

Education Policy Analysis Archives/Archivos Analíticos de Políticas Educativas

ISSN: 1068-2341 epaa@alperin.ca Arizona State University Estados Unidos

Verstegen, Deborah A.

Public Education Finance Systems in the United States and Funding Policies for Populations with Special Educational Needs

Education Policy Analysis Archives/Archivos Analíticos de Políticas Educativas, vol. 19, enero, 2011, pp. 1-30

Arizona State University Arizona, Estados Unidos

Available in: http://www.redalyc.org/articulo.oa?id=275019735021



Complete issue

More information about this article

Journal's homepage in redalyc.org



Scientific Information System

Network of Scientific Journals from Latin America, the Caribbean, Spain and Portugal Non-profit academic project, developed under the open access initiative

education policy analysis archives

A peer-reviewed, independent, open access, multilingual journal



Arizona State University

Volume 19 Number 21

July 30th, 2011

ISSN 1068-2341

Public Education Finance Systems in the United States and Funding Policies for Populations with Special Educational Needs

Deborah A. Verstegen University of Nevada, Reno

Citation: Verstegen, D. A. (2011) Public education finance systems in the United States and funding policies for populations with special educational needs. *Education Policy Analysis Archives*, 19 (21). Retrieved [date], from http://epaa.asu.edu/ojs/article/view/769

Abstract: This research investigates state finance policies for public education using survey methodology. The purpose is to update previous work and the existing knowledge base in the field as well as to provide a compendium of finance and policy options that are used across the states to finance public elementary and secondary schools. Chief state school officers or their designee were queried; data were provided for all 50 states and posted on the web for verification. This article presents the findings together with crosscutting themes including major state apportionment policies for K-12, special student populations, capital outlay provisions and transportation funding. **Keywords:** finance; policy; schools; K-12; special populations; low income; special education; English learners; capital outlay.

Sistemas de financiamiento de la educación pública en los Estados Unidos y políticas de financiamiento para poblaciones con necesidades educativas especiales

Resumen: Este proyecto investiga las finanzas estatales para la educación pública usando una encuesta de opinión. El objetivo es actualizar estudios previos y presentar el estado actual sobre el campo, así como proveer un compendio de las opciones financieras y políticas que se utilizan en los

Manuscript received: 05/19/2010 Revisions received:12/28/2010 Accepted: 02/20/2011 distintos estados para financiar escuelas públicas en los niveles primarios y secundarios. Directores de los sistemas escolares estatales, o sus representantes fueron consultados, los datos fueron proporcionados por los 50 estados y se publicarán en sistema en línea para su confirmación. Este artículo presenta los resultados junto con temas relacionados, incluyendo las políticas de distribución de los principales estados de poblaciones de estudiantes con necesidades especiales, las estimaciones de gastos de capital y financiación del transporte del sistema K-12.

Palabras clave: finanzas; política; escuelas K-12; poblaciones con necesidades educativas especiales; bajos ingresos; estudiantes de inglés; gastos de capital.

Sistemas de financiamento da educação pública nos Estados Unidos e políticas de financiamento para populações com necessidade educativas especiais

Abstract: A presente pesquisa investiga as políticas estatais de finanças para a educação pública utilizando a metodologia da pesquisa de opinião. O objetivo é atualizar estudos anteriores e a base de conhecimento existente no campo, bem como fornecer um compêndio de possibilidades de finanças e políticas que são utilizadas nos diferentes estados para financiar as escolas públicas de ensino fundamental e médio. Os diretores das escolas do estado, ou seus representantes, foram consultados; os dados foram fornecidos por todos os 50 estados e postados no sistema online para confirmação. Este artigo apresenta os resultados juntamente com os temas transversais, incluindo políticas de distribuição dos principais estados para o K-12; populações de estudantes especiais, previsões de despesas de capital e financiamento de transporte.

Palavras-Chave: finanças; políticas; escolas; K-12; populações especiais; baixa renda; educação especial; estudantes de inglês; despesas de capital.

Introduction¹

Education is the largest share of state and local government budgets and a continuing concern of lawmakers, the courts, educators and the public. Yet, with limited exception, it has been over a decade since comprehensive information has been available on all fifty states related to state financing policies and programs for public elementary and secondary education. The most recent 50-state education finance survey was conducted by the National Center for Education Statistics in 1997-98 (Sielke, Dayton, Holmes, & Jefferson, 2001). Prior to that release, the Education Commission of the States developed and disseminated a 50-state finance survey in 1990 (Verstegen, 1990). Then, in 2009, Verstegen and Jordan released a "first look" at finance policies and programs in the fifty states for K-12 education (Verstegen & Jordan, 2009).

This research provides a reanalysis of the fifty-state survey data and updates previous work on apportionment policies and practices. It includes revised and comprehensive information on public K-12 education finance systems in the 50 states, with attention to funding policies for special

¹Revised paper, presented at the American Education Research Association Annual Meeting, Denver, CO, April 2010. The author wishes to thank the state officials for the information on school finance apportionment, and university professors or state agency personnel who filled the gaps. Appreciation is expressed to Paul Amador and Nicholas Barclay, graduate assistants, UNR, for formatting and reformatting the survey, and Teresa and Forbis Jordan for their role in the initial research effort.

² See also, http://www.nces.ed.gov/edfin/state

³ For a checklist of plans see: Editorial Projects in Education. *Quality Counts*, Education Week, January 6, 2005, p. 100-101.

⁴ See also, Verstegen, D. A. & Jordan, T. S. and Amador, P. URL<a href="http://example.com/http://example.

populations. First, the research literature on public finance theory is reviewed. Next, the study methodology and findings are presented and examined. The final section includes a discussion and suggestions for further research and practice.

The Evolution of Public Education Finances

Finance policies for public elementary and secondary education have changed little since their inception in the 1920s and 1930s. Prior to that time, local funding was the dominant approach to paying for schools; the evolution of state support for public schooling developed slowly.

Financing for schools had its genesis in the Massachusetts colony, in 1642. Legislation was passed by the colonial legislature that required "certain men of each town" to determine whether children were being taught "to read and understand the principles of religion and the capital laws of the country" (Alexander & Salmon, 1995, pp. 7-8). Later, in 1647, the law was strengthened, its purposes were clarified, and funding was ordered. The preamble to the legislation stated in its purpose, that "Ye Olde Satan Deluder" kept people ignorant of the scriptures, particularly those people that could not read. Therefore, wages would be provided for a teacher of reading and writing for every town of fifty or more; every town of one hundred or more was required to provide a grammar school under penalty for failure to do so (Alexander & Salmon, 1995; Brimley, Verstegen and Garfield, 2012).

By 1720, Connecticut, Maine, New Hampshire and Vermont enacted legislation similar to Massachusetts that established local public schools. In the central colonies of New York, Pennsylvania and New Jersey, churches established parochial schools with funding provided through fees or by assessments on parents, based on the number of children attending the school—these were referred to as rate bills. Private academies also were available in the South for parents with the means to pay for their child's education (Alexander & Salmon, 1995).

The federal government assisted localities in paying for schools by providing land grants under the *Northwest Ordinances* of 1785 and 1787, which were enacted to stimulate migration to the West and to foster education (Brimley, Verstegen, & Garfield, 2012). The Northwest Ordinances provided for a survey of Western lands into townships; each township consisted of 640 acres that was further subdivided into 36 sections of land; the sixteenth section was reserved for education. These education lands could be leased or rented with the proceeds used to support public schooling. The profits from land grants comprised a large part of school funding for the land-grant states until the 1900s (Brimley et al., 2012). The purpose of the Northwest Ordinance lives on today. It was that: "Religion, morality and knowledge being necessary to good government and the happiness of mankind, schools, and the means of education shall forever be encouraged." According to Alexander and Salmon, this "implied that education was a state responsibility and a vital aspect of a democratic form of government" (Alexander & Salmon, 1995, p. 8).

Local funding remained the dominant pattern of support for schools, however, before taxation became the accepted method of funding the schools by the mid-to-late 1800s, despite encouragement for state assistance by the nation's founders and other education leaders. For example, Thomas Jefferson proposed the first system of education at public expense in the *Bill for the General Diffusion of Knowledge* in Virginia (Wagoner, 2004). Although it was ultimately unsuccessful, universal public elementary and secondary education for all was championed because:

...worth and genius would thus have been sought out from every condition of life, and completely prepared by education for defeating the competition of wealth and birth for public trusts. (Cappon, 1971, p. 342)

Both Horace Mann, secretary of the Massachusetts State Board of Education in 1837, and his contemporary, Henry Barnard, chief state school officer in Rhode Island and Connecticut, were advocates for state supported, free, public schools. Yet, by 1890, all of the states in the Union had tax-supported public schools; "25 percent of them provided more than half of their public school funds from state sources and only 11 states provided less than 15 percent from state funding" (Brimley et al., 2012, p. 172). As late as the 1900s, public school finances derived only 17.2 percent overall from state sources (Brimley et al., 2012).

