Separation of Degrees: State-By-State Analysis of Teacher Compensation for Master's Degrees

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RAPID RESPONSE

School district finances are organized around the assumption that revenues will increase more or less steadily, and at a rate higher than inflation. Recent shifts in the underlying economic conditions of the country, however, suggest that it would be foolhardy to continue operating under this assumption. Many school districts will face stagnant or declining revenues for some time to come, even with large infusions of federal money from the American Recovery and Reinvestment Act.[1]

Looking forward, many school systems will need both to reign in automatic cost escalators, and to finance reform by repurposing current expenditures. Under these criteria, compensation schemes are ripe for redesign: Teacher salaries increase each year with longevity and graduate credits, making them destined to escalate, and yet they have little link to student achievement.[2]

Decoupling salary from experience is a tall order, but forward progress on school reform requires school districts to revamp their spending habits somehow. One habit related to experienced-based salary is the practice of paying a teacher with a master's degree more than an otherwise identical teacher with only a bachelor's degree. The long-cherished "master's bump" makes little sense from a strategic point of view.

On average, master's degrees in education bear no relation to student achievement.[3] Master's degrees in math and science have been linked to improved student achievement in those subjects,[4] but 90 percent of teachers' master's degrees are in education programs[5]—a notoriously unfocused and process-dominated course of study. Because of the financial rewards associated with getting this degree, the education master's experienced the highest growth rate of all master's degrees between 1997 and 2007.[6]

Baseline investment levels

So how much money is tied up in master's degrees? A 2007 study estimated that 2.1 percent of all current expenditures can be attributed to teacher compensation related to master's degrees.[7] Seen another way, the master's bump costs the average school district $174 per pupil.

But these national figures conceal substantial variation among states in the level of public investment in master's degrees. This brief offers a state-by-state breakdown of this investment. It should be noted that teachers' compensation arrangements can vary enormously within states, but the statewide figures offered here provide a starting point.

Table 1 provides estimates of the current expenditures in each state devoted to compensating teachers for master's degrees (see the appendix for an explanation of the procedures used to calculate these figures). These estimates may interest policymakers in particular states. A Nebraska lawmaker, for example, should probably be aware that, on a yearly basis, roughly $81 million dollars—$279 per pupil—are tied up in master's degrees and thus unavailable for other purposes. During this time of fiscal stringency, it should raise eyebrows when a state automatically allocates over 3 percent of the average per-pupil expenditure in a manner that is not even suspected of promoting higher levels of student achievement.

Table 1. Percentage of teachers holding a master's degree, per teacher compensation for master's degree, and percentage of current expenditures devoted to a master's bump, by state.

