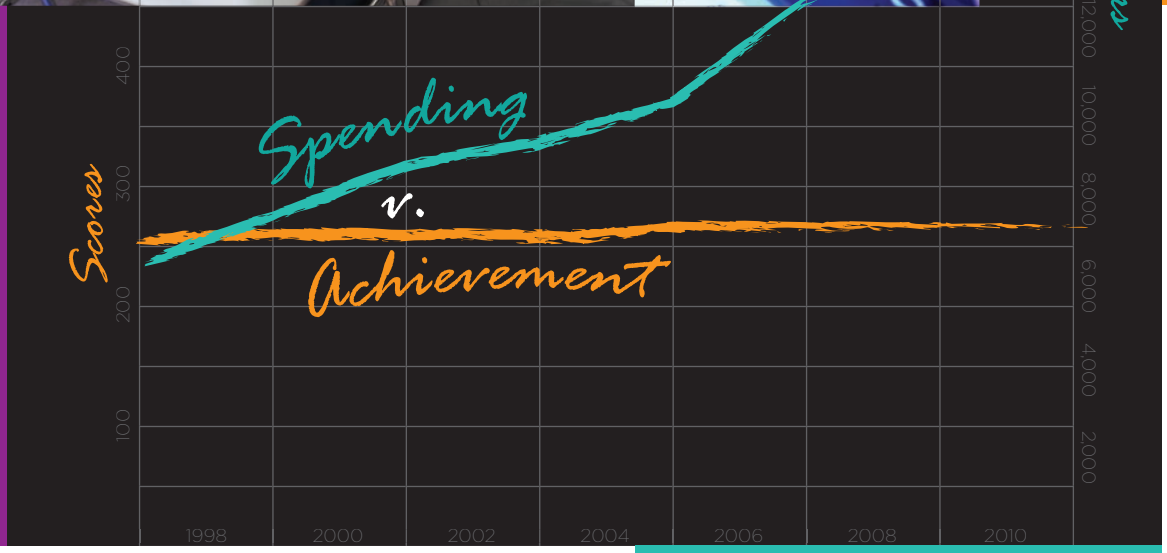
Removing Barriers to Better Public Education:

Analyzing the facts about student achievement and school spending



KANSAS·POLICY INSTITUTE

by
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and
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Executive Summary

There's no question that some students receive an excellent public education but that's not true of many students, both here in Kansas and across the country. State education officials and legislators in many states are aggressively transforming public education in order to increase student achievement and better prepare students for success in college and careers.

Yet there remains strong resistance to change among most Kansas education officials. The Kansas State Board of Education has gone so far as to say that any public discussions of education issues should specifically exclude examination of what other states are doing and that discussions should be limited to " … Kansans talking about Kansas education."[1]

Putting Rank and Achievement in Context

	% Students Proficient+		Kansas Rank
	Kansas	U.S. Avg.	
Reading - 4th Grade	36%	32%	10
Reading - 8th Grade	35%	32%	17
Math - 4th Grade	48%	40%	6
Math - 8th Grade	41%	34%	10

Source: NCES, Nation's Report Card Proficient+ includes students rated Proficient or higher (Advanced)

Part of the resistance to change is driven by a widely-held belief that Kansas' public schools have very high achievement levels and are among the best in the nation. Unfortunately, the data shows actual achievement is much lower and that high national rankings are driven by demographics and the relatively poor performance of all states. For example, parents and legislators may hear that Kansas' 4th Grade students have the tenth highest proficiency rate in the country but few people know that that is based on only 36% of Kansas' 4th Grade students actually being considered Proficient. Having only a third to one-half of students rated Proficient puts high rankings in a different context.

Kansas Slightly Above Average (Scale Score)

	All Students	White	Hispanic	Black
U.S. Average	1,007	1,044	954	939
Kansas	1,027	1,047	972	948
Kansas Variance	2.0%	0.3%	1.9%	1.0%

Source: Nation's Report Card, State results; composite scale scores for 4th Grade and 8th Grade students in Reading and Math.

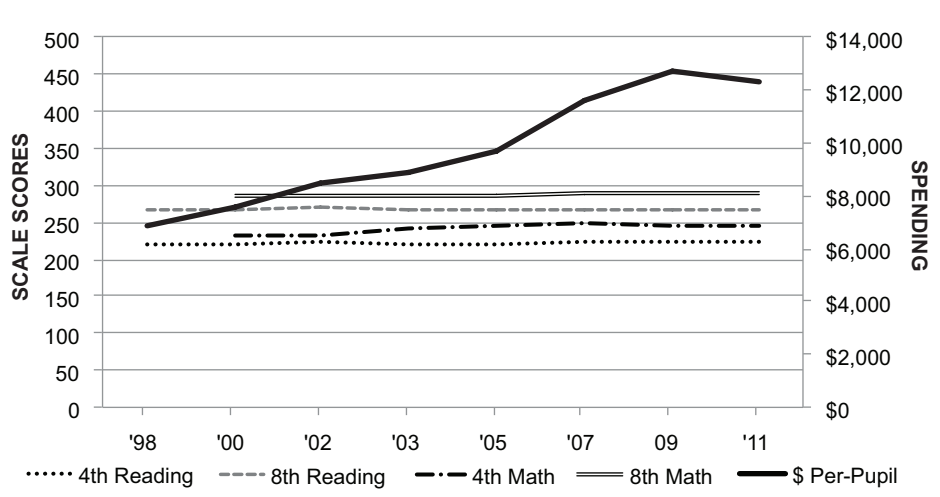
Stark differences in demographics and unnecessary but nonetheless real achievement gaps among certain ethnic groups and other student cohorts invalidate any comparison of overall achievement among the states. We can, however, fairly compare the performance of the same student cohorts among the states. Looking at individual student populations, we see that Kansas is barely above average. That's not meant as a derogatory statement; it's just reality.

