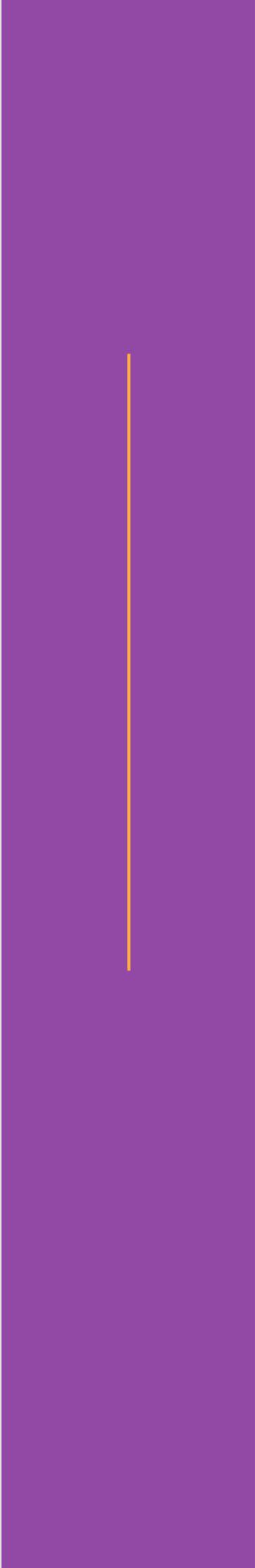


State Education Funding:

What We Know So Far



EdFund



3

Introduction

4

Formula Types

8

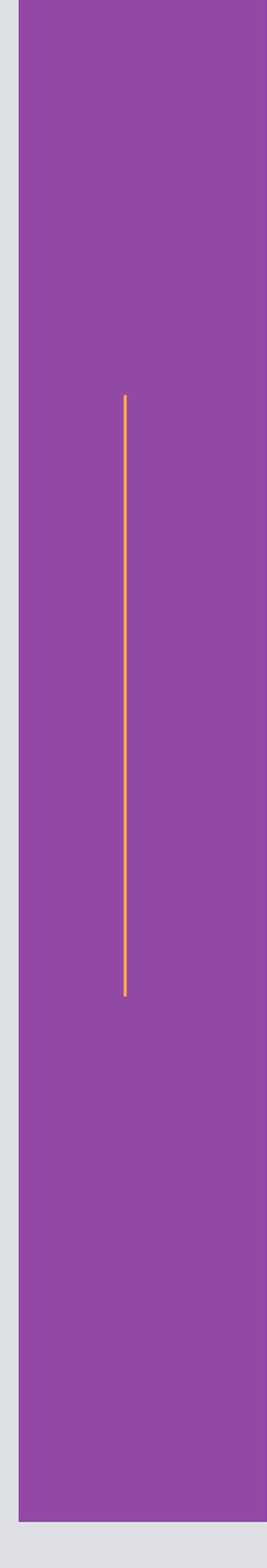
Targeted Investments

24

Conclusion

25

References



Each year, the United States spends over \$800 billion from federal, state, and local taxes to fund our K-12 public education system, making it one of the country's largest investments in any public program. Year after year, education funding is a top priority for state legislatures and governors across the country. Understandably, states seeking to reassess their state funding formulas are highly interested in both the amount of funding and how to use it most effectively.

For decades, education researchers have been locked in a heated debate about whether increased school funding leads to better student outcomes. This argument, often referred to as “does money matter?”, is contentious and polarizing. Of course, money matters for schools – quality teachers, safe school buildings, and academic and social supports do not come for free. However, recent interpretations of research findings, suggest that providing additional, untargeted resources does not always lead to the most efficient learning gains. Instead, state legislators acting to reassess their formulas should look to do so in a strategic and evidence-based way. Given that education funding is limited, policymakers need more practical evidence to inform decisions about how to raise and allocate existing resources.

Answering the questions “for whom, from where, and under what circumstances” establishes the foundation for which effective school funding policy can be crafted.

There are multiple, diverse stakeholders in the education field: local taxpayers, students and their families, and teachers and school staff who will be impacted by shifts in how and where money is spent. Weak school funding policies can therefore result in equally diverse negative effects on social inequality, resource equity, investment efficacy, and spending efficiency.

This report is intended to serve as a resource for those who are crafting evidence-based state-level school funding policies. It summarizes key studies providing tangible inferences to inform policymaking. As the field continues to shift toward more actionable research and evidence-based solutions, this resource will grow, and more chapters will be added.

State Formula Types

Throughout the country, states use one of two different types of formulas to calculate how much funding each district should receive on an annual basis. Some states use a weighted student formula (WSF), which provides a set “base” amount for every student in each district, then provides additional funds to districts based on the population of students in that district with certain characteristics. For example, a low-income, special education student in a particular district would receive the student base amount, plus additional funding based on their socioeconomic and special education status to recognize the cost of addressing those unique needs. The other model, a resource-based formula (RBF), provides most funding to districts based on staffing counts by assuming certain student-to-staff ratios for all positions in a school district and then multiplying by the average salary for each position. In these models, younger students may generate more funding than older ones because the expected student-to-teacher ratio is lower for younger grades. Some states use a combination of these two types of formulas. Ohio, for instance, uses a resource-based formula to set each district’s student base, then applies weights for students with certain characteristics.

WSF formulas have earned a broad range of political support in the past two decades. Proponents of these formulas point out that by tying funding directly to student need, WSF policies can ensure vertical equity – a term used to define the concept that some students need more resources than others in order to be assured the same opportunities (Rodriguez, 2004).

Recent state funding overhauls have allowed researchers to begin to track the comparative effects of WSF policies on funding for low-income students.

