

CONNECTICUT SCHOOL FINANCE PROJECT



SYSTEMIC DISTRICT CHANGE & SCHOOL FUNDING: GUIDING PRINCIPLES FOR STATE SCHOOL FINANCE SYSTEMS

A look at school change efforts, school finance, and student-centered learning in New England public schools

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Executive Summary

When developing a statewide school finance system that seeks to distribute state education dollars equitably and transparently, it is not only necessary to analyze financial and demographic data such as district expenditures, state and local revenues, community wealth factors, and student enrollment and learning needs, it is also necessary to attempt to consider the resource needs of the schools of the future, and determine how to best support how educators project classrooms, schools, and districts will evolve. This is particularly important because major overhauls in state school finance systems by state legislative bodies tend to happen only once every 20-30 years.¹

It is also important, when designing a statewide school finance system, to ensure resources are available to schools and districts to implement a variety of educational approaches, and that schools and districts have the resources they need to redefine and redesign classroom instruction to meet the needs of students in an ever-changing society.

This report examines how statewide school finance systems can be developed to meet the resource needs of schools of the future, and support public school districts implementing, or seeking to implement, approaches to systemic educational change, such as student-centered learning. For the purposes of this report, systemic change is defined using noted educational researcher Michael Fullan's definition of "whole system reform" as a school change effort where "every vital part of the system – school, community, district and government – contributes individually and in-concert to forward movement and success."² This flexible definition can be ascribed to a variety of educational models including certain portfolio districts, social-emotional learning strategies, lead from the middle strategies, multi-tiered systemic supports, and student-centered learning – among others.

Based on a literature review of topics related to systemic change, school finance, and student-centered learning, along with 20 structured interviews conducted with district leaders, school leaders, and state policymakers from Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, this report identifies the following five guiding principles for designing statewide school finance systems that will support systemic change at the district-level. Included with each guiding principle in the report is a review of the relevant academic literature, identified themes from the structured interviews, and illustrative examples of interview participants' experiences. **(Note: Given the lack of quantitative material and data available on this issue, this report and its guiding principles are based primarily on literature reviews and structured interviews, which are documented throughout the report.)**

1. Funding Must be Flexible

Any statewide school finance system must ensure funds provided to districts may be spent by district leaders in ways that support the strategic vision and strategic initiatives of the district, which may include systemic changes. In addition, school finance systems must be flexible enough to support a variety of educational models. Funding should not be constrained by program or resource-specific allocations that confine districts to a certain educational model.

2. Funding Must be Stable and Predictable

When funding levels are uncertain, district and school leaders make decisions based on estimations and projections. It is very difficult to commit to a multi-year program of school change if funding is unstable. Unpredictability tends to force district leaders to a project-based mindset when it comes to district change efforts. Stable funding allows district leaders to devise a strategic vision and take the necessary steps to enact it over time.

3. Funding Must be Sufficient and Equitably Distributed

School finance systems must ensure all districts, regardless of student need and local wealth, are able to commit to strategic, systemic improvements. Districts must have sufficient resources available to implement systemic school change efforts. Sufficient funding does not mean districts necessarily require new revenue streams or that they require categorical grants to support one particular educational model. Rather, the primary means by which districts receive state and local funding must be sufficient to meet district needs and support both foundational services and new district initiatives.

This means that, due to differences in ability to raise revenue from local sources, higher-need and lower wealth districts generally require more state resources than lower need, higher-wealth districts to ensure they are able to implement school change efforts that are lasting and impact all students in a district. An equity metric within a state's funding formula must consider the ability of a town to pay for educating town students through local property and income wealth in determining how much state support the district requires.

4. Funding Must Consider the Learning Needs of Students

Research shows that students who live in households with indicators of low socioeconomic status (SES) have lower academic performance than their peers from homes with higher SES.³ Students who require special education

have specialized programs of study that require additional resources and are associated with additional costs. English Learners also require specific interventions that are associated with additional costs to districts.⁴ Districts must be allotted additional resources to support students with these types of learning needs. Weighted student funding is the most prevalent way to fund schools based on students' learning needs. It is a straightforward framework in which additional resources can be targeted to districts and schools serving higher-need students.

5. Funding Must be Provided to Support Innovation and Start-up Expenses

No matter how creative and strategic district and school leaders may be in resource allocation, any type of systemic school change effort usually requires a modest amount of funding to implement and accelerate the work.

Costs related to systemic school change efforts must eventually be absorbed into general operating expenses, but certain types of non-renewable expenses are common. These costs include activities related to capacity-building, community engagement, curriculum and/or competency design, expert consulting, space modifications, and technology purchases. Many districts rely on private foundations to support start-up efforts. However, not all districts are able to access private investment, and states should also support school change efforts.

Some states have provided resources to districts to support a specific type of systemic change effort. These state grants are usually provided to support new statutory requirements for educational practices, such as the implementation of competency-based assessments and diplomas. For example, New Hampshire has provided limited funding and technical assistance to pilot districts to support work relating to the alignment of assessments to competency-based education,⁵ and current state regulations required all districts to move to a competency-based diploma system by 2015.⁶ Maine has also provided a small amount of funding to districts in support of competency development after a similar requirement for districts to use competency-based diplomas was adopted.⁷

Although specific funding streams to support specific state-led changes can be useful, in order to support a variety of systemic change models, states should examine what funding streams may be available to support district innovation to enact their strategic goals. Most districts that have used private grants to accelerate systemic change report a grant payment structure that spans three to six years, with larger investments in the earlier years that

decrease as in-district capacity is built. This means a modest amount of state funding could support multiple districts in implementing and accelerating models of school change, by similarly structuring grants.

For example, the Ohio Straight A Fund provides start-up funding to districts to implement educator-driven changes that promote academic achievement or economic efficiencies to transform the current educational system.⁸ Grant funding was made available to any district that described the substantial value and lasting impact of the proposed project, an explanation of how the project would be self-sustaining, and a description of how results would be quantified.

