



FUNDING STUDENT TYPES: HOW STATES CAN MINE THEIR OWN DATA TO GUIDE FINANCE POLICY ON HIGH-NEEDS STUDENTS¹

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The expectation in this country is that all students should be able to succeed in school. Yet new data and accountability agendas have heightened attention to performance disparities between students with different identifiable needs—needs that stem from poverty, disability, or limited English proficiency. Educators and policymakers know that such students often arrive at school with myriad challenges that call for increased resources to help them reach their full potential.

To address gaps in student performance, many policymakers look to adjust the state's funding formula. Some layer on funds for specific programs or services, while others push for a wholesale overhaul of the way resources are allocated (e.g., advocating for a student based allocation² system). But many policymakers find themselves trying to do this work in the dark. This brief offers guidance to help state policymakers ask the right questions and tap their own data when designing funding policies to serve high-needs students.

There is no clear answer to the question: What's the right amount to spend per pupil type?

As policymakers grapple with approaches for allocating educational resources, many start by asking how much should be spent on students with differing needs. Given our research center's extensive analysis of district and state education formulas, we have often been on the receiving end of phone calls asking exactly that. Policymakers anticipate that we—the researchers—would know the “right” figure they need to spend to ensure that a non-English speaking student, a hearing-impaired student, or a student with reading disabilities is able to reach the same level of proficiency as other children. It seems reasonable that we would have a clear answer on how much it costs to achieve that goal. The problem is, we don't.

1. This paper draws on previous research of Dr. Marguerite Roza including *What is the Sum of the Parts? How Federal, State, and District Funding Streams Confound Efforts to Address Different Student Types*. School Finance Redesign Project Working Paper 9, Center on Reinventing Public Education, University of Washington.

2. Student based allocation systems, also known as weighted student funding, distribute education funds equitably based on the education needs of each student type. <http://edunomicslab.org/student-based-allocation-101/>.

Research simply hasn't settled on a dollar figure for the costs of any one type of student. One study reports that high-poverty students require 25 percent more resources than their peers³ while another concludes that the figure should be 10 times that.⁴

One challenge is that the question about the "right" figure assumes that we know the best way to deliver services for each student type and that we can convert those to a fixed-dollar figure. Let's say a student needing speech therapy typically gets 20 hours of one-on-one therapy. Then a technology comes along that drastically reduces that time while still getting the desired results. If most districts continue to use the 20-hour delivery model, then we don't yet have an efficient resource allocation system from which we can reliably extrapolate what the dollar figure "should" be. Further, if a state then allocates funds based on the "standard" 20-hour delivery model, that allocation works to lock in an inefficient model, further dissuading districts from shifting to better options. In other words, it perpetuates a cost that may not accurately reflect what it "should" cost.

Sometimes the data are so unreliable that they result in cost estimates that states simply can't afford or sustain. California found this out in 2007 when economists estimated the state would need \$1.5 trillion more each year⁵ under the status quo for K-12 education to make all students academically proficient. That price tag represented roughly 25 times the state spending on the K-12 and community college systems combined. As the economist behind California's \$1.5 trillion estimate explained: "The relationship between money and performance is weak and noisy in California."

There are limitations on what can be learned about costs from other states or locales.

After hearing this, state leaders pursuing the "right" amount question then logically move on by trying to learn from what other states or districts are doing. But spending levels in one state don't translate well to those in others. Spending levels for student types may be driven by the fine print in state rules and local politics, differences in concentrations of students, labor contracts, school size, and more. As a result, spending ratios by student type vary widely across states, districts, and schools, with little apparent logic behind the variability. In fact, when targeted funds originate from one layer of government, the fiscal system's various influences and interplays can—and often do—work at cross purposes: This results in spending increments that wind up being anything but what state policymakers intended.

3. Gronberg, T. J., D.W. Jansen, L. L. Taylor, and K. Booker. 2004. School outcomes and school costs: The cost function approach. Report prepared for the Texas Joint Select Committee on Public School Finance. https://www.researchgate.net/profile/Lori_Taylor/publication/266866526_School_Outcomes_and_School_Costs_The_Cost_Function_Approach/links/5492e6b70cf2302e1d074605.pdf (Accessed July 2017).