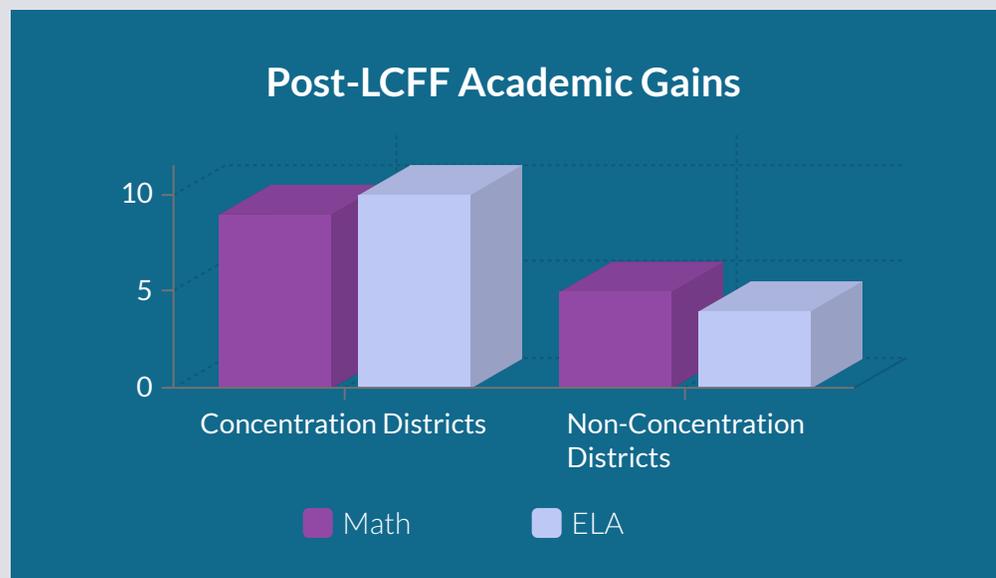
Moreover, WSF systems have the benefit of being flexible and transparent in their ability to reflect political and social preferences about what characteristics ought to be weighted and the size of the weights applied (Ladd, 2008; Strike, 2008). WSF formulas can serve as a way of enumerating the costs and components of an equitable or adequate education. While

the base amount captures the societal consensus about the cost of an “adequate education,” the weights provide vertical equity by ensuring that high-need students are funded to a degree that is consistent with their needs.

When California overhauled its school funding formula and began its phased-in implementation in 2013-14, it was one of the most radical overhauls in at least a decade.

Prior to the reform, the state used a complex calculation based on staffing ratios for each school district to establish base funding, then further complicated the formula through a set of different revenue restrictions and categorical funding for specific programs or services. The new funding formula, the Local Control Funding Formula (LCFF), did away with this complexity and established a single per-student base funding amount. That amount was then multiplied by weights for English Language Learners and low-income students. This radical, single-year change has provided researchers the opportunity to better isolate the actual effects of the funding formula because it lessened the potential of external factors that could otherwise complicate these studies.

Research has shown significant academic improvements in the years following the reform. In order to isolate the effects of the formula from increased overall funding provided during the overhaul, researchers focused on "concentration districts" – those that received significant targeted funding from the weights for low-income students, English Language Learners (ELLs), and foster youth –



compared to districts that had fewer of these students. They found that the gap of students completing college preparatory coursework between the highest-need concentration districts and non-concentration districts narrowed by 9 percentage points. Researchers also found more rapid achievement gains in districts that received the highest concentration of weighted funding. In these concentration districts, the share of students meeting or exceeding standards increased by 10 and 9 percentage points in English Language Arts (ELA) and math, respectively. The share in non-concentration districts increased 4 and 5 percentage points (Lafortune, 2021).

Another study found that the flexibility offered by WSFs empowers local school district leaders to design professional staffing structures tailored to the specific needs of their students and local circumstances. This study compared district staffing models in California, post-LCFF, to Washington State, which still employs a resource-based funding formula and infers a specific staffing model. They found that, while both states spend roughly the same amount of money, California districts employ more support staff and fewer classroom teachers, on average, than Washington. This indicates that school leaders, when given flexibility, use personnel funding to cater to the unique needs of the students in their districts, which vary widely across any state (Aldeman, 2023).

Weighted student funding formulas are essentially “Student-Based Budgeting” (SBB) models at the state, rather than the district, level. Because they are so similar, we can also consider the outcomes of SBB for large urban districts to infer the effects of using a weighted funding at the state level. A recent study of the effects of moving from a resource-based funding formula to a student-based one in a large southern school district provides additional evidence suggesting that weighted student funding can enable more effective instruction. The school district moved from a budgeting process that assigned staff positions to each school based on the count of their students to one that allocated flexible funds to principals based on the weighted needs of their students. Researchers found that test scores in both math and ELA for low-income and ELL students rose substantially following the reform. Follow-up interviews with principals that moved to the new formula indicated that the flexibility of moving from a staff-based allocation to a student-based structure – in other words, a resource-based structure to a weighted student formula – allowed for more innovative approaches to instruction and programming. Qualitative analysis conducted by the researchers suggests that the flexibility given to principals was a key mechanism that improved student outcomes. (Candeleria et al., 2024).

Three states (Tennessee, Mississippi, and Colorado) have overhauled their funding formulas in the past four years. All three of these states moved from resource-based to weighted-student funding formulas. This new momentum demonstrates that legislators are eager to make funding more responsive to student need, more flexible for local leaders, and more transparent for stakeholders in the system.

Studies of the effects of these funding formulas on resource allocation and student achievement are already underway and will be valuable additions to the growing evidence base regarding these funding structures. As of now, there are strong indications that weighted student funding formulas are effective at driving funding to the districts with the highest needs students (Lafortune et al., 2023) and enable the flexible financial conditions that can help leaders innovate (Edunomics Lab, 2020) and students succeed.



