edbuild

Initial Considerations for School Funding Models

This workbook is presented to the Legislative Interim Committee on School Finance

Intended as pre-reading and to accompany the presentation of a simulation tool during the September 17, 2018 workshop.

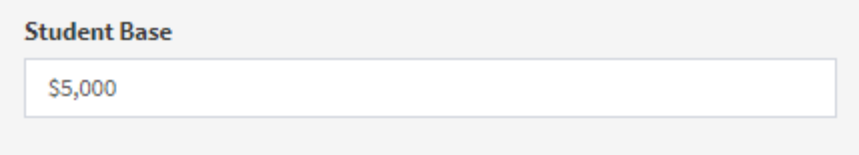
Simulator Quick Guide

This document presents a brief outline on how the Colorado simulation tool works and how to use it.

What it Does

The simulation tool can be used to estimate how much money every school district in the state would receive under an updated formula, based on the parameters chosen by the user and the assumptions built into the model. The tool is also designed to estimate the total cost to the state and how much money would be required to hold all districts harmless (i.e., all districts that would lose money under the new formula will instead receive the same amount of state funding they received the prior year).

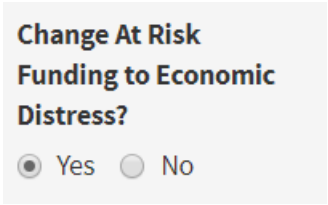
The simulator begins with base funding, which is the per-student allotment provided to every student in the state regardless of any special learning needs or district characteristics. This number is fully flexible and can be set at any level as a starting point for the model.



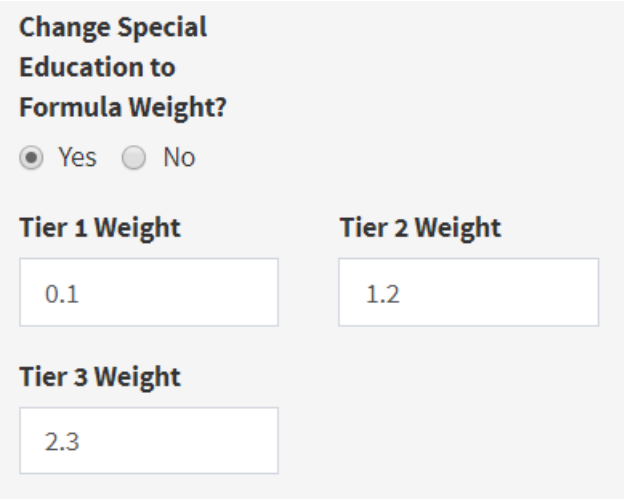
Recognizing that certain demographic groups of students have different learning requirements, and therefore varying levels of resource needs, the tool allows the user to apply "weights" to fine-tune funding allotments. These weights act as multipliers against the base and calculate additional dollars for districts based on the number of their students who require extra services. For instance, a .2 weight in the tool would provide 20% more than the base cost for a student in a high-needs category. Likewise, a .3 weight would provide 30% more funding over the base.

There are a number of choices built into the tool for each student type. In some cases, the Committee may decide to not change the state's approach to any given student need, and (by recreating Colorado's funding formula) the tool is designed to accommodate that. In that case, the user should choose the "no" option under any of the unique prompts.

To explore adjustments to the way the current formula accounts for a specific variable or demographic, first indicate "yes" at the prompt:



In some cases, like dollars for at-risk students, funding for that variable is already included in the general state education formula. In cases where it is not (such as funding for special education, ELL, and gifted), if the user chooses to turn the measure into a weight, the tool will automatically add the associated categorical dollars allocated outside of the formula last year to the state budget. The user can then reapportion those line items based on the provided measure and/or weight fields provided by the tool:



The chosen weight in any category is multiplied against the Student Base for all students in each district that are identified as belonging to that demographic group. Weightings in the tool are unduplicated, meaning that that they recognize compounding costs associated with certain students.

For instance: A student in grades 1–3 with weight 0.2 (i.e., 20%) and base $5,000 would receive the $5,000 in base dollars for the district, plus $1,000 ($5,000 x 0.2), for a total of $6,000. If that student is also economically disadvantaged (or otherwise fits into another weighted demographic), those dollars would be added, as well.

There are two variables that use sliders instead of weight fields to change how much money goes to a school district: cost of living and size factor. For ease of use, the tool allows the user to change the relative strength of these two measures using a sliding scale, where 1 is 100% of the current strength, .5 is 50%, .2 is 20%, etc. At present, Colorado's funding formula incorporates these measures in a fairly complex way, making this sliding-scale reduction method a more controlled change than other options in the tool.

Once a district's level of funding need has been estimated, the simulator calculates how much the state should send to the district by totaling all amounts associated with their student body and subtracting property and specific ownership tax revenues (the same method currently used by the state to estimate a school district's ability to raise local revenue).

In all cases, the state has the option to increase the total state budget, decrease the student base, or adjust weights against each other to balance for available state revenue.

Functionality

There are several different sections to the simulator, with unique functions and outputs.

Inputs (left)
On the left-hand side are the inputs. This is where the user sets the parameters for the model that they're interested in testing.

At the top-left is the State Formula Budget, which is the amount that is assumed the state will budget for the education formula. This does not include all education dollars, but is the amount that will flow through the core formula itself. The default value is the prior year appropriation, but this default amount increases when the user indicates categorical funding should be added to the formula. Underneath that value is the Balance, or the amount of money over/under the state budget that the formula in the simulator costs. This does not assume any hold harmless or phase in period, it is simply a depiction of how much money it will cost to distribute the dollars as stated in the formula at the time of final implementation. Many districts may decrease (or increase) in funding relative to the prior year even if a higher level of state funding is projected. To hold districts harmless, look to the right side of the screen.

Underneath these financial inputs are the Weights, which the user can manipulate as discussed above.

Outputs (center)
In the center of the screen the simulator depicts the formula's effect on individual school districts.

At the top of the Outputs section there are a number of different figures that can be adjusted based on the user's interests. To browse the different figure options the user should use the drop-down menus below the

figure. That will allow the user to set what variables they're interested in seeing and how they see them. Below the figure is a table that can be customized to include a number of different variables of interest and the associated measures for individual school districts.

Functions (right)
The right side of the screen lays out various functions and miscellaneous, helpful information.

At the top-right the user will see how much money is necessary to hold all school districts harmless. If a hold harmless is judged necessary, then the total formula cost equals this number plus the value under Balance (on the left side of the screen).

In the center-right there is a section that allows the user to bookmark the current formula they have designed. This is provided to serve as a convenient link which can be returned to at any time without having to memorize or record each tested variable.

The bottom-right Table Inputs section allows the user to customize which columns are included in the center table, as well as filter rows by specific district name. If a user, for instance, is simply interested in seeing the total effect of a new formula for five districts, they can choose these districts through the drop-down menu. The table can also be expanded to include any of the options offered in the check-list, such as student enrollments by category for each district, the total increase or decrease in state aid, and any other metrics offered that may be of assistance for analytical purposes.

Limitations

There are countless iterations of new models for state funding formulas. This tool attempts to provide a wide breadth of options for the Committee within the reasonable considerations set forth in the accompanying briefs. We have built this preliminary modeling tool to facilitate discussion based on policy and practice reflected in research and employed in tradition by other states. Should the Committee envision viable policy options beyond those included, we will make our best effort to provide additional modeling analysis within the time remaining for this work.

Introduction

There is a broad national consensus that student-based models are the preferred approach to calculating and distributing education funding. Colorado has a somewhat student-based funding formula and distributes much of its funding in per-pupil amounts based on the count of students in each district. But the state's funding policy is also heavily driven by system-level and program-based calculations, making the Colorado school funding system less student-based than it might at first appear. There are a number of steps that the state could take, if desired, to align Colorado's school funding more closely with students and their needs.

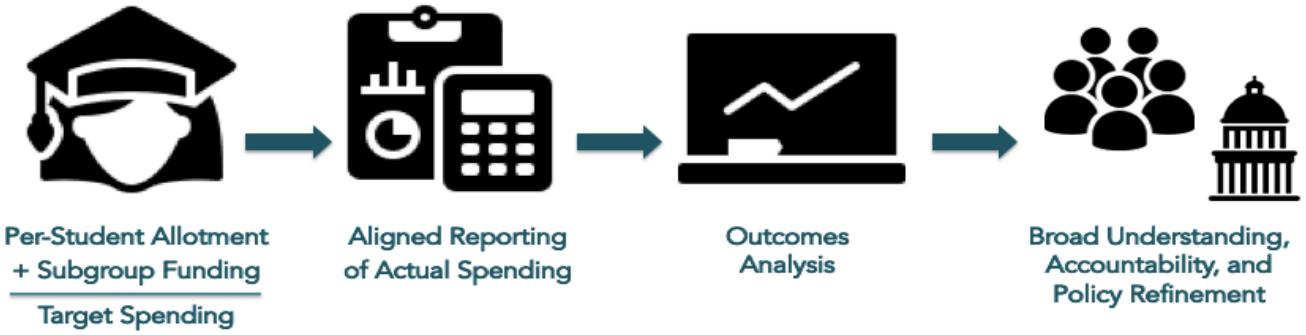
The Value of Student-Based Funding Systems

Equity

Student-based funding is ideally structured for equity. When districts are funded based on students and their needs, the funding formula can be designed to equitably fund students no matter where they live and learn. A base per-pupil amount is set to reflect the cost of the education of an average student with no special needs or disabilities, and supplemental funding is provided for each student in a higher-need category, including economically disadvantaged students, students with disabilities, and English-language learners. In this way, the funding system is generally structured to fund students in accordance with their needs rather than the happenstance of their community's wealth. (There are, of course, pitfalls in most states' funding systems that reduce this equity, but a well-designed and equitable funding formula can best proceed from a student-based foundation.)

