

How State Education Agencies Can Help Districts and Schools Become More Productive

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State education agencies (SEAs) definitely have a role to play in helping districts and schools become more productive. They cannot and should not fully determine how districts and schools operate. But they can provide the data, incentives, and flexibility that will drive people to seek and pursue the strategies that produce the highest ratio of student learning per dollar spent. Right now, few state policies and practices encourage local leaders to view their decisionmaking through the lens of productivity. But with the principles presented in *The SEA of the Future: Building the Productivity Infrastructure, Volume 3*, states can start to lay the infrastructure for a more productive education system.

Three things about today's public education systems work against productivity:

1. Costs are hidden and unknown.
2. Rules, regulations, and agreements force schools to do things that tie up resources that could be used to greater effect.
3. Many barriers prevent exploration of new ideas.

HOW ARE COSTS HIDDEN?

Even if district and school leaders wanted to make the most effective use of every penny, they do not have the basic information they need about the costs of different people, resources, and processes.

Why the ambiguity? As Marguerite Roza details in her essay, "A State Information System to Support Improvements in Productivity," most districts do not track expenditures in a way that enables them to make meaningful productivity calculations. Districts generally estimate how much is spent per school or per pupil by averaging the total dollars in the district across schools and students. Some districts go further in calculating a weighted average based on the number of low-income, special education, or English language learners in the school.

Neither of these approaches transparently reports the amount of resources available to support individual schools or students. Indeed, variation in spending across schools within districts greatly exceeds the variation between school districts. A 2007 study of funding inequities found that one-third of the schools in a set of Texas districts had spending levels that deviated from the district average by 15 percent (equal to about \$225,000 for a school of 500 when the average non-targeted, non-categorical spending is \$3,000 per pupil).¹

1. Betheny Gross, Scott De Burgomaster, Kacey Guin and Marguerite Roza, "Do States Fund Districts Fairly?" *Education Next* 7, no. 4 (Fall 2007): 68-73.

Teacher salary averaging is a critical source of ambiguity in school finance. Averaging occurs when districts charge schools for teacher salaries by using a districtwide salary average rather than each teacher's real costs (which vary based on experience and other factors). A school with many newer teachers is charged more for salaries than its teachers actually earn, and the extra funds go to better-paid teachers in other schools. Roza and Hill found that salary averaging can increase or decrease a school's budget dramatically.² Schools that gain from salary averaging receive, on average, \$100,000 more than they would if they were funded solely based on enrollment. Schools that lose from salary averaging receive, on average, \$100,000 less. Schools with especially high concentrations of high or low teacher salaries revealed even greater divergences—up to \$1 million.³

Average expenditure calculations also ignore the fact that some schools make far more use of centralized services than others.

In Newark, almost half of the district's nearly \$1 billion in operating revenues are managed directly by the central office.⁴ Schools get access to extra central office services because they house a special program, an influential principal cuts a deal, or central office staff members who provide services to schools prefer to work in some schools and avoid others. None of these strategies allow for a transparent accounting of resource allocations.⁵

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HOW ARE RESOURCES TIED UP?

Even if we could account for the funds that go into schools, the people responsible for providing public education are highly restricted in what they can actually do. Mandates must be fulfilled and rules followed, even if people in schools see better ways to use the resources available to them.

2. Marguerite Roza and Paul T. Hill, "How Within-District Spending Inequities Help Some Schools to Fail," in *Brookings Papers on Education Policy*, ed. Diane Ravitch (Washington, DC: Brookings, 2004).

3. *Ibid.*

4. Lawrence J. Miller and Lourdes N. Alers-Tealdi, "Can a Central Bureaucracy Reinvent Itself Into a Market Maker? A Case Study of Portfolio Management in Newark, New Jersey," in *Public Administration Reform: Market Demand from Public Organizations*, ed. Y.K. Dwivedi et al. (New York: Routledge, 2013).

5. Marguerite Roza, *Allocation Anatomy: How District Policies that Deploy Resources Can Support (or Undermine) District Reform Strategies* (Seattle: Center on Reinventing Public Education, 2008).