Another barrier to improving public education is the notion that spending more money is the key to having higher achievement. Again, the data shows otherwise.

Between 1998 and 2011, total aid to Kansas public schools increased from $3.1 billion to $5.6 billion, far outpacing inflation. On a per-pupil basis, spending went from $6,828 to $12,283. Meanwhile, test scores barely changed.

Some states with high spending levels have higher scores than most states, but further analysis demonstrates that very similar scores are recorded by states that spend as much as 50% less. Other high-spending states

Chart 1: Kansas: Flat Scale Score Despite Large Spending Increases



Source: Nation's Report Card (KS scale scores), Kansas Department of Education (spending)

[1] Email dated August 13, 2010 from State Board of Education chair David Dennis, stating the Board's collective position.

actually have relatively low achievement levels. In fact, the states with the best scores for most primary student cohorts in the region spend far less. Texas spent $1,411 less per-pupil than Kansas yet has higher composite scores with all three cohorts.

Whether substantive change in public education is necessary is not an absolute 'right or wrong' decision; it's a subjective personal decision that each Kansas must make. As those decisions can only come from having good information, by providing pertinent and contextual information, this analysis attempts to assist Kansans in reaching their own informed decisions.

Regional Scale Scores and Spending Comparison

	2011 Composite Scale Score			2009 Current Spending Per Pupil
	White Students	Hispanic Students	Black Students	
Kansas	1,047	972	948	$9,951
Colorado	1,070	958	959	$8,718
Texas	1,064	982	971	$8,540
Missouri	1,031	965	913	$9,529
Oklahoma	1,015	949	932	$7,885
Nebraska	1,039	947	917	$10,045

Source: Nation's Report Card, State results; composite scale scores for 4th Grade and 8th Grade Reading and Math; Current spending per U.S. Census Bureau (2009 is most recent); current spending is total spending less capital and debt service.

Introduction

If a doctor discovered a serious problem with your child's health, you would undoubtedly want to be fully informed. No one wants disturbing news but you can't help your child get better unless you understand the problem and can take the appropriate corrective action.

The same is true of ensuring that students receive an effective education. Everyone understandably wants to hear good news and there is no question that some students get an excellent public education in Kansas. But the only way to ensure that that is true for all students is to have complete knowledge of all the facts about student achievement – not just the good news.

Unfortunately, it is difficult for Kansans to have a full understanding of student achievement. The subject itself can be quite dense and it is further complicated by the fact that much pertinent information on the topic is not widely known. For example, when results of the 2011 National Assessment of Educational Progress (NAEP) were released last November, much emphasis was placed on gains in student achievement and how Kansas students' scores were higher than those of most states. But the fact that those NAEP results also showed that ***less than half of Kansas 4th grade and 8th grade students are Proficient in Math and only about a third of students are Proficient in Reading*** was largely ignored.

It's always important to recognize progress but withholding information that puts test results in context is not in students' or parents' best interests.

Last September, the Kansas Department of Education (KSDE) released results of the 2011 State Assessment Test and said that 87.6% of Kansas students meet or exceed Reading standards and 84.7% meet or exceed standards in Math.[2] There were multiple references to improvement but the release lacked disclosure to put the results in full perspective. Many parents and legislators have been quite surprised to learn that that same state assessment showed that only 55% of 11th grade students could read grade-appropriate material with full comprehension – or that only 45% of 11th grade students usually performed accurately on most grade-level task and have well-developed content knowledge in Math.[3]

Kansas Policy Institute staff has participated in several public meetings about education issues and spoken with hundreds of parents and community leaders in the process. Based on these interactions, it is clear that few Kansans have a full understanding of actual achievement levels. Interestingly though, a fair number of people said they weren't surprised by the real numbers and cited several real-world observations that contradict the high achievement levels promoted by education officials.

Universities, for example, spend millions of dollars annually on remedial training for recent high school graduates who aren't prepared for college-level material.

Table 1: College Graduation Rates

University	1st Year Retention	Graduation Rate 4-Year	5-Year	6-Year
Univ. of Kansas	80%	31.8%	55.2%	60.8%
Kansas State Univ.	74%	27.6%	57.0%	63.0%
Wichita State Univ.	72%	15.3%	33.2%	41.7%
Emporia State Univ.	69%	22.1%	36.0%	41.0%
Fort Hays State Univ.	74%	23.0%	41.9%	48.5%
Pittsburg State Univ.	74%	44.3%	50.1%	51.0%
Washburn Univ.	63%	20.8%	35.6%	41.5%

Source: The Education Trust; CollegeResultsOnline.org

[2] Kansas Dept. of Education. "Improvement trend continues on state assessments" September, 2011; accessed at http://www.ksde.org/Default.aspx?tabid=36&ctl=Details&mid=1030&ItemID=569 on December 21, 2011.