Targeted Investments



LOW INCOME STUDENTS

Defining and Counting Low-Income Students

For decades, state school funding formulas that direct additional weighted funding towards low-income and high need districts have used eligibility for the national Free and Reduced Price Lunch (FRPL) program as the measure to count how many “low-income” students reside in each district. Students that are eligible for FRPL live in households that are at or below 185% of poverty. The poverty rate in a household of four is \$31,200 in 2024. By that measure, which is updated annually, a family would be eligible for the program in 2024 if their income is less than \$57,720. Any student living in a home at or below that household income would then be counted in the measure most states used to trigger additional funding support for low income students.

However, the United States Department of Agriculture changed the FRPL program in 2014 to a community eligibility measure, allowing schools with more the 40% of their student population identified as “categorically eligible” for free meals using existing administrative data (such as participation in the Supplemental Nutrition Assistance Program or Temporary Assistance for Needy Families) to provide free breakfast and lunch to all students school- or district-wide. Also included are those who are homeless, migrant, runaway, in foster care, or enrolled in Head Start. This was billed, in part, as a reduction in the administrative burden to schools since they would no longer need to collect forms and verify the incomes of families in order to determine program eligibility.

This change has in many ways been good for schools and students. As summarized by authors of a recent review of studies of the program, “There is strong evidence of benefits of [the Community Eligibility Provision] for meal participation rates; promising evidence for benefits for weight outcomes, food security, disciplinary referrals, and on-time grade promotion; and mixed evidence of impacts for test scores and attendance” (Hecht et al., 2020). Overall, a multitude of well-structured studies have found holistically positive effects from moving to this approach. However, since these schools no longer need to collect individual student data for free meals, states have been scrambling to find new ways to define and count low-income students for the purpose of state funding formulas.

States have started to navigate toward defining low-income students as those that are directly certified as categorically eligible under the USDA's policy for community eligibility. However, this significantly drops the number of students identified as "low-income" because many of these programs are capped at 130% of poverty – substantially lower than the former eligibility of 185% FRPL. The full impact of these ongoing changes is not yet known, as little research has been done in this area.

EdFund has provided financial support to the Urban Institute to study how the relative generosity of these alternative safety net programs affects student enrollment, and its implications on overall district funding.

Outcomes for Low-Income Students Related to Funding

Some of the academic gains found from moving to WSFs may be the effect of the significant focus that these formulas place on addressing students that have special needs – namely those that are low-income, ELL, or have special education plans. In fact, while most of the recent school finance literature suggests that across-the-board funding increases can lead to small or moderate increases in achievement for all students, they show academic gains are much more substantial for low-income students in low-wealth areas that are exposed to additional funding.

For instance, many of the papers in the recent school funding literature focus on school funding reforms that were legislatively and/or court ordered. In general, these reforms tended to direct additional state funding towards low-income students and low-wealth districts who were deemed to have been underserved in previous funding formulas. Over time, these policy changes have lessened and even reversed detrimental differences in local funding levels due to community income, property wealth, and race across many states (Lafortune et al., 2018; Brunner et al., 2020; Lee et al., 2023).

Since school finance reforms tend to allocate more money to low-income students and/or low-wealth districts, several studies have estimated the effect of additional funding across various measures of income (e.g., Jackson et al., 2016; Candelaria & Shores, 2019). These studies found substantial and outsized positive effects for low-income children, in comparison to the same investments for their wealthier peers.

Additionally, two recent meta-analyses evaluated the overall effects of school funding across a wide body of literature – 31 studies in one analysis and 22 studies in the second. Both examined the average effects of additional spending on test scores and measures of

attainment like graduation rates and pursuing higher education. They found similar results: they estimate that test score effects are about 1.5 to two times as large for low-income vs. non-low-income students and educational attainment effects are almost three times as large, meaning dollars spent on low-income students produced greater raises in testing outcomes, graduation rates, college attendance and other measures of attainment than their higher income peers (Jackson & Mackevicius, 2015; Handel & Hanushek, 2024).

Research finds that the positive effects of increased funding for low-income students can also extend to better long-term life outcomes as well as overall improved neighborhood conditions. A study of the effects of a school funding reform in Michigan found that increased funding led to lower absenteeism and reduced the likelihood of adult arrest for students exposed to increased funding. Crime rate reductions were particularly strong in among low-income students (Baron et al., 2024).

This growing evidence base is highly suggestive that state funding formulas should allocate more resources for low-income students, and that the marginal dollar is better targeted to these students compared to across-the-board funding increases. However, in order to sustain the academic effects from increased funding for these students, it is also important to ensure that the state is appropriately accounting for property wealth differences across school districts. (see page 21)

How does this evidence contribute to the much broader "does money matter" debate? According to our co-chairs:

- 1) Early research did not find a consistent, meaningful relationship between spending and student outcomes, but this literature has significant deficiencies.**
- 2). Newer, quasi-experimental research finds more consistent evidence that past funding increases had positive effects on student outcomes.**
- 3). School finance research has studied a wide variety of different policies, time periods, and contexts, finding varying impacts both within and across studies.**
- 4). The recent literature provides evidence that policies targeting low-income populations have larger effects, while effects on higher-income populations are often smaller and/or null.**
- 5). Most studies only investigate spending impacts on test scores and measures of attainment, but a few studies have found positive impacts on wider and longer-run outcomes.**
- 6). The evidence is limited on which policies and types of spending work for different students in various circumstances.**



SPECIAL EDUCATION STUDENTS

Defining and Counting Special Education Students

Questions of how, and whom, to fund for special education services have been hotly contested, and research in this area is unfortunately sparse. There are two core elements that need to be considered when making these assessments: 1) who should be counted as a special education student for the purposes of both weighted school funding and legal protections, and 2) does the way states choose to identify and fund students with special needs promote cost-effective, accurate identification of those students.

