Money *Does* Matter!

Investing in Texas Children and our Future

EQUITY CENTER

Prepared by

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The Equity Center was founded in 1982 by 55 school districts and now represents more than 650 of the state's 1,025 districts. It is the only education organization in Texas that exclusively represents the interests of children in school districts that are habitually underfunded by the Texas school finance system. Fair treatment of Texas children and taxpayers is the principal goal of the Equity Center.

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Table of Contents

Overview

From our founding days, Texans have recognized that providing free universal education for our children is a major role of state government. Schools are provided, according to the Texas Constitution, for a "general diffusion of knowledge" and education is "essential to the preservation of the liberties and rights of the people." The high values of liberty and prosperity, therefore, are in Texans' DNA, and we know that high-quality schools are prerequisites for both.

"It is a matter of great satisfaction to me to hope that my children will be in circumstances to receive a good education.... Knowledge is the food of genius, and, my son, let no opportunity escape you to treasure up knowledge."

- Sam Houston, Texas President, U.S. Senator and Governor

These values are also in the state's anthem, "Texas, Our Texas." Texans of all ages sing the anthem with pride, affirming our collective belief that Texas is truly "wonderful," truly "great," "supremely blest," and the "boldest and grandest" of all the states—and of all the nations in the world as well!

A decade into the twenty-first century, however, is a time of reckoning for us. Simply singing that anthem is not going to keep Texas "wonderful" and "great." Nor is singing going to make us "grow in power and worth" in the future. Bold, grand, and deliberate investment in the children's education is required. Now! If Texans set our minds to it, our children can lead the nation and the world. When a problem is identified and its citizens are dedicated to the cause, the Lone Star State has a long history in proving that we can solve it.

The System Is Broken. Texas schools are in a crisis. New and heightened expectations are established with every session of the Texas Legislature and the U. S. Congress. Accountability systems at the federal and state levels impose harsh penalties on schools not meeting those expectations. Growth in student enrollment requires additional schools, and aging buildings need renovation and upgrades. Technological changes require constant updates in networking, hardware, and software. Inflated energy, transportation, and health-care costs are huge challenges when budgets don't grow at the same rate. The vast majority of Texas schools simply do not

have the financial resources to do everything that is expected. To add insult to injury, educators look at the inequitable revenue allocated to districts, and they have to question why they are held accountable for the same outcomes as much better-funded districts. It is difficult, therefore, to explain to taxpayers, teachers, and students why those disparities in achievement data exist when school leaders know they are predictable, given the large disparities in funding allocations—some at $9,000 or more per student. How can this situation be tolerated in our state?

"Education is a lifelong process that benefits individuals and entire communities and countries and helps lay the foundation for the future."

- President Ronald Reagan

It takes money to address the citizens' expectations for improved schools, and the problem is that the system by which Texas schools are funded is broken. Badly broken. The system is inefficient, inadequate, inequitable, unsustainable, undemocratic, and just plain wrong! This broken system hurts all children, but it provides the very least learning resources relative to need to children who are economically disadvantaged and who now comprise the majority of Texas children. It victimizes taxpayers in districts with low-property wealth, requiring them to pay much higher taxes than those in high-wealth districts. It is a major reason for the state's less-than-stellar academic performance and graduation rates. It threatens our way of life —and certainly makes a future of growing in "power and worth" unlikely, if allowed to continue.

A Call to Action. This publication is a call to action. The information provided here will give parents, grandparents, educators, businesspeople, board members, media representatives, citizens in general, and policy makers the facts about how money matters in providing a quality education for all. The call to action is for everyone to focus the "eyes of Texas" on the legislature and leadership so that they know that Texans will accept nothing short of educational excellence for all students, real funding equity, and real taxpayer equity. Excellence is impossible to achieve without equity since equity includes both equitable funding and also equitable access to effective teachers and to opportunities to learn.

Excellence would be achieved if Texas students led the nation in academic achievement measurements and if dropouts became exceedingly rare. Excellence would also include our leading the nation in the percent of adults with college degrees or skilled technical training.

"If we don't stand up for children, then we don't stand for much."

- Marian Wright Edelman
President and Founder,
Children's Defense Fund

Our school funding system must include the following:

- Enough money to meet the state's educational goals, however the legislature defines them.
- Additional funding to keep pace with enrollment growth and inflation.
- Student equity, meaning that the same resources are available to each child, recognizing varying needs.
- Taxpayer equity, meaning that similar tax rates should yield similar revenue.[1]

The current system meets neither excellence nor equity goals. That is why action is immediately required.

The Status of Texas School Children

> ***"The child poverty rate in the border counties is the highest not only in Texas, but also in the United States."***[12]

While some countries are anticipating major losses in population as baby boomers die, the United States as a whole and Texas specifically are seeing population growth. Texas has, in fact, the second-highest birth rate in the nation, just behind Utah.[2] In 1998-99 Texas public schools served 3,945,367 students.[3] In 2008-09 there were 4,728,204 students in public schools—almost five million.[4] This increase of 782,837 students represents a growth of almost 20% in only one decade.

Texas demographics are also changing rapidly. Our population of children became majority-minority in 1993. The state became so in 2004.[5] In 1998-99, a little more than half the school children were minority (14% African American and 39% Hispanic), and 44% were White.[6] Ten years later, in 2008-09, 14% were African American, 48% were Hispanic, and 34% were White.[7] More than 60% of our school children are eligible for the free/reduced lunch program.[8] Texas has the fifth highest rate of child poverty in the nation. Hispanic and African American children in Texas are more than three times as likely to live in poverty as White children. Nine percent of White children live in poverty; 31% of African American; 32% of Hispanic; and 18% of Asian.[9]

Too Important to Fail. According to U. S. Department of Education data, Texas schools educate about 10% of the nation's children. Also, Hispanic school children in Texas are 22% of all the Hispanic school children in the United States.[10] What happens in Texas schools is not only important in Texas; what happens here is important to the success of the whole country. We are truly too important to fail. The state's border school districts and the ten major urban school districts are two large areas of the state that are critical to our state's future prosperity.

Border Children. Twenty counties with 66 school districts are on the Texas-Mexico border.

- According to data on median household income, seven of those counties are the seven poorest counties in Texas. Five more rank in the bottom 20.[11]
- The child poverty rate in the border counties is the highest not only in Texas, but also in the United States.[12]
- While child population in Texas grew 9% from 2000-07, the growth along the border was 12%, including a 21% increase in Hidalgo County.[13]
- The four highest-populated border counties are Cameron, El Paso, Hidalgo, and Webb. Together, those four counties educate almost 525,000 students, about 90% of all the school children in border districts.
- Thirty-six of the 38 school districts in these four counties are among the lowest-funded districts in the state.
- They all have huge concentrations of children who are economically disadvantaged, ranging from 55% to 100%.
- The vast majority (more than 90%) of students are Hispanic, not surprisingly; and these districts also have large percentages, ranging from 12% to 59%, not yet proficient in English.[14]

Yet Texas provides minimal amounts of funding relative to need to these very high-need districts.

Inner-City Children. The Texas Education Agency (TEA) identifies ten school districts as "major urban" districts, serving children in the six metropolitan areas of Houston, Dallas, San Antonio, Fort Worth, Austin, and El Paso. They are all in counties where the population is at least 735,000.[15] The ten major urban school districts are Arlington, Austin, Dallas, El Paso, Fort Worth, Houston, North East, Northside, San Antonio, and Ysleta.

- These districts are all majority-minority (62% to 97% minority).
- Eight have high concentrations of economically-disadvantaged children (55% to 90%). The other two, Bexar County's North East and Northside ISDs, have fewer than 50%.
- Some of the state's largest concentrations of African American children are in Dallas (28%), Houston (28%), Fort Worth (25%), and Arlington (24%).

- Hispanic percentages range from 39% in Arlington to 92% in Ysleta.
- Percentages of children identified as limited-English proficient range from 7% in Northside ISD to 18% in San Antonio ISD to 35% in Dallas ISD.[16]

These ten districts serve almost a million students, about 20% of the state's total. Their demographics, plus those of other districts in their counties, resemble to a high extent the demographics of the border counties. Six (Arlington ISD, El Paso ISD, Houston ISD, Northside ISD, San Antonio ISD, and Ysleta ISD) of the ten districts fall into the bottom half of schools according to funding level; three others (Dallas ISD, Fort Worth ISD, and North East ISD) are in the mid-range; and only one, Austin ISD, is among the well-funded districts.

Texas Government's Report Card

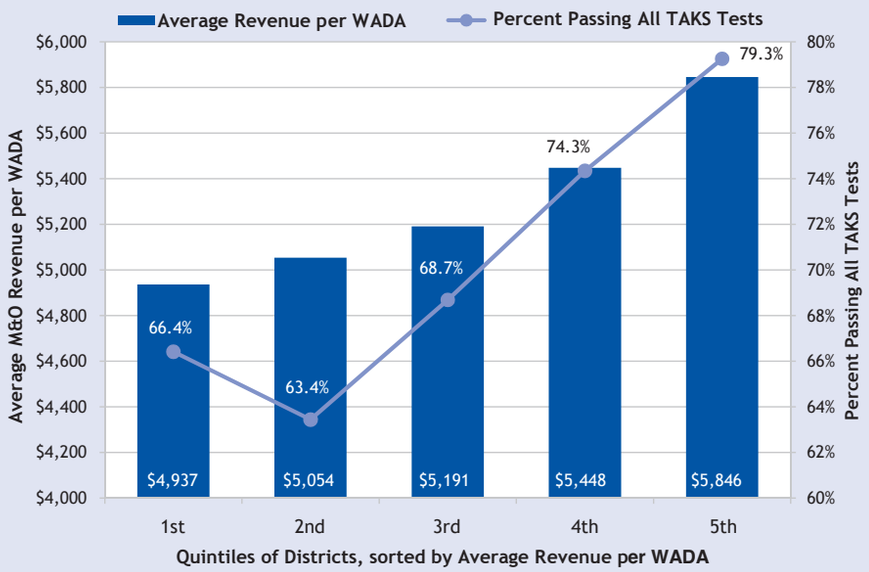
If our leaders in Texas government were graded on a scale similar to that of schools, their rating would be "Unacceptable" in the area of K-12 education. Texas Assessment of Knowledge and Skills (TAKS) scores and dropout rates indicate not only the quality of the children's schools, but they also reflect the effectiveness of state policies and the lack of equitable funding of learning resources. Texas children and Texas taxpayers deserve better.

The following graph on academic performance by quintile of school funding tells a big part of the story. The 114 Texas districts with 10,000 or more students each were selected for this report. They represent about 70% of the total enrollment, and they include all the large urban and suburban districts in the state. The direct relationship of student achievement, as measured by TAKS, with revenue per WADA, is clearly evident.

GRAPH 1:

Comparison: Revenue per WADA to Percent Passing All TAKS Tests

Averages Over 4-years, (2005-06 - 2008-09), 114 Districts Over 10,000 WADA



Data source: Texas Education Agency. Four-year averages of TAKS passing rates in districts with more than 10,000 WADA were calculated by the Equity Center. Each quintile represents 23 school districts, except for the middle quintile, which has 22.

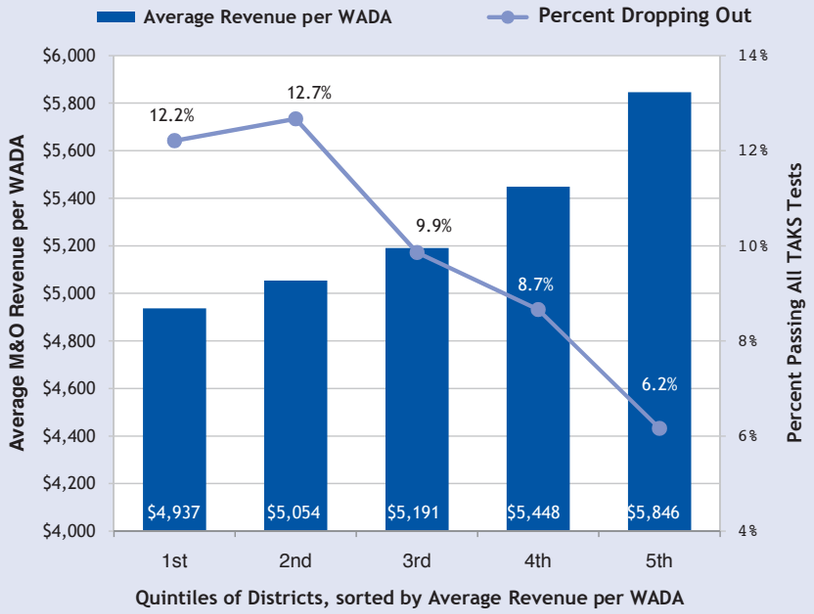
*Texas uses a weighted student approach in its public school funding system. The term WADA (student in weighted average daily attendance) is an acronym the reader will see throughout this paper when reference is made to revenue (e.g., $4,000 per WADA).

The blue bars represent the Maintenance and Operations (M&O) revenue per WADA* for each quintile. The gray line represents the percent of students at each quintile level who passed all TAKS tests taken, averaged over a four-year period, 2005-06, 2006-07, 2007-08 and 2008-09.

Dropout data tell another part of the story. According to an Education Week study of the class of 2010, 751 Texas students drop out of school each day.[17] Graph 2, again, reflects data from the 114 Texas school districts with 10,000 or more students, about 70% of the total enrollment for the state. When we look at the rates by funding level, we see the inverse relationship between dropout rates and school funding levels.

The blue bars represent the M&O revenue per WADA, and the gray line represents the four-year average of dropout rates for all the districts in each quintile of funding. The highest rates are in the two lowest-funded quintiles, and the lowest rate is in the highest-funded quintile.

The percent of students graduating in four years is another indicator of school quality and of the effectiveness of state policies, including funding equity. Graph 3 provides those data for the 114 districts with 10,000 or more students each. The blue bars, once again, represent the M&O revenue per WADA, and the gray line represents the four-year graduation rate for



Data source: Texas Education Agency. Four-year averages of dropout rates in districts with more than 10,000 WADA were calculated by the Equity Center. Each quintile represents 23 school districts, except for the middle quintile, which has 22.

GRAPH 2:

Comparison: Revenue per WADA to Percent Dropping Out

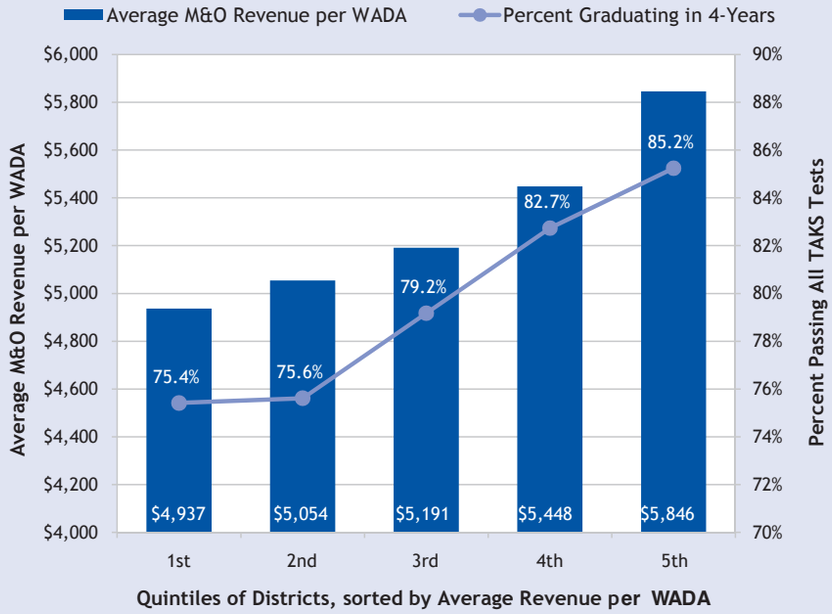
Average Over 4-years (2005-06 -2008-09), 114 Districts Over 10,000 WADA

districts in each quintile. The same pattern is evident. Student performance is, again, related to the funding level of the schools they attend.

GRAPH 3:

Comparison: Revenue per WADA to Percent Graduating in Four Years

Average Over 4-years (2005-06 -2008-09) 114 Districts Over 10,000 WADA



Data source: Texas Education Agency. Three-year averages of graduation rates in districts with more than 10,000 WADA were calculated by the Equity Center. Each quintile represents 23 school districts, except for the middle quintile, which has 22.