Ellwood Cubberley exposed the problems with local financing of public education in this classic work on school finance, *School Funds and Their Apportionment*, published in 1906. The *Preface* framed the essential issue, which is as relevant today as it was when the book first appeared:

One of the most important administrative problems of today is how properly to finance the school system of a state, as the question of sufficient revenue lies back of almost every other problem. (Cubberley, 1906, p. 3)

Cubberley examined the state finance practices at the time with attention to distribution schemes and found that fully three-fourths of the states' school finance structures were in need of reform. Cubberley pointed out that states often considered increasing funding but not necessarily how to distribute it "to secure the best results" which resulted in large inequalities. In addition, he pointed to an essential problem: while the states imposed uniform demands for education, cities and towns had unequal abilities to meet them. He stated, "...what is a slight effort for one community is an average load for another and an excessive burden for a third" (Cubberley, 1906, p. 201). His conclusion was that "direct state apportions to poor counties" were needed to "equalize educational advantages" (Cubberley, 1906, p. 203). For rural areas, Cubberley proposed funding based on the number of teachers needed rather than total students. He also championed incentives to encourage local effort (taxation) beyond a required minimum but this would eventually prove to be disequalizing. Cubberley's philosophy of public education finance is encapsulated in this statement:

The duty of the state is to secure for all as high a minimum of good instruction as is possible, but not to reduce all to this minimum; to equalize the advantages to all as nearly as can be done with the resources at hand.... (Cubberley, 1906, p. 17)

Despite Cubberley's seminal contribution to education finance theory, according to scholars, modern school finance had its "origin" in the work of George D. Strayer and Robert M. Haig (Brimley et al., 2012). From their work on the Educational Finance Inquiry Commission on New York Schools in 1923 and intensive studies of state finance systems, they identified deficiencies found in state finance systems, many built on Cubberley's philosophy. What emerged was Strayer and Haig's *Foundation* Program concept, envisioned to equalize educational opportunity for all students. The foundation program contained several features:

- 1. A funding amount needed to meet a basic, minimum education—the foundation--was determined by the state.
- 2. Localities contributed to this amount with a uniform tax effort.
- 3. At the set rate, wealthy districts (with high property values) raised more funds and poor districts raised less. The state made up the difference from state revenue but only up to a point—the foundation level.

- 4. The local effort required under the plan was set at the tax rate needed in the wealthiest district to raise the total amount needed to fund the program. The wealthiest district (i.e. the key district) would receive no state funds.
- 5. Districts could exceed the foundation program through local tax-levy increases unmatched by the state.

Later, Paul Mort, working with Strayer and Haig at Columbia University in New York, examined the foundation concept at a time that states were experimenting with it and a number of interpretations were found in practice. Mort found Cubberley's focus on Reward for Effort incompatible with the equalization concept and like others in states that were studying finance concepts and practices at the time, questioned whether surplus funding should be taken from the wealthy districts to achieve equalization. Mort and others advocated what is referred to as a two-tiered finance system today. It provides a foundation program for all districts but includes equalized, state matching funding for additional local taxes levied above the foundation amount generally using a district power equalizing approach (i.e. state funding is scaled to local aid amounts and inversely to wealth). Mort is best known for showing that education costs differ for students at different levels of the education system such as those in elementary versus secondary schools. He suggested weighting the foundation funding amount to accommodate these cost differences—a concept that is prominent today in funding students with special needs but higher than average costs.

Two other pioneers of finance theory and practice were also active around the time of Strayer, Haig and Mort, although their work was not popular in their own time. They were Harland Updegraff and Henry Morrison. Their work remains relevant to the current climate of education finance with its focus on more state funding, and two-tiered programs that incorporate district power equalization as a second step in the design (Brimley et al., 2012).

In a striking departure from funding systems designed by early finance theorists, Henry Morrison developed a fully funded state finance plan in the 1900s but it received little attention. He reasoned that local school districts generated inequalities through their organizational structure and theorized that by eliminating local districts so that the state became a single, organizational unit, both tax burdens and opportunities would be equalized. The almost complete failure of his vision of full state funding was due to the lack of "a philosophy of local control," according to Brimley et al. (2012, p. 174).

Harlan Updegraff developed a theory that combined reward for effort and equalization, in 1922, called district power equalizing. Like Strayer and Haig, Updegraff worked in New York State but did not achieve widespread popularity until nearly five decades later, when experts in court cases on finance equity, particularly *Serrano v. Priest* in California (1971), advanced his theories. In *Serrano*, in advance of finding the state foundation system unconstitutional, the court queried expert witnesses on permissible finance systems that met the stipulations of the law. Coons, Clune and Sugarman, suggested district power equalization (DPE), which was given strong support by the court (Minorini & Sugarman, 1999).

DPE finance systems provide equal yield (state and local funding) for equal effort (tax rates). Decision choices and policy options about how much to tax and what to spend, shift from the state to the local school district. Local choices are matched and equalized by the state. Wisconsin, Michigan, New York, Maryland, and other states initiated similar plans in the school finance reform era of the 1970s (Brimley et al., 2012).

Following *Serrano*, the U.S. Supreme court decision in *San Antonio v. Rodriguez* (1973), upheld the Texas funding system under a fourteenth amendment challenge. The court found it was 'chaotic and unjust' but that the 'solutions must come from the [state] lawmakers and the democratic citizens

who elect them'. Reformers turned to state courts and the Serrano philosophy. A flurry of activity ensued, resulting in the 1970s being dubbed the school finance reform era. By the end of decade, Sparkman notes, the results were mixed. High court decisions in seven states found state finance systems unconstitutional; in 15 states, they were upheld (Sparkman, 1990).⁵

Then in 1983, a *Nation at Risk* was released warning of a 'rising tide of mediocrity in our nation's schools that threatens our very future as a Nation and as a people' (p. 1). Almost overnight, a focus on general education reform eclipsed school finance reform, and attention turned to goals, standards, curriculums, assessments, accountability, and pedagogy—almost everything except finance. There was a current running through the national debate alleging that money did not matter.

Finance research turned to the relationship between resources and student outcomes; state finance policy work halted. After study upon study, it eventually became clear: quality teachers mattered, class sizes mattered, early childhood programs mattered. Because these resources cost money, money mattered (Verstegen & King, 1998). Then, at the end of the 1980s, five state Supreme Court finance decisions burst on the scene--with four decisions finding the state finance system unconstitutional. These pivotal judicial rulings were a marked departure from the past, with their focus on adequacy, and on not just dollars but what dollars buy. Subsequently, attention to adequacy overshadowed other concerns in public education finance (Verstegen, 2004a, 2004b, 2008). Apportionment schemes were largely a neglected area of scholarship and national dialogue.

Despite the time that has passed since the initial theorists conceived of school apportionment schemes that would provide equal opportunities for all children and youths to obtain a minimum education, progress has been slow in achieving equity and adequacy, and no major theory has emerged in the intervening time period of time. Attention to niche areas has sporadically emerged. Funding for special populations has received some attention and support after the federal government passed programs or reauthorized them for low-income students, bilingual education and special education (Brimley et al., 2012). Public charter schools and choice initiatives have captured attention from time to time. The federal *No Child Left Behind Act*, focused on accountability in exchange for federal aid, has been the target of attention and debate.

In 1998, the U.S. Department of Education released state-by-state descriptions of K-12 finance policies (Sielke et al., 2001). This provided important information on apportionment policies, however, no crosscutting themes or tabular information was provided. Thus, with limited exception, it has been over a decade since comprehensive information on all fifty states has been available. This research addresses this gap, by providing the findings from a 50- state survey on finance policies and programs including cross cutting themes and state comparison tables on several key dimensions of state finance policy including funding for special populations.

Method

How are school funds currently apportioned by the states to local school districts? To what extent do states augment major apportionment schemes to provide assistance for students and districts with special needs or higher costs? What other elements of state policy support public education and equal educational opportunity?

⁵ For a review of recent cases see: Verstegen, D. A. (2004). Towards a Theory of Adequacy: The Continuing Saga of Equal Educational Opportunity in the Context of State Constitutional Challenges to School Finance Systems. *Saint Louis Public Law Review*, 23, 499-530.

⁶ See http://www.nces.ed.gov/edfin/state

To determine the current state of education finance systems, a survey was developed and sent electronically and by mail to the chief state education officer or their designee in each of the fifty states. It requested information on state finances for public elementary and secondary schools during FY 2007. The finance survey consisted of four parts. The first section sought information on the major state finance formula used in allocating education funding to local school districts within the state. In the second section, information was requested on particular district funding components such as density and/or sparsity of small schools, instructional or unit weights for grade level differences, declining enrollment or growth, capital outlay and/or debt service and transportation. The third section requested information on funding for student-based components, such as funding for special education, compensatory education, English Language Learners/Bilingual education, gifted and talented funding, and other program areas, such as vocational education, school nurses and technology coordinators. In section four, questions related to revenue and expenditure information were posed, including state mandates restricting revenue or expenditure increases, property assessment ratios used and legal standards for property assessment, the measure of local ability to support schools, school district budget and tax rate procedures/sources of local revenue and state support for nonpublic schools.

Standard procedures were utilized for collecting and analyzing information, including the following. After the initial survey was developed it was sent electronically and by ground mail to the chief state school officer in each state. Several written follow-up requests for data from nonresponders followed with additional phone communications to clarify information. This eventually resulted in full survey information for all but four states. University professors or state association personnel filled these gaps and completed the survey for the missing states. Based on the completed information, state finance policies and programs were described for all fifty states, written into a common format, and posted via a website at the University of Nevada for final review and verification by state department of education officials and chief school financial officers. Based on the feedback received, additional changes and corrections were incorporated into the final version of the fifty state surveys. The final survey information was then printed and posted on the web: Volume I: State-by-State Descriptions (Verstegen & Jordan, 2008), and Volume II: Finance Formulae and Cost Differentials (Verstegen, Jordan, & Amador, 2008). Then, crosscutting themes were developed and refined; initial findings were described and presented (Verstegen & Jordan, 2009). This generated additional feedback and queries from scholars and policy personnel across the states. A reanalysis of the data files ensued along with additional contacts and queries to agency personnel and experts in the field. This article presents these new findings and updates, along with a special review of weighted programs for special needs students--those receiving special education and related services, compensatory education/at-risk programs, and English Learners-due to the many inquires about these finance policies across the states. It also situates the survey findings in the context of state finance theory and practice and provides suggestions for further research.