The first of these issues – how to identify and count special education students – is less simple than it may seem on its face. Part B of the Federal Individuals with Disabilities Education Act (IDEA) defines 14 categories of learning disabilities that may impact a child’s education. These are the minimum disability categories for which support services are mandated by law, but some states may opt to include additional learning challenges like dyslexia, which is not specifically named in the IDEA but has an effect on student success in school. However, while these classifications and related definitions guide the official placement of students into special support programs and specialized services, they do not always translate to the way that states count those students for the purposes of funding.

This is where cost effectiveness and analysis come into play. Some policymakers theorize that a funding system that counts students in multiple tiers based on their disability and provides differentiated funding to accommodate increasingly costly learning needs may lead to an incentive for school districts to overclassify students. On the other hand, their counterparts express concern that not accommodating these differentiated costs in a state funding formula may under-identify/underserve special education students who have greater support needs or underfund districts so substantially they must begin to siphon off general education dollars from the classroom to provide legally required services to these students.

Because federal law requires districts to provide prescribed services to special education students, underfunding special education programs means that district leaders need to make difficult trade-offs with general education programs. In fact, several studies

show that districts without adequate special education funding are forced to use general education funds to pay for special education services due to budget pressures (Arsen et al., 2019). These findings suggest that some states may not be providing sufficient funding for special education, especially to cover the often costly services required in a student's Individualized Education Plan (IEP).

Concurrently, research also shows that across both states and districts, more ample funding for special education is associated with higher rates of identification (Kolbe, 2021), which could be a result of either better identification of otherwise under-identified special needs populations or a result of over-identification by school districts incentivized by additional money. As with many policy issues, there is evidence that is suggestive of both theories. It is unclear whether the higher rates of identification are driven by actual student need or by financial incentive. There is a further possibility that schools that are forced to limit the number of students served through special education funding may be incentivized to under-identify students with special needs so as not to run afoul of federal protections, creating its own negative incentive (Hinojosa, 2018).

One way to test these theories is to study states with funding policies that attempt to remove the link between student identification at the individual level and financial support provided by the state. These policies, called "capitation" or "census-based funding" provide a certain amount of funding for an assumed equal rate and share of special education students in every district. A thorough study of states that adopted capitation policies demonstrated that special education enrollments in districts in these states declined, despite a decade-long national pattern of rising special education enrollment rates. These declines were largest among children with non-severe disabilities (Dhuey & Lipscomb, 2011).

Another more recent study examined a Texas mandate implemented in 2005 that required all school districts to reduce their special education enrollment rates from a statewide average of 13% to a district-by-district cap of 8.5%.

There are three important findings from this study: 1) the drop in special education participation was mostly comprised of students that spent most of their time in general education classes (but may have been provided a special learning aid, for instance); 2) for students that

By 2018, this Texas mandate had dropped the number of special education students by over 250,000 annually, creating a strong quasi-experimental design with a large dataset.

were on the margin of special education placement, the reduction in special education services meaningfully dropped their high school completion and college enrollment rates; and 3) lower-income and minority students experienced larger increases in special education program removal and negative attainment impact (Ballis & Heath, 2021). These findings suggest that even when students are considered to be at the margin of special education identification, the supports provided through these programs may make a meaningful difference in their overall success in school. It follows that under-identifying this category of student en masse could lead to worse educational outcomes overall. This favors the idea that states should avoid limiting the number of students in their funding count and should also strongly consider tiered funding to address different levels of disability. This could reduce the pressure to eliminate students that have lower or marginal needs. It also lends support to answering the final question of whether additional funding promotes better outcomes for special education students.

Identifying the short- and long-term student effects of funding for special education programs is incredibly difficult.

Outcomes for Special Education Students Related to Funding

While the above study supports the idea that additional funding does have an impact on special education outcomes, identifying the short- and long-term student effects of funding for special education programs is incredibly difficult. As opposed to low-income students or students of color, special education children cannot be compared to non-special education students, even when they are in the same class or program, which makes constructing an appropriate research design more complicated. Equally, learning supports provided to a special education student are often highly individualized, which creates very small groups of students to compare even within the targeted group. Even state policies like those described above can be a detriment to our ability to accurately assess the impact of spending on special education programs because financial incentives can create bias in the identification or services provided to students.

One study that has weathered the test of time is a large, longitudinal look at special education programs in Texas. The study was able to track students with similar identified needs that entered and exited the same types of programs over time. This allowed the researchers to have a strong enough dataset to offset some of the aforementioned challenges. This study found that access to special education programs (regardless of the specific intervention) had a large effect (0.1 standard deviation) on math test scores in a single year. This effect was largest amongst emotionally disturbed or learning-disabled students who usually have more room to grow on exams than, say, a speech impaired student. While the authors make it clear several times in the study that this is not intended to be a study on special education funding, they do concede in most of their conclusions that these specialized programs undoubtedly cost additional resources (Hanushek et al.,2002).

Recognizing that more study is needed in order to understand the financial incentives and effects of investment in special education, EdFund issued a Special Call for Proposals related specifically to special education. We have funded Brown University to examine district use of "extraordinary cost" funds for students with profound needs. We have also studied the University of Toronto to track the availability of special education programs in a state that has recently capped local taxes (and thereby limiting resources) for school districts.