"If the needs of our increasingly diverse population remain unmet, Texas' future does not look bright. To ensure prosperity for the state, Texans must work together to address the needs of all children, particularly those in disadvantaged populations." [31]

- Frances Deviney, Director, Texas KIDS COUNT

Another way to judge the effectiveness of state policies relative to education is the ranking of the Lone Star State in comparison to the performance of other states:

- Texas ranks 34th among the states on indicators of well-being among children.[18]
- Only about 5% of Texas three-year-olds attend state-funded pre-kindergarten programs.[19]
- Fewer than half (46%) of Texas four-year-olds attend state-funded pre-kindergarten programs.[20]
- Texas ranks 43rd among the states on minority and disadvantaged children's access to opportunities to learn.[21]
- Texas ranks 28th among the states on teacher-student ratios.[22]
- Texas ranks 33rd among the states on average teacher salaries.[23]
- Texas is one of 10 states without professional development standards.[24]
- Texas ranks 23rd among the states on student-counselor ratios (430 to 1).[25]

- Texas ranks 27th among the states on grade 4 reading, as measured by the National Assessment of Education Progress (NAEP).[26]
- Texas ranks 17th among the states on grade 4 mathematics, as measured by NAEP.[27]
- Texas ranks 33rd among the states on grade 8 reading, as measured by NAEP.[28]
- Texas ranks 9th among the states on grade 8 mathematics, as measured by NAEP.[29]
- Texas ranks 42nd among the states on per-pupil expenditures in K-12 education.[30]

Children's performance on TAKS and the wide disparities in dropout and graduation rates and our state's rankings on multiple indicators, all clearly related to the schools' funding levels, make our call to action even more urgent. We cannot allow the majority of Texas children to grow up in poverty and at the same time to spend their school years in inadequately and inequitably funded schools. Our neglect in providing them appropriate opportunities to learn dooms them to an adult life of poverty and produces another generation of children who suffer those effects. To reverse the trends, to break the cycle of poverty, to grow the middle class again, and to safeguard the economy, Texans must invest in all our children—for them and their families—and, importantly, for a better future for us all.

> ***"A society that neglects its children, its most valuable and vulnerable resources, also neglects its future."***
>
> ***- Ed Zigler, Director Emeritus, Edward Zigler Center in Child Development and Social Policy, Yale University***

Why Money Matters

It is true that poverty predicts school performance, but it absolutely does not determine it. Regardless of one's family background or where he or she lives, a child can overcome the effects of poverty, if given a fair chance to learn and compete. After all, "a brain that is susceptible to adverse environmental effects is equally susceptible to positive enriching effects."[32] Both Texas and American history are filled with stories of men and women who overcame their backgrounds. That is what the American Dream is all about.

"What the best and wisest parent wants for his own child, that must the community want for all of its children. Any other ideal for our schools is narrow and unlovely; acted upon, it destroys our democracy"

- John Dewey, American philosopher, psychologist, and educator

Positive academic outcomes can happen, if children have the resources they need. That is why money matters. It matters greatly in lifting children out of the poverty of their backgrounds—by increasing their opportunities to learn, facilitating their academic success, ensuring their graduation from high school and education beyond high school, giving them hope for the future, and ensuring their overall health and life earnings.

If there are those who do not believe that money makes a difference, then there should be absolutely no quarrel about the need to equalize school funding. In fact, the loud voices against equity are in themselves evidence that money does, indeed, matter. Strong evidence is also provided by researchers, many of them economists, who have been studying the issue of the relationship between money and student achievement for decades.[33] They find a broad consensus that investing even moderate amounts of money results in significant increases in achievement.[34] For example, one scholar found in her analysis of data in two states that school resources make a bigger difference than student characteristics in school performance.[35]

Regardless of one's policy position, the reality is that many wealthy parents are willing to spend in excess of $25,000 for private school tuition for their children or to spend big sums of money to move to suburbs where schools are better funded.[36] They know that ample resources don't necessarily guarantee success, but schools cannot succeed with all students without

them.[37] Economists Koski and Levin suggest another test as to whether money matters. See where researchers send their own children to school. Those decisions, they advise, are more important than what their research findings might say.[38]

The National Center for Education Statistics commissioned a study in 1997 to review all existing research on the relationship between money and student achievement. Their report found, unequivocally, that the evidence supports the thesis that "additional money matters greatly for minority and disadvantaged students, but much less or little for advantaged students."[39]

Money Matters—If Spent Well. In addition to the consensus that money matters, there is another consensus—that it must be spent well.[40] It is interesting, however, that rarely is there any concern or scrutiny about how money is spent in well-funded districts. There is seemingly an assumption that the only districts that might not be spending prudently are those that are poorly funded. Allegations are that they would have what they need if waste were eliminated. The truth is that low-funded districts may not even have sufficient funds for the essentials, much less for discretionary budget items. They have already implemented many prudent and effective cost-savings initiatives, such as cutting staff, investing in energy management programs, extending replacement schedules for categories of capital outlay (e.g., school buses), cutting overtime pay for custodial staff by staggering work shifts, outsourcing some services, and so on. They still struggle to meet payroll, pay the utility bills, keep the buses running, patch the leaking roof, and buy essential materials and supplies—and, all the while, comply with federal and state mandates. If there is significant waste in public school spending, it cannot be in the low-funded school districts in Texas. They have nothing available to waste.

RESOURCES THAT MATTER

Many, many research studies provide policy makers with evidence that money is well spent in several broad areas that improve access and opportunities to learn so that failure is prevented and achievement improves.[41]
A research consensus has evolved around the following areas where money makes a real and significant difference in educational outcomes:

- Effective teachers
- Small class sizes
- Pre-kindergarten
- Interventions for struggling students
- Rigorous curriculum and college/workforce readiness, along with adequate and appropriate learning materials, including technology

Interestingly, some of the best studies on the importance of these resources in improving academic achievement, as well as adult success, come from economists. It is they who have arrived at ways to measure the effect of expenditures relating to these and other resources on indicators of academic achievement and life earnings. In these five areas, studies verify that there are major returns on investment. In other words, these learning resources are very powerful in influencing the future life earnings and contributions of our children. Each one positively impacts academic performance and graduation rates, and each one delivers significant savings in cutting costs of future social services and incarceration.

More than 30 cases on whether money matters in education have been tried in state courts (as of 2007). In 29 of them the courts determined that money does indeed matter. According to Rebell, a legal authority in such school funding litigation, "There is no doubt that in order to obtain a meaningful educational opportunity, low-income and minority children need qualified teachers, adequate facilities, lower class sizes, more time on task, and sufficient, up-to-date instrumentalities of learning."[42]

"No society can thrive in a technological, knowledge-based economy by depriving large segments of its population of learning. The path to our mutual well-being is built on educational opportunity."[46]

- Linda Darling-Hammond, Professor of Education, Stanford University

Children in well-funded schools have plenty of access to these resources. Children in poorly funded schools do not, due to inequitable funding practices. All of these resources provide critically important opportunities to learn. Our expectations for schools have risen greatly as economic realities demand higher levels of education for employment and as we have made appropriate commitments to educate everybody's children, not just the children of the elite.[43] Investments in these areas matter greatly.

Our current efforts in these areas are insufficient. For example, a Schott Foundation study ranks Texas 43rd among the states on their index of opportunities to learn for disadvantaged students, combined with measures of education quality. They find that disadvantaged children in Texas have less than half the opportunity to learn as the children attending the best-supported, best-performing schools.[44] Texas accounts for 12% of the opportunity-to-learn gap and the educational and economic effects of that gap in the nation. Only two other states (California and New York) are worse.[45]

Effective Teachers Matter

The most important school factor in providing students an opportunity to learn is their access to quality teachers, an almost unanimous finding of scientific studies investigating what matters in students being able to learn at high levels. According to common knowledge, intuition, and scientific evidence, the very best prevention-of-failure or opportunity-to-learn strategy is to ensure that every child has great teachers—every year.

Teachers have an enormous influence on children in many areas, not the least of which is their academic achievement. A small sample of the dramatic impacts that effective teachers have, according to research, follows:

- At least 20% of student achievement is associated with individual teachers.[48]
- Children assigned to three effective teachers in a row scored at the 83rd

> ***"Make no mistake. Teaching is high-stakes work. What happens in our classrooms matters. Futures are born, dreams emboldened, passions ignited - or not."***[47]
>
> ***- Megan Scribner, Program Evaluator and Researcher***

percentile, and those assigned to three weak teachers in a row scored at the 29th percentile.[49]

- Math students gained five percentage points in one year when assigned to an effective teacher.[50]
- A 2002 Texas study found that having a high-quality teacher throughout elementary school can offset or even eliminate the effects of poverty.[51]
- Having a high-quality teacher four years in a row would be enough to close the Black-White test score gap.[52]
- Good teachers can move students at least four percentile points in one year.[53]
- Eighth-grade students assigned to a teacher with a major in mathematics scored ten points higher than those whose teachers did not major or minor in mathematics—the equivalent of about a year's worth of learning.[54]
- An above-average teacher with 30 students can increase their collective earning power by $430,000 a year compared to an average teacher. A below-average teacher will cost those same 30 students $800,000 a year.[55]
- A standout kindergarten teacher can add $320,000 a year to her students' earnings as adults, plus improve their health and decrease crime.[56]

"For too long teachers and our support staff have been the objects of someone else's action. I don't want to be the object of a verb. I want to be the verb."[66]

- Lily Eskelsen
Vice President, National Education Association

Money matters most when it buys quality teachers, and the return on that investment can't be ignored—for individual students, for schools and districts, and for all Texans. According to Rivkin, Hanushek, and Kain, "a succession of good teachers could, by our estimates, go a long way toward closing existing achievement gaps across income groups."[57] All Texas children deserve access to teachers who can deliver such powerful results.

Teacher Recruitment and Retention. A major challenge for Texas schools is to recruit and then retain quality teachers. Research yields some surprises. More important than any of the usual theories about why teachers leave a school or district—or leave the profession entirely—is the quality of working conditions in their schools, all of which cost money. So, again, money matters.

The working conditions that matter the most, according to research studies

and teacher surveys, are as follows. Their rank-in-order varies according to the individual study.

- Competitive salaries[58]
- Small class size[59]
- Administrator support[60]
- Time for planning and collaboration[61]
- Quality professional development[62]
- Safe and clean school facilities[63]
- In-put on school-wide decisions[64]
- Adequate instructional resources for students[65]

It is true that teachers migrate toward higher-performing and well-funded schools.[67] Some believe, therefore, that they do that because they want to teach wealthier children. Not so. They do that because those are the schools that adequately fund the working conditions that they most prefer,[68] and those are the schools which best support student learning. To teach effectively, teachers know that they must have access to the people and resources that will support their work.[69] Texans must ensure that every school has the appropriate resources for learning and the desired working conditions to attract the best teachers.

We can start with salaries.[70] Texas ranks 33rd among the states in average salaries, and we have consistently over the years ranked in the bottom half of states. The average Texas teacher earned $46,179 in 2008-09, as compared to $54,319 nationally.[71] That gap exceeds $8,000. If the $8,000 gap continues, teaching 30 years in Texas costs a teacher a quarter of a million dollars in salary and additional thousands in retirement benefits.

Economists conducted a review of many studies in 2007 and found that quality teachers can raise graduation rates and that schools can attract better teachers simply by paying higher salaries. They calculated that raising teacher salaries by 10%, plus calculating the cost of keeping potential dropouts in school for two years, would cost approximately $82,000 per student. The public benefit (taxes paid and savings in social services) of doing so for each additional graduate would be $209,100. The net value, then, for each graduate would be $127,100. Even using conservative estimates, the benefits are 2.55 times greater than the cost.[72] Rarely do

expenditures reap such high returns on investment—for the individual and for the state.

Teacher Distribution. Many authorities agree that effective teachers are not equitably distributed.[73] Well-funded districts can pay higher salaries, keep class sizes low, offer engaging and effective professional development programs, provide time for teacher planning and collaboration, build and maintain quality facilities, and adequately fund instructional materials—all of which are difficult, if not impossible, to do in a minimally-funded district.

"We can whenever and wherever we choose successfully teach all children whose schooling is of interest to us. We already know more than we need in order to do this."[77]

- Ron Edmonds, Father of Effective Schools Research

Teacher Recruitment. Districts must annually recruit teachers to staff their schools due to enrollment growths, retirements, teachers leaving the district, or teachers leaving the profession. The Texas State Comptroller produced a report in 2006 about the cost to Texans of not paying teachers well. She estimated that the cost of hiring a new teacher was about $13,000. The cost to Texas in 2005-06 was an estimated $502.5 million. That cost can be significantly controlled if Texans fund and implement the working conditions that are most attractive to teachers. About one-third of beginning teachers in Texas leave the profession in the first five years.[74] A survey by MetLife indicates that the major reasons are stress and anxiety related to unrealistic demands, workloads, number of responsibilities, anxieties related to budgets/funding, lack of resources with which to teach, and low salaries.[75] A more recent survey by the Bill and Melinda Gates Foundation had similar findings.[76]

Effective teachers matter more than any other school resource.[78] Paying them well, recruiting them, providing professional development and attractive working conditions, and implementing appropriate and effective evaluation and mentoring programs all cost money. Money matters!

Small Classes Matter

Class size makes a significant difference in student learning[79]—unless teachers keep teaching in the same ways they taught in larger classes.[80] So, just as with money in general, what schools do with resources is the important factor, not just the resource itself. And that makes sense.

Many, many studies find benefit to small classes, especially for younger students[81] and for disadvantaged students.[82] But some studies also see gains for secondary students[83] and for advantaged students,[84] so everyone benefits. Researchers find that effective teachers teach in more engaging and more individualized ways when classes are small[85] and that students tend to be better behaved, more attentive, and more engaged in their work.[86]

Teachers say that having small classes is one of their top three reasons for choosing a school and in decisions about staying there.[87] Small class size makes a job much more attractive.

"If a doctor, lawyer, or dentist had 25-30 people in his office at one time, all of whom had different needs, and some of whom didn't want to be there and were causing trouble, and the doctor, lawyer, or dentist, without assistance, had to treat them all with professional excellence for nine months, then he might have some conception of the classroom teacher's job"[47]

- Donald D. Quinn, Educator

Class size is also very important to parents.[88] In fact, private and parochial schools uniformly advertise their average class size in recruitment literature. A random sample of 38 such Texas schools found that 56% of them had average class sizes under 10.[89] It should not be surprising, therefore, that public school parents and teachers would also see value in smaller classes.

Interestingly, business research indicates that the appropriate span-of-control is in the range of five to seven employees for each supervisor.[90] Span-of-control refers to the numbers of employees that a manager can effectively supervise to ensure quality work. The class-size caps in Texas law specify 22-to-1 ratios in grades K-4. That ratio is more than twice as high as most private school classrooms and over three times as high as a businessperson might be expected to oversee. Business employees are all adults and more highly educated and mature than any K-12 student. How many businesspeople would be willing to spend all day, every day, with 22 kindergarten students and be held accountable for the quality of their work?

Many credible studies find that smaller classes produce higher achievement for students, and since smaller classes cost money (not just for more teachers, but also for additional classrooms, furniture, and materials), again, money clearly matters.

Pre-Kindergarten Matters

There is little controversy in the research findings relating to the importance of early childhood education. Children's advocates, economists, demographers, sociologists, businesspeople, and educators all agree that one the best investments that states can make is in providing quality early childhood education programs, beginning as soon after birth as possible. Among the positive outcomes for children's participation in such programs are the following:

- Improvements in school readiness[92]
- Narrowing of the achievement gap[93]
- Improvements in academic performance[94]
- Reductions in retention-in-grade rates[95]
- Reductions in dropout rates[96]
- Reductions in incarceration rates[97]
- Reductions in referrals to special education[98]

> ***"Although 'kindergarten ready' may not have the same cachet as 'college-and-career ready,' early learning is the cornerstone of long-term success for America's children."***
>
> ***- Elanna Yalow, Executive V.P., Knowledge Universe***

- Prevention of academic failure[99]
- Remediation of the negative effects of poverty[100]
- Increased employment and earnings when adult[101]
- Increased IQs[102]
- Increased college attendance[103]
- Improved vocabulary acquisition[104]
- Improved self-esteem[105]
- Stimulated intellectual curiosity[106]
- Improved social skills[107]

According to economists, pre-kindergarten programs result in huge returns on investment—from $3 to $17 for every dollar invested.[108] These returns are realized through greater life earnings and more taxes paid by the participants, as well as through savings in social programs and services, reduced crime, and lower incarceration rates.[109]

Characteristics of the most successful programs include targeting those most in need, as the Texas pre-kindergarten does. Other important characteristics of quality programs are that they start no later than age 3, employ high-quality teachers, provide small classes, and include a parental mentoring component, all of which cost money.