[3] KSDE, Report Card 2010-11, http://svapp15586.ksde.org/rcard/index.aspx

Low college graduation levels are also an indication that some students drop out for academic reasons (as well as affordability and other reasons). Still others, particularly employers, said a significant number of high school students going straight into the workforce struggle with basic math and reading comprehension skills.

The ACT Profile Report for Kansas provides another example of the deceptive nature of only using national rankings and simple comparisons to national averages to measure performance. Kansas students taking the 2010 ACT test had a composite score of 22, whereas the national average was 21 (on a scale of 1 to 36). Kansas ranked #19 and was above the national average, which sounds good. **Yet only 28% of Kansas high school graduates taking the ACT test scored high enough to be considered college-ready on all four subject areas.**[4]

Here's how ACT defines their College-Readiness Benchmarks: *"ACT has established minimum scores to indicate whether high school graduates are likely ready for entry-level college coursework. These benchmarks reflect the level of preparation needed for students to have at least a 50 percent chance of achieving a grade of B or higher, or at least a 75 percent chance of a grade of C or higher, in entry-level credit-bearing college English Composition, Algebra, Social Science, and Biology courses."*

The percent of ACT-tested Kansas high school graduates meeting College Readiness Benchmarks, 2010 on each subject follow:

✓ English – 74%
✓ Reading – 60%
✓ Math – 51%
✓ Science – 34%
✓ All four benchmarks – 28%

While it's clear from our research that Kansans do not have easy access to pertinent information about student achievement, the purpose of this analysis is not to assess blame or criticize. Rather, it is to help Kansans become better informed by providing additional context and perspective on student achievement and spending so they can answer these critical questions about public education in Kansas:

- Is student achievement at acceptable levels?
- If not, do you believe that achievement will soon reach acceptable levels by continuing to follow current practices and spending more money?
- If not, are you willing to transform public education and ensure that every student can reach their full potential by having access to an effective education?

The authors believe there to be no absolute 'right' or 'wrong' answers to these questions, as the answers depend upon each person's subjective evaluation. Based on our extensive experience in presenting and discussing this same data with others, we trust Kansans are well suited to draw their own well-informed conclusions.

Finally, it should be noted that the analysis of state and national achievement is not intended to be an exhaustive review of every possible student cohort, grade level and subject. In the interests of keeping this analysis focused, we examined the largest student cohorts and their performance on the critical subjects of Reading and Math. A great deal more data is available as noted herein.

The Facts about State Assessment Results

The Kansas Department of Education (KSDE) conducts annual assessments of student achievement and publishes the results broken out by district, building, grade level and a variety of student demographics (race / ethnicity, low income, students with disabilities, English language learners, etc.). Assessments are conducted on a variety of subject areas but for the sake of simplicity, this analysis is focused on the primary subjects of Reading and Math; the same applies to the analysis of national assessment results in the following section.

KSDE uses five performance levels to classify achievement: *Exemplary, Exceeds Standard, Meets Standard, Approaches Standard and Academic Warning.*[5] At first glance, descriptors such as *Meets Standard* might seem reasonable but these types of labels can also be quite deceiving as they lack appropriate context. One must have a very clear understanding of the definition of 'Standard' to even attempt to put the other descriptors into a useful framework.

Some might consider "reads grade-appropriate material with full comprehension" to be a reasonable standard but in Kansas, that is the definition of *Exceeds Standard*. KSDE also has a much lower Math standard than many parents might suspect; "usually performs consistently and accurately when working on all grade-level mathematical tasks has well-developed content knowledge" is the Kansas definition of *Exceeds Standard*.

Primary Definitions of Performance Levels

The primary definitions used by KSDE to differentiate between each of the five performance descriptors in Reading follow, each of which begins with "When

[4] ACT, The Condition of College and Career Readiness, Class of 2010 (Kansas), http://www.act.org/newsroom/data/2010/pdf/readiness/CCCR_Kansas.pdf?utm_campaign=cccr10&utm_source=state_reports&utm_medium=web

[5] KSDE, http://svapp15586.ksde.org/rcard/definitions.aspx?org_no=D%&rpt_type=3#assessment; accessed on December 23, 2011.

independently reading grade-appropriate narrative, expository, technical and persuasive text,":[6]

Academic Warning – an unsatisfactory student has ***incomplete*** comprehension.

Approaches Standard – a basic student has ***partial*** comprehension.

Meets Standard – a proficient student has ***satisfactory*** comprehension.

Exceeds Standard – an advanced student has ***full*** comprehension.

Exemplary – an exemplary student has ***full comprehension, making connections within and outside the text.***

The primary definitions used by KSDE to differentiate between each of the five performance descriptors in Math are:[7]

Academic Warning – A student scoring at the academic warning level ***always*** *performs inconsistently and/or inaccurately* when working on ***all*** grade-level mathematical tasks. The student *struggles* to demonstrate content knowledge and application skills.

Approaches Standard – A student scoring at the approaches standard level ***usually*** *performs inconsistently and/or inaccurately* when working on ***most*** grade-level mathematical tasks. The student demonstrates *limited* content knowledge and application skills.