Accountability

A student-based funding formula is also well-structured for accountability. In a true student-based formula, because the money is generated by the count of students overall and the numbers of students with particular learning needs, it is clear how much funding each student should receive. The target spending amount is transparent to legislators, educators, and community members alike. As a result, the system is ideally positioned for accountability in all directions. The state can institute financial reporting procedures for districts that are aligned with the formula so that it is clear how much is actually being spent on the education of each funded student category. This lays the groundwork for an analysis of academic outcomes that can be mapped easily onto both the state's target spending per pupil and districts' actual spending per pupil, yielding a broad understanding of whether the resources being invested are or are not producing the desired outcomes. Ultimately, the legislature can hold schools and school systems accountable for their spending and the results they are achieving with their funds, while the broader community can hold the legislature and school districts accountable for fair support of all students.



Additionally, student-based funding is aligned with new federal accountability rules. In the Every Student Succeeds Act, the most recent reauthorization of the primary federal K-12 education law, Congress set a new fiscal transparency requirement that districts must begin to report per-pupil funding down to the school level, and identify the state, local, and federal dollars being spent on both personnel and non-personnel expenditures. By allocating its funding in a per-pupil manner, states can get ahead of this requirement and align all their systems in a streamlined fashion.

Flexibility

Student-based funding is quite flexible; when funding is allocated on a per-student basis rather than being tied to any particular use or program, districts are free to spend that money in the way that best serves their students population. Because money is not tied to the specific use envisioned when funding legislation was passed, they are also free to innovate and respond to new research and evolving best practices in pedagogy.

Colorado's Degree of Student-Based Funding

Colorado currently has the core of a student-based funding formula in that it uses a base per-pupil amount and provides supplemental funding within the formula for at-risk students (largely students from low-income households) through the application of a weight, or multiplier, to the base amount for those students.

However, the student-centeredness of the formula is undermined in two key ways. First, the at-risk weight is not applied to a uniform, statewide base amount. Instead, the base amount is first adjusted for district characteristics (enrollment size and cost of living), and only then is this adjusted base amount weighted for the student characteristics. This means that the amount of funding generated by each student is heavily influenced by the nature of the district and the school system, in ways that are unrelated to the district's student needs. A substantial amount of state education aid is funneled through these district-driven adjustments, making the ultimate allocation heavily influenced by non-student factors.

And second, a good deal of state education aid funding (including funding for high-need and high-cost

student groups such as students with disabilities, students in vocational education programs, and many English-language learners) is allocated outside the formula as categorical program funding. This funding is distributed separately and is often tied to particular programs and uses, undermining the flexibility that one would expect from a student-based funding formula.

Student-Based Funding in Other States

Twenty-seven states (not counting Colorado) use primarily student-based funding formulas. Thirty-seven, including Colorado, include student-based calculations as major components of their funding formulas. By contrast, just nine states use a primarily resource-based funding formula, in which dollars are driven by specific estimates of staff and materials costs. Student-based funding is clearly the preferred approach around the country.

Additionally, new states are adopting or discussing student-based funding formulas. Pennsylvania and Connecticut, which until recently did not use funding formulas to allocate their education dollars at all, have now adopted student-based funding systems. In the last few years, California has moved to a more purely student-based funding formula, and several states that do not have student-based systems, including Washington, Georgia, and Mississippi, are each discussing, or have lately considered, adopting such a system.

Potential Policy Changes

If Colorado wished to move in the direction of a more fully student-based system, there are a number of steps that could be taken. Categorical program funds for special student populations (such as those distributed outside the formula in accordance with the Exceptional Children's Educational Act and the English Language Proficiency Act) might be handled in more traditional student-based distribution. Adjustments for district size and cost of living could be modified to limit their impact on the student-based funding being allocated through the formula. (These and other student-focused reforms will be discussed further in other sections of this packet.)

Merits of Maintaining the Current Funding Structure

Colorado's current funding structure sets clear priorities. By allocating so much funding through categorical programs, the state has given each of those programs weight and primacy in law, and this has great value. The state also recognizes genuine diseconomies of scale with its size-based adjustment and may wish to continue doing so in the current manner. Additionally, many districts have become reliant on the systems-driven and categorical funds provided under the current formula; any change would require careful transitional planning to minimize disruption.

Merits of Adopting the Proposed Policy Change

If the state were to move towards a more clearly student-based funding system, it would reap the benefits of such an approach: Greater accountability between the community, schools and districts, and the legislature;

better alignment with federal reporting requirements; the potential for increased equity in per-pupil funding as dollars are better aligned with student needs; and greater flexibility for districts to innovate and to design classrooms and programming in the way that is best for their student communities.

Introduction

Colorado currently funds economically distressed students using a student-based weight that increases along with the concentration of such students in the district. This funding recognizes the greater needs of low-income students and the increasing challenges associated with serving a greater number of disadvantaged students in the same classroom and community. This funding is therefore, to a degree, in keeping with national best practices. However, changes in new federal law may require a new approach to identifying and funding students from distressed families and communities.

The Importance of Increased Funding for Economically Distressed Students

Children from economically distressed backgrounds face unique academic challenges.[1] This is especially true with regard to children from high-poverty communities, who are, among other trials, less likely to attend preschool or to be exposed to books and vocabulary development in the home.[2] For the children who grow up in this context, these conditions are hindrances to learning and development.[3] Low-income children therefore tend to begin school at a scholastic disadvantage.[4] These issues are especially salient in Colorado, where the number of economically distressed students appears to be rising. The state average rate of students considered to be "at-risk" (primarily students from low-income households) has risen from 33% in 2010 to 37% in 2018.

Schools must try to overcome this initial deficit, as well as the continued obstacles these students face throughout their earliest years. The services and supports involved in this effort require funding above the amount that is allocated for the general population of students that are not economically disadvantaged. However, it is often the highest-poverty school districts that are least able to raise the funds necessary to support their students. This is especially true of districts in regions where the lion's share of local tax dollars come from residential property taxes, since home values tend to correlate with family incomes, so economic distress among students can be related to poor tax bases.[5] As a result, additional state support for these students is especially important.

This funding makes a difference. Numerous studies have shown that providing additional support for economically distressed students can significantly improve outcomes.[6] For example, one study found that the equalization of spending between richer and poorer districts narrowed the test score gap between students of different economic backgrounds.[7] In another, researchers found that increasing the per-pupil funding allocated for low-income students by 10% led to measurable increases in educational attainment and future wages and decreases in rates of adult poverty.[8]

Colorado's Current System of Funding Economically Distressed Students

Colorado currently provides funding for economically distressed students through a student-based weight for so-called "at-risk" students. Those eligible for free lunch under the National School Lunch Program are counted as "at-risk" for the purposes of the at-risk funding allocation.[9] (The count used is either the actual tally of such students or a number determined by applying the percent of students in grades 1-8 eligible for

free lunch to the entire district enrollment, whichever is greater.) The amount of the at-risk allotment is calculated by applying a weight, or multiplier, to the district's base per-pupil amount for each eligible student, on a sliding scale based on the concentration of such students in the district. The weight is set at a minimum of 0.12 (12% of the district's base amount) and increases incrementally for districts where the proportion of at-risk students exceeds the state average, up to a maximum weight of 0.3 (30% of the district's base amount) per eligible pupil.

It is fairly common nationally for states to use eligibility for the National School Lunch Program as a proxy for economic distress in their education funding formulas. However, due to a recent change in federal regulation, this practice has become inadvisable. The National School Lunch Program now has an option called the Community Eligibility Provision (CEP) under which schools and districts that serve 40% or more students who participate in federal assistance programs like SNAP and TANF are permitted to provide free meals to all students without having to count eligible students individually.[10] As a result, schools making use of CEP appear in the data to be 100% free-lunch eligible, which inflates the overall percentage of eligibility in their district and diminishes the accuracy of these free lunch numbers as a measure of economic distress. As of 2016, only 20% of eligible school districts in Colorado were participating in CEP, but this number is bound to increase, and, if implemented in the spirit of the USDA guidance, the reliability of the data will decline.[11]

It is also worthy of note that economically distressed students are not the only ones currently counted in Colorado's at-risk category. The tally also includes English-language learners (ELLs) who are not economically disadvantaged, while ELLs that are also eligible for free lunch are only counted—and funded—once through this system. As a result, the current structure does not contemplate an increased learning burden of dually eligible students (see further discussion in the English Language Learner brief).