Georgia has a similar program, called the Georgia Innovation Fund, which was established under the state's federal Race to the Top grant in 2011, with a stated purpose of dramatically advancing student achievement in Georgia. The fund has provided resources to support a variety of educational models that align with a focus on preparing students to graduate high school with 21st century skills. Between 2011 and 2016 the fund distributed \$31 million in state and federal funds to schools, districts, postsecondary institutions, and nonprofits. In fiscal year 2017, the fund supported 18 grants, totaling approximately \$3.7 million in annual support.⁹

Taken together, these guiding principles provide an outline for states across the United States, not just New England, for designing school finance systems that support systemic changes and ensure resources are available for schools and districts to implement a variety of educational approaches to meet the needs of students today and in the future.

Introduction

For nearly four decades, Connecticut has struggled to develop, implement, and maintain an equitable school finance system that treats the state's students, school districts, and towns fairly. This was underscored in the September 2016 Connecticut Superior Court ruling in *Connecticut Coalition for Justice in Education Funding (CCJEF) vs. Rell*, in which Judge Thomas Moukawsher found the State of Connecticut is “defaulting on its constitutional duty to provide adequate public school opportunities because it has no rational, substantial and verifiable plan to distribute money for education aid and school construction.”¹⁰ Since the ruling, Connecticut policymakers, including Governor Dannel Malloy and legislators from both parties and both chambers of the General Assembly, have released a variety of proposals to revise and refine Connecticut's school finance system.¹¹

In working to create a new statewide school funding formula that affords all public school students opportunities for an excellent education, it is important to analyze historical trends in school district expenditures, the current revenues available to districts, how state contributions to public school funding are distributed among schools and districts, trends in enrollment, and research related to the additional costs associated with student learning needs. However, because major overhauls in state school finance systems tend not to be reexamined by state legislative bodies for 20-30 years,¹² it is also necessary to attempt to consider the resource needs of the schools of the future, and determine how to best support how educators project classrooms, schools, and districts will evolve over the next two to three decades.

Student-centered learning is one type of systemic educational change currently being implemented in states across New England. There are a variety of definitions of systemic change, many of them rooted in attempts to include community wraparound services for students that took place in the 1990s.¹³ However, for the purposes of this report, a broader and more recent definition is useful. Noted educational researcher Michael Fullan describes “whole system reform” as a school change effort where “every vital part of the system – school, community, district and government – contributes individually and in-concert to forward movement and success.”¹⁴ This is a flexible definition that can be ascribed to a variety of educational models including certain portfolio districts, social-emotional learning strategies, lead from the middle strategies, multi-tiered systemic supports, and student-centered learning – among others. When designing a statewide school finance system, it is important to ensure resources are available to schools and districts to implement a variety of educational approaches, and that schools and districts have the resources they need to redefine and redesign classroom instruction to meet the needs of students in an ever-changing society.

In New England, there is a high concentration of school districts in the process of implementing student-centered, mastery-based approaches to learning.¹⁵ **(Note: For the purposes of this report the terms mastery-based, standards-based, proficiency-based, and competency-based are used interchangeably.)** In Connecticut, educators and policymakers have made substantive commitments to advancing programs of mastery-based and student-centered learning. The Connecticut State Board of Education (SBE) has included a commitment to support the development of mastery-based learning in local school districts in its 5-year comprehensive plan.¹⁶ Additionally, Connecticut's Commissioner of Education participates in the New England Secondary School Consortium,¹⁷ an organization that is committed to the advancement of student-centered learning approaches and assisted in the development of guidelines for districts attempting to implement mastery-based programs of study, which later were adopted by the SBE.¹⁸ The Connecticut Association of Public School Superintendents (CAPSS), the Connecticut Association of Schools (CAS), and the Connecticut Association of Boards of Education (CABE) have also all demonstrated a commitment to furthering the adoption of programs of personalized learning in Connecticut districts and schools.¹⁹

The importance placed upon student-centered learning in Connecticut's education system requires school finance policies designed to provide resources that can support the implementation and scaling of systemic change. However, because there are also other types of school and district change efforts being implemented in districts, it is important to devise a school finance system that will support districts in accessing the resources they need, no matter what model of change is being utilized.

Background

In order to develop guiding principles for creating school finance systems that support systemic change at the district-level, a literature review was performed on topics related to systemic change, school finance, and student-centered learning. In addition, 20 structured interviews were conducted with district leaders, school leaders, and state policymakers from Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. **(Note: Given the lack of quantitative material and data available on this issue, this report and its guiding principles are based primarily on literature reviews and structured interviews, which are documented throughout the report.)**

Interviews focused on lower-wealth, higher-need districts, because these districts tend to receive a higher proportion of their revenues from state sources than higher-wealth communities.^{20,21} Therefore, state-level policy decisions related to school finance typically have a greater impact on lower-wealth communities. Many of the districts that participated in these interviews are currently in the process of implementing student-centered learning in two or more schools. Other participant districts have utilized a portfolio district approach to systemic change or have implemented programs of social-emotional learning.

Types of Systemic Changes Under Implementation in Participating Districts

1. Many districts whose leaders were interviewed are implementing **student-centered or personalized learning** approaches. These terms describe similar educational philosophies, and districts implementing student-centered or personalized approaches may focus more heavily on one component than another. CAPSS defines a personalized learning system as competency-based, offering multiple paths of study, using variable time, and including meaningful assessment and accountability.²² The Nellie Mae Education Foundation defines student-centered learning as having four components: learning is personalized; learning is competency-based; learning happens anytime, anywhere; and students take ownership over their own learning.²³ For the purposes of this paper, the term student-centered learning will be used universally, as the Nellie Mae Education Foundation definition is more comprehensive and highlights both personalized learning and mastery-based learning as primary tenets of a complete program of student-centered learning.

In practice, implementing student-centered learning models requires the participation of every stakeholder in the district, and optimally the state. Policymakers, district leaders, principals, teachers, students, and community members must contribute in order for the model to be successful. This is because student-centered learning is a culture shift that requires a fundamental

reimagining of the role of each participant in the system, including leaders, teachers, students, families, and community partners. School and district leaders must model a culture of continuous learning and devote substantial resources to professional development and capacity building for staff.²⁴ As students begin to take ownership over their learning, teachers being to guide, facilitate, and coach – rather than direct – student learning.²⁵ Community partners must be engaged to assist in providing multiple pathways to student learning, including internships, job shadows, and career education. Parents and families grow to understand competency-based grading and diplomas in order to support students in anytime, anywhere instruction.²⁶ Strong programs of student-centered learning are accelerated when state and local policymakers enact regulations and statutes that support program facets, such as flexible learning time and mastery-based diplomas.²⁷

2. High-quality programs of ***social-emotional learning*** engage leaders, teachers, staff, students, and families to change school culture, norms, and community such that students' emotional needs are placed in equal importance to their academic needs.²⁸ Programs of social-emotional learning such as the RULER methodⁱⁱ require planning years, investment in leadership development, and staff training before the program is implemented with students, at which point the program becomes an integral part of school culture, which has been shown to increase student achievement outcomes.²⁹ Programs of social-emotional learning that engage every education stakeholder are systemic change models that require similar resources to implement as do programs of student-centered learning.