Findings

The state surveys of finance policies and programs for public elementary and secondary education were informative although somewhat surprising. They are shown in Table 1, which includes a list of the major finance systems used by state, drawn from the survey data. As in the past, states provide funding to public elementary and secondary school districts within their borders using

⁷ For individual states, the authors were as follows: Virginia, Lisa G. Driscoll & Richard G. Salmon; Pennsylvania, William Hartman; Tennessee, Gary Peevley; and South Dakota, Brian Aust.

one of the four traditional finance formulae advanced by theorists in the early 1900s, including the following: 1) Foundation programs, 2) District Power Equalization Systems, 3) Full State Funding, and 4) Flat Grants. Additionally, several states have combined several formulae into Two-or Three-Tiered Systems. The apportionment scheme, state foundation school programs (FSP), was used by 38 states. When states employing a foundation program as part of a combination funding approach are added to states supporting education through these Strayer-Haig schemes, the total number of states using foundation formula to pay for elementary and secondary education rises beyond a supermajority to 45 states. Recently New York, Indiana and Michigan shifted to a foundation program for funding public education. Clearly this is the program of choice for states allocating funding to school districts within their borders.

Table 1
Major State Funding Formulae for Public Elementary and Secondary Schools

Finance System	State
Foundation Program (38)	AK, AL, AZ, AR, CA, DE, FL
	ID, IN, IA, KS, LA, ME, MA, MI
	MN, MS, MO, NE, NV, NH, NJ, NM, NY
	ND, OH, OR, PA, RI, SC, SD, TN, UT, VA
	WA, WV, WY
Full State Funding (1)	HI
Flat Grant (1)	NC
DPE (3)	CT,VT,WI
Combination / Tiered System (7)	GA, IL, KY, MD, MT, OK, TX

Foundation program allocation schemes support education through a set state guarantee per pupil or per teacher unit that historically was intended to pay for a basic or minimum education program. Localities contribute to this amount usually through a uniform tax rate or the funding that would result from it in local revenue sources, mainly the property tax base. With similar tax efforts, poor localities raise less funding and wealthy localities, more, due to variations in local property tax bases across school districts. The state makes up the difference in local funding up to the specified guarantee also referred to as the foundation amount. Usually localities can "go beyond' this amount with additional property taxes that are unmatched by the state. Of states employing this approach, Utah has a weighted foundation program with additional funds for sparse districts figured into weighted pupil counts, and a recapture mechanism for districts exceeding foundation-funding amounts. California uses a foundation program with the base amount referred to as a revenue limit. Each district receives its revenue limit from local property tax sources with balances made up by the state. However, each district's revenue limit is different based on historical factors. Property taxes are defined by Proposition 13 and collection and distribution of property tax revenues is the responsibility of counties, in a manner defined by the state legislature. In Tennessee, the BEP is a foundation program with the state setting an amount per student in funding to be distributed and then equalized based on a district's fiscal capacity. The latest rendition, BEP 2.0, adds additional poverty based funding determined by the percentage of students in the district receiving free and reduced price lunches. The new system established in New York is called a foundation formula but

it allows districts the choice of a percent equalizing aid ratio or a set tax rate and is therefore a hybrid.

Unlike Foundation Programs, District Power Equalizing Systems support taxpayer equity, rather than pupil equity, by providing equal yield in the form of equal funding for similar tax rates across the state. They consist of a Guaranteed Tax Base system, Guaranteed Yield approach and Percentage Equalizing Formulae (Alexander & Salmon, 1995; Brimley et al, 2012). These finance systems are quickly becoming obsolete. Only three states reported using a district power equalization approach, including Vermont (Guaranteed Yield), Wisconsin (three-tiered Guaranteed Tax Base) and Connecticut (Percentage Equalization). These finance systems shift decision choices and policy options for taxing and spending for public schools from the state to the locality. The local district determines spending and taxing levels and the state matches differences between what is raised locally and what is guaranteed. There are various levels of support based on local choices providing taxpayer equity across the state. For example, the Guaranteed Yield system in Vermont has a base of \$8,210 at a tax rate of 8.7 mills. For every percent the voters add to this amount, the tax rate goes up 1% until double tax rates become operative above 125% of the average spending level. Under Wisconsin's three tiered Guaranteed Tax Base, the state makes up the difference in what is raised locally and what would have been raised under the tiered state guaranteed tax base. Guaranteed valuations differ for K-12, K-8 and Union High School Districts under a primary, secondary and tertiary guarantee (Wisconsin Legislative Fiscal Bureau, 2007).

Other major finance systems used by states include full funding or flat grants. Although local funds are not part of the finance plan under full state funding (FSF), flat grants permit local supplements that are not matched by the state. They were used by states as an initial means of assistance but have since been abandoned because they drive inequalities due to the excess, unmatched local leeway permitted. North Carolina reports a Flat Grant as the major state aid mechanism and Hawaii is the only state employing full state funding. Interestingly, seven states provide combination approaches: Georgia pays for schools through a combination Foundation and Guaranteed Yield formula, Illinois uses three finance formulae (Verstegen, 2007). It employs a foundation program as base and also uses an alternative method and flat grant funding when local resources exceed 93% or175% of the foundation level, respectively. In 2006-07 the foundation level was \$5,334 per pupil. In Kentucky, under SEEK (Support Education Excellence in Kentucky) funding is derived from a base foundation level with an optional two tiers of supplementation under a DPE. Under Tier I, school district can levy an equivalent tax rate which will raise revenue up to 15% above the adjusted SEEK base. The local effort is equalized at 150% of the statewide average per pupil assessed property valuation. Tier II allows additional levies to produce up to 30% above the adjusted SEEK base plus Tier I, but is not matched by the state. Montana has a combination Foundation and Guaranteed Tax Base program; and Texas employs a two-tiered system comprised of a Foundation System and Guaranteed Yield Program.

For the purposes of this research, Pennsylvania was classified as a foundation program based on historical information. Since about 1991, it has provided: 1) a hold harmless for what each district received the previous year (usually about 96-97% of the total state funding for regular education). 2) A series of about 4 to 8+ supplements based on a changing set of priorities each year (e.g. low income, high taxes, poverty, growth, small district assistance, etc). 3) A minimum guarantee of generally 2% is provided if the district does not reach that amount through supplements. In addition, Rhode Island was also classified as a foundation program for the purposes of this research although some information indicates that the state operated without a formula at the time of the survey.

Cross-cutting themes

In reviewing the full gamut of state finance policies, it can be observed that there is a great deal of variation among major approaches despite the relative parsimony in their use. States provide different amounts of funding per child/teacher; count students for funding purposes in a variety of ways; and employ a variety of adjustments to their general funding system. For example, Connecticut supports a per pupil foundation level of \$5,891 (\$5,461), while Michigan pays \$7,108 (\$7,350), Massachusetts, has an average of \$8,425 (\$7,808) per student, New Jersey, \$7,913 (\$6,967), Nevada, \$5,122 (\$5,134), Minnesota, \$4,974 (\$5,176), and New Mexico, \$3,446 (\$3,499). Idaho provides \$25,436 (\$31,216) per Instructional Unit and North Carolina supports between \$28,510 (\$30,340) and \$57,330 (\$61,009) per instructional unit based on a statewide teacher salary schedule. However, these allotments are not as straightforward as they may appear. Variations in the cost of living or cost of education affect the purchasing power of the dollar across the states. Geographic cost adjustments based on a Comparative Wage Index are shown in parentheses above by state (Taylor, 2010). The effect of adjusting for cost differences is to slightly reduce the variation from 2.4 times more funding in Massachusetts compared with New Mexico, to 2.3 times more. Many other factors can influence funding including sparsity or density, scale and differences in geography. Also, funding per pupil amounts vary depending on whether they are based on the number of pupils in average daily membership (ADM), average daily attendance (ADA), enrollment (ENR), a weighted pupil count or some other measure. The state share of funds will vary inversely based on local wealth which usually consists of assessed values of property as in Nevada, or a combination of local tax bases, as in Virginia. The state is responsible for the difference between the guarantee and local aid. The local effort varies substantially across states and may or may not be required and may or may not be fully matched. However, the funding apportionment scheme, itself, is comparable across states although it includes variation in implementation and specifics.

Another key issue related to funding formulae and the amount of funds provided per child is whether or not that amount is sufficient to teach all children to state standards, laws and requirements (Verstegen, 2002). This is the adequacy issue that has achieved so much attention recently. Interestingly, Maine's foundation program specifically mentions that it is "adequacy" based formula—an improvement on past systems where the amount of the major equalizing grant was based more on politics or residual budgeting than on a rational basis anchored in research. Maine's Essential Programs and Services funding formula uses cost analysis to establish the amount, level and costs of education components needed in each school to ensure all students have equitable opportunities to achieve proficiency on learning standards. Mississisppi uses data from schools that are considered to be successful and efficient to determine base student allocations, i.e. foundation amounts. Missouri develops an "adequacy target" based on several factors including the average current expenditures of districts meeting all performance standards established by the Missouri State Board of Education.

While few state finance systems are simple and transparent, a goal in education finance policy, Indiana's finance formula appears to be the most complex of the 50-states, as it relies on various calculations and information from several previous years to determine guarantees and funding levels. In fact, the basic grant for each school corporation or charter school in Indiana is calculated using what is referred to as the "complexity index" resulting in various levels of funding.