Funding for Economically Distressed Students in Other States

Forty states currently provide funding for economically distressed students in some fashion. Thirty-one provide funding on a linear basis, with increased funding for each student from a low-income household, while twenty-one provide funding in a manner that considers the concentration of such students in the district. (Twelve states have both linear and concentration-sensitive economic distress funding.)

The most common approach to allocating this funding is to use a weight, or multiplier, applied to the base per-pupil amount for each eligible student. Twenty-four states do so, including Colorado. (There are an additional eight states that take the similar approach of providing a per-pupil dollar amount within the funding formula.) This kind of student-based funding tends to be the most flexible way to support low-income students, and districts are free to use it in innovative ways. Ten states provide program-driven or grant funding for low-income students (generally a less flexible approach), and a small number of states also use other approaches.

Among states that, like Colorado, use weights to distribute their funding for low-income students, there is a wide range: Iowa, North Dakota, and Mississippi use weights of just 0.5 or lower, while Maryland uses a weight of 0.97, nearly doubling the amount of per-pupil funding allocated for low-income students.

Colorado's base at-risk weight of 0.12 is quite low by national standards, though the highest possible weight is more in line with national standards, as many states use weights ranging of 0.2-0.4.

While Colorado's use of school lunch data to classify students as at-risk for funding purposes is not at all uncommon nationally, a number of states have moved towards other measures of economic distress that do not pose the same reliability problems. Oregon uses the United States Census Bureau's Small Area Income Poverty Estimate for each school district to determine the district's poverty rate for funding purposes. And multiple states have begun using participation in federal assistance programs such as SNAP and TANF—the same indicator used to determine whether a school or district may participate in CEP for free-lunch eligibility—as the indicator of economic disadvantage for funding purposes, including Illinois, Indiana, Michigan, and New Hampshire.

Potential Policy Changes

Two policy changes suggest themselves when examining Colorado's current funding system for low-income students and placing it in the national context. First, change the data basis for the at-risk count from free-lunch eligibility to participation data from federal assistance programs, including SNAP, TANF, and Medicaid; this is data the state already has recorded, and it could be easily adapted for this purpose.

Second, increase the at-risk weight, for two reasons: The base rate of 12% is quite low by national standards, and the state would be more in line with national practice if the sliding scale began, rather than ended, at 30%. And because of eligibility thresholds, federal assistance data identifies fewer students than school lunch data. Income eligibility for these programs hovers between 100% and 130% of poverty, whereas FRL counts captured students from families up to 185% of poverty. This difference makes considering a higher weight appropriate to compensate for the reduction in the number of funded students.

Merits of Maintaining the Current Structure of Funding for Economically Distressed Students

The current system of economically disadvantaged students in Colorado is structured to accomplish the most important goals: providing additional support for low-income students and properly recognizing that challenges increase along with the number of disadvantaged students in the community. These achievements are worthy of preserving. Additionally, maintaining the current system would allow the state to still means test each family, making for more precise funding levels, though would also perpetuate a higher administrative burden to schools.

Merits of Adopting the Proposed Policy Change

Colorado could maintain the good points of its current approach to funding low-income students while improving accuracy and targeting by making the shift from free lunch data to federal assistance program data. Rates of identified students are highly correlated, and this change would reduce duplicative effort and administrative burden at the state and local level. Increasing the weight would address the change in the number of students identified and bring the state more in line with best practices.

[1] Lacour, M., & Tissington, L. (2011). The effects of poverty on academic achievement. Educational Research and Reviews, Vol. 6 (2011), 522-527. Retrieved on September 5, 2018 from http://www.academicjournals.org/journal/ERR/article-full-text-pdf/31F3BFB6129.

[2] Reading Is Fundamental. (n.d.). Retrieved August 03, 2016, from http://www.rif.org; Bergland, C. (2014, February 16). Tackling the "vocabulary gap" between rich and poor children. Psychology Today. Retrieved August 01, 2016, from https://www.psychologytoday.com/blog/the-athletes-way/201402/tackling-the-vocabulary-gapbetween-rich-and-poor-children; Coley, R. J. (2002). An uneven start: Indicators of inequality in school readiness. Princeton, NJ: Educational Testing Service.

[3] Coley, R. J. (2002). An uneven start: Indicators of inequality in school readiness. Princeton, NJ: Educational Testing Service.; Kwon, D. (2015, July 22). Poverty disturbs children's brain development and academic performance. Scientific American. Retrieved August 9, 2016, from http://www.scientificamerican.com/article/poverty-disturbs-children-s-brain-development-and-academic-performance/; American Psychological Association. (n.d.). Education and socioeconomic status. Retrieved August 09, 2016, from http://www.apa.org/pi/ses/resources/ publications/education.aspx.

[4] Aikens, N. L., & Barbarin, O. (2008). Socioeconomic differences in reading trajectories: The contribution of family, neighborhood, and school contexts. Journal of Educational Psychology, 100, 235-251.; American Psychological Association. (n.d.). Education and socioeconomic status. Retrieved August 09, 2016, from http://www.apa.org/ pi/ses/resources/publications/education.aspx; Coley, R. J. (2002). An uneven start: Indicators of inequality in school readiness. Princeton, NJ: Educational Testing Service.; Reardon, S.F. (2011). The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations. In Chances. G.J. Duncan & R.J. Murnane (Eds.) Whither Opportunity?: Rising Inequality, Schools, and Children's Life (pp. 91-116). New York, NY: Russell Sage Foundation.

[5] EdBuild. (2017) Building Equity: Fairness in Property Tax Effort for Education. EdBuild Report (2017). Retrieved on September 5, 2018 from https://edbuild.org/content/building-equity/report.pdf.

[6] Card, D., & Payne, A. (2002). School finance reform, the distribution of school spending, and the distribution of student test scores. Journal of Public Economics, 83(2002), 49–82.; Lafortune, J., Rothstein, J., & Schanzenbach, D. W. (2016). School finance reform and the distribution of student achievement (Working Paper. No. 22011). National Bureau of Economic Research: http://proxy.library. upenn.edu:3387/papers/w22011.pdf.; Jackson, C. K., Johnson, R. C., & Claudia Persico. (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.

[7] Card, D., & Payne, A. (2002). School finance reform, the distribution of school spending, and the distribution of student test scores. Journal of Public Economics, 83(2002), 49–82.

[8] Jackson, C. K., Johnson, R. C., & Claudia Persico. (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.

[9] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 4, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure

[10] United States Department of Agriculture. (2014, July 25). Community Eligibility Provision Guidance and Q&A's. Retrieved October 17, 2017 from https://fns-prod.azureedge.net/sites/default/files/cn/SP21-2014v2os.pdf

[11] Food Research and Action Center. (2016, May 13). Community Eligibility Adoption Rises for the 2015-2016 School Year, Increasing Access to School Meals. Retrieved August 30, 2017 from http://frac.org/wp-content/uploads/take-up-of-cep-report.pdf

Introduction

Colorado currently funds English-language learners (ELLs) using a combination of student-based weights and program-focused categorical grants. ELLs are eligible, along with low-income students, for funding through the at-risk weight and also generate grant funding for their districts under the English Language Proficiency Act (ELPA). This funding recognizes the greater needs of ELLs and is, to a degree, in keeping with national best practices. However, there is room for improvement in the details of the structure of the funding policy, which could be streamlined and formulated to better address the specific challenges of ELLs.

The Importance of Increased Funding for English-Language Learners

Colorado, like all states, has a federal responsibility to ensure that students needing support to learn English receive a sufficient amount of resources to do so. Federal laws, including the Civil Rights Act of 1964 and the Equal Education Opportunity Act of 1974, requires schools to provide sufficient support to ELL students.[1] The Supreme Court has outlined this obligation in powerful terms, stating in a case interpreting the Civil Rights Act, "There is no equality of treatment merely by providing students with the same facilities, textbooks, teachers, and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education."[2]

It can be a very lengthy process for students who have few or no English-language skills to develop proficiency for academic success. It takes an estimated three to five years for an ELL to become conversationally proficient in English, and four to seven years to reach the level necessary for academic success.[3] It is therefore crucial for the state to provide enough funding to school districts serving ELLs to cover the costs of sufficient staff, supports, and specialized programs over time so that ELLs are able to become academically proficient.

There is also a long-term economic imperative to bring ELLs to proficiency. Working-age adults with limited English proficiency earn 25% less—and among subsets of this category, up to 40% less—than those that are fluent in English.[4] It is an investment in the state's future economic health to ensure English-proficient high school graduates.

Colorado's Current System of Funding English-Language Learners

Colorado currently provides funding for the education of ELLs in two ways: through a student-based weight and through a categorical program.