Consider these examples:

SEAs set licensing requirements that prevent schools from hiring people without specific (and often arbitrarily defined) training and experience, create prescriptive teacher and principal evaluation protocols, mandate professional development programs, and buy textbooks and curriculum that all districts must follow.

State legislatures set days and hours of operation for schools, allocate funding in well-defined programmatic categories that limit the freedom of schools and districts on how they spend their money, require districts to evaluate teachers at particular intervals, and mandate a minimum administrative structure for a school, no matter its size.

The federal government defines what a highly qualified teacher looks like, requires that teachers paid from federal funds be given some duties and not others, and mandates that schools use particular forms of testing to assess student learning.

Local school boards can decide what methods and materials schools may use, and assign staff to a school without regard to the school's needs and priorities. Local school boards also create mandates for particular schools when they intervene in staffing or programming decisions on behalf of constituents.

Districts constrain themselves with labor agreements that grant automatic salary increases based on seniority and additional educational attainment, whether or not the education is relevant to the teacher's responsibilities or the school's needs.⁶ These agreements can also limit the minutes or days that teachers can be in contact with students, the number of minutes principals can conduct staff meetings, and the number of students teachers can have in a classroom.⁷

6. There is an extensive literature in economics about the disconnect between the bases on which teacher pay is set in public education and consequences for students. Important examples include: Daniel Aaronson, Lisa Barrow, and William Sander, "Teachers and Student Achievement in the Chicago Public High Schools," *Journal of Labor Economics* 25, (2007): 95-135; Dan Goldhaber and Dominic Brewer, "Why Don't Schools And Teachers Seem To Matter? Assessing The Impact Of Unobservables On Education Production," *Journal of Human Resources* 32, no. 3 (1997): 505-523; Dan Goldhaber, Dominic J. Brewer, and Deborah J. Anderson, "A Three-Way Error Components Analysis of Educational Productivity," *Education Economics* 7, no. 3 (1999): 199-208; Eric A. Hanushek, "The Failure Of Input-Based Schooling Policies," *The Economic Journal* 113, no. 485 (February 2003): F64-F68; National Council on Teacher Quality, *Increasing the Odds: How Good Policies Can Yield Better Teachers* (Washington, DC: National Council on Teacher Quality, 2005); T. John Kane, Jonah E. Rockoff, and Douglas O. Staiger, "What Does Certification Tell Us About Teacher Effectiveness? Evidence from New York City," working paper #12155 (Cambridge, MA: National Bureau for Economic Research, 2006); Raegen Miller and Marguerite Roza, *The Sheepskin Effect and Student Achievement: De-emphasizing the Role of Master's Degrees in Teacher Compensation* (Washington, DC: Center for American Progress, 2012); Steven Rivkin, Eric A. Hanushek, and John F. Kain, "Teachers, Schools, and Academic Achievement," *Econometrica* 73, no. 2 (2005): 417-458.

Some mandates were initially justified as increasing school effectiveness or protecting vulnerable students—for example, class size limits, teacher licensing, seat-time requirements, categorical programs targeting resources to particular students, and mandates that drive salary decisions and protect school employees. However, none were based on evidence that these actions produced better results, given their costs, than other possible uses of the same funds. Each mandate was the product of targeted advocacy, not an integrated theory of school effectiveness. Instead, they were enacted one at a time and often for different reasons.⁸ No single mandate is crippling, but the cumulative effect is.

WHY IS IT SO HARD TO EXPLORE NEW POSSIBILITIES?

Education, like any other field, can make progress only by exploring new possibilities (which means experimenting with new uses for time, money, and methods),

adopting what works, rejecting what doesn't, and promoting widespread uptake of the most effective known methods. This means that the people responsible for producing student outcomes, particularly school leaders, must be able to change what they do and make trade-offs, deciding to spend less on one resource or activity and more on another. Perhaps a leader chooses to cut the number of administrators in the school and use that money instead for online resources that individualize instruction for students.