ENGLISH LANGUAGE LEARNERS

Defining and Counting English Language Learners

Almost every state in the US uses a Home Language Survey (HLS) to identify students that may need English language supports in school. Despite being federally mandated to identify and serve all students with disabilities, the questions asked and consequent screening processes in response to the HLS vary dramatically. Poor screening, improper classification may lead to students whose native language is not English being inappropriately identified or not identified for special education because issues related to language and culture complicate the identification process (DeMatthews et al, 2014).

While many states treat English Language Learners (ELLs) as binary, there is growing evidence that there may be multiple tiers of student identification based on their education history, proficiency, age, and progression. The World Class Instructional Design and Assessment program at the University of Wisconsin recommends that states and districts consider up to six different classifications, each with different funding needs and supports (ranging from students considered “entering” to those considered “bridging reclassification”). WIDA also suggests that educational history can play a role in the magnitude of language challenges that children may face. Some ELL students present at school with interrupted schooling, and some may ultimately be classified as “long term English Language Learners” due to stall-out in education (for more, see the University of Wisconsin Center for Education Research).

Outcomes for English Language Learners Related to Funding

States often provide fiscal incentives to reclassify ELLs within a certain amount of time. Some states, for instance, will provide additional funding for a single student for just two years, assuming that this fiscal incentive will motivate district staff to move students swiftly toward English proficiency. However, several studies have identified that there are negative impacts of reducing fiscal support and forcing the reclassification of students too early. One longitudinal study found that ELLs who had been recently reclassified reported that teachers provided them with less challenging assignments. This study also found that these students report worse relations with their teachers and peers, likely due to

to fewer touch points with dedicated ELL programs and classrooms (Chin, 2021). Another study found that reclassifying students during high school years had very little impact on state test scores or “on-track” to graduate designation, but did yield substantially negative effects on SAT scores (Johnson, 2020)

In addition to the negative effects of reclassification financial incentives, researchers have found a statistically significant link between the overall level of funding for school districts serving a high proportion of ELLs and their graduation rates. For districts reporting up to 50% ELL populations, as the overall amount of funding rose, so did graduation rates. The proportion of variation in graduation rates attributed to school funding varied between 12.2% for districts serving up to 25% ELL students, and 14.8% for districts serving between 25% and 50%. This study provides clear evidence that, in addition to dedicated staffing, programs focused on dropout prevention and life and career skills were particularly effective at keeping Hispanic ELL students in school (Corrales et al, 2017). Relatedly, a study comparing the highest and lowest performing ELL districts in Texas found that schools with the highest ELL achievement expend much more than schools with the lowest ELL achievement, particularly in regular base programs that are directed toward the basic education/instruction services for all students, not just ELLs. This provides suggestive evidence that providing well-resourced support for ELL students in a flexible manner allows districts to build school environments that help these students achieve outside of an ELL-specific program.



RURAL STUDENTS

Defining and Counting Rural Students

School districts located in rural, remote, or sparse areas face additional challenges in serving students, and existing student challenges are often exacerbated by geographical ones. For instance, these areas may be home to a higher concentration of low-income students or may be experiencing an increase in ELL students in areas reliant on agriculture or where refugee resettlement is occurring. Serving these students while contending with underlying economies of scale issues presents a unique challenge for these communities.

While states have in the past adjusted funding formulas to provide lump-sum grants or reimbursement-based funding for rural districts, such adjustments treat these areas as “one size fits all” when they are often some of the most diverse communities in any given state. As a result, it is important to consider the challenges that these districts face in order to determine how to acknowledge student diversity and the need for supplement funding for students attending these schools.

Reasons for the higher cost in more remote districts vary but are generally related to core and necessary expenses. For example, rural districts may spend more money on supplies and materials due to diseconomies of scale (Kolbe et al., 2021; Sipple & Brenth, 2015) or may have substantial transportation costs depending on the landscape of the district (Alexander, 1990; see also Crawford, 2022). These two cost drivers lead to less funding for educator salaries, which further disadvantages areas that already struggle to attract and retain talent.

The National Center of Education Statistics (NCES) defines rurality as the distance between a school district and an urban area. This classification measures remoteness but doesn't necessarily address all of the key spending issues that plague these districts and heighten costs of service. Historically, states have eschewed the use of this classification in their state funding formulas, opting instead to provide reimbursements for transportation costs (per mile driven, student transported, etc.) or provide “small schools” supplements that attempt to address diseconomies of scale. However, in these models, some districts are incentivized to stay small and perpetuate

inefficiencies even if they exist entirely bounded within another district. Funding for size alone may therefore not accurately target funding to districts that are small by nature rather than by choice.

According to a recent analysis by the Urban Institute, size, remoteness, and sparsity in rural districts do not always occur in the same locations. “Forty-two percent of districts nationwide are rural districts according to NCES definitions compared with 55% that are considered small and 41% that are considered sparse. Of districts the NCES considers rural, 70% are small, and 74% are sparse. Only 53% of small districts are considered rural according to the NCES, and only 75% of sparse districts are considered rural according to the NCES” (Gutierrez & Terrones, 2023, p.20). After analyzing the various characteristics across the country, the authors recommend that each state consider their own geography and school district typology to determine how to define this category for the purposes of providing additional funding.

In so doing, a state may provide student weights based on the number of students enrolled in a district below a designated threshold (small), the miles separating a school district from its next nearest district (remote) and/or the number of students per square mile (sparse).

In recent reforms, Tennessee and Mississippi have opted to provide student weights on a tiered basis using the number of students per square mile under a designated threshold. Colorado opted to maintain its small school district student weight (providing additional funding to each student attending a district with an enrollment of 5,000 students or fewer).