First, ELLs are counted along with low-income students (those eligible for free lunch under the National School Lunch Program) as "at-risk" for the purposes of the at-risk funding allocation.[5] For the purposes of this count, ELLs are defined as those whose dominant language is not English and whose scores on the Colorado Student Assessment Program are therefore not included in calculating their school's performance grade. Each student may only be counted once, so if a student is both an English-language learner and free-lunch-eligible, that student will only generate one at-risk allotment. The amount of the at-risk allotment is

calculated by applying a weight, or multiplier, to the district's base per-pupil amount for each eligible student, on a sliding scale based on the concentration of such students in the district. The weight is set at a minimum of 0.12 (12% of the district's base amount) and increases incrementally for districts where the proportion of at-risk students exceeds the state average, up to a maximum weight of 0.3 (30% of the district's base amount) per eligible pupil.

Second, the state provides districts with categorical program funding under the English Language Proficiency Act (ELPA). ELPA funding consists of per-pupil allocations for students who either do not speak English or who speak another language as their primary language.[6] This categorical funding is mentioned in the state constitution and is included along with other categorical programs in a group for which total funding must increase each year.[7]

English-Language Learner Funding in Other States

Forty-five states currently provide specific funding for ELLs or programs serving these students. There are a variety of approaches to providing this funding; the most common by far, used by twenty-five states including Colorado, is a weight applied to the base per-pupil amount. (There are an additional eight states that take the similar approach of providing a set per-pupil dollar amount within the funding formula.) This kind of student-based funding tends to be the most flexible way to support ELLs, and districts are free to use it in innovative ways. Colorado is also one of ten states that provide program-based funding for ELL services (generally a less flexible approach) and is the only state that combines a student-based weight with program-based funding to distribute its core ELL support dollars.

Among states using weights to distribute their ELL funding, there is a wide range: Kentucky uses the lowest such weight at 0.096, while Georgia uses the highest at 1.558, increasing base funding by over one and a half times for ELL students. Colorado's base weight of 0.12 is quite low by national standards, and even the highest possible weight of 0.3 is low to middling; states tend to fall in the range of 0.3-0.6. Once ELPA funding is taken into account, the total amount of supplemental funding per eligible students is more in line with national standards, though the separation of this support into different allocations decreases its transparency and comparability with other states' ELL funding.

Colorado's approach of using an unduplicated count of both low-income and ELL students for the same weighted allocation—that is, counting students only once if they are eligible for the funding according to both criteria—is also fairly unusual. California employs such a system, as does Louisiana, but in most states using weights for both categories of students, the funding is allocated to support dually eligible students separately for their different needs.

Potential Policy Changes

There are a few clear changes that could be made to Colorado's ELL funding system. First, the student weight for ELL students could be separated from the weight for low-income students so that these needs can be addressed with separate resources rather than as part of the same "at-risk" category.

One way of achieving this increased weight would be to bring the ELPA categorical funding into the funding formula and allocate it through the per-pupil weight rather than as a separate grant. This is an option that could be explored, with due consideration for the specific constitutional language that mentions this categorical funding.

Merits of Maintaining the Current Structure of Funding for English-Language Learners

The current system of funding ELLs in Colorado is not without merit. Of particular note is the sliding scale aspect of the at-risk weight, which properly recognizes that challenges increase along with the number of high-need students in each classroom and community. There is also value in the fact that ELPA funding is allocated in different amounts for students with different levels of English proficiency, and that the constitution specifically recognizes program funding for ELL students as worthy of protection.

However, the funding of ELL students as part of the at-risk category means that students who are both low-income and learning English are effectively underfunded in the state, as they are receiving supplemental funding for only one of these needs. It is also the case that, because separate funding is not provided when low-income students are identified as ELLs, the district has less incentive to accurately report ELL enrollment to the state. Currently, 108 school districts, or over 60% of districts in the state, show zero ELLs enrolled in state datasets. According to data reported to the federal government, there are only thirty-four districts with no ELLs—a much more likely count.

Merits of Adopting the Proposed Policy Change

If Colorado were to separate the weights for low-income and ELL students, the state could more appropriately support students in accordance with their needs, recognizing that the challenges of being an English learner are distinct from those of coming from a low-income household. Separate funding would also provide greater incentive for districts to collect and report accurate data to the state on ELL students.

If the state chose to increase its funding weight by folding ELPA funds into that same weighted allocation, it would also increase the transparency of the overall ELL funding system, and the step might also serve to increase the predictability of the allocation and the comparability of funding across districts and between Colorado and other states.

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[1] Civil Rights Act of 1964. Pub. L. No. 88-352 78, Stat. 241 (1964).; Equal Education Opportunity Act of 1974. 20 U.S.C. Chap. 39 Subchap. I. Part 1 § 1701.
[2] Lau v. Nichols, 414 U.S. 563 (1974)
[3] Hakuta, Butler et al. (January 2000). How Long Does IT Take English Learners to Attain Proficiency? Retrieved September 5, 2018 from https://web.stanford.edu/~hakuta/Publications/%282000%29%20-%20HOW%20LONG%20DOES%20IT%20TAKE%20ENGLISH%20LEARNERS%20TO%20ATTAIN%20PR.pdf.
[4] Jill Wilson, "Investing in English Skills: The Limited English Proficient Workforce in U.S. Metropolitan Areas," https://www.brookings. edu/wp-content/uploads/2014/09/Srvy_EnglishSkills_Sep22-1.pdf, Metropolitan Policy Program at Brookings, (2014).
[5] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 4, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure
[6] Ibid.
[7] Colo. Const. Art. IX, Section 17(1)

Funding for Special Education in Colorado

Introduction

Colorado currently funds special education using a multiple-weight system, in which different categories of students with disabilities generate different levels of funding. There are two funding Tiers: Tier A, which includes all students with disabilities, and Tier B, which includes just those students with certain high-cost disabilities. Tier A funding provides a base level of special education funding for identified students, while Tier B funding provides an additional level of support for students in that category.

Although Colorado categorizes special education students based on their level of need, there is significantly less differentiation regarding special education category placement when compared with other states using multiple-weight systems, which more commonly use three to five categories rather than Colorado's two. Additionally, Colorado's levels of supplemental funding for special education are less generous than the national standard.

The Importance of Increased Funding for Students with Disabilities

Education experts generally agree that students requiring special education services need specific supports to be successful in school.[1] Special education programs and services necessitate funding over and above the resources needed for the regular education program, and without additional funding, students are not able to fully access the programs and services they need to learn and grow. Funding models that do not allocate additional money for special education programs create shortfalls and systemic inequality in schools.

Additionally, federal law mandates that students with disabilities receive proper accommodations for their needs—which generally necessitates additional funding. The Individuals with Disabilities Education Act requires that in order to receive federal funding for special education services, states must provide a free and appropriate education to all disabled children in the state.[2] Additionally, the Americans with Disabilities Act strictly prohibits discrimination against any individual, including students, with a disability.[3] These federal protections reflect the importance of ensuring that students with disabilities are treated fairly and have access to appropriate resources and services.

Research supports the notion that students with disabilities require a substantial amount of supplemental funding in order to achieve. One federal study regarding students with disabilities found that spending for special education students was approximately 90% higher than for general education students.[4] (While this study was based on 1999-2000 school year spending, it is unlikely that spending practices, measured in proportions rather than absolute dollars, have changed substantially since the analysis was completed.)

Colorado's Current Special Education Funding System

Currently, Colorado provides supports students with disabilities through a two-tiered framework. Special education students are funded at one of two levels, depending on the child's diagnosis. First, Colorado provides a flat grant of $1,250 to school districts for every child that has an identified disability (Tier A funding). Any appropriated special education funds that remain are used to support students with specific, high-cost disabilities (Tier B funding).[5] These students are those with the following diagnoses:[6]

- Autism Spectrum Disorder
- Deaf-Blindness
- Hearing Impairment, including Deafness
- Intellectual Disabilities
- Multiple Disabilities
- Serious Emotional Disability
- Traumatic Brain Injury
- Visual Impairment, including Blindness

By statute, the additional amount of funding allotted for students in this second group can go up to $6,000 apiece.[7] However, in fiscal year 2017, allocations to school districts only amounted to an additional $1,997 per Tier B student[8]—a third of the funding limit. This reflects the unreliability of a funding system that allots additional money for high-needs students based on what is left in the budget rather than proactively allocating a sufficient amount of funding for students in accordance with their needs.