Special Student Funding Allocations

⁸ Figures are adjusted using the Comparable Wage Index developed by Lori Taylor, Texas A & M University. This index reflects the state salary costs of college-educated, full-time workers in fields other than education. It "reflects the labor market in which school districts compete for talent." *EDSource* (September 2010).

States also provide district and student adjustments to the basic support guarantee to acknowledge cost pressures beyond the control of the district (Anthony & Jacobson, 1992). For districts, these cost pressures include size, geography, the cost of doing business and special student needs. Students in poverty (as a proxy for students at-risk of dropping out of school), students with limited English proficiency or students with disabilities require additional funding to meet state standards, laws and goals. Provisions to increase funds for justifiably higher costs than the foundation amount can be included in the major finance grant through weights or can be added to that amount as a separate provision outside the major finance formula. Recently Tennessee and Hawaii added provisions to their finance system for high cost students. Utah uses a weight pupil count in the foundation formula. An overall question in this regard is whether the amounts expended for high costs students are adequate and the interplay of funding streams when students fall into several high-cost categories.

Table 2 lists funding mechanisms states use to pay for students receiving special education and related services. These funds are supplemented by federal aid under the Individuals with Disabilities Education Act (IDEA). Currently, all but one state reports providing state aid for special education although apportionment systems vary. Generally, states pay for special education programs and services using one of four major methods: 1) per pupil funding, either pupil weighted systems or a flat grant, 2) cost reimbursement, 3) instructional/teacher units, and 4) census. States may also provide funding through intermediate units rather than directly to the LEA (local education agency) as is the case in Colorado, New York and Wisconsin.

Currently 21 states provide per pupil funding for special education through weights that recognize the excess cost of the special education programs and service beyond the regular education program amount. For example, if special education costs 90% of general education, the weight would be .90 (Parrish & Verstegen, 1994; Verstegen, 1994, 1995). With general education costs included (1.0), the student would be weighted at 1.90 and generate 1.9 times the foundation amount/state guarantee. States may set limits on the percent of students funded under weighted systems and can include multiple or single weights for different categories such as special education. When states use weights to fund special education, as general funding increases, so does special education funding.

Weights vary by state. As shown in Table 3, Oklahoma has 12 categories of weights based on a student's disability; Texas has nine weights based on instructional arrangements (e.g. resource room, self-contained) and one weight for "mainstreamed students." Delaware and Kentucky have three broad weighted categories based on exceptionality, while Hawaii uses four broad weighted categories based on needed support levels.

New Mexico has four categories based on service needs; Tennessee includes multiple categories referred to as "options". Florida uses a new method also based on service needs and costs entitled, Exceptional Student Education Matrix of Services (www.fldoe.org/ese/pdf/matrixnv.pdf). Matrices are completed by checking all the services that will be provided to the student consistent with the student's IEP (individual education program). Then students are placed into one of five support levels. About 60%, 25% and 10% of students are in levels 1, 2, 3, respectively, which do not receive additional funds beyond grade-level weights; support levels 4 and 5 generate a weight of 3.734 and 5.201 and include about 5% to 6% of all students. Several states use a single weight to fund special education programs (Maryland, Oregon, Utah, West Virginia), or several methods of support.

A question of interest is how students are supported when they are integrated into the general education classroom and whether additional funding weights follow students to the place services are received. Texas, for example, provides a specific weight for mainstreamed students. As weights provide a uniform amount of funding per child they do not provide incentives for efficiency

because all students receive funding regardless of cost economies. A problem is the designation of a uniform cost for all students within a weighted category although their program, and therefore costs, may vary. However, a strength of weighting is that the amount of funding increases as the basic grant amount increases, without a special allocation change or legislative stipulation.

Table 2
Allocation Mechanisms for Special Education

Allocation	State
Per Pupil/ Weighting (21)	AZ, FL, GA, HI, IA, KY, LA, MD, MO, NJ
	NM, NY, OH, OK, OR, SC, TN, TX, UT
	WA, WV
Cost Reimbursement (10)	AR, IN, ME, MI, MN, NE, NH, VT,WI, WY
Unit (6)	DE, ID, KS, MS, NV, VA
Census (5)	AL, CA, MA, NC, PA
Other (14)	AL, AK, AZ, CA, CO, CT, IL, MA
	MT, NH, ND, OR, SD, WA

States also use cost reimbursement methods to support special education. These methods usually define eligible cost categories and the percentage of these costs that will be reimbursed by the state. Ten states currently use this approach. Additionally, five states use instructional unit approaches that pay for teachers based on the number of students served. A new category of interest is census based funding, which provides costs based on the total number of students in the school district. It provides funding based on the overall number of total students in a school district not on the basis of the count of students with disabilities. Thus, this model provides no fiscal incentives for classification yet provides funding for services to students in need.

Other approaches to pay for special education are also evident in the survey data. Alaska provides a block grant that funds special student programs, including vocational education, gifted and talented, and bicultural/bilingual. Arkansas is the only state that directly discusses adequacy in relation to special education funding—an area of interest across the country which also includes funding for low-income students and English Language Learners (ELL).

Table 3
States Using a Form of Pupil Weighting for Special Education

State	Category	Student Weight
Arizona	Kindergarten	1.352
	Hearing Impairment	4.771
	K-3	0.060
	English Language Learners (ELL)	0.115
	MD-R, A-R, and SMR-R (2)	6.024
	MD-SC, A-SC and SMR-SC (3)	5.833
	Multiple Disabilities Severe Sensory Impairment	7.947
	Orthopedic Impairment (Resource)	3.158

	Orthopedic Impairment (Self C	Contained)	6.773
	Preschool-Severe Delayed	,	3.595
	ED, MIMR, SLD, SLI, & OHI	(4)	0.003
	Emotionally Disabled (Private)		4.822
	Moderate Mental Retardation		4.421
	Visual Impairment		4.806
Florida	Grades PK-3 Basic	\$4,120.97	(\$3,981.61 x 1.305)
	Grades 4-8 Basic	\$3,981.61	(\$3,981.61 x 1.000)
	Grades 9-12 Basic	\$4,331.99	(\$3,981.61 x 1.088)
	Support Level 4 (254)	\$14,867.33	(\$3,981.61 x 3.734)
	Support Level 5 (255)	\$20,708.35	(\$3,981.61 x 5.201)
Georgia	Six weighted categories over th		2.3803 to 5.7655
Hawaii	Intermittent support	O	
	Targeted support		
	Sustained support		
	Intensive support		
Iowa	Resource teaching program, sp	ecial class with	1.72
	integration, supplemental assist		
	or part of instructional progran	n in the general	
	education curriculum.		
	Self-contained special class with	_	
	limited participation in the gene		2.21
	Education curriculum with nor		
	Self-contained special class. Pu	-	3.74
	educational needs who are severely handicapped		
	and special education instruction provided on a full-time basis	onai program	
Kentucky	Speech Language disability		0.24
remacky	Orthopedically Impaired		1.17
	Other Health Impaired		1.17
	Specific Learning Disability		1.17
	Developmentally Delayed		1.17
	Mild Mental Disability		1.17
	Hearing Impaired		2.35
	Visually Impaired		2.35
	Emotional Behavior Disability		2.35
	Deaf Blind		2.35
	Multiple Disabilities		2.35
	Autism		2.35
	Traumatic Brain Injury		2.35
	Functional Mental Disability		2.35
	•		

Louisiana	Special Education Students	
	Other Exceptionalities	1.50
	Gifted and Talented	0.60
Maryland	Special Education	0.74
•	Students greater than 300% of excess cost	0.80
	Excess Special Education students in a district that	
Missouri	exceed the threshold of 14.9%	0.75
	Tier I pupils- occupational therapy, physical	
New Jersey	therapy, speech and counseling.	\$310 per pupil
	<u>Tier II pupils</u> are residents in the district not	\$2.260 ····································
	receiving Tier IV intensive services and	\$3,260 per pupil
	meeting the criteria for specific learning disability or perceptually impaired,	
	traumatic brain injury or neurologically impaired,	
	cognitive impairment, mild or educable mentally	
	retarded and preschool disabled and some	
	vocational programs	
	<u>Tier III</u> pupils are residents in the district not	
	receiving Tier IV intensive services meeting the	\$5,975 per pupil
	criteria for cognitive impairment-moderate or	
	trainable mentally retarded, orthopedically	
	impaired, auditory impaired, communication	
	impaired, emotionally disturbed, multiply	
	disabled, other health impaired or chronically ill,	
	and visually impaired	
	<u>Tier IV</u> pupils are the number of pupils classified as eligible for special education resident in the	\$13,037 per pupil
	district and receiving intensive services.	\$15,057 per pupir
	<u>Class A Programs</u> : specially trained teacher travels	
New Mexico	to assist teachers, students and gifted on a	0.7
	Part-time basis **	
	Class B Programs: specially trained teacher	0.7
	operated a resource room and assists gifted.**	
	Class C Programs: special classroom instruction for	
	moderately handicapped and gifted	1.0
	Class D Programs: full-time special classroom	2.0
	instruction for severely handicapped students and	
	aged three-and four-year old handicapped.	
	Pupils with handicapped conditions in special class	
New York	or school day 60% or more in either public	1.65
	school or BOCES Program.	
	Pupils with handicapping conditions in special class	
	20% or more of the school week or	0.90
	receiving consultant teacher services a minimum	

	of 2 hours per week.	
Ohio	Special education students are funded through the formula	
	based on weights according to special education categories.	
Oklahoma	Vision Impaired	3.80
	Learning Disabilities	0.40
	Hearing Impaired	2.90
	Mentally Retarded: Educable Mentally handicapped	1.30
	and Trainable Mentally Handicapped	
	Emotionally disturbed	2.50
	Multiple handicapped	2.40
	Physically handicapped	1.20
	Speech Impaired	0.05
	Deaf and Blind	3.80
	Special Education summer program	1.20
	Autism	2.40
	Traumatic Brain Injury	2.40
Oregon	Students with disabilities	0.50
	High Cost Disability Grant- Annual IEP cost would exceed \$30,000	
South Carolina	Educable mentally handicapped	1.74
	Learning disabilities	1.74
	Trainable mentally handicapped*	2.04
	Emotionally handicapped	2.04
	Orthopedically handicapped	2.04
	Visually handicapped	2.57
	Hearing handicapped	2.57
	Speech handicapped	1.90
	Homebound pupils	2.10
	Autism	2.57
Tennessee	Option 1	0.91
	Option 2	0.73
	Option 3	0.46
	Option 4	0.25
	Option 5	0.15
	Option 6	0.2
	Option 7	0.1
	Option 8	0.6
	Option 9	0
	Option 10	0.1
Texas	Homebound	5.0
	Hospital class	3.0