3. In a ***portfolio district*** model, each school in a district is given autonomy and intra-district school choice is emphasized. Shifting from a traditional education program to a portfolio district model requires substantive changes in how district leaders, principals, teachers, and students approach personal accountability for school and student results.³⁰ In some portfolio districts, the role of central office administrators changes from demanding compliance to becoming service providers for school leaders. In turn, school leaders are given more autonomy over resource allocation and curricula, and students and families must make informed choices about which school they select.³¹ Thus, the implementation of a portfolio approach also requires similar resources as other systemic educational models.

ⁱ Supported by the Yale Center for Emotional Intelligence, RULER is "an evidence-based approach for integrating social and emotional learning into schools" that "teaches the skills of emotional intelligence" including those "associated with recognizing, understanding, labeling, expressing, and regulating emotion."

Source: Yale Center for Emotional Intelligence. (n.d.). RULER Overview. Retrieved from <http://ei.yale.edu/ruler/ruler-overview/>.

Problematic Practices in Statewide School Finance Systems

There are certain practices in statewide education funding systems that are potentially problematic in supporting systemic district and school change efforts. These features tend to be inflexible and proscriptive, and are based on a single imagining of what a classroom looks like.³²

1. **Resource-based** funding systems allocate funds to districts through proscribed ratios of students to units of funding for specific resources. For example, resource-based formulas often define how many teachers, library specialists, nurses, paraprofessionals, and administrators are required in each school and district to educate students. Resource-based formulas typically calculate the bulk of district funding in the form of teacher units. These are amounts intended to cover the cost of employing the teachers required by the district's count of enrolled students, in accordance with student-teacher ratios set in the resource-based formula.³³ This funding practice limits the flexibility of districts to reallocate staff and other resources based on the mission and vision of the district.³⁴ In programs of systemic school change, district leaders may choose to reallocate resources by moving classroom teachers into roles as instructional coaches – to coach other teachers or to provide personalized, 1:1 or small group instruction to teachers. Alternately, districts may choose to reduce the number of administrators in a district in order to move more funding to the school-level in order to provide schools with more autonomy.³⁵ Resource-based school finance systems may impede this type of decision-making.
2. **Program-based** funding systems provide different levels of funding for specific types of programs or categories of students. Program-based funding systems may provide specific levels of funding for career and technical education, physical education, bilingual education, or special education programs. Program-based funding poses similar problems to systemic school change efforts as resource-based funding. Program-based funding is inflexible, and it does not allow for substantive changes to resource allocation within a district.³⁶
3. **Grade-level weights** and grade-band funding systems assume costs are higher or lower to educate students in certain grades. Many states provide funding to districts that is differentiated by grade, no matter the type of main funding mechanism the state uses.³⁷ Grade-level weights are a funding practice that could prove especially difficult for programs of student-centered learning, which requires student and teacher time to be allocated flexibly.³⁸ Schools and districts implementing student-centered and mastery-based approaches attempt to move away from traditional measurements of student seat time and Carnegie units. In systems of student-centered learning, students are encouraged to take

the time they need to master a concept or competency.³⁹ Thus, an individual student could be behind grade-level in one subject and advanced in another. Grade-level weights constrict the ability for districts to allocate resources based on student need.

4. **Categorical funding** for specific district or school needs can also stifle innovation, and lend itself to a project-based orientation, rather than a systemic orientation.⁴⁰ Categorical funding can be a type of program-based allocation, but it is also seen in grants specific to infrastructure upgrades, technology purchases, gifted and talented students, or computer science classes, etc. Categorical grants tend to be written into statute and funded based on available appropriations. This makes the pools of funding for categorical expenses susceptible to budget cuts over time. Categorical funding is also inflexible, and district leaders cite needing to be creative in their leveraging of categorical grants to ensure they are applied to resources that are necessary for school change efforts.⁴¹

State and District Profiles

We spoke to district leaders, school leaders, and state policymakers in six New England states. Each of these states has a different statewide school finance system, which is described below. It is important to note that it is not possible to make correlative or causal assessments regarding a state's funding practices and the success of a single district's school change efforts. Each district is very different in demographic makeup, wealth, per-pupil spending, cost of living, and location. In addition, district and school culture and leadership are key components of successful systemic change efforts. Thus, the data collected is intended to be illustrative of best practices but in no way evaluative of program success or quality of implementation.

Connecticut

Connecticut has 11 different funding formulas⁴² for different school types: one for local public school districts, five for magnet schools, two for charter schools, one for technical high schools, one for vocational-agricultural centers, and one for the state's interdistrict Open Choice program, which seeks to help reduce racial, ethnic, and economic isolation by allowing students from urban public school districts to attend public schools in suburban districts.⁴³ The substantial majority of state funding for education is distributed through the Education Cost Sharing (ECS) grant. The ECS grant is intended to be distributed to school districts based on a weighted student funding formula,⁴⁴ but since 2013, the Connecticut General Assembly has not used the ECS formula with fidelity to allocate funds to school districts.⁴⁵

The ECS formula currently has a foundation amount of \$11,525. Most of the state's support for special education is incorporated into the foundation amount. The ECS formula contains a weight of 30 percent for low-income students but does not differentiate funding for English Learners or students with disabilities. The ECS formula contains an equity metric, called the base aid ratio, which determines the amount of state aid a district receives. The base aid ratio considers town property wealth at 90 percent and town income wealth at 10 percent.⁴⁶ Connecticut provides categorical funding to support a portion of districts' costs associated with educating special education students whose programs of study are associated with extraordinary costs through the Excess Cost grant.⁴⁷ In fiscal year 2014, Connecticut's average per-pupil expenditureⁱⁱⁱ was \$20,256.⁴⁸

ⁱⁱ To ensure the comparability of district revenues and expenditures across states, all per-pupil expenditures and demographic data are derived from the National Center for Education Statistics database, rather than Net Current Expenditures Per Pupil, calculated by the Connecticut State Department of Education, which are normally used for in-state comparisons of Connecticut districts. NCES data is from fiscal year 2014, which is the most recent year available. Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. (2015). *Elementary / Secondary Information System*. Available from <https://nces.ed.gov/ccd/elsi/tablegenerator.aspx>.

