states. Thus, Nevada has a large percentage of at-risk students, but Arizona, with higher proportions of English Language Learners, gets better performance while spending \$500 less per student.



2. Great teaching, not expensive gimmicks and administrative bloat, is what leads to great learning. Empirical evidence is the real test in determining the effectiveness of policy and spending options. This research consistently finds that one school-controlled variable stands above all others when it comes to boosting student achievement: the quality of the teacher. A great teacher can help a child overcome many disadvantages. Peer-reviewed statistical studies show that students lucky enough to have a top teacher make 1.5 times as much testable progress in a school year as those with average teachers.⁴ Harvard scholars have found that the best teachers are able to deliver effective instruction regardless of class size.⁵ And Chart 1 shows that 60 years of average pupil/teacher ratio reductions from 27 to 16 have not made any difference in student achievement in the basic subjects (reading and math). These observations suggest that the best way to improve educational outcomes is to offer highly competitive salaries to attract the most talented educators and then to place many students in front of them. As the Brookings Institution states, “Perhaps higher salaries attract better teachers and better teachers can teach well regardless of the size of the class.”⁶

In fact, that is precisely the strategy that has been followed in the highest achieving nation, South Korea. The OECD observes: “Reducing class size is not, on its own, a sufficient policy lever to improve the performance of education systems, and is a less efficient measure than increasing the quality of teaching.”⁷ It is unfortunate, then, that efforts to reduce class size are so prevalent in U.S. politics. Polls show that 77% of Americans think any new education dollars should go toward smaller classes instead of better pay for teachers.⁸ In part, this is due to the political marketing efforts of teacher unions, which promote class-size reduction primarily because smaller classes force schools to hire more dues-paying teachers. Since unions charge dues at a flat rate per member, union coffers grow by getting more less-skilled and poorly paid teachers on the payroll than by using education dollars to pay great teachers more. Thus, teacher unions have led the charge to enact rigid class-size mandates in at least 24 states, including Nevada, where such mandates took effect in 1991 and now cost \$381-million per biennium. This spending shows how unions have transformed the public education system from a program to benefit our children and the public interest to one designed to benefit union leaders.



Class-size restrictions are not alone in this regard. Other programs enacted in Nevada in recent years also increase the raw number of teachers at the expense of paying great teachers better, despite research evidence showing that paying great teachers better is the best means to help students learn. In 2006, the Nevada legislature used a budget surplus to launch a program of expanding half-day kindergarten to full-day kindergarten in some schools. This program has



been gradually expanded over the years, and Governor Brian Sandoval now seeks to expand it to every school at a cost of \$159-million in the 2015-2017 budget. One classroom and one teacher can accommodate two half-day classes, but full-day kindergarten requires double the number of teachers and classrooms, and this fact underlies the advocacy efforts of teacher unions and construction contractors alike. Research shows, however, essentially no difference between half-day and full-day kindergarten on student outcomes. The U.S. Department of Education tracked the experience of nearly 23,000 children entering both programs in the late 1990s and concluded, “Children’s reading and mathematics gains over the first 4 years of school did not differ substantively by...the type of school or kindergarten program they attended.”⁹

Class-size reduction, full-day-K-for-all and pre-school expenditures in Nevada and elsewhere have not produced meaningful gains in student achievement, but they voraciously consume precious education dollars that could be better spent elsewhere. As public choice theory suggests: The political process allows unions, whose costs to organize are lower than those of the public at large, to steer public spending on education toward programs that provide benefits to union leaders despite the fact that little benefit is provided to the children and public the system is intended to serve. It is precisely because so much spending flows to programs that offer little benefit for children and the public that there is so little relationship in Nevada and around the world between student achievement and spending levels per pupil.