Meets Standard – A student scoring at the meets standard level ***usually*** *performs consistently and accurately* when working on ***most*** grade-level mathematical tasks. The student demonstrates *sufficient* content knowledge and application skills.

Exceeds Standard –A student scoring at the exceeds standard level ***usually*** *performs consistently and accurately* when working on ***all*** grade-level mathematical tasks. The student demonstrates *well-developed* content knowledge and application skills.

Exemplary – A student scoring at the exemplary level ***always*** *performs consistently and accurately* when working on ***all*** grade-level mathematical tasks. The student demonstrates *highly-developed* content knowledge and application skills.

A review of the terms used by KSDE to qualify student performance indicates that standards have been set at lower levels than many parents might suspect. For example, *Meets Standard* in Reading only requires *satisfactory* comprehension to be considered *proficient*. Merriam-Webster's dictionary clearly shows these to be different terms:[8]

Proficient – well advanced in an art, occupation, or branch of knowledge.

Satisfactory – adequate.

■ KSDE Lowered Standards in 2006

It is particularly noteworthy that KSDE did not always consider 'proficient' and 'satisfactory' to be interchangeable. The current performance levels have been in existence since the 2006 school year. Previously, the five levels were *Advanced, Proficient, Satisfactory, Basic* and *Unsatisfactory*.[9] When KSDE created the current standards, they combined *Proficient* and *Satisfactory* into the same category and called it *Meets Standard*; a student previously had to place in the top two categories to be considered proficient but now proficiency only requires placement in the top three categories.

But this is not the only evidence that KSDE lowered standards in 2006. As you will see shortly, 'usually' performs accurately also is very generously defined by the cut scores (percent of accurate responses) KSDE uses to classify students in a performance level.

Requiring 'sufficient' content knowledge and application skills for *Meets Standard* is another qualifier that is open to broad subjective interpretation; even comparing the next lower and higher performance descriptors, one can only conclude that the intended meaning of 'sufficient' is somewhere between 'limited' and 'well-developed.'

Some states are moving toward descriptors for districts and buildings that are universally understood to avoid confusion: A, B, C, D and F. If KSDE used those descriptors and said that 84.7% of students had a 'C' or better (the middle category), parents would very clearly understand how schools were performing. But even that might be an overstatement of the 2011 State Assessment.

■ Cut Score Analysis

Applying a generous grading scale to the five Kansas performance descriptors (an 'A' for 90% to 100%, a 'B' for 80% to 89%, etc.) would require that the 84.7% of Kansas students that Meet or Exceed Standard in Math would answer 70% to 79% of the Math questions correctly. But as shown in Table 2, a Kansas student Meets Standard by answering as few as 50% of the questions correctly.[10]

[6] KSDE, http://www.ksde.org/Default.aspx?tabid=159; accessed on December 23, 2011.

[7] KSDE, http://www.ksde.org/Default.aspx?tabid=156; accessed on January 11, 2012.

[8] Merriam-Webster, http://www.merriam-webster.com/

[9] Kansas Dept. of Education, 2000 Assessment Technical Manual, page 47.

[10] KSDE, http://www.ksde.org/Default.aspx?tabid=159, Reading and Math Performance Level Scores; accessed on December 26, 2011.

Table 2: Kansas Math Performance Level Scores (% Correct)					
Grade	Academic Warning	Approaches Standard	Meets Standard	Exceeds Standard	Exemplary
3rd	0-57	58-69	70-84	85-92	93-100
4th	0-53	54-62	63-79	80-88	89-100
5th	0-53	54-61	62-77	78-87	88-100
6th	0-52	53-62	63-78	79-89	90-100
7th	0-43	44-55	56-70	71-83	84-100
8th	0-44	45-57	58-72	73-85	86-100
H.S.	0-37	38-49	50-67	68-81	82-100

Source: Kansas Dept. of Education

Table 3: Kansas Reading Performance Level Scores (% Correct)					
Grade	Academic Warning	Approaches Standard	Meets Standard	Exceeds Standard	Exemplary
3rd	0-54	55-66	67-79	80-88	89-100
4th	0-56	57-67	68-80	81-88	89-100
5th	0-56	57-67	68-79	80-87	88-100
6th	0-51	52-63	64-78	79-87	88-100
7th	0-49	50-62	63-76	77-86	87-100
8th	0-49	50-63	64-78	79-88	89-100
H.S.	0-53	54-67	68-80	81-88	89-100

Source: Kansas Dept. of Education

In the 3rd Grade, Exemplary requires having at least 93% correct answers (much like receiving an 'A') but the bar for attaining Exemplary status is lowered in subsequent years, allowing High School students to be considered Exemplary with as few as 82% correct answers.

The Reading Performance Level Scores shown in Table 3 are somewhat higher but still allow a student to be classified as Meets Standard by answering as few as 63% of the questions correctly – a performance that would typically leave a student hoping for a 'D-minus' in the classroom.