Special Education Funding in Other States

The vast majority of states (forty-six) have funding allocated for special education students or services within their education funding formulas. (Other states provide funding only in atypically high-cost special education cases.) Special education funding methods vary significantly from state to state. At the lowest level of specificity, eight states use a primarily "census-based" funding system, providing money to districts based on a standard percentage of students assumed to have special education needs in each district, often based on statewide averages. This approach requires the least administrative effort, but it has the greatest potential for a mismatch between students served and funding provided. At the highest level of specificity, four states mostly use a reimbursement system, in which districts must report their actual level of special education spending and receive full or partial reimbursement for it. This approach does the most to match state funding to district expenditures, but it requires a great deal of administrative work, does nothing to incentivize efficient spending, and also creates a delay between when a district must lay out dollars and when it receives state aid. The middle course is a weighted student funding approach, in which actual numbers of students with disabilities are funded at specified levels. In eight states, there is a single, standard weight (or multiplier applied to a base per-pupil dollar amount to increase funding) used for all special education students, while in fourteen states, including Colorado, multiple weights are used to account for differences in costs across students in different special education categories. Multiple-weight systems are the most common nationally.

Multiple-weight systems in different states include varying degrees of differentiation. Colorado differentiates students into just two categories based on their disabilities—the lowest such number in the country. At the other extreme, Oklahoma assigns weight to thirteen different disability categories. A more common number of weighted tiers is three to five, which allows for a significant degree of differentiation without creating false specificity or imposing an unreasonable administrative burden on districts.

Colorado's system assigns a flat base grant amount of $1,250 to all students with disabilities and subsequently provides a uniform amount of additional money for students with especially high-cost (Tier B)

disabilities. This degree of differentiation is quite minimal, and assumes, for instance, that any student on the autism spectrum will require as much funding as a student with traumatic brain injury. By contrast, in Arizona, student weights range from 1.003 to 8.947, so that the lowest-cost special education students are assumed to need only slightly more than general education students, while the highest-cost students are funded at levels almost nine times as high as nondisabled students. This kind of differentiation allows states to respond appropriately and sufficiently to the unique needs of students with disabilities.

It is also worth comparing the overall level of formula funding per special education student. In fiscal year 2017, the base funding amount for all students was $6,367.90—higher than in many states. But the total funding for even the highest-need special education student, including Tier A and Tier B funding, was just $9,614.90. In neighboring New Mexico, the base funding may have been lower at $3,979.63, but with the state's four-weight system, the highest-need special education students were weighted at three times the base amount and therefore generated $11,938.89 apiece to support their needs. In Ohio, another state using multiple weights for special education, the highest weight generates $25,637 per eligible student, over and above the base amount. It is clear that Colorado's support of special education students does not measure up to national standards. Even compared to the relatively low research-based estimate that special education students require 90% more funding than general education students, Colorado falls short; total supplemental funding from Tiers A and B in 2017 amounted to just 51% of the base funding amount provided for nondisabled students.

It is important to note that there is no state other than Colorado with a policy of funding special education students at a level based on the amount of money left over after an initial appropriation. Funding special education students in this way is not only an unreliable funding framework, it also causes funding to fluctuate for reasons that have nothing to do with student needs.

Potential Policy Changes

Colorado may want to consider modifications to the current special education funding structure to more closely mirror practice in other states. Instead of funding students at just two possible levels, Colorado could move to a system that responds more appropriately to student needs by increasing the number of special education classifications to the more common number of three to five tiers.

Merits of Maintaining the Current Special Education Funding Structure

The primary benefit of Colorado's current special education funding structure is the minimal administrative burden. With just two funded tiers, school districts can avoid a significant increase in reporting requirements. The system of allocating Tier B funding out of available appropriations also allows the state to control its funding burden and avoid unexpected increases in responsibility.

Merits of Adopting the Proposed Policy Change

With a more differentiated system of three to five funding tiers, the state can better tailor funding to students' needs, providing better support and ensuring that profoundly disabled students in low-wealth areas

are not underserved for lack of state resources. Additionally, by moving away from the appropriation-driven calculation for Tier B, the state can provide more reliable and adequate funding to districts serving more high-cost special education students.

[1] See, for example, Verstegen, D. A. "Public education finance systems in the United States and funding policies for populations with special educational needs." *Education Policy Analysis Archives* 19, no. 21 (2011): 11. http://epaa.asu.edu/ojs/article/view/769; Hartman, William T. "Policy Effects of Special Education Funding Formulas." *Journal of Education Finance* 6, no. 2 (Fall 1980): 135 – 136.

[2] U.S. Department of Education, Office for Civil Rights. (2010). Free Appropriate Public Education for Students With Disabilities: Requirements Under Section 504 of the Rehabilitation Act of 1973. Retrieved September 5, 2018 from https://www2.ed.gov/about/offices/list/ocr/docs/edlite-FAPE504.html.

[3] U.S. Department of Education, Office for Civil Rights. (2018). Protecting Students with Disabilities. Retrieved September 5, 2018 from https://www2.ed.gov/about/offices/list/ocr/504faq.html.

[4] Chambers, Parrish et al, What Are We Spending on Special Education Services in the United States, 1999-2000, Special Education Expenditure Project, Center for Special Education Finance (Washington, D.C.: U.S. Department of Education, 2004) 6, http://csef.air.org/publications/seep/national/AdvRpt1.PDF.

[5] Thomsen, Jennifer, *Update on Special Education Funding*, August 2006 (Colorado Legislative Council Staff Issue Brief: Number 06-12), https://www.colorado.gov/pacific/sites/default/files/06-12IssueBrief_SpecialEd.pdf.

[6] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 4, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure.

[7] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 5, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure.

[8] Colorado Department of Education. ECEA FY2017-18 Preliminary Allocations. Retrieved September 5, 2018 from https://www.cde.state.co.us/cdefisgrant/essapreliminaryallocations.

Introduction

Colorado currently has a substantial adjustment for district cost of living in its formula—one that drives a very large share of state education dollars. The structure of this adjustment is such that it creates sizable differences in funding between districts and affects the value of other formula adjustments such as the at-risk weight. If the state were interested in revisiting this policy, it could be modified somewhat to change the outsize role currently played by this adjustment.

The Value of Providing Funding for Districts with High Cost of Living

Staff salaries make up the majority of school district spending, and salaries must be reasonably aligned to the local cost of living if districts are to attract the staff they need. As a result, many education commentators are of the opinion that the cost of living in the district will impact district budgets and should be accounted for in state education funding policies. One popular approach to this issue is to consider comparable wages—the wages of similarly educated professionals in the area who are not teachers.[1]

It is worthy of consideration, however, whether the cost of living actually captures the challenges facing districts in the area of teacher attraction. Rural districts often have lower costs of living—and indeed, lower teacher salaries—and still struggle to fill teacher vacancies and retain staff.[2] Additionally, areas with high cost of living are high-cost in part because they are attractive places to live; districts in these areas may have an easier time recruiting staff precisely because they are in in-demand communities. It is possible that by providing additional funding to more attractive communities, states that use cost-of-living adjustments may actually further incentivize teachers to leave rural communities that are already cost-burdened by vacancies and churn. It might be said that these states are pitting cost of living against the "cost of leaving" faced by rural districts.

It is also of note that some education experts point to serious equity concerns related to cost-of-living adjustments. Cost of living tends to be higher in wealthier areas and less diverse communities. As a result, these adjustments can have the effect of boosting funding in these areas, and given the finite pool of state funds available, will ultimately reduce funding for poorer and more diverse school districts.[3] This is a real concern from a policy perspective, and also may pose a legal problem, as some scholars argue that it constitutes a violation of the Equal Protection Clause of the U.S. Constitution. Though this continues to be debated throughout the school funding community, there is still ongoing risk of a court challenge in states that rely heavily on this practice.

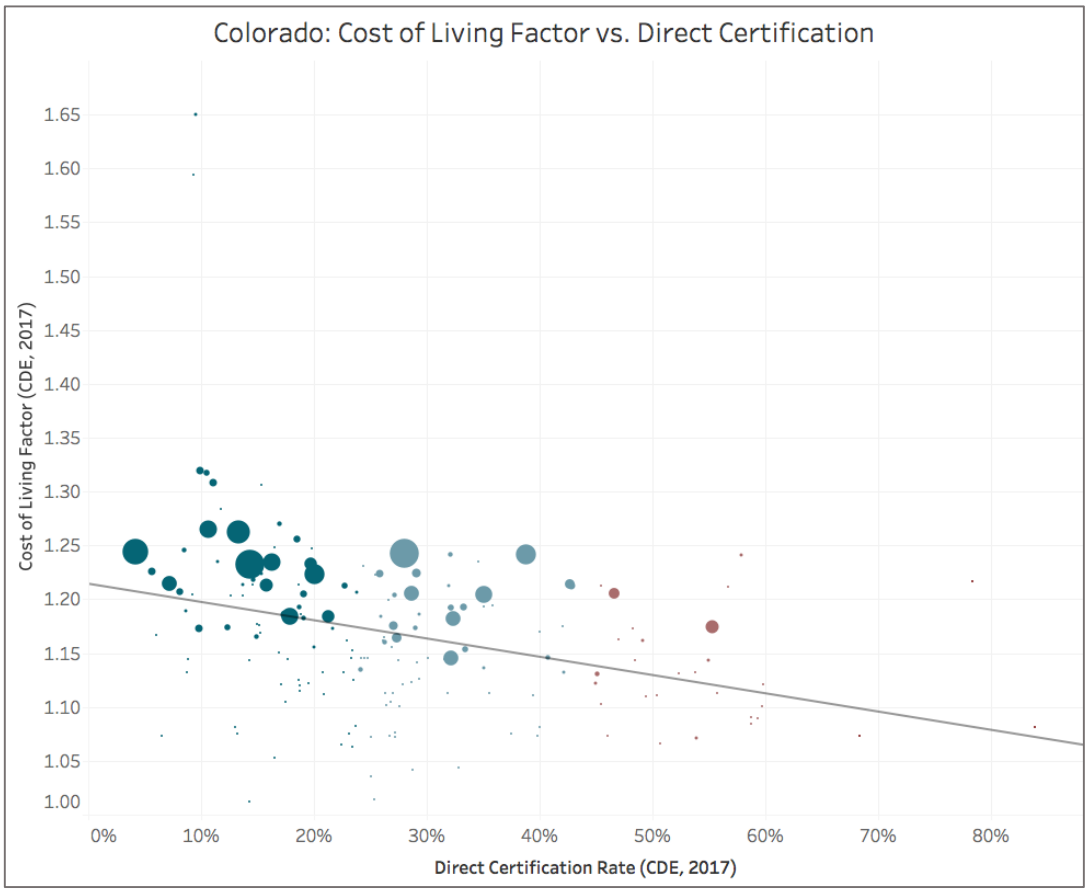
Colorado's Current System of Funding for Cost of Living