4. Rothstein, R. 2004. *Class and schools: Using social, economic, and educational reform to close the black-white achievement gap*. Washington, DC: Economic Policy Institute.

5. Joel Rubin and Howard Blume, "No quick, cheap fix for state's schools," *The Los Angeles Times*, March 15, 2007, <http://articles.latimes.com/2007/mar/15/local/me-schools15> (Accessed July 2017).

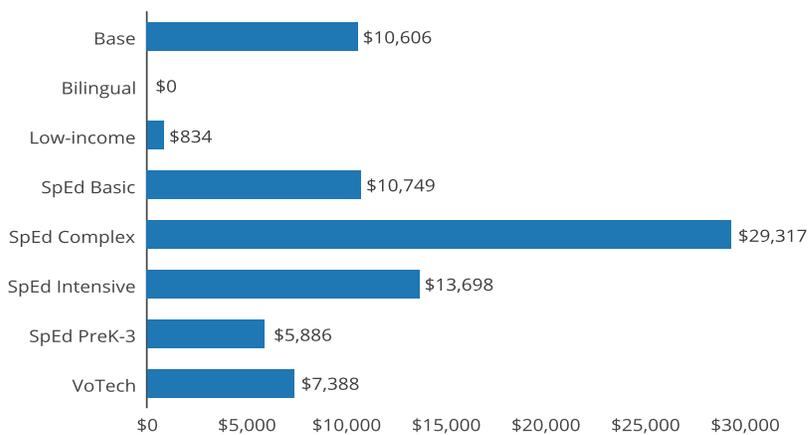
States clearly can learn from existing data. But too often, states confronting finance decisions miss the critical first step of mining their own financial data to uncover patterns and surface potential funding answers. The Edunomics Lab has worked with dozens of states to do just that by asking key questions, and following key steps, detailed below. These steps involve determining current expenditures by student type and comparing spending and outcomes. Any state can follow these same steps, whether they are moving to a full-fledged student based allocation (SBA), revising existing formulas, or simply tinkering around the edges of their existing finance formulas to add some dollar increment for certain student types. The following sections detail those key steps.

Do ask: How much is our state allocating right now per pupil type?

Getting a handle on the dollars already flowing for each student type is a smart place to start. Tallying current funding streams may involve rolling up various state categorical programs and sorting them by the student types they serve (e.g. to ferret out a figure for students in poverty). The answer may be zero because the state doesn't connect dollars to different student types, or there may be several pots of funds that must be pooled (including funding for programs or services earmarked for specific types of students). For each bucket of funds, the dollars can be divided by the state's total enrollment for that student type.⁶

Figure 1 below shows this analysis in Delaware, where the state uses a staffing formula to disburse state funds.⁷ Delaware currently uses a staffing count (called a "unit count") to allocate dollars to districts. Working with Delaware data, we identified staffing allocations tied to services by student type (e.g. staffing FTEs allocated for special education services, or for programs for low-income students), converted them to dollars, and divided them by the total number of Delaware students identified in each student category.

Figure 1: Statewide average spending by pupil type in Delaware FY2014-15.



6. Where relevant, we suggest breaking out federal resource allocations.

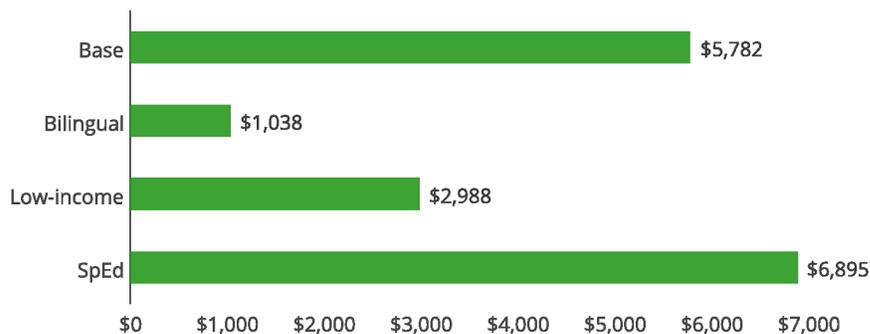
7. Most states now use some form of student-based allocation system (often with categoricals or other allocations layered on top).