The Effects of Funding for Rural Students

Because district budgets in rural areas can be strained, small changes in funding can make a meaningful and outsized difference in these districts. A study on the effect of a Texas policy that provides more funding to geographically large districts with low enrollment finds that an additional \$1,000 per student annually over the course of a student’s educational career can lead to meaningful increases in math and ELA, a moderate decline in drop-out rates, and an increase in higher-education enrollment for students who took college entry exams (Kreisman & Steinberg, 2019).

Another study examined the effects of enrollment increases within fixed district budgets in Kansas and found that rural districts suffered

larger negative effects from decreased spending on a per pupil basis. Kansas implemented an education spending freeze that after several years, evolved into a permanent funding mode, allocating a fixed, flat amount to districts regardless of changes in student enrollment. Thus, when student enrollment increased, the amount that districts had to spend per student declined. The study found that the effect of this per-student decline in funding had much more significant effects on rural districts than non-rural counterparts. Math scores in rural school districts dropped by more than twice as much in rural compared to non-rural districts (Rauscher, 2020).

On the other hand, even small increases in funding for sparse districts have been shown to have some positive effect on long-term student outcomes. Wisconsin's Sparsity Aid program provides approximately \$225 of additional funding per student (2% of average per-student funding) to districts considered sparse. While the study did not find any significant effects on student achievement, it did find a moderate increase in the number of students enrolling in and completing college – particularly for students that were deemed to be least likely to matriculate (Acton et al., 2023).

The available research from the above studies supports the assertion that even modest additional investments for students living in rural, remote, or sparse districts have a recordable, positive effect on student achievement and performance.



LOCAL FUNDING AND FACILITIES

Defining Local Wealth

Most school funding formulas follow three steps: first, the state calculates how much funding each district needs to operate; next, the state deducts an expected local contribution – some measure of the local district’s ability to contribute toward their own public schools; finally, districts have varied state-ordained latitude to raise additional taxes to support the operation of schools or bonds for school construction and repair.

The school funding equity lawsuits of the 1970s through the 1990s were a major factor in states creating this order of operations. The United States’ history of funding schools through local taxes was found to be inequitable in many jurisdictions throughout the country, creating a role for the state legislature to equalize these funding discrepancies through state funds.

States now calculate local contributions in a variety of ways, choosing how they measure “local wealth” and creating often complex mechanisms to develop an expected local share. The most popular measure of wealth uses property tax valuation, but some states include other miscellaneous taxes like household income tax, excise taxes, licensing and municipal fees as additional indicators. Some states allow for additional taxes to be raised outside of the formula through voter approval at certain thresholds, while other states restrict districts from raising any taxes outside of the formula at all.

Unfortunately, there is little available research regarding the impact of these policies as they relate to the total funds that districts can raise, the burden on the taxpayer, or the identification of student needs within a constrained resource environment. To address these issues, EdFund has funded three studies: one to understand voter impact on school funding, another one to analyze variations in special education identification across states with local tax, and a third to investigate funding sources raised outside of the system when districts hit state-imposed ceilings. We hope this work will provide an evidence base that better informs approaches to local wealth equalization.

We have a better understanding of how local wealth impacts one key aspect of school funding: the financing of school facilities. In almost all states, this is largely left to school districts who vote to increase their taxes to help pay for construction or renovation. Since these taxes depend on the community's property wealth and residents' ability to pay higher taxes, the lowest-income districts often face the greatest challenges in raising funds for their school buildings. Some states provide support for these districts through proceeds from state bonds, but the way they do so can be unintentionally regressive. For instance, California provides the bulk of its state aid through a program that matches what local districts raise. Since suburban districts can easily raise taxes due to both property wealth and household income, they receive the majority of the state's matching fund (Lafortune & Gao, 2022). This benefits the wealthiest districts rather than equalizing funding for low-income and rural districts. In contrast, Ohio provides funds based on a matrix of building condition and fiscal need, prioritizing low-income districts that have the highest need for facility construction and renovation regardless of how much the community can raise.[1]

The Effects of Supporting Tax Base Equalization

Because much is unknown about the impact of state and local contribution calculations, it is difficult to ascertain with certainty the effects of various funding approaches. EdFund hopes that our research grants will begin to build a more robust evidence base to guide policymakers as they structure their local contribution and tax policy for schools.

While this research is still developing, there is ample evidence that capital spending to improve facilities has a positive effect on student outcomes.

One recent study spanning 29 states indicates that improving school infrastructure increases both student achievement and home values. How districts target these investments matters to the overall outcome. For example, spending to improve school infrastructure like classrooms, air quality, and/or heating/cooling raises test scores but not home values, while investments like athletic facilities raise home values but not test scores. Low-wealth and high-minority districts tend to benefit more from these investments than affluent, low-minority districts (Biasi et al., 2024).

A study of Los Angeles Unified School District found that, after decades of under-investment in school buildings, new construction led to improved math and ELA scores. Attendance also improved, and

[1] See Ohio's Fiscal Need Index here: <https://ofcc.ohio.gov/our-programs/k-12-schools/k12-resources/equity-ranking-lists>

teachers reported seeing students put more effort into school. In addition to academic benefits, the study found that investing in new school facilities increased the values of nearby homes. (Lafortune & Schönholzer, 2022).

Investments in school facilities can have a lasting impact on community health. For instance, a study in Michigan found that students in districts that upgraded facilities were 25% less likely to be chronically absent in middle school and 20% less likely to be arrested in adulthood. The analysis suggests that reducing absenteeism keeps at-risk students engaged during pivotal years of development, which in turn makes them more likely to develop pro-social behaviors and avoid interactions with the criminal justice system (Baron et al., 2024).

Funding based on student needs through a weighted student formula is not a new approach to funding education. However, research related to the components of these formulas has been previously overshadowed by the debate in the research field of whether “money matters”. Organizing what we know so far accomplishes two objectives: it helps us to easily understand where key research is missing, and it also helps us understand the data collection needed in order to both study and implement these common-sense formulas.