We asked KSDE to respond to a number of questions regarding the assignment of cut scores; their verbatim answers follow:[11]

1. **Why are there different cut scores (% of correct answers) for Reading and Math?** *The reading and mathematics standards were developed independently and so too were the assessments for those standards. The cut-score setting methodologies used were applied to the empirical assessment data for each discrete population of examinees. As you might imagine, large-scale assessments measuring different content produce different results (e.g., different score distributions, different item-difficulty data, etc.)*
2. **Why are there different cut scores for each grade level within Reading and Math?** *Everything that is true for assessments measuring different content (i.e., different score distributions, item-difficulty data, etc.) is also true for discrete grade levels.*
3. **How are cut scores determined and why are the percentages of correct answers for each level set so low? A generous grading scale for A,B,C,D,F would award a 'C' for having 70% to 79% correct. The cut score for Meets Standard in 5th grade Reading allows a student to have as few as 62% correct answers. A 7th grade Math student Approaches Standard with as few as 44% correct answers.** *Performance levels and cut scores are neither set nor intended to be viewed as equivalent to the traditional five-letter grading scale of A, B, C, D, F. The process used to determine cut scores and the percentages correct associated with each performance level is outlined in significant detail in the Assessment Technical Manual (link provided [in original email]). The Technical Manual explains in a non-technical narrative the process used to set cut scores; the percentages correct associated with the various performance levels were established using three cut score setting methods.*
4. **Why not use cut scores like those used in classrooms (e.g., 90-100 for 'A', 80-89 for 'B', etc.)?** *Cuts cores cannot be arbitrarily determined. They must be defensible (legally and psychometrically) given that pronouncements are made about individual students, teachers, districts, etc. Therefore, cut sores must be empirically justified. An organization could not simply decide a priori that the cut scores will reflect a "traditional" grading scale. The various cut score methodologies that are used analyze empirical data (combined with professional judgment) to determine what score best differentiates the classifications of examinees. The best resource (one that KSDE refers to frequently) for documenting the requirements and protocols for establishing defensible cut scores is found in the Standards for Educational and Psychological Testing (1999) Section Two (e.g., 2.12 and 2.20).*

It's true that cut scores cannot be arbitrarily determined and that they must be legally and psychometrically defensible, but they could still be higher. The U.S. Department of Education's National Center for Education Statistics (NCES) performed an analysis of state proficiency standards for 2009 and concluded that " … most states' proficiency standards are at or below NAEP's definition of Basic performance." Indeed, Table 4 shows that

[11] Email received January 10, 2012; the 2006 Assessment Technical Manual referenced in Question 3 can be found at http://www.cete.us/docs/tech/2006_Technical_Manual.pdf

Table 4: NAEP Cut Scores / Kansas Equivalent Scale Scores for State Proficiency			
		Grade 4	Grade 8
NAEP Cut Scores (lower end)	Basic	208	243
	Proficient	238	281
	Advanced	268	323
Kansas Equivalent Scale Scores for State Proficiency	Reading	186	236
	Math	217	265

Source: U.S. Dept. of Education, National Center for Education Statistics

Table 5: Most States Have Higher Standards than Kansas				
	Reading		Math	
State Standard Comparison	4th Grade	8th Grade	4th Grade	8th Grade
States Higher than Kansas	40	35	33	30
States Same as Kansas	2	2	0	1
States Lower than Kansas	6	11	15	16
Comparison not available	1	1	1	2

Source: U.S. Dept. of Education, National Center for Education Statistics

Kansas is one of those states, with its Reading Proficiency standard set lower than what the U.S. Department of Education considers Basic performance. Math Proficiency levels are above what NAEP considers to be Basic but still well below the U.S. standard for Proficient.[12]

A review of the equivalent scales scores for all states from that NCES study (Table 3) shows that most states have higher standards than Kansas.[13]

The process for setting cut scores described in the 2006 Assessment Technical Manual referenced by KSDE reveals that the cut scores were based on recommendations from a group of Kansas educators. Those educators were asked to use their professional judgment to set cut scores that reflect the range of students' performance on assessment tests; essentially, they were attempting to set the 'curve.'

We've already seen evidence that standards were lowered in 2006 by combining *Proficient* and *Satisfactory* into a single category and expanding the number of performance levels that qualify as Proficient from two to three. A comparison of previous and current cut scores provides further evidence.

Table 6 shows the cut scores that were in effect between the 2000 and 2005 school years.[14] KSDE used the same cut score for each grade level in Reading and with one small exception, the same for Math. That contradicts KSDE's response to Question 2 on page 6, where they implied it is normal to have different scores for each grade level.

Table 6: Kansas Cut Scores in Effect 2000 to 2005 (% Correct)					
READING					
Grade	Unsatisfactory	Basic	Satisfactory	Proficient	Advanced
5th	<68	68	80	87	93
8th	<68	68	80	87	93
11th	<68	68	80	87	93
MATH					
Grade	Unsatisfactory	Basic	Satisfactory	Proficient	Advanced
4th	<35	35	48	60	75
7th	<35	35	48	60	75
10th	<35	35	48	60	70

Source: Kansas Dept. of Education; 2000 Assessment Technical Manual

Comparing the minimum requirements for being considered Proficient further demonstrates that KSDE lowered standards in 2006. Table 7 reflects that Reading standards were dramatically lowered for each grade level and while Math standards were already quite low, two-thirds of those were set even lower.

Standards also changed significantly for the lowest performance level. To avoid being classified as Unsatisfactory in Reading (Table 5), a student had to answer at least 68% of questions correctly; beginning in 2006, a student could have as few as 49% correct answers (Table 3). The Math cut scores for avoiding classification in the lowest level (comparing Table 5 and Table 2) were increased, although High School students can still have as few as 38% correct answers without being classified in Academic Warning.