Do ask: How much are districts spending today per pupil type?

While a state may allocate zero dollars to districts by student type, districts, in turn, may decide to spend some portion of their state allocation to support distinct student types via staff positions or other inputs to schools. Understanding what districts actually spend to educate each type of student reveals new information for policymakers about what it costs to educate certain student types.

For some states, the data may not yet be accessible in their files to run these computations. (More data will emerge with federal financial transparency requirements under Every Student Succeeds Act).⁸ In the example below, we show the per-pupil increments for a single district, Minneapolis Public Schools. Using essentially the same procedure as we did at the state level in the section above, we aggregate the spending categories for different services in schools and divide by the district's total enrollment for each. Although the actual amount varies by student, we found that on average, Minneapolis Public Schools spends an additional \$2,988 per low-income student.

Figure 2: Districtwide average spending by pupil type in Minneapolis Public Schools FY2013-14.



Matching the data from this section and the previous section can help clarify whether districts are indeed spending much more on meeting the needs of their different student types than is currently allocated from existing sources.

Do ask: What outcomes are produced from the current spending patterns?

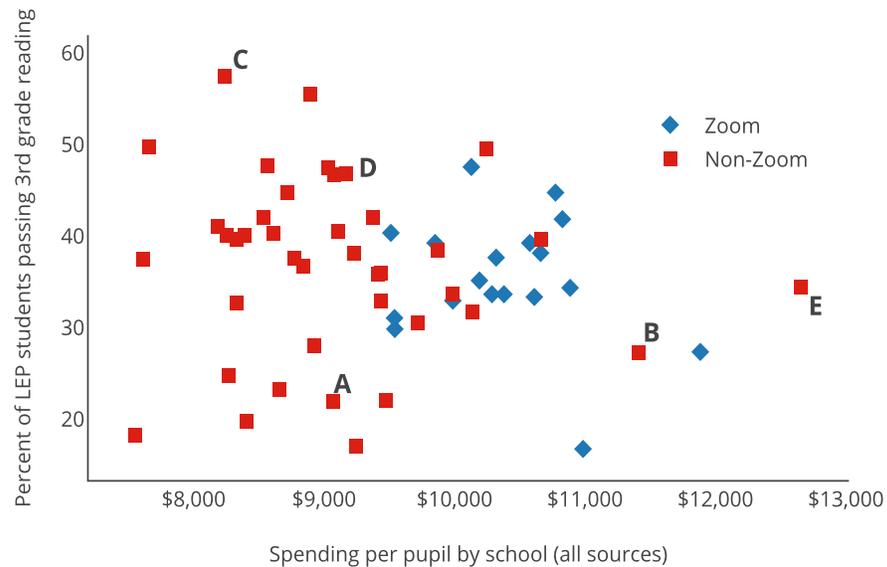
This next step requires marrying current expenditure data with student outcomes to determine how student outcomes vary with expenditure levels. The Edunomics Lab uses scatter plots like these in Figure 3 to array school spending with student outcomes and uncover patterns in the data—patterns that can tell states a lot. States can examine the relationship between spending and outcomes across all students as well as by student type.

8. Every Student Succeeds Act requires states to report per-pupil expenditure information of Federal, State, and local funds by school on annual report cards. <https://www2.ed.gov/documents/essa-act-of-1965.pdf>

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If a state policy priority is to boost outcomes for students in poverty and analysis shows no schools are achieving (or close to achieving) the desired results for this group at current spending, that state may want to redirect dollars or increase spending for those students.