	Speech therapy	5.0
	Resource room	3.0
	Self-contained, mild and moderate, regular	
	campus	3.0
	Self-contained, severe, regular campus	3.0
	Off home campus	2.7
	Non-public day school	1.7
	Vocational adjustment class	2.3
	(Above categories based on FTES)	
	Mainstream students (Based on ADA)	1.1
Utah	Weights Vary	
Washington	Special education students age 0-5	1.15
	Special education students age K-21	0.9309
West Virginia	Special education students	2.0

Note: * Includes Profoundly Mentally Handicapped, ** Weighted classroom units

In addition to basic funding approaches for special education, several states also have a second or "other" means of funding extraordinarily high-cost, exceptional students. This is an important finding and shows that the states are acknowledging and assisting localities in meeting the extremely high costs of some special education students. Previously unfunded student needs were totally a local responsibility. For example, Alabama reports a "catastrophic" funding category for this purpose, Connecticut reports an Excess Cost Grant for extraordinary costs a school district may incur for special education students, defined as 4.5 times the prior year's average cost per pupil. Massachusetts has a "circuit breaker" that funds special education costs above 4 times the foundation budget at 75%; New Hampshire provides "catastrophic aid" at 100% of costs when these costs are 10 times the state average per pupil expenditure; it reimburses 80% of expenditures for special education that reach 3.5%-10% the state average.

Funding for Low Income Students and English Language Learners

States also report providing funding for low-income students and students with Limited English Proficiency. These state funding methods are shown in Table 4 by state. Most states use weighted approaches for these categories of need but eligibility requirements, whether the grant is inside or outside the major finance equalization grant, and other criterion for the receipt of aid, can vary widely. These formulae for low-income students may be used to target aid to a school district but then are available to redistribute at the school site based on particular needs such as remediation or low test scores. These state funds are supplemented by federal aid under Title I of the Elementary and Secondary Education Act also called the "No Child Left Behind Act". Table 5 lists state funding weights for these programs.

Currently 34 states fund students that are low income, a proxy for being at-risk of dropping out of school. Some states base funding directly on the number of students in need of remediation, rather than income status, which is a noticeable change from the past. When income is used, then participation in the federal free and/or reduced lunch program (F&R L) is the basis for determining eligibility. In Kentucky, the eligibility criterion is based on free lunch recipients; in Michigan it is free breakfast, lunch or milk pupils; in Nebraska a progressive percentage is multiplied by students qualified for free lunches/milk or children under 19 years of age living in a household with adjusted

gross income less than \$15,000, whichever is greater. In Iowa, eligibility is based partially on both free and reduced lunch count in addition to the budget enrollment of the school district. Texas supports students eligible for F&R lunch and pupils who are pregnant. New York provides state support for students who are at risk for not meeting learning standards. Likewise, South Carolina provides funding directly for students who fail to meet statewide standards in reading, writing and mathematics or who do not meet first-grade-readiness test standards. In Delaware, an Academic Excellence unit is provided for each 250 pupils.

Table 4
Financing for Low Income Students and English Language Learners

Program	Yes	No
Low Income/	AL, AZ, CA, CO, CT, DE, GA, HI,	AK, AR, FL, ID, KS
Compensatory	IL, IN, IA, KY, LA, ME, MD	MT, NV, NH, NM,
Yes (34)	MA, MI, MN, MS, MO, NE, NY	ND, OK, RI, SD
No (16)	NY, NC, OH, OR, PA, SC, TN	UT, WV, WY
	TX, VT, VA, WA, WI	
English Language	AL, AK, AZ, AR, CA, CT	CO, DE, GA, KY,
Learner	FL, HI, ID, IL, IN, IA, KS,	MS, MT, NV, OH,
Yes (37)	LA, ME, MD, MA, MI,	PA, SC, SD, VA, WV
No (13)	MN, MO, NE, NH, NJ, NM	
	NY, NC, ND, OK, OR, RI	
	TN, TX, UT, VT, WA, WI, WY	

There are sixteen states that do not provide funding for low-income students (compensatory education) or at -risk programs. Depending on the overall context of the funding allocation system and the supplemental manner in which the differentiated needs of students may be addressed, lack of formula funding may put school districts in a position of having to make false choices: either take funds from the general education program to pay for high cost students or ignore the special needs of these students altogether.

Table 5 shows weights state use to pay for low income students and/or remediation. Weights vary but range between 1.0 (an additional 100%) in Minnesota for free lunch recipients, to 5% in Mississippi. Most states provide about an additional 25% in funding for low-income students and target eligibility on either federal free or reduced price lunch status or both. Connecticut provides an additional 25%, Georgia, 31%, Hawaii, 10%, Louisiana, 19%, Maine, 20%, Michigan, 11.5%, Minnesota, 100% for free lunch recipients and 50% for reduced lunch recipients, Missouri, 25%, Oregon, 25%, South Carolina, 26%, Texas and Vermont, 25%.

Table 5
States Using a Form of Pupil Weighting for Compensatory Education/At Risk

State	Eligible	Weight
Alabama	F&RL + low test scores Per Pupil Rate (ELL + #Title I + Weighted	n/a
California	Concentration Factor)	n/a
Georgia	Students in remedial education programs	1.3073
	Students in alternative education programs	1.5938
Hawaii Iowa	F & RL F&RL grades 1-6 + Budget Enrollment	0.10 per pupil ≥25% Combined District Cost + ≤75% Modified Allowable Growth
Louisiana	F & RL	0.19
Maine	F & RL	1.20
	F & RL	0.50
Maryland Massachusetts	Per low-income pupil	
	Free breakfast, lunch or milk	\$2,285 to \$2,831 0.115
Michigan Minnesota	F & RL	Variable weighting 0.0 to 0.6, depending on concentration of F & RL-eligible pupils in the building.
Mississippi	Free lunch	0.05
Missouri	F & RL \geq 26.6%	0.25
Nebraska New Jersey New York	Which ever is greater- free lunch, or ≤19 years w/household income ≤ \$15,000 Free Lunch and Wealth At risk for not meeting state learning standards	Varies 0.05 - 0.30 Varies Sound Basic Education (SBE) Aid- 2006-07 aid = amount district received in 2005-06 + district's % of total 2005-06 statewide allocation * additional SBE allocation amount. Extraordinary Needs Aid- variety
North Carolina	Students scoring below grade level, State Test.	of factors in three tiers to determine aid. \$200 per pupil
Oklahoma	Those who participate in F & RL	0.25
	Students in Pregnant & Parenting Program	1.00
Oregon	Students in poverty	0.25
	Neglected and delinquent students	
	Students in foster care	0.25
6 1 6 1	Grade 1-12 pupils who fail to meet statewide	0.25
South Carolina	standards in reading, writing and math or who do not meet first grade readiness standards.	0.26 Compensatory 0.114 Remediation
Texas	F & RL	0.25
	Pupils who are pregnant (per FTE)	2.41
	Students age 6-17 from families receiving food	
Vermont	stamps	0.25
Washington	F & RL	≥ 0.40
		\$228.23 in 2007-08

Note: F & RL = (Federal) Free and Reduced Lunch Eligibility

Funding for English Language Learners

Survey findings highlight funding for English Language Learners. In a notable shift from previous practice, almost 4 of 5 states provide additional support for English Language Learners or Bilingual/ Bicultural education programs. While Delaware and Alaska include this category of need in block grants, most states provide assistance through weights. These are shown in Table 6. Wyoming provides a full-time teacher for every 100 English Language Learners (ELL). In Arizona, a weight of 11.5% is included in the basic state aid calculations whereas Florida reports funding for speakers of other languages at 1.275. The new weighted student Hawaii formula supports ELL students at 0.1885 or 18.5% of general education aid. Iowa provides another 22%, Maine, between 30-60% of funds depending on the number of children in the LEA, and Missouri supports Limited English Proficient students at 60% of Basic Aid when the count of students exceeds the state threshold, currently at 1.1% of the districts ADA. Nebraska (.25), Oregon (.50), Texas (.10) and Vermont (.20) also report additional weights for English Learners as part of the state formula.

Only four states provide no additional support for either compensatory education or English Language Learners. They are: Nevada, Montana, South Dakota, and West Virginia. This may be a promising area to consider for these states—additional state funding for ELL and low income students. It could assist in reforming the system and upgrading support for those who need it most. Other states should consider the level of funding and whether it is sufficient to meet needs.