Colorado's education funding formula includes quite a substantial adjustment for district cost of living. Each district is assigned a cost of living factor (COLF) based on the local cost of housing, goods, and services, with 2017-18 size factors ranging from 1.012 to 1.650.[4] The applicability of the COLF is constrained by a "personnel factor" that is meant to reflect the proportion of district dollars likely to be spent on staff salaries and benefits; the application of the personnel factor has the effect of applying the COLF just to this assumed spending on personnel. EdBuild estimates that the cost of this factor tops $1 billion and accounts for an

astronomical 23% of the state's share of the education funding formula, excluding at-risk funding.

While the formula includes a per-pupil base amount, this amount is adjusted for cost of living (as well as size) before further calculations are made. As a result, student-based adjustments such as the at-risk weight are applied not to the statewide standard base amount, but to a district-specific adjusted base amount that already reflects the cost of living adjustment. This affects the value of the at-risk supplement.

As forecast by much of the research, this adjustment does in fact drive more funding to less needy districts. As the figure below show, COLFs are higher for districts serving fewer "directly certified" students (that is, low-income students participating in federal assistance programs). The very highest COLFs are assigned to Aspen and Telluride, very high-wealth communities.



Funding for Cost of Living in Other States

There are a number of states whose funding systems include adjustments for cost of living, though it is by no means as common as adjustments for other district conditions, such as diseconomies of scale or concentrations of poverty. The cost-of-living adjustments that do exist sometimes focus on salary costs. The system in Tennessee, for instance, increases funding in districts where average wages in nongovernmental

occupations exceeds the state average. Similarly, Missouri uses a formula that compares regional wages to the state median wage. New Jersey uses salary data taken from the U.S. Census Bureau's American Community Survey. Another approach is to use a national or regional consumer price index. The Florida system, for instance, uses a three-year average of the Florida Price Level Index for the county in its formula to account for differences in cost across districts.

It is very uncommon for states to make cost-of-living adjustments in the manner that Colorado does, as a first stage that produces a new base amount for the district to which other weights are then applied. Though Texas does it in this way, a far more common approach is to make all adjustments to the same basic allotment, in a single stage.

Potential Policy Changes

The cost-of-living adjustment looms quite large in the current formula. If the state wished to lessen its impact, it could reduce the factors themselves. It could modify also the order of the calculation such that, rather than use cost of living (along with size) to adjust the base amount *before* applying further weights and adjustments, which magnifies the effect of the COLF through the rest of the formula, the state could handle the adjustment in the same stage as other weights, such that the same base amount is being adjusted for cost of living, at-risk students, etc.

Merits of Maintaining the Current Structure of Funding for Cost of Living

The current approach used by Colorado to adjust district funding for cost of living has certain benefits. It is true that the cost of living genuinely does vary from district to district, and this impacts school faculties. It is valuable that the state constrains the application of the COLF by applying the personnel factor as well, so the COLF adjusts only those dollars assumed to be spent on staff salaries and benefits. It is also the case that, because the COLF currently drives such a large portion of formula funding, those districts with higher COLFs are significantly reliant on this funding; changing the system would be challenging for those districts and would require a carefully planned transition.

Merits of Adopting the Proposed Policy Changes

Given the current correlation of cost-of-living factors with lower rates of poverty, if the state were to act to limit the size or applicability of the factor, it would automatically increase the responsiveness of the formula to poverty. Additionally, since such a large proportion of state education aid is now tied up in cost-of-living driven payments, any reduction in the importance of the factor would free up funding to be directed towards other state priorities, such as support for at-risk students.

[1] Taylor, L.L. (2005). "Comparable Wages, Inflation and School Finance Equity." Bush School Working Paper # 540. Texas A & M University. Retrieved on September 7, 2018 from http://bush.tamu.edu/research/faculty/workingpapers/ltaylor/Comparable_Wages_Inflation_and_School_Finance_Equity.pdf

[2] Soheyla Taie, Rebecca Goldring, and Maura Spiegelman, Characteristics of Public Elementary and Secondary School Teachers in the Untied States: Results from the 2015-16 National Teacher and Principle Survey, National Center for Education Statistics, U.S. Department of Education, August 2017; Rhonda Barton, Recruiting and retaining rural educators: Challenges and strategies, *Principal's Research Review*, vol. 7 issue 6 (November 2012).

[3] Baker, B. (2008.) Doing More Harm Than Good? A Commentary on the Politics of Cost Adjustments for Wage Variation in the State School Finance Formulas, *Journal of Education Finance*, Vol. 33, No. 4, (Spring 2008), pp. 406-440.

[4] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 4, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure

Introduction

Colorado currently makes a significant effort in its formula to support small school districts. By applying a sliding-scale multiplier, called the size factor, to the base per-pupil amount in small districts, the state increases funding to address diseconomies of scale faced by these districts. There are a number of options if the state were interested in refining this policy. The implementation of the size factor could be applied to district funding as a stand-alone supplement rather than a base inflation. District size can be addressed through a possible refinement of approach; funding diseconomies of scale to focus on sparsity or rurality rather than simply size.

The Value of Providing Funding for Districts Facing Diseconomies of Scale

There have been many efforts to measure the costly diseconomies of scale associated with running a small school or district, especially in the context of state-sponsored analyses of the costs of education. These examinations have generally recommended additional funding for small school districts. For instance, a costing-out study in Texas recommended one per-pupil base amount for a district with just under 1,000 students, an amount 14% higher for districts with 390 students, and one almost 84% higher for districts with just ninety-seven students.[1] A costing-out study in California similarly found higher expenditures in rural districts than in suburban districts because of diseconomies of scale (though the same study found higher expenditures in urban districts as well, because of the greater numbers of high-need students served).[2]

However, there are unique costs in rural and remote districts that are not merely due to those districts' small enrollments. Rural areas struggle with teacher attraction: A 2010 national survey of rural school district administrators found that more than 84% experienced difficulty in filling teaching vacancies.[3] At the same time, some researchers have argued that attracting highly qualified staff is particularly important for rural districts, since rural teachers often tend to cover more than one subject area and require multiple certifications.[4] Rural districts also have greater resource needs for transportation as they cover sparsely populated or poorly connected areas. A NCES report found that in the 2007-08 school year, rural districts spent 5.5% of their total operating costs on student transportation, compared to 4% for urban districts and 4.5% in suburban districts.[5] Finally, rural districts may face particular difficulties associated with their tax base. Rural districts not only tend to have smaller tax bases; they also tend to lack valuable commercial property and rely on agricultural property, which tends to be taxed at lower rates than other property.[6]

It is clear that there are significant cost challenges associated with running a small, rural, or sparse school district, and that these can be properly recognized in a state education funding policy with supplemental funding.

Colorado's Current System of Funding for Diseconomies of Scale

Colorado's education funding formula includes a fairly substantial adjustment for district size. Each district is assigned a "size factor" based on its enrollment size, with 2017-18 size factors ranging from 1.0297 to 2.3958.[7] In the smallest districts, therefore, the size factor can multiply the base amount by almost 240%, all else held

constant. EdBuild estimates that the cost of this factor tops $300 million and accounts for 7% of the state's share of the education funding formula, excluding at-risk funding. (Other factors, such as sparsity or other economy-of-scale challenges, are not considered in the assignment of the size factor, though the state provides separate funding for small and remote schools as a categorical grant outside the formula.)