Structured interviews were conducted with district leaders from the Bridgeport, Hartford, Meriden, and Windsor Locks public school districts in Connecticut.

Maine

Maine has a resource-based school finance system which assigns a value to the Essential Programs and Services (EPS) deemed to be necessary for an adequate education. EPS assigns a student to full time equivalent (FTE) staff ratio for teachers, guidance counselors, librarians, school administrators, clerical employees, etc. There are different staffing ratios for three grade bands and for districts under 1,200 students. The FTE total for each district is determined by dividing the average attendance for each grade level by the EPS ratio, and then adding the resulting amounts. Salary rates per FTE staff person are determined using actual expenditure data provided by districts. EPS factors also include student demographics, adjustments for sparsity, adult education, and declining enrollment.⁴⁹

Maine's funding system includes a 15 percent weight for low-income students. A weight ranging from 15 percent to 50 percent is applied for English Learners, depending on the concentration of English Learners in the district.⁵⁰ Maine's school funding formula provides a weight of 131.5 percent for special education students, up to an identification rate of 15 percent. For all students over 15 percent, an additional weight of 38 percent is applied to the district's EPS rate.⁵¹ Maine provides additional funding for special education students whose educational programs are associated with extraordinary costs.⁵² Maine imposes a statewide property tax of 8.48 mills to support education.⁵³ In fiscal year 2014, Maine's average per-pupil expenditure is \$14,315.⁵⁴

Structured interviews were conducted with district leaders from Portland Public Schools in Maine.

Massachusetts

The Massachusetts statewide school funding formula contains both resource-based and student-based elements. First, the state determines a foundation budget for each district, intended to represent the total funding necessary for the district to provide an adequate education for its students. The foundation budget is determined based on program costs, staffing costs, grade-level weights, student demographics, enrollment, a wage adjustment factor, and an inflation factor. Per-pupil foundation amounts range from \$7,171 for full-day kindergarten students to \$13,005 for students in full-time vocational programs.⁵⁵

Massachusetts provides additional funding, in whole dollar amounts, for English Learners, low-income students, and special education students. The amount of

additional funding provided for students with higher learning needs is dependent on grade level and assumed program cost.⁵⁶ The formula then applies an equity metric to determine the state and local shares of the foundation budget. The equity metric considers property value, income, and a municipal revenue growth factor when determining a community's ability pay.⁵⁷ In fiscal year 2014, the average per-pupil expenditure in Massachusetts was \$16,923.⁵⁸

Structured interviews were performed with district leaders from Lawrence and Holyoke public school districts in Massachusetts.

New Hampshire

New Hampshire has a student-based school finance system, with a statewide property tax component. New Hampshire defines the total cost of educating a student as "the Cost of an Opportunity for an Adequate Education." The base per-pupil amount in 2016 was \$3,561.27. Additional funding of \$1,780.63 is provided for low-income students, \$1,915.86 for special education students, \$697.77 for English Learners, and \$697.77 for students who demonstrate poor reading performance before grade 3.⁵⁹ The base per-pupil cost and individual differentiated aid factors are then adjusted by the average change in the Consumer Price Index for All Urban Consumers, using the U.S. Bureau of Labor Statistics' services less medical care special aggregate index.⁶⁰

New Hampshire assesses a Statewide Education Property Tax (SWEPT) of 2.42 mills. Municipal shares are calculated by taking the statewide total SWEPT amount required to fund the Cost of Adequacy and applying equalized valuations without utilities, which results in a statewide mill rate. Each town is required to raise a proportional share of the total amount, and the revenue is applied directly to school district budgets, rather than being collected by the state.⁶¹ The average per-pupil expenditure in New Hampshire is \$15,327.⁶²

Structured interviews were conducted with district leaders from Rochester and Pittsfield school districts in New Hampshire.

Rhode Island

Rhode Island has a student-based funding system that assesses a foundation amount based on actual expenditures in certain categories, called Core Instructional Costs.⁶³ The foundation amount in Rhode Island is \$9,163 per pupil.⁶⁴ Rhode Island provides additional funding for low-income students through a weight of 40 percent per pupil. Rhode Island calculates a total, weighted per-pupil funding amount for each district and then applies an equity metric called the state share ratio to determine how much state education funding each district will receive. Rhode Island's state share ratio takes

into consideration the number of low-income students in the district, the district's assessed real estate values, and the district's median income.⁶⁵

Rhode Island provides categorical funding for career and technical education, pre-kindergarten programs, student transportation, and special education students whose educational programs are associated with extraordinary costs.⁶⁶ In fiscal year 2014, Rhode Island's average per-pupil expenditure was \$16,907.⁶⁷

Rhode Island is in the second year of implementing a statewide system of student-centered learning with substantial support from state government. Structured interviews were conducted with two state policymakers, but no structured interviews were conducted with district leaders.