There is also research showing that many middle-class children are ineligible for the public school programs, but the parents cannot afford private programs. Hispanic children, especially those not yet speaking English, tend to be under-served in early childhood programs, so special outreach needs to occur to recruit them.[110]

Texas programs may serve 3- and 4-year olds, but districts are required only to serve 4-year-olds. About 25% of the eligible 3- and 4-year-olds were served in 2007. Just under half of the eligible 4-year-olds were served.[111]

Texas programs could be improved by expanding them to larger numbers of children. Potential targets are areas with high concentrations of economically-disadvantaged children, including as many 3-year-olds as possible. Ideally, full-day universal pre-school and kindergarten programs (ages 3-5) would be available, including a parent education component.

Money matters in early childhood education. In 2005-06 the cost of the Texas program was $409 million, according to the Legislative Budget Board. They estimated that it would cost an additional $583 million annually to expand the current program to full day. A universal full-day expansion would cost about $1.9 billion annually.[112] The costs of not investing these funds, however, could be far greater. Economic studies on the return of investment for early childhood education programs abound. Huge benefits lead many, therefore, to advocate for pre-kindergarten as an economic development strategy.

Inverventions for Struggling Learners Matter

"Children who come from disadvantaged circumstances often lack rich opportunities to learn. Striking disparities in their knowledge and skills mean that they need to catch up quickly."

- Susan B. Neuman, Professor of Education, University of Michigan; Assistant Secretary for Elementary and Secondary Education in George W. Bush Administration

New research is emerging from the fields of cognitive psychology, neuroscience, and education on how poverty affects a brain's development and what the school can do about it—if it has the necessary resources to develop or purchase effective interventions.[113] There is much about which to be optimistic. Jensen urges schools to focus on interventions that address one or more of the neurocognitive abilities that tend to vary according to socioeconomic status, including the following:

- the ability and motivation to defer gratification and make a sustained effort to meet long-term goals;
- auditory, visual, and tactile processing skills;
- attentional skills that enable the student to engage, focus, and disengage as needed;

- short-term and working memory capacity;
- sequencing skills (knowing the order of a process); and
- a champion's mind-set and confidence.[114]

These kinds of essential interventions differ markedly from typical re-teaching or tutoring programs. They address foundational or prerequisite knowledge and skills that are necessary for learning, not the specific content of the curriculum itself. For example, a child who suffered from untreated ear infections as an infant or toddler may need auditory processing training, not unlike that required to strengthen neural pathways in the brains of dyslexic children.[115]

Interventions are safety nets for the children who need them, the opportunities to learn that are required if they are to be successful.[116] Children most likely to need such academic support programs are those who are economically disadvantaged, those who are limited-English proficient, and/or those who have learning disabilities, including dyslexia (reading disabilities) and/or dyscalculia (mathematics disabilities). Early interventions are much more powerful and much less expensive than waiting for failure to occur repeatedly before doing anything.[117]

Because so many children are far behind their peers developmentally, even at age 3, educators must identify and employ strategies that accelerate learning. Otherwise, struggling learners can never catch up enough to become competitive, and the achievement gaps will never close. They typically gain no more than six months in a year of instruction. Without intervention, then, the child who is two years behind at age 3 is five years behind by the end of grade 5. Evidence-based interventions can turn that around. There is ample evidence that given all the right conditions, those children can gain two or more years in one year of instruction. That's how achievement gaps are narrowed and how real opportunities to learn are realized.

A growing group of youngsters who require rapid acceleration are immigrant children who lack English-language skills. Anyone needs, according to research, up to *seven* years to become proficient in a second language.[119] LEP students coming into American schools must start taking the state assessments in English their fourth year here. They have to learn and master English at the proficient level, therefore, and at the same time learn at a

break-neck pace the content and skills required in the curriculum, if they are to pass the end-of-course tests and graduate on time.

A wealth of new research studies find that effective interventions include the following features, all of which contribute to the acceleration of learning:

- focus on critical content, including vocabulary development across the curriculum[120]
- individualization/personalization of curriculum[121]
- the use of multi-sensory processing strategies (students hear and see what is to be learned and respond tactilely)[122]
- incorporation of direct instruction techniques[123]
- the control of distractions[124]
- varied and adequate practice/repetition to ensure mastery[125]
- fluency (in both speed and accuracy) development[126]
- use of immediate corrective feedback[127]
- additional time-on-task[128]
- continuous progress monitoring (formative assessments)[129] and
- well-trained and caring teachers[130]

Interventions matter greatly in preventing and remediating failure. To "exponentially improve the performance of at-risk children," Neuman says that programs should be funded that "have solid evidence of results." Her proposals for "changing the odds" include seven essential principles, and six of those include aspects of the deployment of appropriate interventions:

- Actively target the neediest children.
- Begin early in children's lives.
- Focus on boosting academic achievement through compensatory high-quality instruction.
- Deliver instruction by trained professionals, not by aides or volunteers.
- Acknowledge that intensity matters, defending against any dilution of program quality as a waste of public resources.
- Always hold themselves accountable for results and children's achievement.[131]

Interventions involve requirements for more teachers, more space, different kinds of assessments, time for teacher collaboration in placing and monitoring students in interventions, technology, materials, parent communication, professional development, and extended learning time for students. All of these cost money. Money matters, especially when more than 60% of our children must overcome the effects of poverty, when approximately 10% have some kind of learning difficulty or disability, and when we have a growing number of children without proficiency in English!

Rigorous Curriculum, Materials, and Technology Matter

"You see, we'll never be able to compete in the 21st century unless we have an education system that doesn't quit on children, an education system that raises standards, an education that make sure that there's excellence in every classroom"

- President George W. Bush

For 30 or more years we have been told that the industrial society is at an end, that the economy is swiftly moving into an information or knowledge society that requires much higher levels of technical and analytical knowledge and skills than the work of previous generations. We are seeing now how manufacturing is increasingly outsourced to third-world countries where labor is both plentiful and inexpensive. The plan has been for Americans to continue to dominate the world economy through our ability to innovate and through our highly educated and well-trained work force. The global economy, however, is more competitive and more challenging than many of us imagined. We are seeing increasing numbers of high-level kinds of work being outsourced, both because it is less expensive to do so, and also because the United States is not producing the numbers of scientists,

engineers, and other high levels of workers that are needed. State curriculum standards, therefore, have significantly increased expectations at every level for what all children need to know and be able to do, and through No Child Left Behind (NCLB) we have made a commitment that absolutely every child is to reach those expectations by 2014.[133] Even though NCLB did include some additional resources, the amount of funding allocated was nothing close to what was needed to meet new expectations. Money matters greatly in schools' abilities at all levels to deliver curriculum in ways that make mastery of standards possible for all students.

Texas has determined that all our children must graduate from high school and that they all must do so with college or workforce readiness. Graduation requirements have been enhanced, career/technical education has been revamped, early college and dual credit courses are now available, more students are taking Advanced Placement (AP) courses,[135] and the dropout rate did go down somewhat in 2008-09, according to TEA's 2010 report.[136]

But many high schools are having difficulties providing enough science labs appropriately equipped for the four years of science that every student must now complete. They struggle to find qualified mathematics and science teachers for the new required courses. Rural areas and smaller schools are finding it difficult to recruit teachers and impossible to offer the full range of AP courses to their students. Many high schools need expensive interventions to accelerate the students with learning disabilities, students who are not yet proficient in English, and students who have led impoverished lives. Providing all students access to early college and dual-credit courses has also been a challenge.[137]

Educators measure students' curriculum mastery with state and national assessments. State scores provide data relating to students' mastery of the state's curriculum standards, the Texas Education Knowledge and Skills (TEKS). National scores provide data that allow comparisons with the performance of students in other states. Even though NCLB requires state assessments to be comparable to the National Assessment of Educational Progress (NAEP) that is administered by the U.S. Department of Education, the percentage of Texas children performing at the proficiency level on TAKS far exceeds the percentage performing at that level on the NAEP:

> ***"America was once the best educated nation in the world. A generation ago we led all nations in college completion, but today 10 countries are being smarter about how they educate their students. And the countries that out-educate us today will out-compete us tomorrow."[134]***
>
> ***- President Barack Obama***

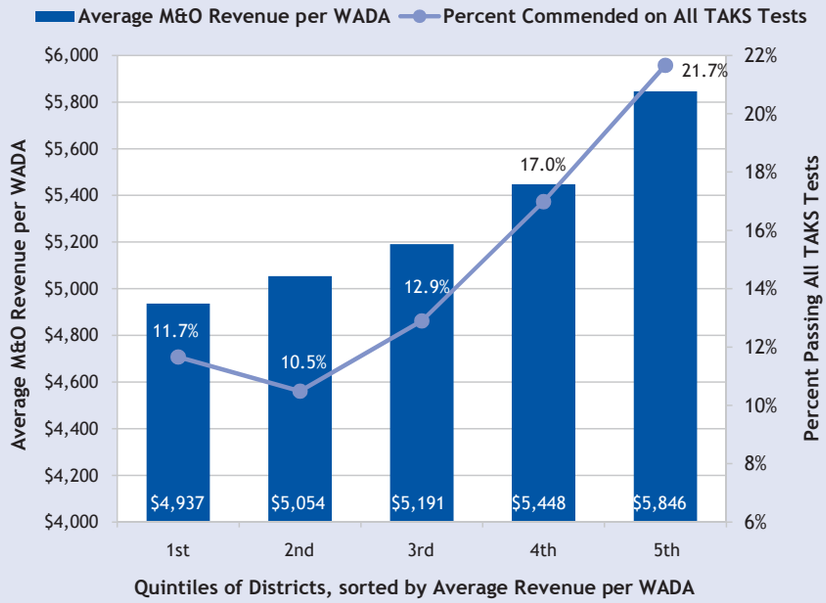
- In the 2009 report on grade 4 reading, 84% of Texas children performed at or above the proficient level on the TEKS, but only 34% did so on the NAEP.
- In grade 4 mathematics, 86% scored at/above proficiency, compared to only 38% scoring at that level on NAEP.
- In grade 8 reading, 95% of the students performed at/above the proficient level on TAKS; yet only 27% did so on the NAEP.
- In grade 8 mathematics, 79% of the students scored at/above the proficient level on TAKS, contrasted to only 36% on the NAEP.[138]

Differences in assessment design and in the cut-points defining proficient performance account for significant portions of the gap, no doubt. The data also suggest, however, that the Texas curriculum standards and/or assessments are not as rigorous as those in many other states.

TAKS reports include data on the percentages of students scoring at the "Commended" level, and the NAEP reports include the percentages scoring at the "Advanced" level. Large disparities in these measurements exist as well:

- In grade 4 reading, 29% of Texas children scored at the Commended level on TAKS, compared to only 6% at the Advanced Level on the NAEP.
- In grade 4 mathematics, 40% scored at the Commended level on TAKS, and only 4% scored at the Advanced level on NAEP.
- Grade 8 reading data show that 24% scored at the Commended level on TAKS, and yet only 8% scored at the Advanced level on NAEP.
- In grade 8 mathematics, 53% scored at the Commended level on TAKS, and only 2% scored at the Advanced level on NAEP.[139]

Graph 4 illustrates the relationship between school funding and high levels of mastery of rigorous curriculum, as measured by TAKS. There is a predictable and dramatic relationship between the level of funding per quintile and the percent of children scoring at the Commended level on TAKS. The percent of students scoring at the Commended level incrementally improves as funding



Data source: Texas Education Agency. Four-year averages of the percent of TAKS Commended scores in districts with more than 10,000 WADA were calculated by the Equity Center. Each quintile represents 23 school districts, except for the middle quintile, which has 22.

GRAPH 4:

Comparison: Revenue per WADA to Percent Commended All TAKS Tests

Averages over 4-years (2005-06 - 2008-09), 114 Districts Over 10,000 WADA

If Texas students are to improve their ranking among the states, significantly higher percentages of them must score at advanced levels, not just at the passing level. Rigorous curriculum, therefore, matters. The rigor required in the 21st century requires more resources than did the industrial age curriculum, so money matters greatly. A recent review of research literature by Mathis (July 2010) reported that economically disadvantaged children require 20% to 40% more funds per student than more advantaged students in order for them to be successful academically.[140] Even more funding will be required to provide appropriate instructional programs for children who are limited-English proficient or who have learning disabilities.

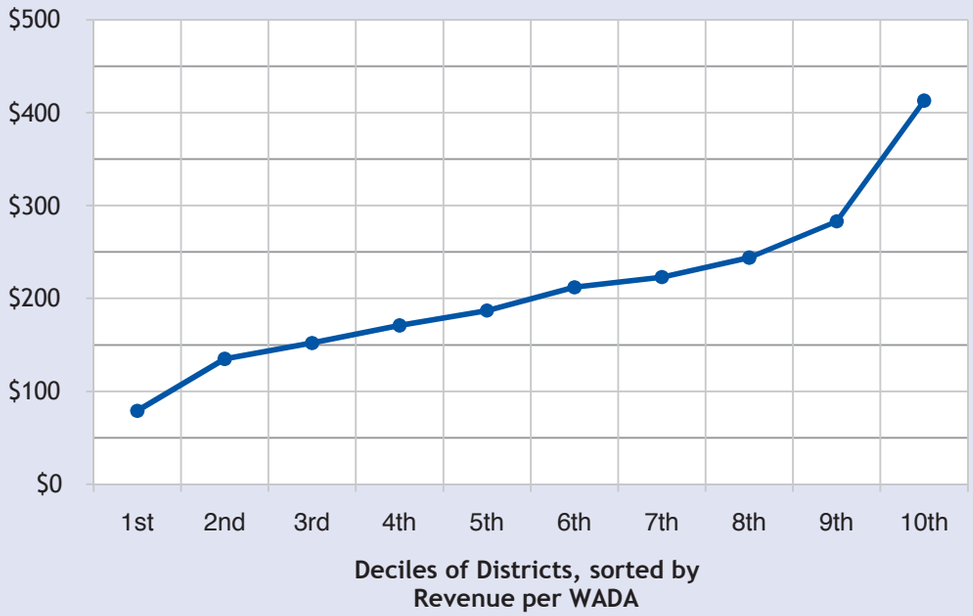
Instructional Materials and Technology. The importance of high-quality and differentiated instructional materials is usually included in studies of the importance of rigorous curriculum and standards. Also important is that one of the preferred working conditions for teachers is the availability and access to quality curriculum materials and technology.[141] Ninety-two percent of Texas teachers say that such access is either absolutely essential or very important to teacher retention.[142] No matter how fine a curriculum may be, teachers cannot deliver it with fidelity without the

necessary instructional materials and technology. Interestingly, many of the working conditions preferred by teachers are the same as students' opportunities to learn, the areas where money makes the greatest difference in education.

The following table shows a direct relationship between the money that was expended in 2008-09 for instructional materials and the funding levels of school districts. Students in the lowest-funded districts have access to only 19% as much money for instructional materials as their peers in well-funded districts—less than one-fifth as much per WADA. Even at the fourth decile of funding, the districts spent more than twice as much as those in the lowest level. (Data were not available on instructional technology expenditures.)

GRAPH 5:

2008-09 Expenditures Instructional Materials per WADA



Data Source: Texas Education Agency, 2008-09.

A set of principles that has had an enormous impact on the design of instructional materials of all kinds, including technology, is called "universal design for learning" (UDL). UDL's purpose is to design both lesson presentations and instructional materials flexibly so that they accommodate all the different ways that students learn and make content more accessible. The original concept came from special education, but educators in general now see the advantages of such materials with all kinds of students. The three principles are as follows:

- Provide multiple, flexible methods of presentation that give students various ways to acquire information.
- Provide multiple, flexible methods of expression that offer students alternatives for demonstrating what they know.
- Provide multiple, flexible options for engagement to help students get interested, be challenged, and stay motivated.[143]

UDL is included in the most recent reauthorization of the Individuals with Disabilities Education Act (IDEA) and is in the draft proposals for the reauthorization of the Elementary and Secondary Education Act (ESEA), or what we now know as NCLB. As these principles are more widely adopted, funding will be required for the development of both low-tech and high-tech materials, for teachers' professional development in their use, for purchase and maintenance, and for evaluation of their effectiveness.