	Percentage teachers with master's degree or above	Average salary bump for master's degree over bachelor's	Money spent on master's bump	Percentage of total education expenditure (federal, state, and local) in each state	Per-student master's expenditure
United States	**48%**				
Alabama	61%	$6,666	$202,351,743	2.92%	$272
Alaska	41%	$10,329	$34,128,468	2.39%	$258
Arizona	49%	$5,410	$149,046,948	2.33%	$125
Arkansas	38%	$4,183	$56,789,071	1.20%	$124
California	43%	$8,977	$1,173,206,554	1.96%	$187
Colorado	54%	$5,341	$137,641,681	1.76%	$169
Connecticut	74%	$6,366	$205,393,986	2.58%	$357
Delaware	53%	$8,986	$39,332,745	2.30%	$312
District of Columbia	51%	$5,579	$16,379,295	1.62%	$296
Florida	37%	$3,496	$230,671,218	1.01%	$86
Georgia	53%	$8,336	$529,583,485	3.21%	$313
Hawaii	55%	$3,933	$25,272,855	1.19%	$141
Idaho	27%	$7,828	$32,055,315	1.56%	$116
Illinois	53%	$5,914	$422,385,314	1.73%	$198
Indiana	62%	$4,988	$191,807,156	1.88%	$182
Iowa	34%	$5,192	$63,741,719	1.50%	$131
Kansas	45%	$4,346	$66,527,855	1.40%	$140
Kentucky	71%	$4,772	$143,867,668	2.30%	$220
Louisiana	34%	$2,860	$44,335,803	0.67%	$68
Maine	34%	$3,048	$17,691,413	0.68%	$92
Maryland	56%	$5,482	$187,626,598	1.77%	$222
Massachusetts	60%	$5,227	$237,507,838	1.69%	$249
Michigan	56%	$5,927	$316,418,467	1.68%	$183
Minnesota	50%	$6,995	$184,435,902	2.05%	$225
Mississippi	36%	$4,310	$53,178,510	1.43%	$107
Missouri	51%	$4,283	$146,603,923	1.85%	$163
Montana	34%	$7,259	$25,687,016	1.94%	$181
Nebraska	40%	$9,484	$81,286,660	3.02%	$279
Nevada	56%	$6,972	$91,788,228	2.76%	$202
New Hampshire	42%	$4,682	$32,137,405	1.30%	$157
New Jersey	42%	$4,624	$225,579,179	1.01%	$162
New Mexico	41%	$3,986	$36,008,112	1.10%	$109
New York	78%	$7,109	$1,121,422,848	2.59%	$416
North Carolina	32%	$4,417	$140,151,025	1.09%	$97
North Dakota	27%	$4,212	$8,855,916	1.06%	$96
Ohio	53%	$7,280	$463,381,961	2.70%	$243
Oklahoma	33%	$2,014	$28,385,502	0.56%	$44
Oregon	58%	$6,441	$109,520,560	1.95%	$193
Pennsylvania	50%	$3,171	$199,008,461	0.92%	$110
Rhode Island	52%	$2,714	$22,027,136	1.09%	$134
South Carolina	51%	$6,194	$157,754,370	2.48%	$222
South Dakota	26%	$2,748	$6,249,122	0.60%	$52
Tennessee	52%	$3,717	$122,996,038	1.63%	$139
Texas	27%	$1,423	$124,519,635	0.32%	$27
Utah	33%	$4,490	$33,505,600	1.16%	$69
Vermont	45%	‡	‡	‡	‡
Virginia	40%	$2,706	$114,530,052	0.81%	$92
Washington	56%	$10,777	$330,108,991	3.30%	$319
West Virginia	61%	$3,269	$39,597,424	1.31%	$141
Wisconsin	45%	$6,406	$171,358,055	1.79%	$196
Wyoming	37%	$6,955	$17,851,399	1.40%	$209
Total Expenditure on Master's Degrees			**$8,611,692,225**		

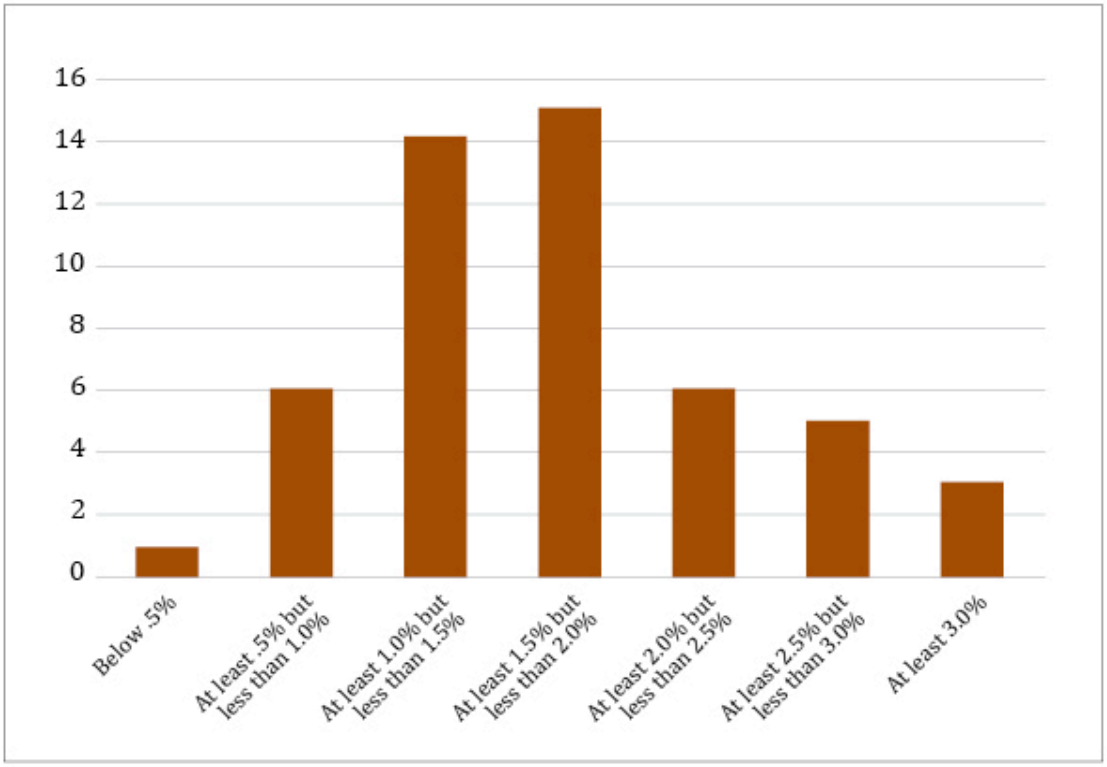
‡ Reporting standards not met. The base-weighted unit response rate was below 50 percent.