Figure 3: Early reading results (for 3rd grade) show limited gains for Zoom schools (schools that got additional state resources) relative to peer schools (> 40% Limited English Proficient or LEP) in Washoe and Clark counties.⁹



School A	Average spend, low outcomes
School B	High spend, low outcomes
School C	Low spend, high outcomes
School D	Average spend, high outcomes
School E	High spend outlier, low outcomes

	Average Percent LEP	Average Expenditure	Average Percent LEP Passing 3 rd Grade Reading
Zoom	53%	\$10,327	35%
non-Zoom with >40% LEP	50%	\$9,091	38%

As Figure 3 illustrates, spending and outcomes aren't always connected. To be fair, the data here show outcomes only one year after schools received the new ELL-targeted funding. That said, we can see that schools like **B** are spending quite a bit but aren't achieving the same level of student outcomes as their lower-spending peers, like **C**. And schools like **A** and **D** show that schools can spend the same amount but get very different outcomes.

Do ask: What systems are needed to help drive spending and outcomes going forward?

After such analysis, the state's job is then to figure out how to structure state funding to drive the greatest gains possible for the intended students. Are schools **C** and **D** innovating in ways

9. In 2013, Nevada identified low performing high ELL/LEP schools for improvement and increased funding. These Zoom program schools generally have 40% or more ELL students and received an additional \$2,472 per ELL pupil. In late 2016, we helped Nevada look beyond state allocations into district spending. We matched actual spending with student types and performance to determine whether or not the additional funding was resulting in the desired outcomes. The result? Zoom schools (receiving additional funding) had limited advantage in outcomes over high-ELL peers in Washoe and Clark counties that did not receive the extra funding.

others may want to copy? Did school **C** make a specific outcome a higher internal priority than peer schools? But note, in fact, it's possible that **A** and **D** have spent the same amount of money in the same way and still gotten different results, thanks to “school effects,” which should be harnessed in service of the finance challenge. (See “school effects” section below.) Overall, have the schools shown in Figure 3 leveraged their dollars to get the best outcomes possible? This scatter plot tells the state: Not yet. But states can use their data to raise expectations for schools like **A**, **B** or **E** around what's possible. And states can help schools build a mindset that focuses on doing the most with what they have.

Don't forget: School effects matter

When looking at these scatter plots, it's easy to become convinced that simply replicating schools in the image of school **C** will dramatically increase outcomes for ELL students. But Edunomics Lab analyses have shown that the many human variables at play in a school matter a lot in student learning. Two demographically similar schools can spend the same amount of money in the same way and still get vastly different results (like schools **A** and **D**). Why? Relationships between staff and students matter. Community factors matter. And individual teachers and staff matter. A state's financial datasets don't capture these human elements—or school effects—but they clearly factor into why a given school is doing more than expected with the resources at hand. So, what can states do if these behaviors and relationships can't be mandated or centrally managed and scaled across schools? Rather than ignore these school effects, states can work to harness them by making sure their finance systems have three key elements: (1) equitable, adequate student-driven funding; (2) flexibility and autonomy to foster school ownership of resources and results; and (3) information systems that marry spending and outcomes at the school level to promote accountability.

The Bottom Line: State Takeways

State policymakers have no single clear-cut answer to turn to in restructuring their funding formulas and determining the “right” amount of funding to best address the needs of specific student populations. But policymakers can turn to asking the right questions at the start. State leaders, like those in schools and districts, can start by examining spending and outcomes together with the goal of leveraging dollars to do the most for students. Building and using information systems that marry financial data with student outcomes can create a continuous feedback loop, allowing states to monitor spending and outcomes across schools over time and to adjust funding weights as needed.

To be sure, many states face data challenges. But with a new ESSA requirement for states to report spending data by school, all states will soon have access to the kind of information needed to answer all the key questions we've mapped in this brief. Bottom line: States should tap their own data to answer critical funding questions. And they should share their data with districts and schools to show them what's possible and to encourage them to get the most from their money.



THIS SERIES OF RAPID RESPONSE BRIEFS IS DESIGNED TO BRING RELEVANT FISCAL ANALYSES TO POLICYMAKERS AND EDUCATION LEADERS AMIDST THE CURRENT ECONOMIC ENVIRONMENT.

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Edunomics Lab is a university-based research center dedicated to exploring and modeling complex education fiscal decisions and growing the capacity of education leaders on the topic of education finance. The Edunomics Lab is affiliated with the McCourt School of Public Policy at Georgetown University.