Also like any other field, education cannot afford to assume that what is considered state of the art at any one time is applicable across all student populations and school contexts—or even that it is truly the best option. Unfortunately, education policy discourse often presumes that the best ways of promoting student learning are well known and can be encoded in rules that apply to all schools. These convictions persist against strong evidence to the contrary. For example, the conventional wisdom of the importance of small class sizes ignores the fact that some students learn

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7. David P. Baker, Rodrigo Fabrega, Claudia Galindo, and Jacob Mishook, "Instructional Time and National Achievement: Cross-National Evidence," *Prospects* 34, no. 3 (2004): 311–334.

8. For a more complete account of the constraints imposed on experimentation and flexible use of public funds see Paul T. Hill, Marguerite Roza, and James Harvey, *Facing the Future: Financing Productive Schools* (Seattle: Center on Reinventing Public Education, 2008).

at a high level without ever setting foot in a school building, taking online courses, each with hundreds of students enrolled.

Mandates do more than tie up funds on uses whose effectiveness is not known. They also prevent experimentation with new methods of instruction and other student services that might be more effective, and prevent the movement of money, teachers, and students to more effective and efficient schools and programs.⁹ Unless they want to violate express requirements, laws, contracts, or policies, school and district leaders cannot:

- Regroup students to teach some courses in very small classes and other courses, which need less individualization, in much larger classes.
- Shift money from non-instructional uses such as transportation, facilities, or rent to instructional uses such as more class time, individualized instruction, or online curriculum.
- Hire experts to teach subjects that regular teachers are poorly prepared to teach.¹⁰
- Make trade-offs between the use of live teachers and online resources.

None of these options is proven effective in every case, and there is no reason to suggest that they should be imposed on all schools by mandate. However, they do open up possibilities for much more effective instruction in some cases by relying entirely on existing resource investments, rather than special “innovation” funds or programs.

HOW SEAS CAN BUILD A PRODUCTIVITY INFRASTRUCTURE FOR PUBLIC EDUCATION

SEAs can lead the change to more productive education by creating systems that encourage everyone to leverage their limited resources for better outcomes. Building a productivity infrastructure will require:

- Data that transparently identify resource use and outcomes.
- Incentives that encourage attention to both costs and outcomes.
- Autonomy to choose among different possible uses of funds and experiment with alternative practices.

9. Unfettered experimentation can also result in the waste of resources. Risk-taking must be constrained by performance-based oversight to protect students and taxpayers from waste, fraud, and abuse.

10. Larry Summers, former chief economic advisor to the White House, famously remarked that he would not be permitted to teach an economics class in our public high schools.

Data on Expenditures and Outcomes

Data on expenditures are important—to assess the productivity of a school or instructional program, it is necessary to know how much is spent on it, as well as its outcomes. Given the likelihood that the most productive use of resources for one group of students might not be the most productive for another, and that implementation of reforms will differ from place to place, this requires a degree of granularity of evidence that current public education accounting systems cannot provide.¹¹

As Marguerite Roza details in her essay, “Funding for Students’ Sake: How to Stop Funding Tomorrow’s Schools Based on Yesterday’s Priorities,” use of these data to inform decisions at the system level would require that expenditures be accounted for at the level of the school and the individual child and be merged with outcomes data in the same academic year that they were generated. The state and school district would also need to conduct detailed analyses to identify those schools that yielded the greatest results per dollar spent. Schools could use these same data to assess their own productivity, overall and for particular pupils, and to identify programs that were cost effective, including those offered by alternative providers.

These approaches require significant investment in data, analytic, and accounting systems at the state and district levels, whether employees or contractors do the work.

Incentives to Encourage a Focus on Expenditures and Outcomes

In a system built for productivity, schools and districts would be encouraged to seek solutions that deliver more learning gains per dollar spent. This encouragement would come in two forms: funding and oversight.

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11. For example, in Texas the financial reporting categories are so broad that it is difficult, if not impossible, to know how much is spent to actually teach any particular subject or any student.

A state that controls inputs (for instance, by mandating specific class sizes, school administrative structures, salaries, and use of time) can never know whether it is making the most productive use of its funds. As Larry Miller, Marguerite Roza, and Suzanne Simburg discuss in their essay, “Funding for Students’ Sake: How to Stop Funding Tomorrow’s Schools Based on Yesterday’s Priorities,” one of the biggest sources of constraint comes from state funding formulas that dictate the set of programs schools must offer and the staff required to offer them. These funding models discourage experimentation and result in impossible trade-offs among different types of resources.