Several researchers finding positive effects for the use of technology in instruction also see technology as having the potential to transform instruction so that it is not only more effective, but also so that learning is extended beyond school. Technology, studies show, can

- make true individualization possible,
- facilitate acceleration of learning,
- change the role of teachers to learning coaches,
- make rich diagnostic assessments accessible, and
- be a source for innovations needed to create 21st century schools.[144]

Technology implementation requires significant investments in hardware, software, infrastructure, professional development, maintenance, and support services. It is important, therefore, for stakeholders to know how effective it is in improving student learning. Among the findings relating to the effectiveness of technology in improving student learning are the following:

- Computer-assisted instruction is most effective and yields the greatest outcomes when the school provides sufficient technical support, when the software is properly integrated into the curriculum, and when the software is implemented in a high-use pattern.[145]
- A review of studies from 1993-2000 on the effectiveness of

computer-assisted instruction found evidence of a positive association between use of technology and student achievement in reading and mathematics, especially in the early and middle grades and for those with disabilities.[146]

- A 2000 study found significant gains in achievement across the curriculum when students from preschool through high school were taught in a technology-rich environment.[147]
- Using computers to solve simulations significantly improved math scores.[148]
- Computer technology improves the development of higher-order skills of critical thinking, analysis, and scientific inquiry.[149]
- Computer technology is a powerful tool for teaching limited-English proficient students.[150]
- Teachers' use of data in making instructional decisions improves student learning. Technology plays a vital role in enabling data-driven decision-making.[151]
- An analysis of 51 studies found that students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction.[152]
- So-called "blended instruction," a combination of face-to-face and online instruction produces greater learning than face-to-face only or online only.[153]
- More time-on-task in online courses produces the most positive outcomes.[154]
- Distance learning is at least as effective as traditional classroom instruction.[155]
- Teachers who are effective in improving the achievement of disadvantaged children tend to use technology to target instruction more effectively; to incorporate a variety of strategies; to support teacher-guided instruction; to increase student involvement in instruction; to facilitate remediation and reinforcement; to promote advanced thinking strategies; to increase access to resources; to motivate students; and to meet the needs of the whole child.[156]

Education Week's 2009 report on technology access, policies, and practices provides an indication of how Texas is performing in comparison to other

states. In terms of student access to computers (based on 2005-06 data), the average nationally was 3.8 students to each computer. Texas ranked only slightly above average, and ranked 20th among the states. The report's "Use of Technology Index" awarded a grade of B- to Texas, and we ranked 37th among the states. We lost points because we do not test students on technology and as of 2008-09 had not established a virtual school. We fared better on the Capacity Index with a grade of B and a ranking of 15th. We lost points on this measurement due to lack of requirements for technology training for teachers and administrators.[157]

Yesterday's teacher could do the job with a textbook, a box of chalk, a red-ink pen, and books for lesson plans and grade recording. That won't do in today's classrooms, and yet many poorly funded districts cannot provide substantially more. Children living in poverty do not have those resources at home, so if schools do not provide them, the children have no way to be college/workforce ready, even with a diploma. Money matters.

Inequities in the Texas Funding System

"The principle of equity basically is simple. If we are all in the same boat, then we are all going to help row that boat forward. If some people, or some districts, are allowed to sail off and have great schools, at low tax rates, out of unequaled property tax bases, then they won't be there to help row the big boat forward and the big boat won't move."[142]

- Judge Scott F. McCown
Executive Director, Center for Public Policy Priorities

In national and statewide polls, lack of adequate funding for schools is identified by citizens as a major problem. When given a list of problems in public schools, a wide margin of respondents to the 2009 Gallup/Kappan annual poll identified lack of funding as the biggest problem, up 15 points from the year before.[159] The 2010 responses went up another four percentage points. Also, 67% of the respondents said that the amount of money spent on a public school student's education affects the quality of his or her education. That percentage has been about the same ever since 1993.[160] In Texas, 77% say that the need for more funding is either a very important problem (53%) or somewhat important problem (24%).[161] Texans know that our children are being shortchanged. That so many of us in Texas see the problem is, no doubt, due to the fact that Texas ranks 42nd among the states in expenditures for public education.[162]

Inadequacy is easy to see. Many people may not, however, be aware that a major reason why so many schools have unmet needs is that the funding system is highly inequitable. Funding practices are very layered, very complex, and are, therefore, difficult to explain and understand. Many may know that the inequities exist but think that they are small, not worth the effort to change things. Funding gaps, however, have become funding chasms. General operating funding levels range from approximately $4,000 per WADA to more than $14,000.

The arguments for equity boil down to this: We simply cannot afford to continue robbing the multitude of children in property-poor districts to enhance the facilities, opportunities, and performance of the children in districts already well funded. It is time for us to describe the system truthfully. Children in poorly funded schools are highly likely to be economically disadvantaged, and then we assign them to underfunded

schools, making it also highly likely that they will always be economically disadvantaged, thus producing another generation of high-need children.

We are all in this boat together, including those with no children and those with children in private or parochial schools, home schools, or charter schools. All of us have a level of self- interest in having the best possible public schools, regardless of whether we have children or grandchildren and regardless of the personal decisions we make about where to send our own children to school. The future of Texas children is at stake, and so is the future of Texas.

Tales of Two Cities. To illustrate the impact of inequity of learning resources for our children in Texas school districts, the following tables present concrete data from sets of two contrasting districts. The Weighted Average Daily Attendance (WADA) allocations are the number of students in each district multiplied by weight formulas for certain populations in selected instructional programs. The state's concept is to provide extra money for expensive-to-educate students. Weights are assigned, for example, to economically-disadvantaged children, those in special education programs, and children identified as gifted/talented. These districts are not necessarily districts at the top and bottom of the funding levels. Rather, they represent districts of different size. These case studies tell the story of a broken school finance system, one that is unacceptably inequitable.

Case Study I: Austin ISD and Fort Worth ISD

Austin ISD is a highly-funded school district, one of the wealthiest in the state. Fort Worth ISD, on the other hand, is not so fortunate, with its revenue per WADA falling in the low-mid-range of Texas districts. The following table illustrates the impact on budget when the per-WADA allocation differs by only $1,000 (much below the gaps between those schools in the lowest and highest deciles of funding):

	Austin ISD	Fort Worth ISD	Funding Gaps
Per-Student Funding Level*	$6,100	$5,100	$1,000
State & Local Tier 1 Revenue for 100,000 Students Each*	$610,000,000	$510,000,000	$100,000,000
With 1000 (1%) New Students*	+ $6,100,000	+ $5,100,000	$1,000,000

*Data based on most recent TEA estimates for 2009-10. *Students in Weighted Average Daily Attendance (WADA)*

Austin ISD has revenue of over *$100,000,000* more than Fort Worth ISD. Note too that when the two districts grow similarly in numbers, Austin ISD gains an additional $1,000,000 more than Fort Worth ISD for the same number of new students, even though they were already allocated $100,000,000 more. The rich get richer—and richer! Should not the children in Fort Worth ISD also have access to the opportunities that Austin ISD can provide its students with an additional $100,000,000?

The performance and demographic student data included in the following table would suggest that Fort Worth ISD needs more revenue than Austin ISD, not less. These data also strongly suggest that the student weighting methods that Texas uses underfund the true costs of educating economically-disadvantaged children.

	% Passing	Dropout Rate	% Low SES	% LEP
Austin ISD	70%	12.4%	63%	29%
Fort Worth ISD	61%	15.1%	72%	30%

Data Source: Texas Education Agency, Snapshot 2009.
% Passing = percent passing all TAKS in 2008-09; Dropout Rate = percent dropping out in 2008;
% low SES = percent of those with low socio-economic status and eligible for free/reduced lunch program;
and % LEP = percent of students identified as limited-English proficient.

Case Study II: Lewisville ISD and Alief ISD

Lewisville ISD and Alief ISD, each with approximately 55,000 WADA, provide another example of the inequities in the Texas school funding system. In this case, the revenue gap is slightly less than $1,000 per WADA, but it still makes a huge difference when multiplied by 55,000. Alief ISD has $40,000,000 less with which to educate their children than does Lewisville ISD. A 1% growth in new students awards Lewisville ISD almost a half-million dollars more than those same numbers of new students in Alief ISD.

	Lewisville ISD	Alief ISD	Funding Gaps
Per-Student Funding Level*	$5,840	$5,035	$805
State & Local Tier 1 Revenue for 55,000 Students Each*	$320,000,000	$280,000,000	$40,000,000
With 550 (1%) New Students*	+ $3,200,000	+ $2,800,000	$400,000

Data Source: Texas Education Agency. Average WADA calculations by Equity Center.

This disparity is evidence of the insufficiency of current weights in calculating the real costs of educating economically-disadvantaged and other special-needs students.

The district with significantly more to spend, in this case Lewisville ISD, is only 24% economically disadvantaged, while Alief ISD has 76%, three times as many high-needs children. Only 12% of Lewisville ISD's students are limited-English proficient, and, again, Alief ISD has three times as many—36%. There are huge gaps in TAKS scores and dropout rates. Alief ISD could, no doubt, improve their children's achievement significantly with an additional $40,000,000.

	% Passing	Dropout Rate	% Low SES	% LEP
Lewisville ISD	87%	3.8%	24%	12%
Alief ISD	69%	18.4%	76%	36%

Data Source: Texas Education Agency, Snapshot 2009.
% Passing = percent passing all TAKS in 2008-09; Dropout Rate = percent dropping out in 2008; % low SES = percent of those eligible for free/reduced lunch program; and % LEP = percent of students identified as limited- English proficient.

Case Study III: Northwest ISD and Edgewood ISD

The next two districts are Northwest ISD (Denton County) and Edgewood ISD (Bexar County):

	Northwest ISD	Edgewood ISD	Funding Gaps
Per-Student Funding Level*	$6,830	$5,070	$1,760
State & Local Tier 1 Revenue for 16,000 Students Each*	$109,000,000	$81,000,000	$28,000,000
With 160 (1%) New Students*	+ $1,090,000	+ $810,000	$280,000

Data Source: Texas Education Agency. Average WADA calculations by Equity Center.

Even if demographics were similar, these funding gaps are blatantly unfair to the children in Edgewood ISD. They become totally unacceptable when demographics are examined. Only 21% of Northwest ISD's students are economically disadvantaged, compared to 91% of Edgewood's, and Edgewood ISD serves three times as many LEP students as Northwest ISD.

There is no doubt that Edgewood ISD could provide their children with better access to opportunities to learn with an additional *$28,000,000*.

	% Passing	Dropout Rate	% Low SES	% LEP
Northwest ISD	87%	6.2%	21%	12%
Edgewood ISD	60%	18.3%	91%	36%

Data Source: Texas Education Agency, Snapshot 2009.
% Passing = percent passing all TAKS in 2008-09; Dropout Rate = percent dropping out in 2008;
% low SES = percent of those eligible for free/reduced lunch program;
and % LEP = percent of students identified as limited-English proficient.

The needs of Edgewood ISD's students are clearly great, given the high concentration of economically-disadvantaged children. Northwest ISD outperforms Edgewood both on TAKS and in dropout rates. To educate Edgewood's students to world-class standards will require more money per WADA than it will in Northwest ISD. And yet Northwest ISD receives in excess of $28,000,000 more than Edgewood ISD does for its children. In whose world is that fair?

Case Study IV: Miami ISD and Northside ISD (Wilbarger Co.)

The two smallest districts in our sample of contrasting districts are Miami ISD and Northside ISD (Wilbarger County), each with approximately 300 WADA.

These two rural districts differ greatly in the amount of money they receive to educate their children. Miami ISD receives a million dollars more than Northside ISD for 300 WADA. If each gains three additional students, Miami, already more than *one million* ahead, receives $10,000 more than does Northside ISD for their three new students.

	Miami ISD	Northside ISD	Funding Gaps
Per-Student Funding Level*	$8,380	$4,922	$3,458
State & Local Tier 1 Revenue for 300 Students Each*	$2,500,000	$1,500,000	$1,000,000
With 3 (1%) New Students*	+ $25,000	$15,000	$10,000

Data based on most recent TEA estimates for 2009-10. **Students in Weighted Average Daily Attendance (WADA)*

	% Passing	Dropout Rate	% Low SES	% LEP
Miami ISD	93%	0%	20%	0%
Northside ISD	65%	33%	47%	0%

Data Source: Texas Education Agency, Snapshot 2009.
% Passing = percent passing all TAKS in 2008-09; Dropout Rate = percent dropping out in 2008; % low SES = percent of those eligible for free/reduced lunch program;
and % LEP = percent of students identified as limited-English proficient.

Miami ISD has fewer than half as many students qualifying for free/reduced lunch (only 20%) than does Northside ISD with 47%. Neither district has limited-English proficient students. Equitable funding for Northside ISD would enable them much better to serve their economically disadvantaged students, almost half of all their students. The differences in test scores and dropout rates are testimony to the needs.

As these case studies clearly demonstrate, the state's system for allocating revenue to its 1,025 districts is clearly unfair and inequitable and does not, as Cortez explains, adequately take "into account that students with different needs require different levels of funding to address those needs." He concludes that the Texas system ensures minimal adequacy for most of the state's children and excellence for others.[163]

Other Broken Pieces. One of the reasons that the system no longer works is that many of the policies that make up the total allocations were created decades ago and no longer reflect reality.

- The Cost of Education Index (CEI), for instance, was adopted in 1990.[164]
- The "wealth hold harmless" provision approved by the legislature as a temporary measure in 1993 is still in place—to the point of becoming "hold harmful."[165]

- The transportation allocations have not changed since 1984.[166]
- The weighted student formulas, created more than 20 years ago, only cover ¼ to ½ of study-determined real costs. The weight for LEP students is only 0.1, the lowest weight assigned to any group.[167]

Other pieces of the system, recently created, are designed to give greater advantages to those districts that are already well-funded. For example, the so-called Target Revenue Hold Harmless scheme takes the state back to the pre-HB 1 system of 2006.[168] The state enacted H.B. 1 in 2006 that allows even more unequalized local enrichment, resulting in greater inequity. Too, schools with very low dropout rates receive the same money per high school student to improve their rates as schools with very high dropout rates.[169] The differential available between wealthy and poor districts for facilities funding is also a huge problem. Currently, the state recaptures none of the revenue available through facilities funding (I&S or debt service taxes) from wealthy districts. As a result, wealthy districts can raise generous amounts of revenue at low tax levels for facilities. On the other hand, low-wealth and mid-wealth districts receive state assistance for facilities only on 60% of the pennies of tax available for that purpose. Additionally, the state assistance level is at the exact same level as when it was created in 1999. That funding level has deteriorated from districts with more than 90% of ADA receiving assistance at its inception, to only districts with 55% of ADA receiving assistance now. Facilities funding now serves wealthy districts to a much higher degree than others. In fact, the wealthiest districts with about 9% of the state's ADA (the percent of ADA originally above the equalized system) can now build the facilities that they need with much, much lower tax rates than the citizens in low-wealth districts are assessed.[170]

Neither is the equalized portion of the system designed to adjust due to inflation. Construction costs have gone up, energy costs have skyrocketed. Health care premiums increase annually. The cost of other goods and services do not stay static either. And employees need cost-of-living raises, just as they do in the private sector. Education funding methods are set by the legislature at constant levels, and sometimes they remain there for decades, regardless of the economic situation.

Texas school finance is a many-layered, very complex system. For thorough

explanations and definitions of finance terms, see the resources suggested on the inside back cover.

Depleting Fund Balances. Media reports have alerted Texans to budget shortfalls for 2010-11, and we are seeing reports of teacher layoffs, school closings, elimination of programs, no cost-of-living increases, decisions to pass along rising health care costs to employees, and other draconian measures just to get by. In just two years (2007-08 and 2008-09), according to data provided by TEA, 40% of Texas districts spent more than $1.1 billion from their fund balances in order to avoid budget deficits. Officials are predicting that more than 60% of the districts will have to dip into fund balances for the 2010-11 school year. Fund balances are recommended by the state in order to maintain cash flow for two to three months each fall before sufficient revenue becomes available.[171] Fund balances are also necessary to protect the district from unanticipated crises and to pay for long-range improvements.

Unfunded Mandates. Also contributing to the budget shortfalls are hundreds of unfunded mandates[172] and transparency requirements[173] enacted by state and federal governments. Both good and bad ideas get passed into law, and far too many times they are either underfunded or not funded at all, requiring local districts to pick up the costs. A recent example is the new requirement for defibrillators in all school facilities. One superintendent reports that his district had to spend $380,000 in the first year to comply.[174]

Crises. New public expectations for safety require responses from districts, whether there are appropriations or not. It would be interesting to know how much security initiatives have cost Texas schools since September 11, 2001. The H1N1 flu epidemic is another example of an unanticipated and unfunded crisis that had to be addressed. Districts hit by recent hurricanes found it difficult to replace and repair damaged schools and their contents. When gasoline and other energy costs spike, the bills have to be paid.