We cannot study what we don’t know, and we cannot fund based on student need without better data collection. States that have used resource-based formulas in the past under collected student data precisely because certain types of students were not a part of the weighted math in a funding formula. Moving to a funding formula based on student needs, types, and counts not only aligns with evidence of improved student outcomes, it also creates a self-fulfilling dynamic that requires states to collect the very data needed in order to continue to conduct research related to the efficacy of these systems. In this way, the research and policy fields can begin to work even more closely together to continue to strengthen evidence-based policymaking in state school finance.

References

- Acton, R., Orr, C. & Rogers, S. (2023). Returns to school spending in rural America: Evidence from Wisconsin's Sparsity Aid Program. (Annenberg Institute EdWorkingPaper: 23 -724).
- Aldeman, C. (2023, August 2). State funding methods influence schools' spending decisions. Brookings Institution.
- Alexander, M. D. (1990). Public school pupil transportation: Rural schools. *Journal of Education Finance*, 16(2), 226-246.
- Arsen, D., Delpier, T., & Nagel, J. (2019). Michigan school finance at the crossroads: A quarter century of state control. Michigan State University College of Education: Education Policy Report.
- Ballis, B., & Heath, K. (2021). The long-run impacts of special education. *American Economic Journal: Economic Policy*, 13(4), 72-111.
- Baron, E. J., Hyman, J., & Vasquez, B. (2024). Public school funding, school quality, and adult crime. *Review of Economics and Statistics* 2024, 1-46.
- Biasi, B., Lafortune, J., & Schönholzer, D. (2024). What works and for whom? Effectiveness and efficiency of school capital investments across the U.S. (NBER Working Paper No. w32040). National Bureau of Economic Research.
- Brunner, E., Hyman, J., & Ju, A. (2020). School finance reforms, teachers' unions, and the allocation of school resources. *Review of Economics and Statistics*, 102(3), 473-489. https://doi.org/10.1162/rest_a_00828
- Candelaria, C. A., Crutchfield, A. N., & McGill, D. G. (2024). The impact of additional funding on student outcomes: Evidence from an urban district using weighted student funding and site-based budgeting. (Annenberg Institute EdWorkingPaper: 24-1006).
- Candelaria, C. A., & Shores, K. A. (2019). Court-ordered finance reforms in the adequacy era: Heterogeneous causal effects and sensitivity. *Education Finance and Policy*, 14(1), 31-60.
- Crawford, K. (2022, May 9). Some rural schools are dipping into savings to keep up with inflation [Radio program]. In Adrian Florido (Host), *All Things Considered*. NPR.
- Dhuey, E., & Lipscomb, S. (2011). Funding special education by capitation: Evidence from state finance reforms. *Education Finance and Policy*, 6(2), 168-201.
- Ednomics Lab. (2020). Lessons learned: Weighted student funding.
- Gutierrez, E., & Terrones, F. (2023). Small and sparse: Defining rural school districts for K-12 funding. Urban Institute.
- Handel, D. V., & Hanushek, E. A. (2024). Contexts of convenience: Generalizing from published evaluations of school finance policies. *Evaluation Review*, 48(3), 461- 494.
- Hanushek, E. A., Kain, J. F., & Rivkin, S. G. (2002). Inferring program effects for special populations: Does special education raise achievement for students with disabilities? *Review of Economics and Statistics*, 84(4), 584-599.
- Hecht, A. A., Pollack Porter, K. M., & Turner, L. (2020). Impact of the Community Eligibility Provision of the Healthy, Hunger-Free Kids Act on student nutrition, behavior, and academic outcomes: 2011-2019. *American Journal of Public Health*, 110(9), 1405-1410.

- Hinajosa, D. (2018). School finance series: Essential building blocks for state school finance systems and promising state practices. Learning Policy Institute.
- Jackson, C. K., Johnson, R. C., & Persico, C. (2016). The effects of school spending on educational and economic outcomes: Evidence from school finance reforms. *The Quarterly Journal of Economics*, 131(1), 157–218.
- Jackson, C. K., & Mackevicius, C. L. (2024). What impacts can we expect from school spending policy? Evidence from evaluations in the United States. *American Economic Journal: Applied Economics*, 16(1), 412–446.
- Kolbe, T. (2021). State funding for special education: Aligning policy with priorities. *Journal of Special Education Leadership*, 34(1), 19–31.
- Kolbe, T., Baker, B. D., Atchison, D., Levin, J., & Harris, P. (2021). The additional cost of operating rural schools: Evidence from Vermont. *AERA open*, 7.
- Kreisman, D., & Steinberg, M. P. (2019). The effect of increased funding on student achievement: Evidence from Texas's small district adjustment. *Journal of Public Economics*, 176, 118–141.
- Ladd, H. F. (2008). Reflections on equity, adequacy, and weighted student funding. *Education Finance and Policy*, 3(4), 402–423.
- Lafortune, J. (2021). Targeted K–12 Funding and student outcomes: Evaluating the Local Control Funding Formula. Public Policy Institute of California.
- Lafortune, J., & Gao, N. (2022). Equitable State Funding for School Facilities: Assessing California's School Facility Program. Public Policy Institute of California.
- Lafortune, J., Herrera, J., & Gao, N. (2023). Examining the reach of targeted school funding. Public Policy Institute of California.
- Lafortune, J., Rothstein, J., & Schanzenbach, D. W. (2018). School finance reform and the distribution of student achievement. *American Economic Journal: Applied Economics*, 10(2), 1–26.
- Lafortune, J., & Schönholzer, D. (2022). The impact of school facility investments on students and homeowners: Evidence from Los Angeles. *American Economic Journal: Applied Economics*, 14(3), 254–289.
- Lee, H., Shores, K., & Williams, E. (2022). The distribution of school resources in the United States: A comparative analysis across levels of governance, student subgroups, and educational resources. *Peabody Journal of Education*, 97(4), 395–411.
- Rauscher, E. (2020). Does money matter more in the country? Education funding reductions and achievement in Kansas, 2010–2018. *AERA open*, 6(4).
- Sipple, J. W., & Brent, B. O. (2015). Challenges and strategies associated with rural school settings. In H. Ladd & M. Goertz (Eds.), *Handbook of research in education finance and policy* (2nd ed., pp. 634–652). Routledge.
- Strike, K. A. (2008). Equality of opportunity and school finance: A commentary on Ladd, Satz, and Brighthouse and Swift. *Education Finance and Policy*, 3(4), 467–494.