3. Nevada’s K-12 funding mechanism is very convoluted, sowing confusion among parents and taxpayers and reducing accountability. The current structure for financing education in Nevada uses a complex mix of state and local taxes unlike any other in the nation. First created in 1967, this “Nevada Plan,” has grown increasingly opaque over the years as new taxes and revenue sources have been added to the mix. Originally, it integrated a then-new 1.0% sales tax levy with revenue from mining claims and a state-level appropriation into the Distribu-

tive School Account (DSA). A state-guaranteed “Basic Support Per Pupil” amount is distributed from this account to local school districts. The sales tax component, the Local School Support Tax, has been increased during most economic recessions, growing to 1.5% in 1981, 2.25% in 1991, and 2.6% in 2009. In 1983, a 25-cent property tax per \$100 in valuation was added, and in 2009 a new tax on hotel rooms also became a revenue source for the DSA. School districts also receive a number of other local tax dollars outside the Nevada Plan that provide additional funds beyond the Basic Support Per Pupil. These are detailed in Table 2.

Distributive School Account	Local funding	Federal Funding
State General Fund	“Inside” NV Plan:	Payment in lieu of taxes for federal land holdings
Slot tax	Local School Support Tax (sales tax)	Nutrition programs
Investment income from permanent school fund	25-cent property tax	Title 1 program for at-risk schools
Federal mineral land leases	“Outside” NV Plan:	Special education
Medical marijuana excise tax (75%)	50-cent property tax	Vocational education
Room tax - IP1 (2009)	Vehicle registration taxes	Other improvement programs
	Franchise taxes	
	Interest income	
	Tuition & Rent	
	General obligation bonds	

Besides the per-pupil support and the outside funds received directly by the districts, the state provides many “categorical” grants to the local school districts to support specific programs, such as full-day kindergarten. These funds must be used for the specified programs or returned to the state. There are some large loopholes, however. Districts can accept the funds and then seek waivers from the state Department of Education (DOE) on requirements to meet class-size and other standards. Or they can simply take the chance that the state will not verify their compliance.

In fact, a 2014 legislative audit revealed that districts have regularly accepted categorical funds for class-size reduction without actually reducing class sizes. The audit found that DOE “did not effectively monitor quarterly class-size reduction reports and variance requests submitted by school districts.” Also, “none of the 17 school districts demonstrated how pupil-



teacher ratios would be reduced within the limits of available funding,” as required. Further, DOE had “no written policies or procedures to determine” how the \$381-million in class-size reduction funds would be distributed to school districts during the 2013-2015 budget cycle. A single employee was responsible for making these determinations with no oversight, and the employee did not keep supporting documentation. Due to the many loopholes in implementation and oversight, there is no assurance categorical monies were used for their intended purposes and not simply diverted to finance spending on district-level administrators. Although the research literature casts doubt on the effectiveness of class-size reduction as policy tool, the audit highlights the ability of districts to improperly use categorical funding streams for general purposes.¹⁰

So, complaints that teachers must purchase supplies for their classrooms from their own funds or that class sizes are extensively much greater in Clark and Washoe Counties than the prescribed sizes are true. However, they are not attributable to any failure by the state to adequately fund K-12 education. Instead, they should be directed at the mismanagement by local school districts that produces such outcomes despite state standards and funding.

This labyrinth of various state and local taxes makes it difficult for taxpayers to understand how schools are funded in Nevada. As more local levies have been added through the decades, the share of funding that comes directly from the state has declined significantly. By 2011, 56% of school funding came from local sources, the sixth largest share in the United States. Meanwhile, 11% came from federal sources and only 33% from state sources. As a result, the true spending totals can be easily obscured and misrepresented to the public, as some special interests are wont to do. For instance they cite the Basic Support Per Pupil amount of around \$5,700 without mentioning the additional thousands per student that are spent in addition to this figure. We consider the database on state education spending compiled by the U.S. Department of Education and databases derived from it to be the only credible ones for comparing

spending across jurisdictions because the federal database is the only source that counts *all* spending and uses a uniform methodology for all states. It reports that Nevadans actually spent \$9,650 per pupil in 2011.¹¹

4. Improving Nevada’s schools doesn’t have to cost more. Because many of Nevada’s existing education dollars are used ineffectively, Nevada should re-allocate existing dollars to programs that would be more effective, while also implementing reforms that have low or no costs. Some reforms may even generate cost savings. The empirical literature suggests three broad strategies for boosting student achievement that Nevada should pursue:

- Improving the talent levels and effectiveness of educators
- Exposing schools to market forces to improve resource allocation
- Better utilizing technological resources to improve student outcomes

To improve educator effectiveness, Nevada must relax its current restrictions on who can receive a teaching license so that schools can recruit from a wider array of talented professionals. There is no good reason why a famous mathematician and physicist such as Stephen Hawking should be ineligible to teach high school physics in Nevada, for instance. Recruitment and retention of highly talented educators is also dependent on schools’ ability to offer attractive compensation packages. Strict, formulaic salary schedules, especially those that reward job longevity instead of excellence, give little flexibility to administrators looking to recruit top talent, so additional flexibility is needed. Current pay arrangements for teachers also award a disproportionate share of compensation as benefits, as opposed to salary, even though many teachers would prefer greater salary to benefits. So, these strictures must also be relaxed.¹²

The allocation of existing educational resources is improved by giving parents, as the consumers of education, more choice about where to send their children to school. On the whole, parents are attracted to schools that give their children the greatest opportunity for success in life.



So, school administrators who need to attract students (and cannot merely take for granted neighborhood attendance) will deploy their resources toward programs and expenses that parents value when parents are given choices. Market forces can be introduced through both private-school choice and more charter schools. The empirical evidence has found that both forms of choice lead to improved student outcomes.¹³ Further, since both private schools and charter schools are typically less expensive than traditional public schools, there are cost savings associated with these reforms.

Finally, there is strong evidence that technology-assisted learning leads to better student outcomes while also easing the workload on classroom teachers so they can more easily manage larger classes. A major 2010 study by the U.S. Department of Education found that “on average, students in online learning conditions performed better than those receiving face-to-face instruction.”¹⁴ Students enrolled in online classes tend to spend more time on task and are able to move at their own pace, improving the effectiveness of class time. Further, online learning can lower the facilities and transportation costs faced by school districts and parents and bring more students into contact with the best teachers.

¹ U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 2013 release.

² OECD, Programme for International Student Assessment, 2012 Results.

³ OECD, Programme for International Student Assessment, 2012 Results, Country Note: United States

⁴ Eric Hanushek and Steve Rivkin, “Teacher Quality,” In *Handbook of the Economics of Education* (Eds), Eric Hanushek and Finis Welch, 2007, Vol. 2, Chp. 18.

⁵ Ludger Wobmann and Martin R. West, “Class-Size Effects in School Systems Around the World,” Harvard University, Kennedy School of Government, Program on Education Policy and Governance Paper 02-02.

⁶ Matthew Chingos, “The False Promise of Class-Size Reduction,” The Brookings Institution, April 2011.

⁷ OECD, Education Indicators in Focus, Issue 9, 2012 (November).

⁸ *Education Next*, Program on Education Policy and Governance 2007 Survey.

⁹ U.S. Department of Education, “From Kindergarten Through Third Grade: Children’s Beginning School Experiences,” 2004.

¹⁰ State of Nevada, Legislative Auditor, “Performance Audit: Department of Education,” November 2014.

¹¹ U.S. Department of Education, National Center for Education Statistics, Digest of Education Statistics, 2013 release.

¹² For greater detail, see Geoffrey Lawrence, “33 Ways to Improve Nevada Education Without Spending More,” Nevada Policy Research Institute, July 2014.

¹³ For a review of all empirical work on private-school choice, see Greg Forster, “A Win-Win Solution: The Empirical Evidence on School Choice, Third Edition,” The Friedman Foundation for Educational Choice, April 2013. Several studies also track the performance of lottery-winning charter school students relative to their lottery-losing peers. See, e.g., Caroline M. Hoxby et al., “How New York City’s Charter Schools Affect Achievement,” The New York City Charter Schools Evaluation Project, September 2009 and Caroline M. Hoxby and Jonah E. Rockoff, “Findings from the City of Big Shoulders,” *Education Next*, Fall 2005.

¹⁴ U.S. Department of Education, Office of Planning, Evaluation and Policy Development, “Evaluation of Evidence-Based Practices on Online Learning: A Meta-Analysis and Review of Online Learning Studies, 2010.

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