Rising Expectations. When the rigor of curriculum standards is increased, when graduation requirements are heightened, when new curriculum areas are added, and as accountability requirements are raised, so too do costs for implementation. Technology costs, along with professional development and training programs, ongoing technical support for staff and students, and software purchases and licensing renewals are other examples

of major expenditures in today's budgets, and they grow annually. Twenty-first century schools have twenty-first century needs, and those needs are not being met in Texas with our twentieth-century budgets.

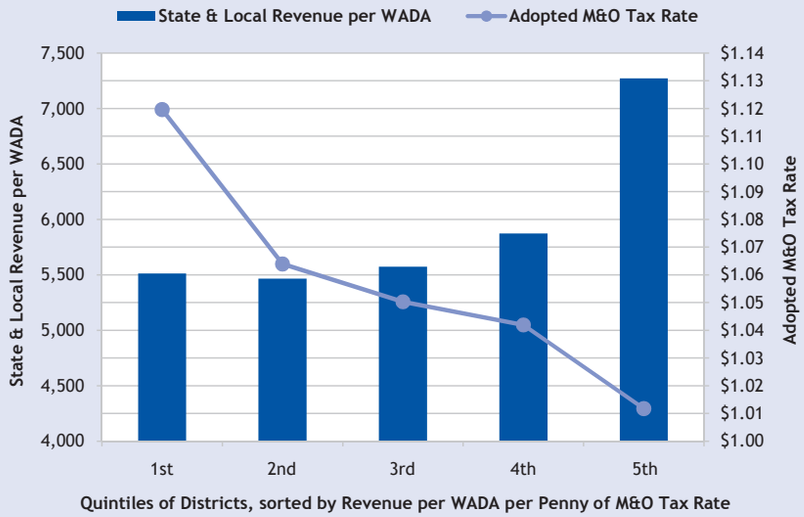
Taxpayer Inequity. An equitable school funding system must ensure equity not only for students, but also for taxpayers. The funding gaps in Texas did not arise from the unwillingness of citizens in low-funded districts to support education. Ironically, those districts with the lowest levels of funding tax at the highest rates, but the state and local yield for a penny of tax in one district may vary greatly from the yield in another.[175] The textbook definition of taxpayer equity follows: "From a school finance perspective, a system would be judged fair to taxpayers if every taxpayer was assured that a given tax rate would translate into the same amount of spending per pupil regardless of where the taxpayer lived."[176]

Inequities in school funding and for taxpayers are the result of the Lone Star State's heavy reliance on property taxes to fund our children's schools. There are huge disparities in the assessed property values, depending upon zip codes. The state, then, has a responsibility to equalize funding and taxes in order to have a fair system and to ensure that all of our children have access to learning resources relative to their needs. Of the 1,025 school districts in Texas that collect property taxes, there are more than 100 districts with taxable values at or below $100,000 per student, and there are more than 60 districts with taxable values that exceed $1 million per student.

In Graph 6, school districts are ranked by state and local Maintenance and Operations (M&O) revenue per penny of tax rate per weighted average daily attendance (WADA), then divided into five groups (quintiles). The revenue per WADA (shown in blue) reflects the average of the districts in each quintile, *after* recapture.[177]

The gray trend line depicts the tax rates at each level of revenue, represented by the blue bars. Districts with the highest tax rates ($1.12) are able to generate significantly less money with which to educate their children than the districts with tax rates just over $1.00. The average revenue gap is about $2,000, but the range is from about $4,000 to $14,000.

Tax High, Spend Low versus Tax Low, Spend High

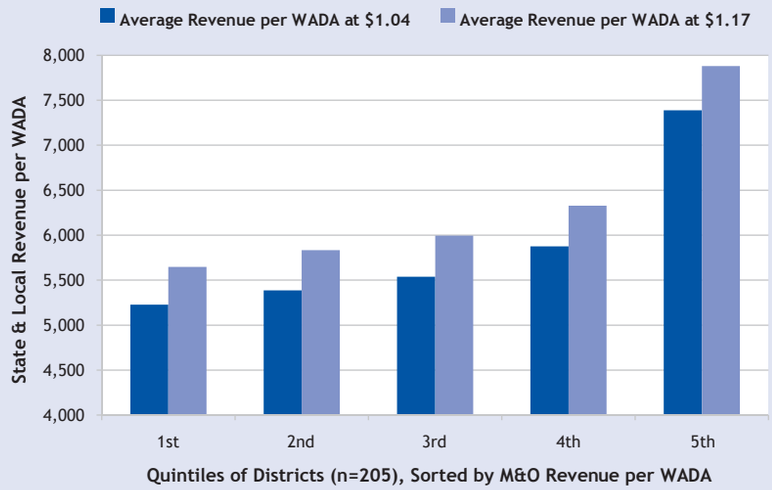


Data source: Texas Education Agency.

GRAPH 6:

Comparison: 2009-10 M&O Revenue per WADA to Adopted Tax Rate

Graph 7 illustrates the wide disparities in tax rates and yields among Texas districts. A wealthy district can raise far more money with a tax rate of $1.04 than a property-poor district with a tax rate of $1.17. In fact, the 80% of districts in the first four quintiles cannot raise as much money taxing their property-owners at $1.17 as the top quintile can at a $1.04 tax rate. These disparities constitute taxpayer inequity.



Data source: Texas Education Agency.

GRAPH 7:

2009-10 State & Local Revenue per WADA at $1.04 and $1.17 M&O Tax Rates

An Addition to the Texas Government's Report Card. The Chance for Success Index published by Education Week in January 2010 gave Texas a grade of D+ in the area of school finance, due chiefly to the funding gaps and taxpayer inequities.[178] Given the evidence before us, it is easy to see why. We have, for sure, a Texas-sized problem.

Why We Must Act

"What happens to a
dream deferred?
Does it dry up
Like a raisin in the sun?"

- Langston Hughes
Poet, Novelist, Playwright,
Short Story Writer, Columnist

It's almost overwhelming. Rising percentages of children who are economically disadvantaged. Rising percentages of LEP students needing to learn English—and the curriculum of the school. Increasing numbers of pre-kindergarten students needing services so that they are first-grade ready. Large gaps between funding levels of districts in the percentages of students passing TAKS. Large gaps remaining in dropout and graduation rates. Rising expectations to graduate all students with college/workforce readiness knowledge and skills. Critical needs to fund well the areas that matter greatly in improving achievement.

Inequitable funding allocations. A school funding system that is broken in so many pieces it is difficult to enumerate them all. Enormous funding gaps between similar districts. Unfunded or underfunded mandates and requirements for transparency. Unanticipated crises that require resources immediately. Deteriorating buildings and needs for additional schools due to enrollment growth. Unacceptable taxpayer inequities.

Money Does Matter! There is no lack of evidence that money matters, and we know that opportunities to learn are where it matters the most. Research confirms that effective teachers, small classes, pre-kindergarten, interventions, rigorous curriculum, and adequate instructional materials and technology do, indeed, improve student learning and adult success. Economists verify that improved learning results in very large returns on investment, making a grander and more "wonderful" Texas possible for us all.

We can enact during the next legislative session an equitable and fair funding system in order to increase opportunities to learn, based more on student needs than on the geography of where students live. We can define performance standards for schools that will enable Texas to lead the nation, and we can fund schools with the recognition that it simply costs more to

reach those standards in districts with high poverty and other educational challenges than in "average" districts. We can fix the broken system. No one, including school staffs, can truly be held accountable for results when they do not have the resources they need to serve the children.

Money matters—because children matter. The argument to fix our broken school finance system is justified strictly on the basis that it is not fair, not just, nor moral. Texans know the value of a level playing field, fair play, and equal opportunities. Too, lack of access to the resources that matter most—effective teachers, smaller classes, early childhood education, interventions that accelerate learning, rigorous curriculum, and adequate instructional resources, including technology—is harming the majority of our children. It is clear that many of those with the highest needs have the least access to equal opportunities to learn.

And money matters—because the future of Texas matters. Our argument is greatly strengthened when we realize the future consequences of not creating great schools. Money matters in very concrete ways, and while an unfair system is a serious social, moral, and/or political concern, unfair funding combined with mediocre performance are also already impacting our economy, our quality of life, and the promises for the future. According to the 2009 Schott Foundation's report on lost opportunities, Texas ranks 14th among the states in the percentage of pre-school students having access to high quality early childhood education, 11th in access to highly qualified teachers, 43rd in access to instructional materials, and 24th in access to college preparatory curriculum. Overall, we rank 43rd among the states in disadvantaged children's access to opportunities to learn, combined with measures of educational quality.

An eye-popping *$6.8 billion* is the annual cost to Texans, according to the Schott Foundation, for this dysfunctional system. Included in that calculation are the lost earnings of dropouts, losses in costs of health care, crime-related losses, and reduction in taxes paid—every year![179] Texas cannot be "wonderful" and "great" if these conditions continue, much less grow in "power and worth." This amount of money would more than pay the cost of a school finance system that is both adequate and equitable for all Texas children!

The Benefits of Action. If we act, and if we act now, there are great quality-of-life and economic benefits possible. For example, the Alliance for Excellent Education (2009) studied the economic benefits of reducing the dropout rates. They published data specific to the nation's largest metropolitan areas, including the five largest areas in Texas. A summary of their study follows.[180]

The Benefits of Cutting the Dropout Rate in Half
Dollar Amounts Are in Millions

Metro Areas	Austin	Dallas Ft. Worth	El Paso	Houston	San Antonio
2007-08 Dropouts	5,700	29,000	5,500	26,900	10,500
Increased Earnings	$29	$197	$33	$167	$58
Increased Spending	$21	$143	$25	$120	$42
Increased Investments	$8	$54	$7	$44	$14
Increased Home Sales	$47	$304	$43	$257	$82
Increased Auto Sales	$3	$15	$3	$13	$5
New Jobs Created	250	1,700	300	1,150	550
Increased Gross Regional Product	$39	$277	$42	$218	$77
Additional Tax Revenue	$3	$19	$3	$16	$5
Increased % Going to College	69%	65%	65%	59%	61%

Data Source: Alliance for Excellent Education (2009).
Row 1—the number of dropouts in each metropolitan area between 2007-09. Row 2—increased earnings in an average year of those graduating instead of dropping out. Row 3—increased amount that graduates could spend in an average year. Row 4—increased amount that graduates could invest in an average year. Row 5—amount of increased home sales to graduates. Row 6—amount of increased automobile sales to graduates. Row 7—number of new jobs that would be created. Row 8—increased amount of Gross Regional Product (GRP) by mid-career point of graduates. Row 9—increased taxes paid in an average year. Row 10—increased percentage of students continuing in post-secondary education.

These impressive results would be realized if we reduced the dropout rate by half in the metropolitan areas. If we reduced the dropout rates even more, the economy would truly boom! Graduating more students will require investments in more and higher-quality teachers, smaller class sizes, expansions of our pre-school programs, interventions at all levels of schools, rigorous curriculum, and adequate and appropriate learning resources and technology. Economists in general strongly agree that there are huge economic gains to be realized if we have more successful schools.[179]

Statistics from the U.S. Census Bureau confirm the economic benefits to individuals of formal education.

- High school dropouts were earning in 2007 an average of $21,484 annually.
- High school graduates earned an average of $31,286.
- Those with bachelor's degrees earned an average of $57,181.
- Individuals with master's degrees had an average income of $70,186.
- Those with professional degrees earned $120,978.[183]

As income goes up, of course, so do amounts paid in taxes. The United States loses $192 billion, 1.6% of GDP, in combined income and tax revenue with each cohort of 18-year-olds who never complete high school.[184] Spending increases as incomes rise, invigorating the economy. And more jobs are created, providing even greater wealth to the community.

Many studies also identify tremendous savings for taxpayers when there are higher levels of educational attainment. Better-educated citizens have dramatically fewer needs for social services than do dropouts. We all do better when education improves. Some examples follow:

- The less education a mother has, the less likely she is to access prenatal care.[185]
- In 2006, 13.5% of all Texas births were to teens ages 13-19.[186]
- Individuals with higher levels of education are less likely to experience unemployment, regardless of race, ethnicity, or gender.[187]
- College graduates are more likely than high school graduates to work for an employer that offers a pension plan and more likely to participate in a pension plan.[188]
- College graduates are more likely to have employer-provided health insurance.[189]
- A high school graduate lives nine years longer than a dropout and is less likely to suffer from cardiovascular disease, cancer, lung disease, diabetes, and infections.[190]
- Individuals with higher levels of education are far less likely to participate in government-funded social programs like Medicaid, school lunch programs, and food stamps.[191]

> ***"Education has the possibility of making both the individual receiving it and others better off. A more educated society may lead to higher rates of innovation and invention, make everybody more productive by helping firms introduce new and better production methods, and lead to more rapid introduction of new technologies."***[165]
>
> ***- Eric A. Hanushek, Senior Fellow, Hoover Institute, Stanford University***

- Individuals who are arrested or incarcerated are less likely to have completed high school. Approximately 75% of state prison inmates, 59% of federal inmates, and 69% of jail inmates did not complete high school.[192]
- By increasing the graduation rate among males by just 10 percent, murder and assault arrests would decrease about 20 percent, motor vehicle theft arrests would drop by 13 percent, and arson arrests would drop by 8 percent.[193]
- In terms of reduced policing, government programs to combat crime, state-funded victim costs, trials, sentencing and incarceration, the average savings per high school graduate would be $26,000 per year.[194]

"We know that education is expensive, but poor and inadequate education for substantial numbers of our young may have public and social consequences that are even costlier"[178]

- Clive Belfield, Professor of Economics, Queens College, City University of New York, and Henry Levin, Professor Economics and Education, Teachers College, Columbia University

We absolutely cannot allow these huge problems of low educational performance and inequitable and inadequate funding to continue, not with all the glory of our past and not with all our dreams for our future "power and worth." We can make the investments now for our children, who will, in turn, ensure our future. Money matters! Texas has the talent, the grit, and the money to lead the nation in education attainment, even to outperform all other nations.[196] What could be more "grand" and "glorious" than that?

Educators say that Americans have invested enormous energy is discussions about the achievement gap, but we have paid little attention to the opportunity gap—the differences in the key education resources that matter.[197] They advise us to align our resources behind the results we hope to see and to ensure equitable and flexible school funding systems.

The Call to Action. It is the hope of the Equity Center and its member districts that the information presented here will expand the conversation from one focused solely on the achievement gap and accountability to a discussion that includes the opportunity gap and how and why money matters. Equity Center member districts also hope that Texans in all our diversity will once again rally behind the values in our Constitution and anthem and resolve again to create a "wonderful" and "great" state. It is likely that finding the money for an equitable system of funding will not be nearly as difficult as finding the political will to do what is right, but we all have to help row that boat we are all in. We all have to take responsibility for all the children. They all are OUR children.

Why We Must Act Now!

We are guilty of many errors and
many faults, but our worst crime
is abandoning the children,
neglecting the fountain of life.
Many of the things we need can wait.
The child cannot.
Right now is the time
his bones are being formed,
his blood is being made, and
his senses are being developed.
To him we cannot answer "Tomorrow."
His name is "Today."

-- Gabriela Mistral (1889-1957), Teacher, Nobel Laureate in Literature

End Notes:

Overview

1. McCown, S. (June 2003). Telling it like it is. What a good school finance system should look like. *Equity Center News & Notes*, pp. 1-2. (Testimony provided in 2003 to the Texas House Select Committee on School Finance.)