Table 7: Minimum Cut Score to Qualify for Proficient (% correct)					
READING			**MATH**		
Grade	2000-2005	2006-current	Grade	2000-2005	2006-current
5th	87	68	4th	60	63
8th	87	64	7th	60	56
11th/H.S.	87	68	10th/H.S.	60	50

Source: Kansas Dept. of Education; Assessment Technical Manuals for 2000 and 2006

[12] National Center for Education Statistics, http://nces.ed.gov/nationsreportcard/studies/statemapping/about.asp

[13] Ibid

[14] Ibid, Table 1 on page 48. These were the only grade levels tested for the years 2000 to 2005.

■ Summary of 2011 State Assessment Results

In addition to understanding the implications of performance level descriptors and cut scores, one must also be aware of the role played by student demographics to fully comprehend and compare student achievement.

It would not be fair to compare student achievement between an affluent, suburban district such as USD 229 Blue Valley and a relatively poor, inner city district such as USD 500 Kansas City because there are large achievement gaps between certain demographic cohorts. (Note the disparity in student body makeup between those two districts in Table 8.) Students from low income families, students with disabilities, English language learners and students of some ethnic backgrounds tend to have lower achievement scores. (That's not to say that those students are not capable of performing at the same level as other students; indeed they can. The difference is that most students in the lower-performing cohorts do not have equal access to an effective education and therefore do not have an equal opportunity to learn.)

Table 8: Demographic Differences Among Kansas' 10 Largest Districts (% of all students)

District	Race / Ethnicity White	Hispanic	Black	Other	Low Income
State average	68.1%	16.3%	7.4%	8.1%	47.6%
Wichita	36.9%	29.6%	19.0%	14.6%	74.0%
Shawnee Mission	67.8%	15.2%	8.1%	9.0%	33.2%
Olathe	72.6%	12.6%	6.7%	8.2%	25.5%
Blue Valley	80.3%	4.2%	3.1%	12.4%	7.4%
Kansas City, KS	14.4%	41.7%	37.9%	6.0%	87.9%
Topeka	49.2%	15.9%	21.8%	13.1%	75.0%
Lawrence	71.8%	6.8%	7.5%	13.8%	32.6%
Geary County	49.4%	18.2%	19.2%	13.3%	61.0%
Garden City	24.7%	67.5%	1.3%	6.6%	71.0%
Salina	70.1%	15.3%	5.9%	8.8%	58.4%

Source: Kansas Dept. of Education; Low Income is percentage of students eligible for Free and Reduced Lunch; percentages of racial categories may not add to 100% due to rounding.

As shown in Table 8, there are significant differences in student body makeup across Kansas. Table 9 and Table 10 show there are also large achievement gaps among the state average performance levels of the primary racial groups and students eligible for Free and Reduced Lunch.[15]

The coexistence of large achievement gaps among various demographic cohorts and wide disparity of student body makeups across Kansas invalidate comparisons of overall student achievement between districts. Valid district-wide comparisons can only be made where two or more districts have nearly identical demographic compositions.

Keeping these caveats in mind, state assessment results for individual districts are too voluminous to publish here but are readily available online. For instance, KSDE provides the information on their website (www.ksde.org) and data in also available for download and analysis at www.KansasOpenGov.org, a government transparency portal maintained by Kansas Policy Institute using official government data.

Table 11 has the statewide averages for each of the published grade levels and primary demographic cohorts for Reading and Math, respectively.

KSDE revised their standards in 2006 to such extent as to invalidate comparisons to prior years. Historical data for Reading and Math from 2006 through 2011 can be found in Appendix "A" and Appendix "B", respectively. Both appendices show annual results for all students within each grade level; similar data for demographic cohorts is available on the two web sites previously referenced.[16]

Table 9: Reads Grade-Appropriate Material with Full Comprehension (% of students at Exceeds Standard and Exemplary)

Grade	Race / Ethnicity White	Hispanic	Black	All	Low Income
4th	69.0%	48.8%	41.4%	62.9%	50.6%
8th	70.8%	45.6%	37.6%	63.6%	48.8%
11th	61.1%	35.4%	30.7%	54.9%	38.7%

Source: Kansas Dept. of Education

Table 10: Performs Math Accurately Most of the Time & Has Effective Content Knowledge (% of students at Exceeds Standard and Exemplary)

Grade	Race / Ethnicity White	Hispanic	Black	All	Low Income
4th	65.0%	48.2%	39.4%	59.8%	48.3%
8th	64.1%	41.6%	34.2%	58.0%	43.2%
11th	50.9%	27.4%	18.8%	45.0%	28.4%

Source: Kansas Dept. of Education

[15] Demographic information and student achievement levels for the State and each Kansas school district is provided by KSDE at http://svapp15586.ksde.org/rcard/index.aspx

[16] http://svapp15586.ksde.org/rcard/index.aspx and http://www.kansasopengov.org/SchoolDistricts/StudentAchievement/tabid/2094/Default.aspx