Table 6
States Using a Form of Pupil Weighting for English Language Learners

State	Eligible	Weight
Alabama	Based on prior year ESL allocations	-
Alaska	Bilingual/bicultural education	Block funded
	Weight included in basic state aid	
Arizona	calculations	0.115
Arkansas	State aid appropriated for identified	\$195 per pupil
	English-language-learners in 2005-06 and	
	2006-07.	
California	Funding provided for instructional support and coordination of services for students	Total \$50,000,000
	enrolled in grades four through eight	
	identified as English learners.	
Colorado	N/A	
Connecticut	Eligible pupils in district / eligible pupils in	
	state. Limited to districts with schools	
	containing 20 or more students with same	
	dominant language other than English.	
Delaware	LEP funding is provided through the	
	Block grant and Pass Through Program	
	application process. English for Speakers of Other Languages	
Florida	program	1.275
Georgia	Students in ESOL program	2.5102
Hawaii	Funding per ELL student	0.1885
Idaho	\$5.29 million state wide for Limited-	\$290 per pupil
Tuarro	"	#270 per pupir

	English Proficient students. Grants to districts whose LEP students failed to meet adequate yearly progress in math or reading.	\$750,000
Illinois	275 projects to provide funds for LEP	
Indiana	Complexity Index includes LEP factor	
Iowa	Additional pupil FTE weight for LEP students Additional funding for a full-time bilingual	0.22
Kansas	students	\$1,705 per pupil
Louisiana	BESE supplemental allocation per Foreign Language Associate teacher, not to exceed 300 teachers in the program.	\$20,000 per teacher
Maine	Additional subsidies for all ESL children, based upon number of eligible children in each LEA.	1.30 - 1.60
Michigan	2007-2008 state appropriation for Bilingual Education. Funds are distributed on a per pupil basis.	Total \$2,800,000
Minnesota	LEP	\$700
	$LEP \ge 11.5$	Additional \$250
	For districts with less than 20 LEP, funding is based on 20 students.	
Missouri	If a district's $ELL \ge$ state threshold	0.60
	Adjustment for limited English proficiency	
Nebraska	students Students with a limited English proficiency	0.25
New Hampshire	Aid is dispensed to districts based on the	\$1,000 per pupil \$1,168 per pupil (FY 2001-02)
New Jersey	number of students enrolled in qualifying programs.	ψ1,100 per papir (1 1 2001 02)
New Mexico	Full-time equivalent pupils	0.50
New York	LEP counts reported by districts are multiplied by different ratios and dollar amounts to generate aid.	
North Carolina	Eligible LEAs/charter schools must have ≥ 20 students with limited English proficiency or ≥ 2.5% of the ADM of the LEA/charter school. Funding provided for	
North Dakota	≤ 10.6% of ADM. Appropriation for the 2005-2007 biennium to assist districts with students having difficulty speaking, reading, writing, and understanding English.	Total \$650,000
Oklahoma	Weighted in the equalizing formula	0.25

Oregon	Students served in programs for ELL	1.50
Rhode Island	Distribution is based on a district's proportion of limited English Proficiency students. Program funding is approximate.	Total \$31,700,000
Tennessee	Funding is generated in the Instructional Component of the Basic Education Program. State share = 70% State aid = 10% of adjusted allotment per	
Texas	pupil.	0.10
Utah	Distribution of funds: 71% proportional to Basic Program WPUs; 6% equally among all districts and charters; 23% proportional to ELLs.	
Vermont	English Language Learners	0.20
Washington	Bilingual education program funds are based on the headcount of pupils served.	\$845.66 per pupil in 2007-08
Wisconsin	Bilingual/Bicultural Education Aid is funded as categorical aid.	
VV 15CO115111	runded as categorical aid.	

Funding for Capital Outlay and Debt Service

State legislatures have enacted a variety of programs to pay for school buildings and other capital expenses. Table 7 lists funding mechanisms states use for capital outlay and debt service. In some states these funds are an integral part of the state's foundation program; others provide assistance on a project basis; and others use funding that ranges from grants, to assistance for districts in meeting their debt service obligations, to loans for approved projects. Permissible uses of funds vary and include additional classrooms, to schools for new students. Programs with broad coverage have increased over time, and the number with "no state program" for funding has decreased to 12 states.

The state supreme court decision on capital financing in Arizona (Roosevelt Elementary School District No.66 v. Bishop, 1994), called for state equalization of funding for school buildings. Lack of funding for school buildings is a major flaw in most state funding systems because, as one of the largest costs, facilities are locally supported without state assistance. This compromises equity and makes the quality of a child's school a happenstance of geography. The data show that only 10 states report including assistance for capital outlay as part of their major, finance-system grant, which is the main equalization mechanism for state funding. In Arizona, for example, districts are funded on a student count basis for capital expenditures. The dollar amounts vary from \$225.76 to \$272 for K-8 students and \$337 to \$339.09 for 9-12 students (including \$69.68 per student count for textbooks). In Alabama, capital funding is based on an amount per student equivalent to 1 mill of the local property tax. The most popular program for funding capital costs according to survey responses is based on grant approval from the state. In Vermont, for example, the state pays 30% of approved construction costs. In Alaska, the state reimburses municipalities up to 70% of debt service costs for pre-approved construction projects over \$25,000.

Two states provide aid to districts to assist in retiring bonded indebtedness; an additional six states share this cost with the district based on local ability to pay. Five states report guaranteeing bonds. In Virginia, the Virginia Public School Authority (VPSA) enables districts join together for construction purposes and to sell their bonds with full state backing which lowers interest rates.

Table 7

State Funding for Debt Service and Capital Outlay

Provision	State
Item in Funding Formula (10)	AZ, FL, MN, MS, NY
	OR, TN, TX, VA, WI
Debt Service Grants (2)	AR, KY
State Bond Guarantee (5)	MA, NC, TX, UT, VA
Equalized Debt Service Grants (6)	AL, MA, NJ, NY, TX, VT
Loan (4)	MN, NC, VA,VT
Approved Project Grants (14)	AK, CA, GA, HI, KY, MD
	MA,ME, OH, PA, SC, UT, VT, WY
Equalized Project Grants (10)	CT, DE, MN, MT, NH, NJ
	NM, NY, RI, WA
No State Funding (12)	CO, ID, IL, IN, LA, MI, MO,
	NE, NV, ND, SD, WV

Funding for Transportation

Table 8 shows states with funding for transportation. For reporting purposes, state methodologies for funding public school transportation programs have been placed into seven groups.

Table 8

State Funding for Transportation

Provision	State
In Funding Formula (10)	FL, IN, IA, MI, NH, OK, OR, SD
	TN, VW
Density Formula (9)	AZ, CO, KS, KY, ME, MN, MS, TX, VA
Equalized Reimbursement (3)	CT, NV, NY
Full Cost Reimbursement (5)	DE, HI, MA, NE, WY
Allowable Reimbursement (17)	AL, CA, GA, ID, IL, MD, MO, MT, NE,
	NM, NC, ND, OH, PA, SC, TN, UT
Per Pupil (5)	AK, NJ, VT, WA, WI
No State Funds/Not Applicable(4)	AR, IN, LA, RI

The funding approaches for transportation include: (1) a separate calculation, or part of a block grant, in the general state aid formula. (2) Density formulas based on bus route miles, pupils per bus route mile, or square miles in the school district. (3) Cost reimbursement formulas with a fiscal equalization feature to adjust the disbursement of funds to school districts. (4) Cost reimbursement formulas that pay the full cost to school districts, (5) Cost reimbursements that only reimburse the district for approved costs. (6)

Programs that pay a uniform amount for each transported pupil. There are also combination approaches. The most prevalent funding method was some form of cost reimbursement, used in two dozen states. Either the actual cost, fiscally equalized cost, or allowable costs were provided by states to pay for transportation expenses of school districts. In some states, such as Connecticut, transportation costs are shared with the school district based on local ability-to-pay e.g. wealth. Density formulae are used in 9 states. Kansas is illustrative. All districts transporting pupils living 2.5 miles or more from the school receive the state average cost per pupil based on linear formula that takes into account the cost per pupil of transportation, the density of the district per pupil transported, and the total square miles of the district. Interestingly, four states reported either no specific state funding for transportation or that state transportation funding is "not applicable". In Indiana, transportation is a local cost and receives no state funding.

Discussion

This comprehensive fifty-state survey of finance policies and programs provided information on state support for public elementary and secondary education. Survey information was received for all states from the chief state school officer or their designee. Several areas of interest were found in survey data. First, a Foundation Program is the finance formula of choice across the states. Moreover, when states using a foundation program as part of a combination approach are added to states that use a foundation approach as the chief vehicle to distribute funding to school districts within their borders, a total of 45 states were found to be using these approaches. Second, no new approaches to finance education were used by states. Finally, other finance formulae used by states include one of the four traditional methods of apportioning education aid. In addition to a foundation program, states are using power equalizing, flat grants or full state funding. Also there were several states that used a Tiered (combination) approach that consisted of two or more of these approaches, generally using the foundation program as a piece of the overall system.

In the past, foundation formulae supported a minimum, basic education with funding amounts set by the legislature. This may be changing, particularly in light of the focus on ambitious learning goals for all students and at all schools, and proficiency outcomes. Maine, for example, reported using an adequacy based foundation formula intended to provide sufficient funding for all children to reach state standards, laws or goals. In Missouri, a new formula provides funds based on student needs. It provides finances based on the average current expenditure per pupil in those districts meeting all performance standards established by the State Board of Education. In addition, the adequacy of the foundation amount remains a key area of interest to policymakers, scholars and others. It has been the focus of state finance court challenges since the landmark Rose v. Council for Better Education (1989, Ky) decision was handed down by the Kentucky Supreme Court. Rose called for an efficient public education, one that was uniform, unitary and adequate. Adequacy was defined in terms of high student outcomes. An area of interest is how states might best apportion finances to localities in support of high outcomes for all students, and how they might align funding to state standards and laws. Another area that is ripe for further work relates to the development of new theories and models of school finance to guide and drive equity and adequacy for all children and youths. International models may be of interest as well as new approaches to apportion funding emerging across the states.