"SOURCES: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey, District Data File, 2003-04; National Education Association, Rankings & Estimates: Rankings of the States 2008 and Estimates of School Statistic"

The urgency of divesting from master's degree pay bumps for teachers may be greater in some states than in others. Percentages of total expenditures from federal, state, and local revenue sources devoted to the master's bump, also given in Table 1, range from 0.32 percent ($27 per pupil) in Texas to 3.30 percent ($319 per pupil) in Washington.

States can get a sense of their baseline investment level relative to other states by locating themselves in the frequency chart featured in Figure 1. A state devoting between 1 and 2 percent of current expenditures to master's degrees can point to 28 other states with the same habit. This may be a weak excuse for such spending patterns, but the existence of seven states with lower investment levels may focus the minds of leaders looking for sensible ways to manage the fiscal crisis.

Figure 1. Number of states with percentages of expenditures on master's degrees, categorized from low to high.



Kicking the habit

Statutory and contractual obligations prevent employers from going cold turkey with respect to their habit of funneling money to teachers holding master's degrees. Yet a two-fold approach can help interested states and districts gradually amortize their investments in teachers' master's degrees. As with getting out of any hole, the first step is to stop digging.

The master's bump in many jurisdictions takes the form of an annual stipend sitting on top of salary. Rather than increasing such stipends in conjunction with cost-of-living increases to salary, which is a standard practice, districts should dedicate no new resources toward them. The percentage of compensation tied up in stipends will almost certainly decrease over time.

Stopping the digging has a different meaning in situations where master's degrees have penetrated the salary schedule. The one-time costs of merging salaries for teachers with and without master's degrees in some type of buy-out may be prohibitive, but it may be possible to create a different schedule for new hires that fails to mention master's degrees. Existing teachers with master's degrees would continue to enjoy salary enhancements on that basis.

History shows, of course, that school boards have trouble dropping the shovel, and it certainly won't be easy for them to do so in states where the percentage of teachers holding a master's degree is high. These percentages—shown in Table 1—reach as high as 78 percent in New York, where the state requires that teachers seeking the highest level of licensure hold a master's degree.[8] This highlights the second approach to amortizing the investment in master's degrees: eliminating any requirement for graduate degrees in state licensure.

Conclusion

This brief quantifies the amount of financial resources that states and school districts may wish to divert from generally ineffective spending on master's degrees to ways of spending that better support student achievement. Yet moving away from the reflexive master's bump doesn't imply ignoring master's degrees altogether. Teaching candidates with salient and meaningful master's degrees should be given preferential attention when competing for jobs, all else equal. A master's degree in engineering, for example, should be construed as evidence that a candidate possesses a deep understanding of a subject matter that is relevant to teaching mathematics or science. And if a specific master's program is found to enhance teachers' effectiveness in the classroom, the context of accountability should ensure that principals factor this information into their selection process.

Nor can divestment from master's degrees alone solve the problem of misalignment between teacher pay and student benefits. Rather, divestment should be part of an effort to distribute compensation differently, in ways that offer greater benefit to students. Teachers currently finance their master's degree studies in anticipation of guaranteed financial returns, but if teachers anticipated higher pay based instead on enhanced ability to boost student achievement, their interests would be better aligned with those of their students.