Table 11: 2011 State Assessment Results

		READING					MATH				
		Academic Warning	Approaches Standard	Meets Standard	Exceeds Standard	Exemplary	Academic Warning	Approaches Standard	Meets Standard	Exceeds Standard	Exemplary
3rd Grade	All students	4.2%	9.3%	26.6%	31.2%	27.9%	3.7%	6.9%	22.9%	30.5%	35.4%
	White	2.7%	7.1%	24.1%	33.0%	32.6%	2.5%	5.3%	20.7%	31.4%	39.7%
	Hispanic	7.9%	14.4%	32.7%	27.6%	16.1%	5.3%	10.4%	28.3%	29.7%	25.3%
	Black	9.6%	16.1%	34.0%	25.3%	13.9%	9.9%	13.6%	31.4%	25.6%	18.5%
	Low Income	6.7%	13.0%	32.1%	29.0%	18.3%	5.7%	9.8%	28.1%	30.0%	25.5%
	ELL	9.8%	15.8%	33.6%	25.9%	13.0%	6.6%	10.7%	28.8%	28.1%	24.6%
	with Disabilities	8.0%	15.0%	33.7%	24.9%	17.2%	7.8%	13.0%	33.0%	26.5%	18.5%
4th Grade	All students	3.7%	6.4%	26.1%	32.9%	30.0%	4.9%	6.8%	27.8%	26.4%	33.4%
	White	2.2%	4.9%	23.3%	34.2%	34.8%	3.2%	5.5%	25.6%	26.8%	38.2%
	Hispanic	6.9%	10.4%	32.6%	31.0%	17.8%	7.7%	9.3%	33.7%	26.7%	21.5%
	Black	9.8%	11.5%	35.8%	26.5%	14.9%	12.5%	11.8%	35.0%	22.8%	16.6%
	Low Income	6.1%	9.3%	32.8%	31.3%	19.3%	7.6%	9.4%	33.6%	26.0%	22.3%
	ELL	8.5%	11.5%	34.8%	28.2%	15.1%	9.1%	9.3%	33.4%	26.3%	20.6%
	with Disabilities	7.6%	11.4%	37.5%	23.6%	18.8%	9.5%	12.3%	37.9%	22.0%	16.9%
5th Grade	All students	4.6%	8.0%	23.5%	24.4%	38.8%	4.7%	7.8%	26.7%	24.8%	35.4%
	White	2.8%	6.0%	20.9%	24.8%	45.0%	3.2%	6.1%	24.5%	25.0%	40.7%
	Hispanic	9.1%	13.2%	29.9%	23.7%	22.8%	7.8%	11.7%	32.5%	25.1%	21.9%
	Black	10.1%	14.8%	31.6%	22.7%	20.3%	11.4%	14.3%	34.1%	22.4%	17.2%
	Low Income	7.7%	11.5%	29.7%	24.6%	25.5%	7.6%	11.3%	32.7%	24.8%	22.7%
	ELL	12.0%	15.1%	31.7%	21.7%	17.4%	9.3%	13.0%	32.8%	23.9%	19.8%
	with Disabilities	9.6%	13.7%	34.0%	21.3%	20.2%	9.6%	14.6%	35.4%	21.7%	17.5%
6th Grade	All students	4.9%	7.2%	25.0%	29.1%	33.2%	5.8%	9.5%	25.1%	31.7%	27.3%
	White	2.5%	5.2%	22.0%	30.2%	39.6%	3.2%	7.2%	23.1%	33.9%	32.2%
	Hispanic	9.4%	11.5%	32.7%	27.4%	17.8%	10.3%	14.2%	30.1%	28.9%	15.7%
	Black	14.7%	14.7%	34.0%	22.8%	12.8%	18.5%	19.0%	31.8%	20.8%	8.9%
	Low Income	8.6%	11.1%	32.2%	28.0%	19.2%	9.8%	14.0%	31.0%	28.9%	15.5%
	ELL	13.1%	14.0%	35.3%	24.2%	11.4%	13.1%	15.3%	31.5%	26.9%	12.2%
	with Disabilities	10.6%	12.8%	36.1%	23.0%	16.4%	12.5%	16.9%	33.5%	23.8%	12.2%
7th Grade	All students	3.6%	6.7%	21.5%	31.8%	35.4%	6.1%	11.4%	26.1%	27.0%	28.5%
	White	1.9%	4.8%	18.3%	32.6%	41.5%	3.8%	9.1%	24.3%	28.6%	33.3%
	Hispanic	7.1%	11.7%	29.6%	30.7%	19.6%	11.3%	16.2%	31.9%	23.5%	16.0%
	Black	10.5%	12.4%	33.6%	27.4%	15.0%	15.1%	21.1%	30.1%	21.0%	11.4%
	Low Income	6.4%	10.5%	29.2%	31.9%	20.8%	10.3%	16.4%	31.7%	24.8%	15.6%
	ELL	11.4%	14.7%	33.8%	27.7%	10.3%	14.1%	18.0%	32.7%	23.0%	11.2%
	with Disabilities	8.6%	13.9%	35.3%	25.4%	15.3%	13.2%	18.8%	33.3%	20.7%	12.1%
8th Grade	All students	4.0%	8.0%	23.5%	29.6%	34.0%	6.2%	11.6%	23.4%	29.4%	28.6%
	White	2.2%	5.8%	20.6%	31.0%	39.8%	3.8%	9.6%	21.8%	30.8%	33.3%
	Hispanic	8.5%	14.0%	30.5%	26.9%	18.7%	12.9%	16.1%	28.1%	26.2%	15.4%
	Black	11.1%	15.4%	35.0%	24.5%	13.1%	14.4%	21.3%	29.1%	22.7%	11.5%
	Low Income	7.4%	12.4%	30.1%	28.7%	20.1%	10.7%	16.5%	28.4%	27.1%	16.1%
	ELL	14.0%	18.6%	34.7%	21.4%	8.9%	17.1%	18.7%	29.0%	23.2%	10.4%
	with Disabilities	11.1%	16.6%	34.5%	22.5%	13.5%	14.6%	20.6%	31.2%	20.0%	11.5%
11th Grade	All students	3.3%	7.3%	33.4%	29.2%	25.7%	7.3%	10.1%	36.5%	26.1%	18.9%
	White	1.9%	5.6%	30.6%	31.1%	30.0%	4.9%	8.1%	35.2%	28.5%	22.4%
	Hispanic	7.8%	12.6%	42.6%	23.1%	12.3%	13.2%	15.7%	42.4%	19.8%	7.6%
	Black	9.0%	15.2%	43.1%	20.9%	9.8%	21.6%	18.7%	38.5%	14.0%	4.8%
	Low Income	6.4%	11.9%	41.3%	24.9%	13.8%	13.1%	15.4%	41.5%	19.6%	8.8%
	ELL	19.3%	15.8%	41.3%	14.7%	5.0%	19.2%	19.4%	39.9%	14.7%	4.8%
	with Disabilities	10.1%	15.5%	43.2%	17.4%	11.4%	19.1%	18.7%	39.2%	13.6%	7.0%