Your State: North Carolina

State Appendix



EdFund

Overall Funding Formula:

North Carolina has a hybrid funding formula incorporating both resource-based calculations and extensive program-based allocations. It determines the cost of delivering education in a district based on the cost of the resources, such as staff salaries and course materials, required to do so. It also allocates funding for a large number of programs and services for specific categories of students. The categories of students considered in North Carolina's funding policy are students in specific grade levels, English-language learners, students in high-poverty districts, students with disabilities, students identified as gifted, students enrolled in career and technical education (CTE) programs, and students enrolled in small schools and districts.

North Carolina funds districts' formula amounts entirely with state dollars and does not expect school districts to contribute revenue to their public schools; however, county governments are expected to raise the local revenue necessary for their districts' school facilities. Districts in North Carolina are permitted to raise and keep additional local revenues for regular district operations.

Supplemental funding for students in specific grade levels, English-language learners, and students enrolled in CTE programs is generated through the allocation of funding for staff costs. Some additional funding for English-language learners and services for students with disabilities and students identified as gifted are provided through program-specific allocations distributed on a per-pupil basis. Additional funding for low-wealth districts, districts serving a high concentration of low-income students, and small schools and geographically isolated districts is also provided through program-specific allocations.

Low Income Students

North Carolina does not provide increased funding for individual students from low-income households. However, the state does provide increased funding for districts based on the concentrations of low-income students they serve. It does so in the form of two allocations: one that is intended to improve districts' capacity to serve low-income students, and one that supports districts with lower than average ability to raise local revenues for education.

Separately, North Carolina provides increased funds to districts to identify students likely to drop out, ensure access to school safety

officers in high schools, and provide special alternative instructional programs. Half of the funds school districts do not spend for these purposes must be distributed to schools based on the number of students enrolled in the school eligible for free or reduced-price lunch under the National School Lunch Program.

North Carolina provides increased funding for districts based on the concentrations of students from low income households that they serve. It does so in the form of two allocations: one that is intended to improve districts' capacity to serve low-income students and one intended to support districts with lower than average ability to raise local revenues for education.

For both allocations, the state uses a measure of wealth based on the district's anticipated property tax revenue, tax base per square mile, and average per capita income. The first allocation is designed to allow school districts to reduce class size in low-wealth districts. The second provides revenue to supplement districts' local receipts with the amount required to bring that district up to the statewide average level of local revenue per student. Both allocations must supplement, rather than supplant, local funds and are limited to particular uses.

Special Education:

North Carolina funds special education using a single student weight system: It provides the same amount of state funding for each student with disabilities, regardless of the severity of those disabilities. It does so in the form of a flat allocation in a set amount for each student with disabilities.

North Carolina school districts receive funding based on the number of students with disabilities they serve or 12.75% of district enrollment, whichever is less. The state also provides funding equal to the average salary of a teacher plus benefits, which is distributed to districts based on their number of children with disabilities in pre-K-5.

The remainder of state special education funding is distributed through specific program-based allocations, including funding for group homes and other out-of-district placements, developmental day centers, community residential centers, behavioral support grants, and support for districts serving children with extraordinary needs who transfer into those districts after other funds have been allocated.

There is a separate Disabilities Grant Program, created by the state but not administered by the state department of education, that provides scholarships of up to \$8,000 to students with disabilities who attend private schools.

Sparsity:

North Carolina provides increased funding for small school districts. It does so through a formula that provides additional funding for teacher salaries and a tiered allocation for eligible school districts. School districts with fewer than 3,300 students are eligible to receive an allocation of at least \$1,548,000; this amount can rise as high as \$1,710,000 for districts with fewer than 600 students. If a school district experiences enrollment growth and becomes ineligible for this allotment, funding will be phased out over a five year period. School districts are encouraged to use at least 20% of these funds for improving student academic performance in either reading or math. Small school districts with fewer than 110 students and geographically isolated school districts in North Carolina receive supplement funding in an amount equivalent to the average teacher salary to afford additional regular teachers.

The state allocates up to \$1,000 per teacher and requires a 1:1 local match in funding. Teachers can therefore receive up to \$2,000 signing bonus.

Local Share:

North Carolina does not expect districts to contribute revenue to their public schools' instructional and operational expenses. However, facilities expenses generally are the responsibility of county governments.

In calculating the amount of funding necessary to educate students within a district, the state considers only instructional and operational expenses. The state provides this entire amount in state education aid. Separate from this calculation, county governments are expected to raise all revenue necessary for their school districts' school facilities, including long-term capital investments and day-to-day maintenance costs. The amount counties must contribute is dependent only on local expenses and not on any measure of the local ability to pay.

Although facilities expenses are the primary responsibility of the county, subject to appropriation, the state may provide additional funding for capital expenses from the North Carolina Education Lottery.