The Status of Texas School Children

2. Center for Public Policy Priorities (2010). *The state of Texas children 2009-2010.* Retrieved April 5, 2010, from http://www.cppp.org/fact-book09/texas_profile.php?fipse=99999
3. Texas Education Agency (2000). *Snapshot 1999*. Retrieved July 31, 2010, from http://ritter.tea.state.tx.us/perfreport/snapshot/99/state.html
4. Texas Education Agency (2010). *Snapshot 2009*. Retrieved July 31, 2010, from http://ritter.tea.state.tx.us/perfreport/snapshot/2009/state.html
5. Center for Public Policy Priorities (2010). See note 2.
6. Texas Education Agency (2000). See note 3.
7. Texas Education Agency (2010). See note 4.
8. Center for Public Policy Priorities (2010). See note 2.
9. National Center for Children in Poverty (2009). Demographics of poor children: Texas. Retrieved April 5, 2010, from http://www.nccp.org/profiles/TX-profile_7.html
10. Sable, J., Plotts, C. & Chen, C. (August 2010). *Public elementary and secondary student enrollment and staff counts from the common core of data: School year 2008-09*. National Center for Education Statistics. United States Department of Education. Retrieved August 3, 2010, from http://nces.ed.gov/pubs2010/2010347.pdf
11. United States Department of Agriculture (2009). County-level unemployment and median household income for Texas. Retrieved July 24, 2010, from http://www.ers.usda.gov/data/unemployment/RDList2.asp?ST=TX&SF=11A
12-13. Deviney, F. & Gutierrez, F. (2010). Our border, our future: Children and families living on the Texas-Mexico border. Texas *KIDS COUNT*. Center for Public Policy Priorities. Retrieved June 11, 2010, from http://www.cppp.org/kidscount/borderreport/
14-16. Texas Education Agency (2009). *Snapshot: School district profiles, 2008-2009*. Retrieved March 22, 2010, from http://ritter.tea.state.tx.us/perfreport/snapshot/
17. Editorial Projects in Education Research Center (2010). Graduation by the numbers: Putting data to work for student success. Diplomas Count 2010. *Education Week*. Retrieved July 11, 2010, from http://www.edweek.org/ew/toc/2010/06/10/index.html
18. Center for Public Policy Priorities (2010). See note 2.
19-20. College Board (2010). *The college completion agenda*. Retrieved Aug. 2, 2010, from http://completionagenda.collegeboard.org/state-performance/state/texas
21. Schott Foundation for Public Education (2008). Lost Opportunity: Texas: Low Proficiency and Low Access. Retrieved May 30, 2010, from http://www.otlstatereport.org/states and http://www.otlstatereport.org/states/texas
22-23. National Education Association (2010). *NEA Rankings and Estimates: Rankings of the States 2009 and Estimates of School Statistics 2010*. Retrieved July 24, 2010, from http://www.nea.org/edstats
24-25. College Board (2010). See note 19.
26. National Center for Education Statistics (2010). The nation's report card: Texas snapshot report for grade 4 reading. Retrieved April 10, 2010, from http://nces.ed.gov/nationsreportcard/states/ (Click on Snapshot Report for Grade 4 Reading.)
27. National Center for Education Statistics (2010). The nation's report card: Texas snapshot report for grade 4 mathematics. Retrieved April 10, 2010, from http://nces.ed.gov/nationsreportcard/states/ (Click on Snapshot Report for Grade 4 Mathematics.)
28. National Center for Education Statistics (2010). The nation's report card: Texas snapshot report for grade 8 reading. Retrieved April 20, 2010, from http://nces.ed.gov/nationsreportcard/states/ (Click on Snapshot Report for Grade 8 Reading.)
29. National Center for Education Statistics (2010). The nation's report card: Texas snapshot report for grade 8 mathematics. Retrieved April 10, 2010, from http://nces.ed.gov/nationsreportcard/states/ (Click on Snapshot Report for Grade 8 Mathematics.)
30. United States Census Bureau (2010). States ranked according to per pupil elementary-secondary public school system finance amounts: 2007-08. *Public elementary-secondary education finance data*. Retrieved June 28, 2010, from http://www.census.gov/govs/school/
31. Deviney, F. & Gutierrez, F. (2010). See note 12.

Why Money Matters

32. Jensen, E. (2009). *Teaching with poverty in mind: What being poor does to kids' brains and what schools can do about it*. Alexandria, VA: Association for Supervision and Curriculum Development, p. 45.
33. Rebell, M. A. (May 19, 2007). Poverty, "meaningful" educational opportunity, and the necessary role of the courts. *North Carolina Law Review*, 85, pp. 1481-82. Retrieved October 29, 2009, from http://www.schoolfunding.info/resource_center/research/Rebell-Poverty6-07.pdf
34. Greenwald, R., Hedges, L. V., & Laine, R. D. (1996). The effect of school resources on student achievement. *Review of Educational Research 66(3),* 362. Ferguson, R. F. (1991). Paying for public education: New evidence of how and why money matters. *Harvard Journal on Legislation*, 28, 465-498. Grissmer, D., Flanagan, A., & Williamson, S. (1997). *Does money matter for minority and disadvantaged students? Assessing the new empirical evidence*. Washington, DC: National Center for Education Statistics. Retrieved June 4, 2010, from http://www.icpsr.umich.edu/icpsrweb/ICPSR/biblio/series/00126/resources/12600;jsessionid=F9E52C4743D43AA3AC7388EB58BEE03F
35. Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future*. New York, NY: Teachers College, Columbia University, p. 119.

36. Rebell, M. A. (May 19, 2007), pp. 1478-1479. See note 33.
37. Ravich, D. (2010). *The death and life of the great American school system: How testing and choice are undermining education*. New York, NY: Perseus Books Group, pp. 228-229.
38. Koski, W. S. & Levin, H. M. (2000). Twenty-five years after Rodriguez: What have we learned? *Teachers College Record*. Retrieved June 25, 2010, from http://www.tcrecord.org/content.asp?contentid=10485
39. Grissmer, D., Flanagan, A., & Williamson, S. (1997). See note 34.
40. Rebell, M. A. (May 19, 2007), p. 1487. See note 33. Ravich, D. (2010), p. 21. See note 37. Darling-Hammond, L. (2010), p. 102. See note 35.
41-43. Rebell, M. A. (May 19, 2007), pp. 1514-1515, 1518. See note 33. Rebell, M. A. & Wardenski, J. J. (Jan. 2004). *Of course money matters: Why the arguments to the contrary never added up*. The Campaign for Fiscal Equity, Inc. p. 7. Retrieved Feb. 12, 2010, from http://www.schoolfunding.info/resource_center/research/MoneyMattersFeb2004.pdf
44. Schott Foundation for Public Education (2008). See note 21.
45. Schott Foundation for Public Education (2008). Lost opportunity: A 50 state report on the opportunity to learn in America. Retrieved May 30, 2010, from http://www.otlstatereport.org/
46. Darling-Hammond, L. (2010), p. 328. See note 35.

Effective Teachers Matter

47. Intrator, S. M. & Scribner, M. (2003). *Teaching with fire: Poetry that sustains the courage to teach*. San Francisco, CA: Jossey-Bass, p. 47.
48-49. Whitehurst, G. J. (2002). Research on teacher preparation and professional development. Presentation at the White House Conference on Preparing Quality Teachers, March 5, 2002. Retrieved July 6, 2010, from http://ies.ed.gov/director/speeches2002/03_05/2002_03_05.asp. See also research summary in Patterson, C. & Story, J. (2005). *Better salaries for teachers in Texas public schools*. Texas Public Policy Foundation. Retrieved Aug. 20, 2010, from http://www.texaspolicy.com/pdf/2005-11-teacherpay-rr.pdf
50-51. Jerald, C. D., Haycock, K., & Wilkins, A. (November 2009). Fighting for quality and equity, too: How state policymakers can ensure the drive to improve teacher quality doesn't just trickle down to poor and minority children. Retrieved March 22, 2010, from http://www.edtrust.org/dc/publication/fighting-for-quality-and-equality-too
52. The Education Trust (2007). Their fair share: How Texas-sized gaps in teacher quality shortchange low-income and minority students. Washington, DC: The Education Trust. Retrieved March 22, 2010, from http://www.edtrust.org/dc/publication/their-fair-share-how-texas-sized-gaps-in-teacher-quality-shortchange-poor-and-minority
53. Hanushek, E. A. (June 2005). Why quality matters in education. Finance and Development, 42(2). Retrieved July 21, 2010, from http://www.imf/org/external/pubs/ft/fandd/2005/06/hanushek.htm
54. Jerald, C. D., Haycock, K., & Wilkins, A. (November 2009). See note 50.
55. Scharrer, G. (July 20, 2010). Students need great teachers. *San Antonio Express-News*. Retrieved July 21, 2010, from http://www.mysanantonio.com/new/local_news/students-need-great-teachers_98883739.html
56. Leonhardt, D. (July 27, 2010). The case for $320,000 kindergarten teachers. *The New York Times*. Retrieved July 29, 2010, from http://www.nytimes.com/2010/07/28/business/economy/28leonhardt.html
57. Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (March 2005). Teachers, schools, and academic achievement Ecpmp,etroca. 73(2), 171-183.
58. Ferguson, R. F. (1991). See note 34. Rebell, M. A. (May 19, 2007). See note 33. Horng, E. L. (September 2009). Teacher tradeoffs: Disentangling teachers' preferences for working conditions and student demographics. *American Educational Research Journal*, *46(3),* 690-717.
59. Rebell, M. A. (May 19, 2007). See note 33.
60. Horng, E. L. (September 2009). See note 58. Hirsch, E. & Emerick, S. (2006). Teaching and learning conditions are critical to the success of students and the retention of teachers. Center for Teaching Quality. Retrieved on July 12, 2010, from http://www.teachingquality.org/legacy/twcccsd2006.pdf. Bill and Melinda Gates Foundation (2010). *Primary sources: America's teachers on America's schools*. Scholastic and the Bill and Melinda Gates Foundation. Retrieved June 1, 2010, from http://www.scholastic.com/primarysources/download.asp
61. Rebell, M. A. (May 19, 2007). See note 33. Horng, E. S. (September 2009). See note 58. Berry, B., Daughtrey, A., & Wieder, A. (n.d.). *A better system for schools: Developing, supporting, and retaining effective teachers*. Hillsborough, NC: Center for Teaching Quality. Retrieved June 4, 2010, from http://nwrcc.educationnorthwest.org/resource/754
62. Whitehurst, G. J. (2002). See note 48. Guskey, T. R. & Yoon, K. S. (March 2009). What works in professional development? *Phi Delta Kappan, 90(7),* 495-500. Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* New York, NY: Routledge. Hirsch, E. & Emerick, S. (2006). See note 60.
63. Horng, E. S. (September 2009). See note 58. Hirsch, E. & Emerick, S. (2006). See note 60.
64. Hirsch, E. & Emerick, S. (2006). See note 60.
65. Rebell, M. A. (May 19, 2007). See note 33. Horng, E. S. (September 2009). See note 58. Berry, B., Daughtrey, A., & Wieder, A. (n.d.). See note 61.
66. Eskelsen, L. ((July 13, 2010). Building the perfect teacher. *Lily's blackboard*. Retrieved July 16, 2010, from http://lilysblackboard.org/2010/07/building-the-perfect-teacher
67. Ferguson, R. F. (1991). See note 34. Horng, E. L. (September 2009). See note 58.
68. Horng, E. L. (September 2009). See note 58. Berry, B., Daughtrey, A., & Wieder, A. (n.d.). See note 61. Hirsch, E. & Emerick, S. (2006). See note 60. Giroux, H. A. (April 14, 2010). In defense of public school teachers in a time of crisis. *Truthout*. Retrieved April 14, 2010, from http://www.truthout.org/in-defense-public-school-teachers-a-time-crisis58567 Rebell, M. A. & Wardenski, J. J. (Jan. 2004). p. 14. See note 41.
69. Berry, B., Daughtrey, A. & Wieder, A. (n.d.). See note 61.
70. The following studies relate to the importance of teacher salaries: Ferguson, R. F. (1991). See note 34. Berry, B., Daughtrey, A. & Wieder, A. (n.d.). See note 61. Bill and Melinda Gates Foundation (2010). See note 60. Allegretto, S., Corcoran, S., & Mishel, L. (March 7, 2008). The teaching penalty: Teacher pay losing ground. Washington, DC: Economic Policy Institute. Retrieved July 11, 2010, from http://www.epi.org/publications/entry/book_teaching_penalty/. Bushaw, W. J. & McNee, J. A. (September 2009). Americans speak out: Are educators and policy makers listening? The 41st annual Phi Delta Kappa/Gallup poll of the public's attitudes toward public schools. *Phi Delta Kappan*, *91(1),* 8-23.

Bushaw, W. J. & Lopez, S. J. (Sept. 2010). A time for change: The 42nd annual Phi Delta Kappa/Gallup poll on the public attitudes toward the public schools. *Phi Delta Kappan*, 92(1), 9-14.
71. National Education Association (2010). See note 22.
72. Levin, H. M. & Belfield, C. R. (2007). Educational interventions to raise high school graduation rates. In C. R. Belfield & H. M. Levin (Eds.), *The price we pay: Economic and social consequences of inadequate education* (pp. 177-199). Washington, DC: Brookings Institution Press.
73. Darling-Hammond (2010), p. 40. See note 35. The Education Trust (2007). See note 52.
74. Combs, S. (March 2006). The cost of underpaying Texas teachers. Austin, TX: Texas Comptroller of Public Accounts. Retrieved July 21, 2010, from http://www.window.state.tx.us/specialrpt/teachersalary06/
75. MetLife (2005). *MetLife Survey of the American Teacher. 2005. Transitions and the role of supportive relationships: A survey of teachers, principals and students 2004-05.* New York, NY: MetLife.
76. Bill and Melinda Gates Foundation (2010). See note 60.
77. Edmonds, R. R. (1979). Effective schools for the urban poor. *Educational Leadership*, 37(2), 15-24. Retrieved July 19, 2010, from http://www.ascd.org/ASCD/pdf/journals/ed_lead/el_197910_edmonds.pdf
78. Hanushek, E. A. (June 2005). See note 53. Darling-Hammond, L. (2010). See note 35. Rebell, M. A. & Wardenski, J. J. (Jan. 2004). See note 41. Mayer, D. P., Mullens, J. E., Moore, M. T., & Ralph, J. (December 2000). *Monitoring school quality: An indicators report.* National Center for Education Statistics. Retrieved April 6, 2010, from http://nces.ed.gov/pubs2001/2001030.pdf. Viadero, D. (May 8, 2010). Twin study bolsters arguments for good teachers. *Education Week*. Retrieved June 15, 2010, from http://www.edweek.org/ew/articles/2010/04/22/30twins.h29.html. Whitehurst, G. J. (2002), p. 6. See note 48. Gates, M. F. (February 19, 2010). Education reform, one classroom at a time. *Washington Post*. Retrieved February 19, 2010, from http://www.washingtonpost.com/wpdyn/content/article/2010/02/18/AR2010021802919.html. Ferguson, R. F. (1991). See note 34. Berry, B., Daughtrey, A. & Wieder, A. (n.d.). See note 61. Combs, S. (2006). See note 74. Alliance for Excellent Education (August 2005). Teacher attrition: A costly loss to the nation and to the states. *Issue Brief.* Retrieved July 21, 2010, from http://www.all4ed.org/files/archive/publications/TeacherAttrition.pdf. Hanushek, E. A. & Rivkin, S. G. (Spring 2007). Pay, working conditions, and teacher quality. www.futureofchildren.org. Retrieved July 21, 2010, from http://www.princeton.edu/futureofchildren/publications/journals/article/index.xml?journalid=34&articleid=76&sectionid=442