Vermont

Vermont has a student-based funding formula with a foundation amount, as well as need-student and grade-level weights. Vermont's foundation amount per pupil was \$9,459 in 2016,⁶⁸ and it is adjusted annually based on the New England Economic Project Cumulative Price Index.⁶⁹ Vermont's funding formula provides additional funding for secondary students through a weight of 13 percent per pupil. The weight for low-income students is 25 percent and the weight for English Learners is 20 percent.⁷⁰

Vermont assesses a statewide property tax for education. Non-residential property is taxed at \$1.535 per 100 dollars. The base tax rate for homestead property is \$1.00 per every 100 dollars. The rates are fixed, although the total amount of revenue required to be raised, known as the "yield," is set by the legislature. The yield for fiscal year 2017 is \$10,870 per pupil. If districts choose to spend more than the proscribed, weighted per-pupil yield, the tax for homestead property in the district increases proportionally. If a district spends more per pupil than a certain "excess spending threshold," there is an additional tax penalty. The state collects all property taxes for education and redistributes the funds to districts.⁷¹

Attributes of Participating Districts

The table below provides district-by-district comparisons of expenditures, revenues, and student characteristics for those districts where structured interviews were performed.^{iv}

Per-Pupil Expenditures and Revenues, FY 2015						Student and District Characteristics, FY 2014					
District	State Average PPE ⁷²	District PPE ⁷³	State Revenue Per Pupil ⁷⁴	Local Revenue Per Pupil ⁷⁵	Federal Revenue Per Pupil ⁷⁶	Total Students ⁷⁷	% Free / Reduced Price Lunch ⁷⁸	% EL ⁷⁹	% Students with IEP ⁸⁰	District Median Income ⁸¹	State Median Income ⁸²
Connecticut											
Bridgeport	\$20,293	\$19,210	\$14,552	\$2,776	\$1,830	20,753	99.7%	14.0%	16.3%	\$41,801	\$70,331
Hartford	\$20,293	\$24,671	\$17,930	\$4,601	\$1,977	21,286	77.2%	17.7%	18.0%	\$30,630	\$70,331
Meriden	\$20,293	\$22,846	\$17,471	\$4,471	\$1,175	8,111	69.5%	14.2%	19.4%	\$54,588	\$70,331
Windsor Locks	\$20,293	\$22,984	\$7,167	\$15,779	\$664	1,666	38.9%	4.5%	13.8%	\$68,944	\$70,331
Maine											
Portland	\$14,341	\$15,753	\$3,679	\$11,742	\$1,415	7,006	57.9%	24.7%	15.4%	\$46,280	\$49,331
Massachusetts											
Lawrence	\$18,091	\$18,086	\$14,793	\$1,817	\$1,729	13,504	90.3%	29.1%	17.1%	\$34,852	\$68,563
Holyoke	\$18,091	\$20,128	\$14,702	\$3,172	\$2,758	5,573	77.3%	26.9%	24.9%	\$36,608	\$68,563
New Hampshire											
Pittsfield	\$15,722	\$19,278	\$8,852	\$9,141	\$1,613	561	54.7%	0.5%	21.5%	\$47,959	\$66,779
Rochester	\$15,722	\$17,427	\$6,757	\$7,129	\$1,350	4,245	47.6%	0.8%	19.2%	\$46,979	\$66,779
Vermont											
Burlington	\$19,737	\$20,937	\$17,579	\$1,876	\$1,443	3,990	45.8%	13.0%	14.4%	\$44,671	\$54,447
Winooski	\$19,737	\$21,069	\$18,421	\$599	\$2,579	765	77.3%	26.0%	17.7%	\$45,974	\$54,447

^{iv} Rhode Island is in its second year of implementing system of student-centered learning with substantial support from state government. We interviewed two state policymakers but did not interview a district leader, so district comparisons are not included.

Guiding Principles for Designing State School Finance Systems to Support Systemic Changes^v

After performing a literature review, and 20 structured interviews with district leaders, school leaders, and state policymakers, the following best principles to support systemic educational change efforts in districts were developed. Themes from the various interviews were identified and illustrative examples of participants' experiences are included for each principle.

1. **Funding Must be Flexible**

Any statewide school finance system must ensure funds provided to districts may be spent by district leaders in ways that support the strategic vision and strategic initiatives of the district, which may include systemic changes. In addition, school finance systems must be flexible enough to support a variety of educational models. Funding should not be constrained by program or resource-specific allocations that confine districts to a certain educational model.

Literature

Miller, Roza, and Simburg (2014) discuss the importance of providing flexibility to support new educational delivery models in statewide finance systems. School finance systems that dictate student to teacher ratios, the number of periods in a school day, and the number or cost of computers or textbooks, limit the ability of districts to leverage their general operating funds toward their strategic goals.⁸³ Chuong and Mead (2014) discuss the hazards of statewide school finance systems that allocate funds based on specific assumptions about educational programs, and what resources are required to maintain them. In these systems, districts must use funds as they are designated, and sometimes risk losing funding if they choose to allocate resources differently.⁸⁴ Miller, Gross, and Oujidani (2012) performed research about what it costs to implement programs of student-centered learning at the school level. They found policies that allow greater school-level flexibility help schools to optimize their use of resources.⁸⁵

^v Unless otherwise cited, findings in this section are derived from structured interviews performed with 20 policymakers, district, and school leaders from New England states between April 1, 2017 and June 19, 2017.

Themes from Structured Interviews

More than any other of the guiding principles identified in this report, district leaders, school leaders, and policymakers consistently identified the need for flexible funding to support systemic school change efforts. This principle is important on a macro-level to ensure all innovative school change practices that show high potential can be supported under a single statewide school funding formula.

“We believe . . . the best thing we can do is create flexibility around how local [districts] use their resources, and then help them be as effective as possible in doing that work.”

**– Paul Leather, Deputy Commissioner,
New Hampshire Department of Education**

Flexible funding is equally important at the district-level, so districts are able to allocate resources according to their strategic vision. Nearly all district and school leaders stated that the ability to creatively allocate resources was more important than increased funding when implementing and scaling models of school change. Participants used a variety of methods to reallocate staff to support their efforts. Some districts enlisted the support of collective bargaining units to update job descriptions to align with their strategic vision. Other districts increased classroom student to teacher ratios in order to expand instructional coach positions in the district, or to reassign teachers to extended day and extended year programs. Some districts dramatically reduced their central office staff and moved those resources directly to school budgets. Other districts

“Giving broad authority to make change is a good thing, but doing a more prescriptive approach almost never works. You have to trust the people on the ground. I would never do the plan that I did here in Lawrence if I was in another district. Instead, I would look at that district and see what that district needed.”

**– Jeffrey Riley, Superintendent and Receiver,
Lawrence Public Schools, Massachusetts**

created cross-district curricular support roles designed to inculcate staff into new models of teaching and learning. In districts that are implementing mastery-based approaches, teachers were provided stipends or hourly compensation to develop new competencies and curricula for the district.