While the formula includes a per-pupil base amount, this amount is adjusted for size (as well as cost of living) before further calculations are made. As a result, student-based adjustments such as the at-risk weight are applied not to the statewide standard base amount, but to a district-specific adjusted base amount that already reflects the size adjustment. This affects the value of the at-risk supplement. Given the 2017-18 base amount of $6,546.20 and setting aside the effect of the cost-of-living adjustment, in a district with the lowest size factor, the value of the 12% supplement for at-risk students would be $808.87 per eligible pupil. In a district with the highest size factor, the value of that same 12% supplement would be $1,882 per eligible pupil—a substantial gap, and one not calibrated to any difference in the needs of at-risk students from district to district.

Funding for Diseconomies of Scale in Other States

Thirty-four states, including Colorado, currently address diseconomies of scale in their education funding policies. Twenty-six provide support for sparse districts or remote schools, while twenty-eight provide funding for small schools or districts. (Twenty of these provide support for both sparsity and small size.)

The mechanisms vary broadly, and a number of states employ more than one approach. In seventeen states, including Colorado, a weight is applied to the base amount in qualifying sparse or small schools or districts (or the state takes the mathematically equivalent approach of inflating the student count in low-enrollment schools or districts and funding accordingly). An additional ten states take the similar approach of providing a supplemental dollar amount for each student in a qualifying school or district. In eleven states, funding adjustments for sparsity size are made as part of the transportation funding system in recognition of the additional costs involved in transporting students in remote or sparse areas.

Only a small handful of states—Alaska, Arizona, and Texas—make economy-of-scale adjustments in the manner that Colorado does, as a first stage that produces a new base amount for the district to which other weights are then applied. A more common approach is to make all adjustments to the same basic allotment, in a single stage.

Potential Policy Changes

If the state wished to modify its policy for addressing diseconomies of scale through the funding formula, there are two options that could be considered.

A modest change would be to maintain the fundamental approach, in which districts receive weighted funding in inverse proportion to their enrollment size, but to change the timing of the adjustment: Rather than use size (along with cost of living) to adjust the base amount *before* applying further weights and

adjustments, which magnifies the effect of the size factor through the rest of the formula, the state could handle the adjustment in the same stage as other weights, such that the same base amount is being adjusted for size, at-risk students, etc.

A more significant change would be for the state to move away from funding districts based purely on their enrollment size and begin to consider other diseconomies of scale—namely, to transform the size factor into a weight for sparsity or rurality. This may be handled simply by applying a sliding-scale weight to the base amount for each student enrolled in a district with significantly fewer students per square mile than the state average.

Merits of Maintaining the Current Structure of Funding for Diseconomies of Scale

The state's current system has the benefits of recognizing the genuine diseconomy of scale problem faced by small school districts. Additionally, because the size factor currently drives such a large portion of formula funding, those districts with higher size factors are significantly reliant on this funding; changing the system could be challenging for those districts, and would require a carefully planned transition.

Merits of Adopting the Proposed Policy Change

If Colorado were to change the stage at which the size factor is applied in the formula, making the adjustment at the same stage and to the same base amount as the at-risk weight, this would diminish the magnified role the size factor currently holds within the funding system. Specifically, the value of other adjustments, such as the at-risk weight, would be equal across districts of different sizes, eliminating the current scenario in which a disadvantaged student is "worth" more in some areas than others.

If the state were to move towards a sparsity-based weight rather than a size-based one, it would continue to address genuine diseconomies of scale while avoiding the key problem of funding for size alone: the incentive for districts to remain small and inefficient rather than merge and achieve greater economies of scale. By funding for sparsity instead, the state could achieve the same objective in cases of unavoidable diseconomies of scale, without perpetuating avoidable ones.

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[1] Lawrence O. Picus, Allan Odden, Michael Goetz, Anabel Portela, *Estimating the cost of an adequate education for Texas school districts using the evidence-based approach*, July 30, 2012.
[2] Jay Chambers, Jesse Levin, and Danielle DeLancey, *Efficiency and Adequacy in California School Finance: A Professional Judgment Approach,* American Institutes of Research, December 29, 2006.
[3] Rhonda Barton, Recruiting and retaining rural educators: Challenges and strategies, *Principal's Research Review*, vol. 7 issue 6 (November 2012).
[4] Catherine Sielke, Rural factors in state funding systems, *Journal of Education Finance*, Vol. 29, No. 3, Rural Education Finance, Part 2 (Winter 2004), pp. 223-236.
[5] National Center for Education Statistics, U.S. Department of Education. "Expenditures per public elementary and secondary student, by type, locale, and district poverty level: School year 2006-07," Accessed at *http://nces.ed.gov/surveys/ruraled/tables/e.1.a.-2.asp*
[6] EdBuild, *Building Equity: Fairness in property tax effort for education,* February 2017. https://edbuild.org/content/building-equity
[7] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 4, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure

Introduction

Colorado does not currently differentiate its education funding by grade level. However, the state does provide specific funding for career and technical education (CTE), which is used at the secondary level. This funding is provided in the form of a partial reimbursement for program costs incurred per participating pupil. The state may wish to consider adding differentiated funding for grade levels, and/or consider providing career and technical funding more flexibly in the form of a high school weight.

The Value of Differentiating Funding by Grade Level

Unlike some other student categories, such as students from low-income households and English-language learners, students in certain grade levels are not inherently disadvantaged relative to each other. Instead, the merit of differentiating funding for students of different grade levels is that such policies can help districts address certain state education priorities, such as reading proficiency by grade three, career and technical education in secondary grades, or college and career readiness for those completing high school.

At the elementary level, there is a fair amount of evidence that third grade is an important deadline for reading proficiency. There is truth to the commonplace that children up until that age are learning to read, while from fourth grade on, students are "reading to learn"—using literacy to build their knowledge and skills in other subject areas.[1] As a result, children who lag in reading skills at the end of third grade tend to continue to struggle with literacy throughout grade school, are more likely to repeat a grade, and are far less likely to complete high school. The effects are especially strong for low-income students who are not proficient in reading by third grade; one report found that 26% of children who lived in poverty for at least one year and were not reading proficient by this age failed to complete school.[2] Given these findings, there is logic to the practice of providing additional funding specifically for grades K-3 to support reading instruction.

On a related note, there is also some evidence that smaller class sizes (which, of course, necessitate more staff and therefore more resources) are most impactful in the early grades. One evaluation of a small-class-size experiment found that reduced class size in grades K-3 predicted better standardized test performance in middle school, increased the number of students taking college entrance exams, and narrowed the black-white gap in college entrance test-taking by a striking 54%.[3] This body of research bolsters the notion that more resources could be beneficial in grades K-3.

In the secondary grades, many states currently provide funding specifically for CTE, but it is also far more common for state goals today to target both college and career readiness for all graduates. Given this shift in focus, there may also be merit in moving to a model of providing supplemental funding for high school generally rather than just for CTE programming.

Colorado's Current System of Funding Different Grade Levels

Colorado does not currently provide different levels of funding for students in different grade levels. However, the state does support CTE through categorical program funding, in the form of a partial reimbursement.[4] Students participating in CTE programs are first funded at the per-pupil base level. The

state formula assumes that the district will cover CTE costs up to 70% of this base level out of its regular funding. For additional program costs over and above 70% of the base amount, the state reimburses up to 80% of the first $1,250, and 50% of excess costs over $1,250. The funding is intended to address the cost of staff, outside services, supplies, and equipment.

Grade-Level Funding in Other States

Thirty states currently differentiate the funding they provide for different grade levels. Many of these states provide increased funding through a weight applied to the base per-pupil amount, while others provide limited-use program funding targeted for specific grade levels. In states using resource-based funding formulas, which allocate funding in the form of "units" of resources for each teacher or classroom, funding tends to be allocated based on student-to-teacher ratios that vary from grade to grade, and funding is differentiated for every grade level. States using such a system include Alabama, Delaware, Tennessee, and Washington, among others.

There is considerable variation in the grade levels receiving extra support. On the early grades side, Maine provides additional weighted funding only for grades K-2, and Arizona supports grades K-3 with weighted funding that must be used for literacy programming. On the secondary side, Vermont provides weighted funding only for secondary students, South Carolina allocates funding for career development and counseling programming only for students in grades 6-12, and Michigan and Texas provide flat dollar amounts for each student in grades 9-12 only.

Nearly all states (forty-seven) provide funding for CTE in some fashion—many provide CTE dollars through multiple funding streams. Twelve states use a weight applied to the per-pupil base amount and an additional thirteen do so using the similar approach of providing a dollar amount based on the count of pupils participating in district CTE programs. Thirteen states provide CTE funding through competitive grants, while twelve provide non-competitive program-based or grant funding. Colorado is one of only five states that funds CTE using a reimbursement for costs incurred.

Potential Policy Changes

If the state wished to explore the possibility of providing differentiated funding for different grade levels, there are two clear options to pursue, and they are not exclusive of each other. First, the state could move from program-driven, limited-use CTE funding to a more general high school weight. And second, the state could institute a funding weight for grades K-3.