A more productive education system would push funding decisions down to district and school level decisionmakers, and would enable districts and schools to benefit when they find a new, more efficient use of resources. Cost savings in one area can be reinvested in another.

A more productive education system would also hold schools and districts accountable for the results they achieve. The state’s oversight role in school finance has traditionally been conceptualized as compliance monitoring. States must instead focus on how existing dollars can be leveraged toward greater effect. This might include an annual performance review of all schools and districts for productivity to identify those doing especially well or poorly at resource utilization.¹² States should also consider integrating financial information into existing report cards, much like corporate leaders use balanced scorecards to assess financial outcomes alongside performance measures.

School Autonomy to Allow Trade-offs and Experimentation with Practice

Educators and administrators need freedom to make trade-offs on behalf of student learning and to experiment with new ideas about the delivery of education services. Rarely do they have the power to do so. Autonomy is the linchpin of a productivity infrastructure.

As Kelly Hupfeld discusses in her essay, “Accelerating Productivity Through Autonomy,” a more productive education system would ensure that those in decisionmaking roles—especially central office administrators and principals—have the power to leverage their existing resources for greatest effect. This means ending the use of narrowly defined categorical programs that often arbitrarily restrict how funds are used, and moving

12. Performance oversight arrangements could include a state recovery district, like those now operating in Louisiana, Tennessee, and New Jersey, that could take control of consistently ineffective schools that the local Board had refused to close or replace. For more on recovery school districts see Paul Hill and Patrick Murphy, *On Recovery School Districts and Stronger State Education Agencies: Lessons from Louisiana* (Seattle: Center on Reinventing Public Education, 2011). See also Nelson Smith, *The Louisiana Recovery School District: Lessons for the Buckeye State*, (Washington, DC: The Thomas B. Fordham Institute), accessed June 27, 2012.

toward student-based budgeting models that make students, not particular staff or school models, the beneficiaries of state aid.¹³

Because human resources consume the vast majority of education dollars, flexibility over staffing is the single most important investment states can make. This includes control over hiring decisions, pay, evaluation, and staffing models. To become more productive, schools need freedom to experiment with teacher teaming, variable class sizes, novel contracts to employ business or university-based experts to teach math and science, and new ways of combining technology-based and hands-on teaching.

There is no reason to think the group of people now employed in schools and school districts have a corner on ideas about how to accelerate student learning. To the contrary, many ideas about how to make K-12 schools more productive—and how to match instructional and student services approaches to the needs of definable groups of students—will come from other educational institutions and from people with backgrounds in learning theory, computer science, and the arts.

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This freedom would unlock new models that look totally different than what is now considered basic to public education. Rather than school buildings housing all students for six hours a day, five days a week, for example, an innovative—and parsimonious—blended learning approach may require students to attend school only one day a week, thus allowing one school building to house five different schools. If instruction were only equally effective in the new schools, they would have lower costs, and therefore be more productive.

CAN ALL THE PARTS COME TOGETHER?

Reorienting our public education system to encourage greater attention to productivity will be a complicated endeavor: the systems that shape productivity reach deeply into how we finance, assess, and regulate K-12 public education.

13. California reduced the number of categorical aid programs from over 200 to around 30 with the passage of the Local Control Funding Formula Act.

The system sketched above breaks from traditional education systems but does not have to be built from scratch. Many of the crucial system elements—pupil-based funding and accounting, school-level control of spending, public oversight of schools based on performance rather than compliance, schools free to experiment with new modes of staffing and teacher compensation, and openness to new providers and technologies—are present, in part, in states across the country.

State education agencies do not have the authority to directly affect all of the change that needs to take place across our educational systems. They do, however, have a central role in elevating the quality of data available to districts and schools and establishing the incentives and autonomy that allow district and school leaders to make bold steps toward productivity. Other essays from *The SEA of the Future: Building the Productivity Infrastructure, Volume 3* will discuss these and other reforms taking hold in states across the country, and how SEAs can lead the charge in creating an education system built for productivity.