2. Funding Must be Stable and Predictable

When funding levels are uncertain, district and school leaders make decisions based on estimations and projections. It is very difficult to commit to a multi-year program of school change if funding is unstable. Unpredictability tends to force district leaders to a project-based mindset when it comes to district change efforts. Stable funding allows district leaders to devise a strategic vision and take the necessary steps to enact it over time.

Literature

Lavertu and St. Clair (2017) found that revenue uncertainty at the school district-level in Ohio led to a decline in overall student achievement, and a larger decline in student achievement was observed in low-wealth districts. In addition, the authors found that the negative impact of unanticipated revenue shortfalls is far larger than the positive impact of unanticipated windfalls.⁸⁶

Themes from Structured Interviews

Multiple district leaders who

"Any formula would be better than total uncertainty. Not knowing how much funding I have available hampers my ability to plan effectively. The sooner I know about something, the sooner I am going to be able to have a concrete plan. Being financially uncertain, it doesn't allow us to do that."

– David Prinstein, *Principal, Windsor Locks Middle School, Connecticut*

have successfully implemented systemic educational changes cited a lack of predictability as a primary barrier to the implementation of their educational programs. All participants who discussed a lack of stability in their district budgets ascribed the problem to cuts or lack of predictability of state funding, rather than local funding. In particular, district leaders from Connecticut cited the lack of predictability in the state budget and lack of a school funding formula as an impediment to successful implementation and strategic use of resources.

Systemic school change requires multiple years of planning and implementation before the model is implemented at scale. Most participant districts went through a comprehensive strategic planning process that involved all stakeholders in the system, soliciting the feedback of up to 2,000 community members, depending on the size of the district. Districts then crafted mission and vision statements that continue to guide every aspect of their work. This planning process is integral to

"When you don't know your funding sources until late in the year, it is hard for districts to make change. It seems like every year we don't know our budget until July, so it's very difficult for the board of education or city to support a district budget that has new initiatives included if they are not sure they are going to be able to fund current initiatives."

– Michael Grove, *Assistant Superintendent for Finance and Administration, Meriden Public Schools, Connecticut*

"One of the things that is really important to schools is stability. They want to understand – OK, I'm going to create a plan and I want to be able to be sure I can afford it for the next three, four or five years. I could create this great plan, but if my school is going to get cut, and it's going to get cut every year, then what kind of plan is that going to be?"

– Seth Racine, *former Deputy Superintendent, Lawrence Public Schools, Massachusetts*

creating coherence across a district and ensuring systemic school change models are implemented with fidelity.

3. Funding Must be Sufficient and Equitably Distributed

School finance systems must ensure all districts, regardless of student need and local wealth, are able to commit to strategic, systemic improvements. Districts must have sufficient resources available to implement systemic school change efforts. Sufficient funding does not necessarily mean districts require new revenue streams or that they require categorical grants to support one particular educational model. Rather, the primary means by which districts receive state and local funding must be sufficient to meet district needs and support both foundational services and new district initiatives.

This means that, due to differences in ability to raise revenue from local sources, higher-need and lower wealth districts generally require more state resources than lower need, higher-wealth districts to ensure they are able to implement school change efforts that are lasting and impact all students in a district. An equity metric within a state's funding formula must consider the ability of a town to pay for educating town students through local property and income wealth in determining how much state support the district requires.

Literature

Lafortune, Rothstein, and Schanzenbach (2017) note that school districts' tax bases vary widely, and, historically this has caused substantial variations in resource levels across districts.⁸⁷ Jackson, Johnson, and Perisco (2014) note that school funding reform efforts have been necessary because the earlier practice of funding education primarily through local property tax effort is inherently regressive, as communities with greater property values are able to raise greater funds to support their local schools than are localities with lower property values.⁸⁸ Statewide school funding reforms have often resulted in state resources being transferred to local districts based on local fiscal capacity or actual local revenues.⁸⁹ As of 2015, 28 states experienced state Supreme Court rulings that required state governments to create school finance systems intended to equalize funding between school districts.⁹⁰

There is mounting evidence that low-income students benefit from increased education spending due to state finance reform efforts. Recent research on state efforts to reform school finance systems to more equitably distribute resources has shown that increased district expenditures for low-income students are linked to improved student outcomes that last through adulthood.⁹¹ Candelaria and Shores (2015) found that in states that have undergone court-

ordered school finance reforms to increase equity in education funding, the highest-poverty students experience a significant jump in high school graduation rates.⁹² Hyman (2016) found that after Michigan's 1994 school finance reform, students exposed to 10 percent more funding were seven percent more likely to enroll in college and 11 percent more likely to earn a college degree.⁹³ Jackson, Johnson, and Persico (2016) found when low-income students experienced a 10 percent increase in per-pupil spending each year of grade school, the probability of their graduating high school increased by 9.8 percentage points, they completed an average of 0.46 additional years of education, achieved 9.6 percent higher wages in adulthood and 17.1 percent higher family income, and experienced a 6.1 percentage-point decrease in the incidence of poverty in adulthood. Jackson, et. al. also found no similar gains when spending was increased for children who were not from low-income families,⁹⁴ which underscores the needs for sufficient funding to support districts with higher-need students.

Equitable state funding is important to supporting systemic school change efforts because low-wealth districts often have greater need for state resources due to a lesser ability to raise revenue from local sources and higher numbers of students with additional learning needs. In order to strategically invest in whole-system changes, low-wealth, high-need districts must have sufficient resources available. Low-wealth districts are more likely to demonstrate lower student performance,⁹⁵ but research now indicates that increased funding is linked to improved outcomes for low-income students.⁹⁶

Themes from Structured Interviews

Two primary themes related to equitable funding emerged from structured interviews with district and school leaders. First, low-wealth^{vi} districts appear to depend more heavily on private aid and other time-limited grants to support activities associated with the implementation of systemic school change efforts that higher-income districts are often able to sustain within their general operating budgets. Additionally, low-wealth district leaders report the use of temporary grant funds to create

"It's the foundation dollars and influence that really are leading innovation. Targeted foundation dollars make it easy for the board of education to support [innovative practice], embrace it and cheerlead the effort, even in tough fiscal times. Foundations have encouraged us to try new things, to be innovative."