Survey data showed that the states are modifying their funding systems to provide needed additional support for students and districts with special needs that require higher relative funding due to higher costs. All but one state reported additional state aid to pay for special education programs and services; this funding augments federal aid to education for this purpose under the *Individuals with Disabilities Education and Improvement Act* (IDEIA). Most states provide this assistance through weights.

However, new state level census-based approaches are also evident as reported by California. Census models are intended to provide cost controls and limit labeling of students. States are also using several mechanisms to pay for exceptional children and youth through provisions to meet extraordinary costs of special education programs and services and may combine this assistance with other special education formula such as weights or teacher units.

Additional funding for compensatory education or low-income students (a proxy for at-risk youth) is also being addressed across the states, as is funding for English Learners. Currently 34 states support programs for children at risk of failing or dropping out of school; 37 states provide assistance for English Language Learners. This is a notable departure from the past as states are recognizing the high costs and needs of students who come to school without functional literacy in the English language, which is the language of instruction. Only four states do not provide any additional assistance for either low income/at-risk students or English Learners.

In addition, in an era of accountability and the press for demonstrated improvement in student achievement, providing dollars based on the number of students performing below state benchmarks has emerged as a variable in compensatory education eligibility. The rationale is to provide schools that have large numbers of children who are struggling to meet state standards with additional resources for assistance, materials and supplies. It will be of interest to follow the impact of the use of these funds. How are they nested within other state incentives and disincentives for student outcomes? What happens when student performance improves? Will there be incentives sufficiently strong to counter the potential loss of funds? What other incentives are needed to realize equal opportunities for all students and provide encouragement for quality education systems?

The survey showed that there has been an increase in the number of states addressing capital outlay/debt service and transportation costs. Thirty-nine states currently provide support for capital outlay but a dozen states leave the costs of school buildings to localities. Others provide loans but not grants, or grants but not stable funding from the state. A key question is whether states that do not support funding for school buildings and equipment assist localities in other ways to pay for facilities and how that funding interacts with support for general maintenance and operations. More research is needed in this area. Another area of interest is the extent to which school buildings need replacement and repair and how these needs interact with local ability to pay for schools. What options for funding school buildings are available for struggling localities?

Twenty-four states report funding student transportation with the most prevalent type of assistance being some type of cost reimbursement. An important issue is how the downturn in the economy is affecting state and local assistance for public schools and how the education system is responding. Another question relates to the overall equity and adequacy of funding and how the Great Recession has affected it. A related area of concern is how has funding for special student populations been affected by the downturn in the economy?

Further, in-depth research is needed on single state finance systems. The level and distribution of funding for special needs students is another area of interest. Factors influencing district funding variations also cry out for more attention, such as sparsity factors and ways to adjust state guarantees for the high costs of urbanity. Work on a cost of education factor is also needed to provide information on how real costs vary within and across states. Whether finances are aligned to curriculum standards and assessments is another important question that needs attention, particularly as it relates to resource standards that would provide equal learning opportunities for all students.

It appears that the apparent neglect of finance policy research over the past several decades has created a large need for further research and development in this area including additional work on the apportionment of school funds and the multiple provisions included in state finance policy, including the major state grant. The search for the best model to use in funding education is a perennial concern and

interest. Finally, equity and adequacy studies continue to be of interest in finance policy along with the roles of federal, state and local governments in providing equal opportunities for quality education programs and services for all children and youths in the nation.

References

- Alexander, K., & Salmon, R.G. (1995). *Public School Finance*. Needham Heights, MA: Allyn & Bacon. Anthony, P., Jacobson, S. L., (Eds.). (1992). *Helping Students at Risk: What are the Educational and Financial Costs?* Newbury Park, CA: Corwin Press, Inc.
- Brimley, V., Verstegen, D. A., & Garfield, R. (2012). Financing Education in a Climate of Change. New York, NY: Pearson
- Cappon, L. J. (Ed.). (1971). The Adams-Jefferson Letters: The Complete Correspondence Between Thomas Jefferson and Abigail and John Adams. New York, NY: Simon & Schuster.
- Cubberley, E. P. (1906). School Funds and Their Apportionment. New York, NY: Teachers College.
- Minorini, P. A. & Sugarman, S. D. (1999). School finance litigation in the name of educational equity: Its evolution, impact, and future. In J. F. Ladd, R. Chalk, & J. S. Hansen (Eds.), *Equity and Adequacy in Education Finance: Issues and Perspectives* (pp. 34-71). Washington, D. C.: National Academy Press.
- National Commission on Excellence in Education. (1983). *A Nation at Risk*. Washington, D.C.: U. S. Department of Education.
- Odden, A. & Picus, L. (2008). School Finance: A Policy Perspective. New York, NY: McGraw Hill.
- Parrish, T. B., & Verstegen, D. A. (1994). Fiscal Provisions of the Individuals with Disabilities Education Act: Policy Issues and Alternatives. (Policy Paper No. 3). Palo Alto, CA: American Institutes for Research, Center for Special Education Finance.
- Quality Counts. (2005). Editorial projects in education. Education Week, January 6, 2005.
- Roosevelt Elementary School District No.66 v. Bishop, 877 P.2nd 806 (AZ., 1994).
- Rose v. Council for Better Educ. Inc. 790 S.W. 2d 186 (Ky, 1989)
- Salmon, R.G, et al. (1988). *Public School Finance Programs of the United States and Canada 1986-87*. Blacksburg, VA: American Education Finance Association and Virginia Polytechnic Institute and State University.
- San Antonio Independent School District v. Rodriguez, 411 U.S. 58 (1973).
- Serrano v. Priest, 96 Cal. Rptr. 601, 487 P.2d 1241 (Calif. 1971).
- Sielke, C. C., Dayton, J., Holmes, C.T.' & Jefferson, A. (Eds.). (2001). *Public School Finance Programs of the United States and Canada: 1998-99*. Washington, D.C.: National Center for Education Statistics, U.S. Department of Education.
- Sparkman, W. E. (1990). School finance challenges in state courts. In J. K. Underwood & D. A. Verstegen (Eds.), *The Impacts of Litigation and Legislation on Public School Finance* (pp. 193-224). New York: Harper & Row.
- Taylor, L. (2010) *Comparable Wage Index*. Texas A & M University. Retrieved from http://www.edsolurce.org/data-per-pupil-spend-compare-using-cwi.html.
- Verstegen, D A. (1990). School Finance at a Glance. Denver, CO: Education Commission of the States.
- Verstegen, D. A. (1994). Fiscal Provisions of the Individuals with Disabilities Education Act: Historical Overview. (Policy Paper No. 2). Palo Alto, CA: American Institutes for Research, Center for Special Education Finance.
- Verstegen, D. A. (1995). Consolidated Special Education Funding and Services: A Federal Perspective (Policy Paper Number 6). Palo Alto, CA: American Institutes for Research, Center for Special Education Finance.

- Verstegen, D. A. (2002). Financing adequacy: Towards new models of education finance that support standards-based reform. *Journal of Education Finance*, 27(3), 749-781.
- Verstegen, D. A. (2004a). Calculation of the cost of an adequate education in Kentucky using the professional judgment approach. *Education Policy Analysis Archives*, 12(8), 1-36. Retrieved from http://epaa.asu.edu/epaa/v12n8.
- Verstegen, D. A. (2004b). Towards a theory of adequacy: The continuing saga of equal educational opportunity in the context of state constitutional challenges to school finance systems. *Saint Louis Public Law Review*, 23, 499-530.
- Verstegen, D. A. (2007). Adequate Funding of Illinois Public Schools (Policy Research Brief). Retrieved from Department of Educational Organization and Leadership, College of Education, University of Illinois website: www.ed.uiuc.edu/eol/edadmin/OLearyChair.html
- Verstegen, D. A. (2008). Has adequacy been achieved? A study of finances and costs a decade after court ordered reform. In K. Alexander (Ed.), *Education and Economic Growth: Investment and Distribution of Financial Resources* (pp. 247-265). Cambridge, UK: Linton Books.
- Verstegen, D. A., & Jordan, T. S. (2009). A fifty-state survey of school finance policies and programs: An overview. *Journal of Education Finance*, 34(3), 212-230.
- Verstegen, D. A., & Jordan, T. S. (2008). A Quick Glance at School Finance: A 50 State Survey of School Finance Policies and Programs Vol. I: State by State Descriptions. Retrieved from http:schoolfinances.info, & http://education.unlv.edu/centers/ceps/study
- Verstegen, D. A, Jordan, T.S, & Amador, P. (2008) A Quick Glance at School Finance: A 50 State Survey of School Finance Policies and Programs. Vol.II: Finance Formulae and Cost Differentials. Retrieved from http://education.unlv.edu/centers/ceps/study
- Verstegen, D. A. & King, R. A. (1998). The relationship between school spending and student achievement: A review and analysis of 35 years of production-function research. *Journal of Education Finance*, 24, 243-262.
- Wagoner Jr., J. L. (2004) *Jefferson and Education*. Chapel Hill, NC: Thomas Jefferson Foundation. Wisconsin Legislative Fiscal Bureau (January, 2007). *State Aid to School Districts* (Informational Paper 27). Madison, WI: State Capitol.