In the fiscal climate ahead, school systems serious about improving results for students will have no choice but to reconsider their long-automated ways of spending money, uncover how much money is at stake, and compare current ways of spending to alternative ones with greater potential to benefit students.

Appendix

This analysis used data from two sources. The 2003-04 Schools and Staffing Survey from the National Center for Education Statistics provided state-by-state figures for both the percentage of teachers with masters degrees, and the average salary of teachers at each degree level—bachelor's or below, master's, to name a few—for given years of longevity. This analysis used these data to compute the average percentage salary increase awarded for education credits earned beyond a bachelor's degree. The analysis then applied the percentage increases to the more recent state-by-state average salary figures and total number of teachers from the National Educators Association's 2008-09 Salary Survey, in order to compute the dollar value of the master's bump in each state.

As reported here, the dollar bump on the salary for a master's degree is the average difference between the salary for a teacher with a bachelor's degree—with no extra credits—and the salary for a teacher with a master's degree for a given experience level. In other words, this bump includes all salary increments for credits earned for any level of education beyond the bachelor's degree. Finally, these salary bumps do not include any amounts districts spent on subsidizing teachers' costs for earning higher degrees.[9]

Endnotes

[1] Marguerite Roza, "Ranking the States: Federal Education Stimulus Money and the Prospects for Reform" (Seattle: Center on Reinventing Public Education, 2009).

[2] Steven Rivkin, Eric Hanushek, and John Kain, "Teachers, Schools and Academic Achievement," *Econometrica,* 73(2) 2005, available at http://edpro.stanford.edu/Hanushek/admin/pages/files/uploads/teachers.econometrica.pdf; Jonah Rockoff, "The Impact of Individual Teachers on Student Achievement: Evidence from Panel Data," *Public Economics*, 2003; Robert Gordon, Thomas Kane, and Douglas Staiger, "Identifying Effective Teachers using Performance on the Job" (Washington: Brookings Institution, 2006); Raegen T. Miller, Richard J. Murnane, and John B. Willett, "Do Teacher Absences Impact Student Achievement? Longitudinal Evidence from One Urban School District," *Educational Evaluation and Policy Analysis*, 30(2) (2008).

[3] There are, of course, high-quality and extremely valuable master's programs, but quality does not figure in the logic of some teacher-oriented blogs promoting master's degree programs. See, for example, http://teacherportal.com/blog/10-the-cost-benefit-to-a-master-s-degree-in-education-hint-get-one- .

[4] Dan Goldhaber, Dominic Brewer, and Deborah Anderson, "A Three-way Error Components Analysis of Educational Productivity," *Education Economics,* 7(3) (1999); Gordon, Kane and Staiger, "Identifying Effective Teachers using Performance on the Job"; Thomas J. Kane et al., "What Does Certification Tell Us About Teacher Effectiveness? Evidence from New York City" (Cambridge: National Bureau of Economic Research, 2006); Daniel Aaronson, Lisa Barrow, and William Sander, "Teachers and Student Achievement in the Chicago Public High Schools," Federal Reserve Bank of Chicago, 2002; Rivkin, Hanushek, and Kain, "Teachers, Schools and Academic Achievement"; National Council on Teacher Quality, "Increasing the Odds: How Good Policies Can Yield Better Teachers," 2005.

[5] National Center for Education Statistics, Schools and Staffing Survey, Public Teacher File, 2003-04.

[6] The Quick and the Ed Blog, June 1, 2009, available at http://www.quickanded.com/2009/06/condition-of-education-masters-degrees.html (last accessed July 10, 2009). Data cited from Table A-41-1, Contexts of Postsecondary Education, National Center for Education Statistics. The rate of growth was actually higher for Security and Protective Services, rather than a secular trend, this increase is clearly a response to the events of September 11, 2001.

[7] Included here are the costs of *all* master's degrees, not just those in education. See Marguerite Roza, *Frozen Assets: Rethinking Teacher Contracts Could Free Billions for School Reform* (Education Sector Reports, January 2007).

[8] More information on New York state's master's degree requirement is available at http://www.highered.nysed.gov/tcert/certificate/relatedmasters.htm#1.

[9] The Quick and the Ed Blog, June 1, 2009.

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