– Mark Benigni, Superintendent of Meriden Public Schools, Connecticut

^{vi} All participating districts had median household incomes lower than their state's median household income. However, the more pronounced the income gap between state and local median incomes, the more emphasis interviewees placed on the importance of private funds to support systemic change efforts.

new positions in districts, even though these leaders are aware these positions eventually must be absorbed into their general operating budget or be cut when grant funds end. District leaders in low-wealth districts expressed more frequently that the progress of their implementation would have been substantially impeded if it were not for time-limited grant funding.

“A funding system that makes us go ask poor people, who are already giving a lot of [property tax] money, to give even more money – it’s really tough, and you have to make tough choices.”

– John Freeman, Superintendent, Pittsfield Public Schools, New Hampshire

Second, districts that receive higher proportions of per-pupil revenue from state sources were likely to express that state-level fiscal challenges and political debates were a source of stress. District leaders from districts more dependent on state financial

support cited uncertainty about state funding levels as a barrier to implementing their systemic school change model as originally planned. In addition, superintendents in low-wealth districts expressed difficulty in securing local revenue increases in the face of state-level budget cuts.

4. Funding Must Consider the Learning Needs of Students

Research shows that students who live in households with indicators of low socioeconomic status (SES) have lower academic performance than their peers from homes with higher SES.⁹⁷ Students who require special education have specialized programs of study that require additional resources and are associated with additional costs. English Learners also require specific interventions that are associated with additional costs to districts.⁹⁸ Districts must be allotted additional resources to support students with these types of learning needs. Weighted student funding is the most prevalent way to fund schools based on students’ learning needs. It is a straightforward framework in which additional resources can be targeted to districts and schools serving higher-need students.

Literature

McCall, Hauser, Cronin, Kingsbury, and Houser (2006) found that living in a low-income household is linked to lower student achievement.⁹⁹ Reardon (2016) found that students who live in the most socioeconomically disadvantaged school districts have test scores four grade levels behind those living in the most socioeconomically advantaged districts.¹⁰⁰ Additionally, Reardon (2011) found that the disparity between the academic performance of low-income students and their peers, known as the income achievement gap, has grown nearly 40 percent over the last 30 years.¹⁰¹

There is a strong correlation between median household income in a district and the educational attainment of its students.¹⁰² In Connecticut, test scores in New Canaan, the school district with both the highest median income and highest academic performance in the state, are 4.4 grade levels ahead of those in Hartford (the district with the lowest median income) and 5.1 grade levels ahead of New Britain (the lowest performing district).¹⁰³ In Massachusetts, test scores in Sherborn, the district with the highest median income, are 4.4 grade levels ahead of those in Holyoke, the district with both the lowest median income and lowest academic performance.¹⁰⁴ In Rhode Island, test scores in Providence, the district with the lowest median income and the lowest academic performance in the state, are 3.8 grade levels behind East Greenwich (the district with the highest median income in the state) and 4.2 grade levels behind Barrington (the district with the highest academic performance and second highest median income in the state).¹⁰⁵

Curtis, Sinclair, and Malen (2014) argue that weighted student funding that funds students based on their learning needs, allows for greater resource equity.¹⁰⁶ Research has also shown that the use of weighted student funding in large districts results in more equitable distribution of resources among schools.¹⁰⁷ Chambers, Levin, and Shambaugh (2010) found the use of weighted student funding in California's San Francisco and Oakland school districts led to increased funding for middle and high schools serving higher numbers of students in poverty.¹⁰⁸ Miles and Roza (2006) found when weighted student funding was implemented in the city school districts of Houston and Cincinnati, the distribution of resources across schools in both districts became more equitable and responsive to student needs.¹⁰⁹ Likewise, Baker (2009) determined, after implementing weighted student funding, Houston and Cincinnati both had higher-levels of intradistrict equity than most comparable districts in their respective states.¹¹⁰

Themes from Structured Interviews

Leaders from larger, more diverse districts were more likely to discuss the learning needs of their students, both as a driver that caused them to make systemic educational changes and as a factor that complicated their efforts to implement their changes. Leaders from

"One of our equity indicators for our students is that there is a connection to at least one caring adult in [students'] lives who helps them achieve the goals that they have set out for themselves at all levels of the K-12 experience... we have many students, but not all students, who come to the classroom with some significant concerns."

– Deirdre Tavera, *Chief Communications & Partnerships Officer, Hartford Public Schools, Connecticut*

districts with high percentages of low-income students or English Learners cited student need as a factor that had slowed their progress. Likewise, these districts appeared more likely to include non-curricular student supports or programs of social-emotional learning as primary components of their educational programs.

"Vermont is a refugee resettlement zone, so over the past 20-25 years we have received waves of refugees and immigrants. And consequently, we have very, very rich diversity in both districts. In Burlington High School, we have over 50 different languages spoken... So, with that has come lots of challenges for teachers trying to pursue 21st century education goals with so many new arrivals and new Americans."

– Hal Colston, *Director, Partnership for Change, Burlington & Winooski, Vermont*

"The biggest, overarching goal has always been about equity. We have a student population with high concentrations of English Language Learners, [students with] disabilities, and poverty. And so, while Vermont has an incredibly equitable education system relative to the rest of the country, I would not say that Winooski students were getting the same experience as some of our wealthier towns and districts, prior to [implementing a program of student-centered learning]."

– Sean McMannon, *Superintendent, Winooski, VT*

In districts that had large populations of immigrants and refugees, student diversity was a primary driver of choosing a student-centered learning model that encourages a strengths-based mindset in determining how to meet challenges related to delivering a high-quality educational experience to diverse students with a wide array of native languages. Leaders in districts with highly diverse student bodies also focused on the importance of community engagement in the process of school change.

5. Funding Must be Provided to Support Innovation and Start-up Expenses

No matter how creative and strategic district and school leaders may be in resource allocation, any type of systemic school change effort usually requires a modest amount of funding to implement and accelerate the work.

Costs related to systemic school change efforts must eventually be absorbed into general operating expenses, but certain types of non-renewable expenses are common. These costs include activities related to capacity-building, community engagement, curriculum and/or competency design, expert consulting, space modifications, and technology purchases. Many districts rely on private foundations to support start-up efforts. However, not all districts are able to access private investment, and states should also support school change efforts.