Small Classes Matter

79. Ferguson, R. F. (1991). See note 34. Biddle, B. J. & Berliner, D. C. (2003). Policy perspectives: What research says about unequal funding for schools in America. WestEd. Retrieved March 22, 2010, from http://www.wested.org/cs/we/view/rs/694. Mosteller, F. (Autumn, 1995). The Tennessee study of class size in the early school grades. *The Future of Children*, *3(2),* 112-127. Retrieved March 22, 2010, from https://www.princeton.edu/futureofchildren/publications/docs/05_02_08.pdf. Rebell, M. A. & Wardenski, J. J. (Jan. 2004). See note 41. American Educational Research Association (Fall 2003). Class size: Counting students can count. Essential Information for Education Policy. *Research Points*, 1(2). Retrieved April 6, 2010, from http://www.aera.net/uploadedFiles/Journals_and_Publications/Research_Points/RP_Fall03.pdf
Konstantopoulos, S. & Chung, V. (October 19, 2009). What are the long-term effects of small classes on the achievement gap? Evidence from the lasting benefits study. *American Journal of Education*, 2009, *116(1),* 125. Retrieved March 22, 2010, from http://news.msu.edu/media/documents/2009/10/4dc7ac16-dcd4-4525-9f1d-c324a4385f0f.pdf. Mayer, D. P., Mullens, J. E., Moore, M. T., & Ralph, J. (December 2000). See note 78. Finn, J. D., Gerber, S. B., Achilles, C. M., & Boyd-Zaharias, J. (April 2001). The enduring effects of small classes. *Teachers College Record*, *103(2),* 145-183. McLaughlin, D., Drori, G., Ross, M. (May 2000). School-level correlates of academic achievement: Student assessment scores in SASS public schools. National Center for Education Statistics. Retrieved on March 22, 2010, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2000303
80. Murname, R. J. & Levy, F. (1996). Evidence from fifteen schools in Austin, Texas. In G. Burtless (Ed.), *Does money matter? The effect of school resources on student achievement and adult success* (pp. 93-96). Washington, DC: The Brookings Institution Press.
81. Ferguson, R. F. (1991). See note 34. Biddle, B. J. & Berliner, D. C. (2003). See note 79. Mosteller, F. (Autumn, 1995). See note 79. American Educational Research Association (Fall 2001). See note 79. Stutz, T. (May 10, 2010). Texas lawmakers discuss easing public school class size limit to cut costs. *The Dallas Morning News*. Retrieved July 10, 2010, from http://www.dallasnews.com/sharedcontent/dws/dn/latestnews/stories/051010dntwclasssize.3f89c03.html.
Konstantopoulos, S. & Chung, V. (October 19, 2009). See note 79. Finn, J. D., Gerber, S. B., Achilles, C. M., & Boyd-Zaharias, J. (April 2001). See note 79.
82. Biddle, B. J. & Berliner, D. C. (2003). See note 79. American Educational Research Association (Fall 2001). See note 79. Mayer, D. P., Mullens, J. E., Moore, M. T., & Ralph, J. (December 2000). See note 79. McKee, G., Rivkin, S. & Sims, K. (January 2010). Disruption, skill and heterogeneous benefits of smaller classes. Retrieved March 22, 2010, from http://www.econ.uconn.edu/Seminar%20Series/rivkin10.pdf
83. McLaughlin, D., Drori, G., Ross, M. (May 2000). See note 79.
84. McKee, G., Rivkin, S. & Sims, K. (January 2010). See note 82.
85. American Educational Research Association (Fall 2001). See note 79. Finn, J. D., Gerber, S. B., Achilles, C. M., & Boyd-Zaharias, J. (April 2001). See note 79. Mayer, D. P., Mullens, J. E., Moore, M. T., & Ralph, J. (December 2000). See note 79. Lazarin, M. (Sept. 15, 2008). An education agenda for Latino students. Center for American Progress. Retrieved March 29, 2010, from http://www.americanprogress.org/issues/2008/09/latino_education.html
86. American Educational Research Association (Fall 2001). See note 79. Finn, J. D., Gerber, S. B., Achilles, C. M., & Boyd-Zaharias, J. (April 2001). See note 79. Mayer, D. P., Mullens, J. E., Moore, M. T., & Ralph, J. (December 2000). See note 79. Lazarin, M. (Sept. 15, 2008). See note 85. McKee, G., Rivkin, S. & Sims, K. (January 2010). See note 82.
87. Horng, E. L. (September 2009). See note 58. National Education Association (2010). See note 22.
88. Ramsey, R. (May 25, 2010). A lousy grade. *The Texas Tribune*. Retrieved May 25, 2010, from http://www.texastribune.org/stories/2010/may/25/barely-passing/print/
89. Study was conducted by Equity Center. The random sample of 38 schools included at least one from each large metropolitan area in Texas. Each school's website included average class size, not adult-student ratios.
90. Hattrup, G. P. (Nov. 1, 1993). How to establish the proper span of control for managers. Industrial Management. Retrieved July 10, 2010,

from http://www.allbusiness.com/management/412518-1.html. Meier, K. J. & Bohte, J. (2000). Ode to Luther Gulick: Span of control and organizational performance. *Administration and Society*, 32(2), 115-137. Retrieved July 10, 2010, from http://teep.tamu.edu/pubs/gulick1.pdf

91. The original quotation said 40 people. The change was made to reflect today's class sizes.

Pre-Kindergarten Matters

92. Center for Public Policy Priorities (2010). See note 2. Heckman, J. J. & Masterov, D. V. (January 2007). The productivity argument for investing in young children. *Review of Agricultural Economics*, *29(3),* 446-493. Retrieved July 10, 2010, from http://jenni.uchicago.edu/human-inequality/papers/Heckman_final_all_wp_2007-03-22c_jsb.pdf. Schott Foundation for Public Education (2008). See note 45. Berliner, D. C. (March 2009). *Poverty and potential: Out-of-school factors and school success*. Education Policy Research Unit. Tempe, AZ: Arizona State University. Retrieved March 22, 2010, from http://epicpolicy.org/publication/poverty-and-potential. Hodgkinson, H. (January 2006). The whole child in a fractured world. Retrieved March 9, 2010, from http://www.ascd.org/ascd/pdf/fracturedworld.pdf. Hart, B. & Risley, T. R. (1995). *Meaningful differences in the everyday experience of young American children.* Baltimore, MD: Paul H. Brookes Publishing Co. Crosnoe, R., Leventhal, T., Wirth, R. J., Pierce, K. M., and Pianta, R. C. (May 13, 2010). Family socioeconomic status and consistent environmental stimulation in early childhood. *Child Development*. Retrieved June 1, 2010, from http://www.sciencedaily.com/releases/2010/05/1005/100514074913.htm

93. Center for Public Policy Priorities (2010). See Note 2. Belfield, C. R. (2007). The promise of early childhood education interventions. In C. R. Belfield & H. M. Levin (Eds.), *The price we pay: Economic and social consequences of inadequate education* (pp. 200-224). Washington, DC: Brookings Institution Press. Educational Testing Service (ETS) (Winter 2005). Addressing achievement gaps: Progress and prospects for minority and socioeconomically disadvantaged students and English-language learners. *Policy Notes*, 13(1). Policy Evaluation and Research Center. Retrieved July 5, 2010, from http://www.ets.org/Media/Research/pdf/PICPN131.pdf

94. Calman, L. J. & Tarr-Whelan, L. (April 2005). Early childhood education for all: A wise investment. New York, NY: Legal Momentum's Family Initiative and the MIT Workplace Center. Retrieved July 10, 2010, from http://web.mit.edu/workplacecenter/docs/Full%20Report.pdf. Rebell, M. A. & Wardenski, J. J. (Jan. 2004). p.18. See note 41. Crosnoe, R., Leventhal, T., Wirth, R. J., Pierce, K. M., and Pianta, R. C. (May 13, 2010). See note 92. Educational Testing Service (ETS) (Winter 2005). See note 93. Hodgkinson, H. (January 2006). See note 92. Hart, B. & Risley, T. R. (1995). See note 92. Lipina, S. & Colombo, J. (2009). *Poverty and brain development during childhood: An approach from cognitive psychology and neuroscience*. Washington, DC: American Psychological Association.

95. Center for Public Policy Priorities (2010). See Note 2. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). Early intervention on a large scale. *Education Week*. Retrieved July 10, 2010, from http://www.minneapolisfed.org/publications_papers/studies/earlychild/early_intervention.cfm. Lipina, S. & Colombo, J. (2009). See note 94.

96. Heckman, J. J. & Masterov, D. V. (January 2007). See note 92. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). See note 95. Wilder, T., Allgood, W., & Rothstein, R. (November 10, 2008). *Narrowing the achievement gap for low-income children: A 19-year life cycle approach.* Paper prepared for the 2008 Equity Symposium of the Campaign for Educational Equity, "Comprehensive Educational Equity: Overcoming the Socio-economic Barriers to School Success," Teachers College, Columbia University, Nov. 17-18, 2008. Retrieved December 14, 2009, from http://www.epi.org/publications/entry/narrowing_the_achievement_gap_for_low-income_children/. Lipina, S. & Colombo, J. (2009). See note 94.

97. Heckman, J. J. & Masterov, D. V. (January 2007). See note 92. Calman, L. J. & Tarr-Whelan, L. (April 2005). See note 94. Wilder, T., Allgood, W., & Rothstein, R. (November 10, 2008). See note 96.

98. Center for Public Policy Priorities (2010). See Note 2. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). See note 95. Wilder, T., Allgood, W., & Rothstein, R. (November 10, 2008). See note 96. Educational Testing Service (ETS) (Winter 2005). See note 94. Lipina, S. & Colombo, J. (2009). See note 94. Rebell, M. A. & Wardenski, J. J. (Jan. 2004). See note 41.

99. Hart, B. & Risley, T. R. (1995). See note 92. Heckman, J. J. & Masterov, D. V. (January 2007). See note 92. Calman, L. J. & Tarr-Whelan, L. (April 2005). See note 94.

100. Hart, B. & Risley, T. R. (1995). See note 92. Belfield, C. R. (2007). See note 93. Kilburn, M. R. & Karoly, L. A. (2008). The economics of early childhood policy: What the dismal science has to say about investing in children. Santa Monica, CA: The RAND Corporation. Retrieved June 10, 2010, from http://www.rand.org/pubs/occasional_papers/OP227/. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). See note 95. Berliner, D. C. (March 2009). See note 79. Schott Foundation for Public Education (2008). See note 45. Crosnoe, R., Leventhal, T., Wirth, R. J., Pierce, K. M., and Pianta, R. C. (May 13, 2010). See note 92.

101. Belfield, C. R. (2007). See note 93. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). See note 95. Calman, L. J. & Tarr-Whelan, L. (April 2005). See note 94. Wilder, T., Allgood, W., & Rothstein, R. (November 10, 2008). See note 96. Educational Testing Service (ETS) (Winter 2005). See note 94. Lipina, S. & Colombo, J. (2009). See note 94.

102. Wilder, T., Allgood, W., & Rothstein, R. (November 10, 2008). See note 96.

103. Belfield, C. R. (2007). See note 93. Wilder, T., Allgood, W., & Rothstein, R. (November 10, 2008). See note 96.

104. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). See note 95. Hart, B. & Risley, T. R. (1995). See note 92.

105. Hart, B. & Risley, T. R. (1995). See note 92. Christensen, C. M., Horn, M. B., & Johnson, C. W. (2008). *Disrupting class: Howdisruptive innovation will change the way the world learns*. New York, NY: McGraw Hill. Heckman, J. J. & Masterov, D. V. (January 2007). See note 92.

106. Heckman, J. J. & Masterov, D. V. (January 2007). See note 92.

107. Kilburn, M. R. & Karoly, L. A. (2008). See note 100. Heckman, J. J. & Masterov, D. V. (January 2007). See note 92. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). See note 95. Calman, L. J. & Tarr-Whelan, L. (April 2005). See note 94.

108. Rolnick, A. J. & Grunewald, R. (Jan. 4, 2007). See note 95.

109. Wilder, T., Allgood, W., & Rothstein, R. (November 10, 2008). See note 96. Rebell, M. A. & Wardenski, J. J. (Jan. 2004), p. 20. See note 41. Crosnoe, R., Leventhal, T., Wirth, R. J., Pierce, K. M., and Pianta, R. C. (May 13, 2010). See note 92. Rolnick, A. J. & Grunewald, R. (Jan. 4., 2007). See note 95. Calman, L. J. & Tarr-Whelan, L. (April 2005). See note 94. Educational Testing Service (ETS) (Winter 2005). See note 95. Lazarin, M. (Sept. 15, 2008). See note 85. Hart, B. & Risley, T. R. (1995). See note 92. Christensen, C. M., Horn, M. B., & Johnson, C. W. (2008). See note 105. Barnett, W. S., Schulman, K. & Shore, R. (December 2004). Class size: What's the best fit? *Preschool Policy Matters*, 9. National Institute for Early Education Research. Retrieved July 21, 2010, from http://nieer.org/resources/policybriefs/9.pdf

110. Lazarin, M. (Sept. 15, 2008). See note 85.

111. Center for Public Policy Priorities (2010). See Note 2.

112. Legislative Budget Board (July 2007). Early childhood care and education programs in Texas. Austin, TX: Texas Legislature. (See Figure 7, p. 12.) Retrieved July 19, 2010, from http://www.lbb.state.tx.us/Health_Services/Early_Childhood_Care_0707.pdf

Interventions Matter

113. Christensen, C. M., Horn, M. B., & Johnson, C. W. (2008). See note 105. Jensen, E. (2009). See note 32. Darling-Hammond, L. (2010). See note 35. Lipina, S. & Colombo, J. (2009). See note 94. Organisation for Economic Co-operation and Development (OECD) (2007). *Understanding the brain: The birth of a learning science*. Paris, France: OECD Publishing.
114. Jensen, E. (2009). See note 32.
115. Wolf, M. (2007). *Proust and the squid: The history and science of the reading brain*. New York: HarperCollins Publishers.
116. Hattie, J. (2009). See note 62.
117. Kilburn, M. R. & Karoly, L. A. (2008). See note 100. Lipina, S. & Colombo, J. (2009). See note 94. Vellutino, F. R., Scanlon, D. M., Small, S. G., Fanuele, D. P., & Sweeney, J. M. (2007). Preventing early reading difficulties through intervention in kindergarten and first grade. In D. Haager, J. Klingner, & S. Vaughn (Eds.), *Evidence-based reading practices for response to intervention* (pp. 185-219). Baltimore: Paul H. Brookes Publishing Co.
118. Neuman, S. B. (October 2007). Changing the odds. *Educational Leadership*, *65(2),* 16-21.
119. Collier, V. P. (Fall 1995). Acquiring a second language for school. *Directions in Language and Education*, 1(4). Retrieved July 21, 2010, from http://www.thomasandcollier.com/Downloads/1995_Acquiring-a-Second-Language-for-School_DLE4.pdf
120. Hart, B. & Risley, T. R. (1995). See note 92. National Reading Panel (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction.* Reports of the subgroups. Washington, DC: US Department of Health and Human Services. National Institutes of Health. National Council of Teachers of Mathematics (2006). *Curriculum Focal Points*. Reston, VA: National Council of Teachers of Mathematics. Marzano, R. J. & Kendall, J. S. with Gaddy, B. B. (1999). *Essential knowledge: The debate over what American students should know*. Aurora, CO: McREL. Marzano, R. J. (1998, December). *A theory-based meta-analysis of research on instruction*. Aurora, CO: McREL.
121. Mercer, C. D. & Mercer, A. R. (2005). *Teaching students with learning problems* (7th ed.). Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall. Rose, D. H. & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning.* Alexandria, VA: Association for Supervision and Curriculum Development. Alliance for Excellent Education (January 2004). Reading for the 21st century: Adolescent literacy teaching and learning strategies. *Issue Brief*. Washington, DC: Alliance for Excellent Education.
122. Rose, D. H. & Meyer, A. (2002). See note 121. Wolf, M. (2007). See note 115. Doidge, N. (2007). *The brain that changes itself: Stories of personal triumph from the frontiers of brain science*. New York: Penguin Books. Shaywitz, S. E. & Shaywitz, B. A. (2004). Neurobiological basis for reading and reading disability. In P. McCardle & V. Chhabra (Eds.), *The voice of evidence in reading research* (pp. 417-442). Baltimore, MD: Paul H. Brookes Publishing Co. Kandel, E. R. (2006). *In search of memory: The emergence of a new science of mind*. New York, NY: W. W. Norton and Company. Sternberg, R. J. (2003). *Cognitive psychology (3rd ed.)*. Belmont, CA: Wadsworth/ Thompson Learning. Bruer, J. T. (1993). *Schools for thought: A science of learning in the classroom*. Cambridge, MA: MIT Press.
123. Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist*, *41(2),* 75-86. Retrieved September 16, 2007, from http://www.cogtech.usc.edu/publications/kirschner_Sweller_Clark.pdf. Mercer, C. D. & Mercer, A. R. (2005). See note 121. National Research Council (1997). *Educating one and all: Students with disabilities and standards-based reform.* Washington, DC: National Academy Press.
124. Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). See note 123. Mercer, C. D. & Mercer, A. R. (2005). See note 121. Geraci, M. G. (2002). *Designing web-based instruction: A research review on color, typography, layout, and screen density*. Beaverton, OR: University of Oregon Applied Information Management Program.
125. Kandel, E. R. (2006). See note 122. Jensen, E. (2009). See note 32. Sternberg, R. J. (2003). See note 122. Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: Association for Supervision and Curriculum Development. Shaywitz, S. (2003). *Overcoming dyslexia: A new and complete science-based program for reading problems at any level*. New York, NY: Alfred A. Knopf.
126. National Reading Panel (2000). See note 120. Wolf, M. (2007). See note 115. Mercer, C. D. & Mercer, A. R. (2005). See note 106. Wu. J. (Summer 2001). How to prepare students for algebra. *American Educator*. Retrieved May 16, 2006, from http://www.aft.org/pubsreports/amerian_educator/sum01/wu.pdf. National Research Council (2001). *Adding it up: Helping children learn mathematics*. J. Kilpatrick, J. Swafford, & B. Findell (Eds.). Mathematics Learning Committee, Center for Education, Division of Behavioral and Social Sciences and Education. Washington, DC: National Academy Press.
127. Marzano, R. J., Pickering, D. J., & Pollock, J. E. (2001). See note 125. Mercer, C. D. & Mercer, A. R. (2005). See note 121. Willis, J. (2006). *Research-based strategies to ignite student learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
128. National Research Council (1997). See note 123. Mercer, C. D. & Mercer, A. R. (2005). See note 121. Snow, C. E., Burns, S. M., & Griffin, P. (Eds.) (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press. Jensen, E. (2009). Rebell, M. A. & Wardenski, J. J. (Jan. 2004), p. 24. See note 41.
129. International Reading Association (2001). Making a difference means making it different: Honoring children's rights to excellent reading instruction. A position statement. [Brochure]. Newark, DE: International Reading Association. Alliance for Excellent Education (2004). How to know a good adolescent literacy program when you see one: Quality criteria to consider. *Issue Brief*. Washington, DC: Alliance for Excellent Education. Bonstingl, J. J. (1992). *Schools of quality: An introduction to Total Quality Management in education*. Alexandria, VA: Association for Supervision and Curriculum Development.
130. Snow, C. E., Burns, S. M., & Griffin, P. (Eds.) (1998). See note 128. Darling-Hammond, L. (2010). See note 35. Neuman, S. B. (October 2007). See note 118.
131. Neuman, S. B. (2009). *Changing the odds for children at risk: Seven essential principles of educational programs that break the cycle of poverty*. New York, NY: Teachers College Press.