Merits of Maintaining the Current Structure of Funding for Different Grade Levels

The state's current system, which supports CTE programming but does not otherwise provide differentiated funding for students in different grade levels, reflects a clear prioritization. In a number of states, funding is boosted for *all* grade levels; Arizona, for instance, has a base per-pupil amount, but no student is funded at that level, because every grade level is assigned a weight that increases the funding amount. In such a

system, the supplementary nature of the funding all but disappears. Something similar could be said of systems that provide weighted funding for both early grades and high school; in practice, this extra funding tends to balance itself out, and since most districts serve a generally equivalent number of students across all grades, the "differentiation" simply serves to increase the district's budget overall.

However, it is true that career programming tends to be costly, because of necessary equipment and supplies and because staff tends to have specialized training. For these reasons, there is value in providing funding specifically for these programs.

Merits of Adopting the Proposed Policy Change

If Colorado were to move from its CTE reimbursement system to a high school weight, it would increase the flexibility that districts have to use these funds in the best way for all their high school students, regardless of their academic focus or postsecondary plans. By providing this funding broadly for students in grades 9-12, the state could also avoid incentivizing districts from funneling students into higher-funded CTE pathways, a benefit in line with the state's college and career readiness goals.

A possible K-3 weight could support students at a time when small classes are beneficial and literacy development is especially vital. By supporting these grades specifically, the state would express its commitment to early learning.

[1] Feister, L. *Early warning! Why reading by the end of third grade matters* (Baltimore, MD: Annie E. Casey Foundation, 2010). Retrieved September 5 from https://www.aecf.org/m/resourcedoc/AECF-Early_Warning_Full_Report-2010.pdf .
[2] Hernandez, D.J. *Double jeopardy: How third-grade reading skills and poverty influence high school graduation* (Baltimore, MD: Annie E. Casey Foundation, 2011). Retrieved September 6 from https://files.eric.ed.gov/fulltext/ED518818.pdf.
[3] Krueger, A., and Whitmore, D. "The Effect of Attending a Small Class in the Early Grades on College-Test Taking and Middle School Test Results: Evidence from Project STAR," *NBER Working Papers 7656, National Bureau of Economic Research, Inc.* (2000).
[4] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 4, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure

Funding for Gifted Education in Colorado

Introduction

Colorado currently provides funding for gifted and talented programming rather than for gifted students. Districts complete annual applications for gifted program funding from the state. This structure has pros and cons, and could be maintained or replaced with a more student-driven funding approach.

The Importance of Funding for Gifted Education

Many states have set targets for the education of gifted students. In light of these goals, it is important to note that research has found that state funding policies supporting gifted education can be effective at increasing gifted education offerings.[1] It is no surprise that districts are more willing to offer gifted programming when there is direct support for it, given the costs associated with training quality teachers and school district administrative staff how to run and maintain gifted programs.[2] This makes gifted funding especially helpful to low-wealth school districts, which may struggle to raise enough revenue to provide this programming without special assistance.

However, providing funding for gifted students poses an equity challenge. More upper-income students tend to be enrolled in gifted programs than low-income students, raising the possibility that funding gifted education on a per-pupil basis may direct funding away from high-poverty districts. A recent study by the Thomas B. Fordham Institute found that although high-poverty schools have a similar number of gifted programs when compared with low-poverty schools, the level of student enrollment in programs within high-poverty schools is significantly lower.[3] The study found that high-poverty schools are challenged with low enrollment and participation in gifted programs not because of lower numbers of gifted students, but because of a lack of effective gifted student identification measures. Inevitably, this leads to variations between school districts with regard to the number of students enrolled in gifted programs, and consequently, the amount of per-pupil state aid for gifted education that these districts receive. Reinforcing this concern, a 2004 University of Kansas study found that state mandates and funding practices may encourage the creation of more gifted programs in schools with fewer low-income students.[4] Given these issues, it is important that any evidence-based policy consider the general distribution of gifted funding.

Colorado's Current System of Funding Gifted Education

Colorado currently funds gifted students by providing grant money for gifted programs to school districts through the Exceptional Children's Educational Act.[5] In order to receive this funding, school districts must submit a gifted program proposal to the Colorado Department of Education for approval.[6] The proposal includes the school district's planned local funding contribution towards gifted services, and this information is used to inform the amount of aid that a school district will receive for its gifted programs.[7] In the 2017-18 budget year, Colorado allocated $12.1 million for gifted and talented programs.[8]

One effect of this funding structure is that it supports smaller school districts in the state, which might not be able to achieve the scale necessary to provide gifted programming if funding were provided on a per-pupil rather than per-program basis. Additionally, and importantly, this funding structure isn't likely to distribute more money to wealthy districts than poor ones, because the funding is not dependent on the number of

gifted students identified. However, because school districts must submit new proposals for gifted programs each year, there is the potential for a lack of resource reliability.

Funding for Gifted Education in Other States

Thirty-two states, including Colorado, currently provide financial support for gifted and talented students or for gifted programming. There is no federal definition of giftedness, so all states must establish their own (or allow individual districts to do so).

The form of this funding for gifted students varies significantly between states. Twelve states, including Colorado, provide program-specific funding, either automatically, by application, or through a competitive grant. Eleven allocate funds on a census basis, assuming that a certain percentage of students within a school district will be eligible for gifted programs and supporting that number of students. Only eight states provide funding for each identified pupil, either by applying a weight to the base per-pupil amount or by providing a flat dollar amount for each such pupil.

As a general rule, program funding is less flexible than funding provided on a census or per-student basis, because it must be used in a prescribed manner. Per-student funding is quite flexible, but is most likely to send disproportionate funds to low-poverty districts and shortchange high-poverty districts. Census funding may be described as a compromise that funds districts both fairly and flexibly, but it is the method least tethered to current program costs.

Potential Policy Changes

If the state were interested in exploring changes to its system of funding gifted education, there are different avenues it could pursue. One option would be to fund students on a per-pupil basis, adding a weight to the funding formula for identified gifted students that provides additional funding in much the same way the current at-risk weight does. A second possibility is to provide gifted funding on a census basis, assuming a set proportion of students in each district are gifted and talented and providing weighted funding for this proportion of students, maintaining the general structure of providing funding through a weight applied to the base amount without requiring individual students to be identified as funding purposes.

Merits of Maintaining the Current Structure of Funding for Gifted Education

The current system of gifted funding in Colorado has its advantages. The state provides funding for programming according to a structure that does not disadvantage needy communities. The approach also allows small districts, which might not be able to achieve sufficient scale with per-pupil funding, to maintain gifted programming. However, the application-based structure reduces year-to-year reliability, and it creates an administrative burden that may itself pose difficulties for districts with small administrative staffs. Additionally, by tying the funding to a particular program description, the application system significantly reduces the district's flexibility and diminishes the extent to which the funding system is student-based.

Merits of Adopting the Proposed Policy Changes

If Colorado were to move towards a per-pupil weight for gifted funding, the structure would be more aligned with its funding for other student groups. However, this structure could introduce the possibility of stacking funding toward better-off students, as middle and upper class districts tend to identify greater numbers of gifted students than poor districts.

If the state were to adopt census funding of gifted education, it could align this funding structurally with allocations for other student groups without creating the potential for inequity. It could also address the flexibility that is lacking in program-based funding. It may, however, introduce a disincentive to identify students as gifted and limit program offerings given lower state oversight.

[1] Baker, B.D., & Friedman-Nimz, R. (2004). State Policies and Equal Opportunity: The Example of Gifted Education. Educational Evaluation and Policy Analysis, Vol. 26, No. 1 (Spring 2004), 39-64. Retrieved on September 6, 2018 from https://www.jstor.org/stable/pdf/3699503.pdf?refreqid=excelsior%3A0a073d09b25cf339fbbd63c296372911d

[2] National Association for Gifted Children. (2008). State of the Nation in Gifted Education. Retrieved on September 6, 2018 from https://files.eric.ed.gov/fulltext/ED507205.pdf ; Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 6, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure

[3] Yaluma, C. B.., & Tyner, A. (2018). Is there a gifted gap?: Gifted Education in High-Poverty Schools (2018), 4 - 6. Retrieved on September 6, 2018 from http://edex.s3-us-west-2.amazonaws.com/%2801.31%29%20Foreword%20-%20Is%20There%20a%20Gifted%20Gap.pdf

[4] Baker, B.D., & Friedman-Nimz, R. (2004). State Policies and Equal Opportunity: The Example of Gifted Education. Educational Evaluation and Policy Analysis, Vol. 26, No. 1 (Spring 2004), 39-64. Retrieved on September 6, 2018 from https://www.jstor.org/stable/pdf/3699503.pdf?refreqid=excelsior%3A0a073d09b25cf339fbbd63c296372911d

[5] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 6, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure

[6] C.R.S. 22-20-202

[7] C.R.S. 22-20-202

[8] Colorado Department of Education. (2017, July). Understanding Colorado School Finance and Categorical Program Funding. Retrieved September 6, 2018 from https://www.cde.state.co.us/cdefinance/fy2017-18brochure