About the Author Deborah A. Verstegen

University of Nevada, Reno

Email: dav3e@unr.edu

Deborah Verstegen is Professor of finance, policy and leadership in the College of Education at the University of Nevada, Reno. She earned the Ph.D. at the University of Wisconsin-Madison, where she was awarded the Alumni Achievement Award in 1997. She has written about 300 publications on finance and policy in education. In 2007 she held an endowed chair in Financial Management at the University of Illinois, Urbana-Champaign. She has served as editor of the *Journal of Education Finance*, as consultant to local, state and national organizations/governments, has twice been a member of the Board of Directors of the American Education Finance Association. She is currently on the Board of Advisors of the National Education Finance Conference and was named a Distinguished National Fellow in 2011. Her textbook, *Financing Education in a Climate of Change* (with Brimley and Garfield, 2012) has just been released by Pearson, Allyn-Bacon.

education policy analysis archives

Volume 19 Number 21 July 30th, 2011 ISSN 1068-2341

Readers are free to copy, display, and distribute this article, as long as the work is attributed to the author(s) and **Education Policy Analysis Archives**, it is distributed for non-commercial purposes only, and no alteration or transformation is made in the work. More details of this Creative Commons license are available at

http://creativecommons.org/licenses/by-nc-sa/3.0/. All other uses must be approved by the author(s) or **EPAA**. **EPAA** is published by the Mary Lou Fulton Institute and Graduate School of Education at Arizona State University Articles are indexed EBSCO Education Research Complete, DIALNET, <u>Directory of Open Access Journals</u>, ERIC, H.W. WILSON & Co, QUALIS – A 2 (CAPES, Brazil), SCOPUS, SOCOLAR-China.

Please contribute commentaries at http://epaa.info/wordpress/ and send errata notes to Gustavo E. Fischman@asu.edu

education policy analysis archives editorial board

Editor Gustavo E. Fischman (Arizona State University)
Associate Editors: David R. Garcia & Jeanne M. Powers (Arizona State University)

Jessica Allen University of Colorado, Boulder

Gary Anderson New York University

Michael W. Apple University of Wisconsin, Madison

Angela Arzubiaga Arizona State University

David C. Berliner Arizona State University

Robert Bickel Marshall University

Henry Braun Boston College

Eric Camburn University of Wisconsin, Madison

Wendy C. Chi* University of Colorado, Boulder

Casey Cobb University of Connecticut

Arnold Danzig Arizona State University

Antonia Darder University of Illinois, Urbana-Champaign

Linda Darling-Hammond Stanford University

Chad d'Entremont Strategies for Children

John Diamond Harvard University

Tara Donahue Learning Point Associates

Sherman Dorn University of South Florida

Christopher Joseph Frey Bowling Green State University

Melissa Lynn Freeman* Adams State College

Amy Garrett Dikkers University of Minnesota

Gene V Glass Arizona State University

Ronald Glass University of California, Santa Cruz

Harvey Goldstein Bristol University

Jacob P. K. Gross Indiana University

Eric M. Haas WestEd

Kimberly Joy Howard* University of Southern California

Aimee Howley Ohio University

Craig Howley Ohio University

Steve Klees University of Maryland

Jaekyung Lee SUNY Buffalo

Christopher Lubienski University of Illinois, Urbana-Champaign

Sarah Lubienski University of Illinois, Urbana-Champaign

Samuel R. Lucas University of California, Berkeley

Maria Martinez-Coslo University of Texas, Arlington

William Mathis University of Colorado, Boulder

Tristan McCowan Institute of Education, London

Heinrich Mintrop University of California, Berkeley

Michele S. Moses University of Colorado, Boulder

Julianne Moss University of Melbourne

Sharon Nichols University of Texas, San Antonio

Noga O'Connor University of Iowa

João Paraskveva University of Massachusetts, Dartmouth

Laurence Parker University of Illinois, Urbana-Champaign

Susan L. Robertson Bristol University

John Rogers University of California, Los Angeles

A. G. Rud Purdue University

Felicia C. Sanders The Pennsylvania State University

Janelle Scott University of California, Berkeley

Kimberly Scott Arizona State University

Dorothy Shipps Baruch College/CUNY

Maria Teresa Tatto Michigan State University

Larisa Warhol University of Connecticut

Cally Waite Social Science Research Council

John Weathers University of Colorado, Colorado Springs

Kevin Welner University of Colorado, Boulder

Ed Wiley University of Colorado, Boulder

Terrence G. Wiley Arizona State University

John Willinsky Stanford University

Kyo Yamashiro University of California, Los Angeles

* Members of the New Scholars Board

archivos analíticos de políticas educativas consejo editorial

Editor: **Gustavo E. Fischman** (Arizona State University)
Editores. Asociados **Alejandro Canales** (UNAM) y **Jesús Romero Morante** (Universidad de Cantabria)

- **Armando Alcántara Santuario** Instituto de Investigaciones sobre la Universidad y la Educación, UNAM México
- **Claudio Almonacid** Universidad Metropolitana de Ciencias de la Educación, Chile
- **Pilar Arnaiz Sánchez** Universidad de Murcia, España
- Xavier Besalú Costa Universitat de Girona, España Jose Joaquin Brunner Universidad Diego Portales, Chile
- Damián Canales Sánchez Instituto Nacional para la Evaluación de la Educación, México
- María Caridad García Universidad Católica del Norte, Chile
- Raimundo Cuesta Fernández IES Fray Luis de León, España
- Marco Antonio Delgado Fuentes Universidad Iberoamericana, México
- Inés Dussel FLACSO, Argentina
- **Rafael Feito Alonso** Universidad Complutense de Madrid, España
- Pedro Flores Crespo Universidad Iberoamericana, México
- **Verónica García Martínez** Universidad Juárez Autónoma de Tabasco, México
- Francisco F. García Pérez Universidad de Sevilla, España
- **Edna Luna Serrano** Universidad Autónoma de Baja California, México
- **Alma Maldonado** Departamento de Investigaciones Educativas, Centro de Investigación y de Estudios Avanzados, México
- **Alejandro Márquez Jiménez** Instituto de Investigaciones sobre la Universidad y la Educación, UNAM México
- **José Felipe Martínez Fernández** University of California Los Angeles, USA

- Fanni Muñoz Pontificia Universidad Católica de Perú
- **Imanol Ordorika** Instituto de Investigaciones Economicas – UNAM, México
- Maria Cristina Parra Sandoval Universidad de Zulia, Venezuela
- Miguel A. Pereyra Universidad de Granada, España Monica Pini Universidad Nacional de San Martín, Argentina
- Paula Razquin UNESCO, Francia
- **Ignacio Rivas Flores** Universidad de Málaga, España
- Daniel Schugurensky Universidad de Toronto-Ontario Institute of Studies in Education, Canadá
- **Orlando Pulido Chaves** Universidad Pedagógica Nacional, Colombia
- José Gregorio Rodríguez Universidad Nacional de Colombia
- Miriam Rodríguez Vargas Universidad Autónoma de Tamaulipas, México
- Mario Rueda Beltrán Instituto de Investigaciones sobre la Universidad y la Educación, UNAM México
- José Luis San Fabián Maroto Universidad de Oviedo, España
- Yengny Marisol Silva Laya Universidad Iberoamericana, México
- Aida Terrón Bañuelos Universidad de Oviedo, España
- **Jurjo Torres Santomé** Universidad de la Coruña, España
- Antoni Verger Planells University of Amsterdam, Holanda
- **Mario Yapu** Universidad Para la Investigación Estratégica, Bolivia

arquivos analíticos de políticas educativas conselho editorial

Editor: **Gustavo E. Fischman** (Arizona State University) Editores Associados: **Rosa Maria Bueno Fisher** e **Luis A. Gandin** (Universidade Federal do Rio Grande do Sul)

- **Dalila Andrade de Oliveira** Universidade Federal de Minas Gerais, Brasil
- Paulo Carrano Universidade Federal Fluminense, Brasil
- **Alicia Maria Catalano de Bonamino** Pontificia Universidade Católica-Rio, Brasil
- Fabiana de Amorim Marcello Universidade Luterana do Brasil, Canoas, Brasil
- **Alexandre Fernandez Vaz** Universidade Federal de Santa Catarina, Brasil
- Gaudêncio Frigotto Universidade do Estado do Rio de Janeiro, Brasil
- **Alfredo M Gomes** Universidade Federal de Pernambuco, Brasil
- Petronilha Beatriz Gonçalves e Silva Universidade Federal de São Carlos, Brasil
- Nadja Herman Pontificia Universidade Católica Rio Grande do Sul, Brasil
- **José Machado Pais** Instituto de Ciências Sociais da Universidade de Lisboa, Portugal
- Wenceslao Machado de Oliveira Jr. Universidade Estadual de Campinas, Brasil

- **Jefferson Mainardes** Universidade Estadual de Ponta Grossa, Brasil
- **Luciano Mendes de Faria Filho** Universidade Federal de Minas Gerais, Brasil
- Lia Raquel Moreira Oliveira Universidade do Minho, Portugal
- Belmira Oliveira Bueno Universidade de São Paulo, Brasil
- António Teodoro Universidade Lusófona, Portugal
- Pia L. Wong California State University Sacramento, U.S.A
- Sandra Regina Sales Universidade Federal Rural do Rio de Janeiro, Brasil
- Elba Siqueira Sá Barreto Fundação Carlos Chagas, Brasil
- Manuela Terrasêca Universidade do Porto, Portugal
- **Robert Verhine** Universidade Federal da Bahia, Brasil
- **Antônio A. S. Zuin** Universidade Federal de São Carlos, Brasil