Some states have provided resources to districts to support a specific type of educational change effort. These state grants are usually provided to support new statutory requirements for educational practices, such as the implementation of competency-based assessments and diplomas. For example, New Hampshire has provided limited funding and technical assistance to pilot districts to support work relating to the alignment of assessments to competency-based education,¹¹¹ and current state regulations required all districts to move to a competency-based diploma system by 2015.¹¹² Maine has provided a small amount of funding to districts in support of competency development after a similar requirement for districts to use competency-based diplomas was adopted.¹¹³ The State of Vermont shares the cost of tuition for enrollment in early college with school districts,¹¹⁴ as part of an initiative to increase state funding for postsecondary education to encourage Vermonters to live and work in Vermont.¹¹⁵ Rhode Island's Office of Innovation has created a Lighthouse Schools grant to three schools interested in taking personalized learning approaches to scale.¹¹⁶

Although specific funding streams to support specific state-led changes can be useful, in order to support a variety of systemic change models, states should examine what funding streams may be available to support district innovation to enact their strategic goals. Most districts that have used private grants to accelerate systemic change report a grant payment structure that spans three to six years, with larger investments in the earlier years that decrease as in-district capacity is built. This means a modest amount of state funding could support multiple districts in implementing and accelerating models of school change, by similarly structuring grants.

Literature

Miller, Roza, and Simburg (2014) discuss how categorical funding for programs or delivery models impede district and school leaders from making strategic choices in resource allocation. The authors also discuss how categorical grants are often created through legislative earmarks, which can influence what types of programs districts choose to offer, without allowing for fair comparisons of the efficacy of interventions.¹¹⁷

Chuong and Mead (2014) note that encouraging districts to make large-scale changes may require incentives, and recommend states institute innovation funds to support the implementation of student-centered learning. One example of this type of state investment is the Straight A Fund in Ohio.¹¹⁸ The Ohio Straight A Fund provides start-up funding to districts to implement educator-driven changes that promote academic achievement or economic efficiencies to transform the current educational system.¹¹⁹ Grant funding has been made available to any district that described the substantial value and lasting impact of the proposed project, an explanation of how the project would be self-sustaining, and a description of how results would be quantified.

Georgia has a similar program, called the Georgia Innovation Fund, which was established under the state's federal Race to the Top grant in 2011, with a stated purpose of dramatically advancing student achievement in Georgia. The fund has provided resources to support a variety of educational models that align with a focus on preparing students to graduate high school with 21st century skills. Between 2011 and 2016 the fund distributed \$31 million in state and federal funds to schools, districts, postsecondary institutions, and nonprofits. In fiscal year 2017, the fund supported 18 grants, totaling approximately \$3.7 million in annual support.¹²⁰

Themes from Structured Interviews

The most common non-renewable expenses cited by district leaders were related to capacity-building and professional learning to introduce and train teachers and staff in new instructional models. Other common non-renewable expenses were costs related to outside experts or consultants trained in the selected educational model, technology and devices, and increased salaries or stipends for teachers involved in extra-duty activities.

“When you are moving toward education reform in any realm, I really think it’s important that you keep in mind that you have to build the capacity of the stakeholders in that reform to do it on their own...Too many times, especially in urban areas, grants are given and people are hired to move a particular reform forward. . . and what happens is the grant goes away and so does the capacity of the district to implement [the reform].”

**– Fran Rabinowitz, Executive Director,
Connecticut Association of Public Schools
Superintendents, Former Superintendent,
Bridgeport Public Schools, Connecticut**

Most districts rely on time-limited, federal, or private grants to support their systemic school change work. Common federal sources of support were Race to the Top and School Improvement Grant funds. In some states, district leaders have leveraged other types of grants to support their strategic vision. In Connecticut, many district leaders interviewed cited Alliance District grant funds, which, since 2013, have provided

additional state equalization aid to the 30 lowest-performing districts in the state, as a funding stream they have leveraged to support components of their programs of student-centered learning.¹²¹

District leaders were also creative in accessing categorical state grants to fund portions of their programs of school change. For example, one district leader used funds provided by the state to purchase computers and other devices to implement new, computerized statewide assessments to move to one to one devices at a school to support student-centered learning. Another district leader used categorical state funding directed at after-school programming to supplement extended learning time for students.

“There are some grants that we don’t take. Sometimes you just have to say no, because the juice is not worth the squeeze ... You have to be more strategic about what money you do apply for or take, or what you end up with is this mission drift and a circus-like atmosphere where you are doing a million programs and not getting anything done.”

**– Jeffrey Riley, District Receiver,
Lawrence Public Schools,
Massachusetts**

"We will be funding three schools that have proven leadership around innovation. Over two years, each will receive \$200,000 of largely unrestricted funds. We're betting on schools and school leaders to leverage the funds to scale the innovative work they're already doing, because we know innovation is nothing if the new work can't be sustained."

– Daniela Fairchild, *Director of Education, Rhode Island Office of Innovation*

In some states, districts accessed streams of state funding made available to support components of specific learning models. However, district leaders tended to place lower emphasis on the utility of these types of resources than larger, more flexible funding streams. One district leader encouraged the practice of setting aside funds within the district budget dedicated to the implementation of the district's systemic change model, as this type of allocation can emphasize the importance of the effort to district stakeholders.

Conclusion

When developing a statewide school finance system that seeks to distribute state education dollars equitably and transparently, it is not only necessary to analyze financial and demographic data, it is also important to ensure resources are available to schools and districts to implement a variety of educational approaches, and that schools and districts have the resources they need to redefine and redesign classroom instruction to meet the needs of students in an ever-changing society.

Based on a literature review of topics related to systemic change, school finance, and student-centered learning, along with 20 structured interviews conducted with district leaders, school leaders, and state policymakers from Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont, five guiding principles have been identified for designing statewide school finance systems that will support systemic change at the district-level. These guiding principles include:

1. Funding Must be Flexible
2. Funding Must be Stable and Predictable
3. Funding Must be Sufficient and Equitably Distributed
4. Funding Must Consider the Learning Needs of Students
5. Funding Must be Provided to Support Innovation and Start-up Expenses

Taken together, these guiding principles provide an outline for states for designing school finance systems that support systemic change efforts and ensure resources are available for schools and districts to implement a variety of educational approaches to meet the needs of students today and in the future.

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