Rigorous Curriculum, Materials, and Technology Matter

132. Bush, G. W. (October 13, 2004). Third Bush-Kerry Debate. Temple, AZ. Retrieved March 19, 2010, from http://www.ontheissues.org/Celeb/George_W__Bush_Education.htm
133. Rebell, M. A. (May 19, 2007), p. 1518. See note 33. Darling-Hammond, L. (2010). See note 35. Reschovsky, A. & Imazeki, J. (October 2000). *Achieving educational adequacy through school finance reform*. Consortium for Policy Research in Education. University of Pennsylvania. Retrieved June 4, 2010, from http://www.eric.ed.gov:80/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=ED465202&ERICExtSearch_SearchType_0=no&accno=ED465202
134. Obama, B. (2010). United States Department of Education (March 2010). A blueprint for reform: The reauthorization of the Elementary and Secondary Education Act. Washington, DC: United States Department of Education. Retrieved March 22, 2010, from http://www2.ed.gov/policy/elsec/leg/blueprint/blueprint.pdf
135. Scott, R. (June 25, 2009). House Bill (HB) 3 and graduation requirements for 2009-2010. TEA correspondence. Retrieved July 13, 2009, from http://ritter.tea.state.tx.us/taa/comm062509.html Texas Higher Education Coordinating Board and Texas Education Agency (December 2006). Implementation report: P-16 college readiness and success strategic action plan. A report to the 80th legislature. Retrieved July 12, 2010, from http://www.thecb.state.tx.us/index.cfm?objectid=7FD77659-E087-B26F-8E8508CBC054642D. Texas Education Agency (May 2010). *Advanced placement and international baccalaureate examination results in Texas, 2008-09*. Austin, TX: Texas Education Agency. Retrieved Aug. 3, 2010, from http://www.tea.state.tx.us/index4.aspx?id=4119
136. Texas Education Agency (July 2010). *Secondary school completion and dropouts in Texas public schools, 2008-09.* Department of Assessment, Accountability, and Data Quality. Division of Accountability Research. Retrieved July 17, 2010, from http://www/tea/state/tx/us/index4.aspx?id=4080
137. For a detailed discussion of the barriers to implementing more rigorous curriculum, see the following: Texas Association of School Boards (March 2009). Barriers to implementing college and workforce readiness initiatives in Texas. Retrieved July 13, 2010, from http://www.tasb.org/legislative/resources/documents/barriers_handout.pdf
138-139. National Center for Education Statistics (2010). See notes 27-30. For 2008-09 TAKS scores, see http://www.tea.state.tx.us/index3.aspx?id=4114&menu_id=793
140. Mathis, W. J. (July 2010). The "Common Core" standards initiative: An effective reform tool? Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved July 11, 2010, from http://epicpolicy.org/publication/common-core-standards . See also the following analysis: Rebell, M. A. & Wardenski, J. J. (Jan. 2004), p. 34. See note 41.
141. Horng, E. L. (September 2009). See note 58.
142. Bill and Melinda Gates Foundation (2010). See note 60.
143. Samuels, C. (Oct. 31, 2007). "Universal design" concept pushed for education. *Education Week*. Retrieved Oct. 31, 2007, from http://www.edweek.org/ew/articles/2007/10/31/Oudl.B27.html?print=1 Rose, D. H. & Meyer, A. (2002). See note 121.
144. Hattie, J. (2009). See note 62. Christensen, C. M., Horn, M. B., & Johnson, C. W. (2008). See note 105. Center for Policy Studies and Hamline University (February 2008). The other half of the strategy: Following up on system reform by innovating with school and schooling. Retrieved March 22, 2010, from http://www.educationevolving.org/pdf/Innovatingwithschooling.pdf. Dede, C. (June 2, 2010). Transforming schooling via the 2010 National Educational Technology Plan. *Teachers College Record*. Retrieved July 16, 2010, from http://www.tcrecord.org/PrintContent.asp?ContentID=15998
145. Macaruso, P. & Hook, P. E. (Summer 2007). Computer assisted instruction: Successful only with proper implementation. *Perspectives on Language and Literacy*. The International Dyslexia Association. Retrieved March 10, 2010, from http://www.lexialearning.com/files/IDAPerspectives_Implementation.pdf
146-151. North Central Regional Educational Laboratory (NCREL) (2005). *Critical issue: Using technology to improve student achievement*. Retrieved May 1, 2008, from http://ncrel.org/sdrs/areas/issues/methods/technlgy/te800.htm
152. Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies*. United States Department of Education. Retrieved March 9, 2010, from http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf
153. Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). See note 152. Nagel, D. (July 1, 2009). Meta-analysis: Is blended learning most effective? *THE Journal*. Retrieved July 13, 2009, from http://thejournal.com/Articles/2009/07/01/Meta-Analysis-IS-Blended-Learning-Most-Effective . Watson, J. (n.d.). *Blended learning: The convergence of online and face-to-cace education*. North American Council for Online Learning. Retrieved March 20, 2010, from http://www.inacol.org/research/promisingpractices/NACOL_PP-BlendedLearning-lr.pdf
154. Means, B., Toyama, Y., Murphy, R., Bakia, M. & Jones, K. (2009). See note 152.
155. Cavanaugh, C., Gillan, K. J., Kromrey, J., Hess, M., & Blomeyer, R. (October 2004). The effects of distance education on K-12 student outcomes: A meta-analysis. Learning Point Associates. p. 14. Retrieved March 20, 2010, from http://www.ncrel.org/tech/distance/index.html
156. Edmunds, J. A. (2008). Using alternative lenses to examine effective teachers' use of technology with low-performing students. Teachers College Record, 110(1), pp. 195-217. Retrieved February 5, 2008, from http://www.tcrecord.org/PrintContent.asp?ContentID=14568
157. Hightower, A. M. (Mar. 26, 2009). Tracking U.S. trends. Technology counts 2009. *Education Week*, 28(26), pp. 30-33).

Inequities in the Texas Funding System

158. McCown, S. (June 2003). See note 1.
159. Bushaw, W. J. & McNee, J. A. (September 2009). See note 70.
160. Bushaw, W. J. & Lopez, S. J. (Sept. 2010). See note 70.
161. Ramsey, R. (May 25, 2010). See note 88.
162. Hightower, A. M. (January 14, 2010). State of the states: Holding all states to high standards. *Quality Counts 2010. Education Week.* Retrieved April 6, 2010, from http://www.edweek.org/ew/articles/2010/01/14/17stateofstates.h29.html?tkn=NUZF9euyk6r3U2YAVc7mPOs+ihAZ+ymEg&print=1
For the report on state ranks, see http://www.edweek.org/ew/marketplace/products/qc2010-shr.html

163. Cortez, A. (2009). *The status of school finance equity in Texas,* pp. 4 & 11. San Antonio, TX: Intercultural Development Research Association. Retrieved June 4, 2010, from http://www.eric.ed.gov/PDFS/ED510074.pdf
164. For explanations and analyses of the CEI, see the following: Colbert, P. (March 2010). The Cost of Education Index. *Equity Center News & Notes*, 2-3, 6). Duncombe, W. D. & Yinger, J. M. (1999). Performance standards and educational cost indexes: You can't have one without the other. In H. F. Ladd, R. Chalk, & J. S. Hansen (Eds.), *Equity and adequacy in education finance: Issues and perspectives* (pp. 260-297). Washington, DC: National Academy Press. Taylor, L. (n.d.). *Adjusting for geographic variations in teacher compensation: Updating the Texas Cost-of-Education Index*. Texas A&M University. Retrieved Aug. 11, 2010, from http://bush.tamu.edu/research/faculty/TXSchoolFinance/papers/AdjustingForGeographicVariationsInTeacherCompensation.pdf
165. Equity Center (May 2008). Sometimes I feel like a 41—sometimes I don't. *Equity Center News & Notes*, pp. 1-6.
166. Equity Center (April 2010). Movin' on down the road. *Equity Center News & Notes*, 29(3), 4-5.
167. For discussions of student weights, see Cortez, A. (2009). See note 146. Legislative Budget Board (March 2009). *Foundation school program: Fiscal and policy studies*. Austin, TX: Texas Legislature. Retrieved June 4, 2010, from http://www.lbb.state.tx.us/Education/Public/FoundationSchool_FiscalPolicy_0301.pdf. Equity Center (April 2010). Student weights: Recognizing variations in the cost of educating children. *Equity Center News & Notes*, 29(3), pp. 1, 3. Equity Center (MAY 2010). Watching your weights: Calculating weighted ADA (WADA). *Equity Center News & Notes*, 29(4), 3-4.
168. Equity Center (December 2008). Eliminating the target revenue hold-harmless. *Equity Center News & Notes*, 27(5), 1-2.
169. Equity Center (April 2010). The high school allotment. *Equity Center News & Notes*, 29(3), 6-9.
170. For discussions of facilities funding issues, see the following: Luke, C. (January 2009). Horizontal and vertical equity in Texas public school facilities funding. *Equity Center News & Notes*, 28(1), pp. 3-7. Equity Center (January/February 2010). Inefficient, inequitable, and just plain wrong. *Equity Center News & Notes*, p. 5. Retrieved April 7, 2010, from http://www.equitycenter.org/members/newsletters/Jan.Feb%202010%20NNotes.pdf.
171. There is no state policy on fund balances, but maintaining funds for two months of expenses is recommended by Texas Education agency. Verified by e-mail on Aug. 6, 2010.
172. Texas Association of School Administrators & Texas Association of School Boards (November 2008). Report on school district mandates: Cost drivers in public education. Retrieved July 19, 2010, from http://www.tasb.org/legislative/legislative/reports/documents/unfunded_web.pdf
173. Texas Association of School Boards (February 2009). Transparency mandates on school districts. Retrieved July 20, 2010, from http://www.tasb.org/legislative/documents/transparency.pdf
174. Middleton, R. (March 2008). Testimony to the Texas House Committee on Higher and Public Education Finance. *Equity Center News & Notes, 27(1),* 4-7.

Taxpayer Inequities

175. Consortium for Policy Research in Education (2007). *School finance inequities*. Madison, WI: Consortium for Policy Research in Education. Retrieved March 16, 2010, from http://cpre.wceruw.org/finance/inequities.php
176. Berne, R. & Stiefel, L. (1999). Concepts of school finance equity: 1970 to the present. In H. F. Ladd, R. Chalk, & J. S. Hansen (Eds.), *Equity and adequacy in education finance: Issues and perspectives* (pp. 7-33). Washington, DC: National Academy Press.
177. For a definition and explanation of "recapture," see Texas Education Agency (Apr. 2010). School finance 101: Funding of Texas public schools, p. 25. Retrieved July 6, 2010, from http://www.tea.state.tx.us/portals.aspx?id=7022&menu_id=645
178. Hightower, A. M. (January 14, 2010). See note 162.

Why We Must Act. Now!

179. Schott Foundation for Public Education (2008). See note 21.
180. Alliance for Excellence in Education (n.d.). *The economic benefits of reducing the dropout rate in the nation's largest metropolitan areas*. Retrieved June 28, 2010, from http://www.all4ed.org/publication_material/EconMSA
181. Hanushek, E. A. (June 2005). See note 53. Belfield , C. R. & Levin, H. M. (2007). *The price we pay: Economic and social consequences of inadequate education* (pp. 1-17). Washington, DC: Brookings Institution Press.
182. Hanushek, E. A. (June 2005). See note 53.
183. U. S. Census Bureau (2007). Mean earnings by highest degree earned: 2007. *Current Population Survey*. Retrieved Aug. 11, 2010, from http://www.census.gov/population/www/socdemo/educ-attn.html
184. Levin, H. M. (2005). The social costs of inadequate education. Paper prepared for Teachers College Symposium on Educational Equity, Columbia University, October 26, 2005. Retrieved Aug. 11, 2010, from http://www.mea.org/tef/pdf/social_costs_of_inadequate.pdf
185-186. Center for Public Policy Priorities (2010). See note 2.
187-194. College Board (2009). Facts for education advocates: The economic impact of education. Retrieved Aug. 11, 2010, from http://professionals.collegeboard.com/profdownload/Facts_For_Education_Advocates_Sept.pdf
195. Belfield, C. R. & Levin, H. M. The education attainment gap: Who's affected, how much, and why it matters. In C. R. Belfield & H. M. Levin (Eds.). *The price we pay: Economic and social consequences of inadequate education* (pp. 1-20). Washington, DC: The Brookings Institution Press.
196. For an analysis of the educational practices of Finland, the highest-performing nation, see the following: Darling-Hammond (Summer 2009). Steady work: How Finland is building a strong teaching and learning system. *Voices in Urban Education*, 24. Annenberg Institute. Retrieved June 11, 2010, from http://www.annenberginstitute.org/vue/summer09/Darling.php Also see Darling-Hammond, L. (2010), note 35.
197. Darling-Hammond, L. (2010). See note 35.

Would You Like to Know More?

Overview of Equity Issues

Darling-Hammond, L. (2010). *The flat world and education: How America's commitment to equity will determine our future*. New York, NY: Teachers College, Columbia University.

Status of Texas Children

Center for Public Policy Priorities—*KIDS COUNT 2009:* http://www.cppp.org/factbook09/texas_profile.php?fipse=99999

School Finance and Equity Issues

Equity Center: www.equitycenter.org

Intercultural Development Research Association (IDRA): Fair Funding for the Common Good

http://www.idra.org/Education_Policy.htm/Fair_Funding_for_the_Common_Good/

Texas Education Agency—Finance: http://www.tea.state.tx.us/index.aspx?id=2147484908&menu_id=645&menu_id2=789&cid=2147483657

Texas Association of School Boards—School Finance Topics: http://www.tasb.org/legislative/resources/finance.aspx

Texas Association of School Boards—*School Finance 101*:
http://ritter.tea.state.tx.us/school.finance/School_Finance_101.pdf

Center for Public Policy Priorities—*Building Texas: The 2008 Tax and Budget Primer*
http://www.cppp.org/research.php?aid=763

Dropout and Graduation Rates

Texas Education Agency: http://www.tea.state.tx.us/index4.aspx?id=4080

Texas Academic Achievement

Texas Education Agency—*Snapshot 2009*: http://ritter.tea.state.tx.us/perfreport/snapshot/. Click at top of each column to find names of districts in each wealth tier. Then click on district name to retrieve demographic and performance data.

Texas Performance on NAEP

Grade 4 reading. http://nces.ed.gov/nationsreportcard/pdf/stt2009/2010460TX4.pdf
Grade 4 mathematics. http://nces.ed.gov/nationsreportcard/pdf/stt2009/2010454TX4.pdf
Grade 8 reading. http://nces.ed.gov/nationsreportcard/pdf/stt2009/2010460TX8.pdf
Grade 8 mathematics. http://nces.ed.gov/nationsreportcard/pdf/stt2009/2010460TX8.pdf

College Admission Tests

ACT Scores: http://www.act.org/news/data/09/pdf/output/ACT_Texas_Output.pdf
SAT Scores: http://professionals.collegeboard.com/profdownload/TX_09_03_03_01.pdf

Economic Benefits of Education

Belfield, C. R. & Levin, H. M. (Eds.) (2007). *The price we pay: Economic and social consequences of inadequate education*. Washington, DC: Brookings Institution Press.

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