Source: Kansas Dept. of Education; ELL is English Language Learners

The Facts about National Assessment Results

The U.S. Department of Education's National Center for Education Statistics conducts bi-annual student assessments of the states and publishes the National Assessment of Educational Progress as The Nation's Report Card, commonly referenced as the NAEP scores (pronounced 'nāpe').[17] The NAEP scores are considered the gold standard of educational assessment by most researchers, as each state is measured against the same, consistent standard and the independence of NAEP provides an additional measure of reliability.

The NAEP is given to a statistically-valid random sample of students in each state. District-level data is only available for a few large urban districts across the country, none of which are in Kansas. One cannot make valid comparisons between state assessments and NAEP for a variety of reasons. The tests themselves are different and there are also significant differences in methodology and scoring, as earlier noted. NAEP scores all grade levels on a singular scale of zero to 500, whereas Kansas uses cut scores based on the percentage of correct answers. The NAEP cut scores are shown in Table 12 and reflect the lower end of each achievement level.

Table 12: NAEP Cut Scores (lower end)

	Grade 4	Grade 8	Grade 12
Basic	208	243	265
Proficient	238	281	302
Advanced	268	323	346

Source: National Center for Education Statistics

Achievement Levels Defined

There are three achievement levels for each grade (4, 8, and 12) assessed by NAEP: *Basic*, *Proficient*, and *Advanced*. The definitions in Table 13 apply to all subjects and all grades assessed by NAEP:[18]

Table 13: NAEP Achievement Level Definitions

Achievement Level	Policy Definitions
Basic	**Partial** mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.
Proficient	**Solid academic performance** for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject-matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
Advanced	**Superior performance**

Source: National Center for Education Statistics

Students that lack the partial mastery to be considered Basic are classified as Below Basic.

The differences between what KSDE and NAEP consider to be Proficient are quite stark. Kansas defines proficiency with terms such as 'satisfactory' (less than full comprehension in Reading); proficiency in Math only requires possession of sufficient content knowledge and to usually perform accurately on most (not all) grade level tasks. Proficiency on NAEP, however, requires 'demonstrated competency over challenging subject matter.'

Indeed, there is much more similarity between the NAEP definition of Basic and the Kansas definition of Proficient.

Achievement Matters More than Rank

As previously discussed, a full understanding of student achievement requires that results be put in proper context. Comparisons among the states on NAEP are typically reported in terms of how one state ranks relative to others. Rankings may provide some measure of insight but much like the concept of 'grading on the curve,' rank can be quite deceiving.

For example, suppose fifty students take a test and the student with the best performance answers 65% of the questions correctly; that student would be ranked #1 even though he or she is only deserving of a 'D' on a typical grading scale.

Rank is just as deceptive in measuring states' performance on NAEP as in the above example. For example, it is often reported that Kansas has some of the highest proficiency levels in the country; while technically a true statement, Table 14 shows that Kansas' rankings are driven by the relatively poor performance of ***all*** states. Kansas ranks tenth in the nation for the percentage of students rated Proficient or better in 4th Grade Reading, but only 36% of 4th Grade students are Proficient.

Table 14: Putting Rank and Achievement in Context

	% Students Proficient+		Kansas Rank
	Kansas	U.S. Avg.	
Reading - 4th Grade	36%	32%	10
Reading - 8th Grade	35%	32%	17
Math - 4th Grade	48%	40%	6
Math - 8th Grade	41%	34%	10

Source: NCES, Nation's Report Card Proficient+ includes students rated Proficient or higher (Advanced)

[17] The Nation's Report Card, http://www.nationsreportcard.gov/

[18] National Center for Education Statistics (NCES), http://nces.ed.gov/nationsreportcard/reading/achieve.asp

But the relatively low performance of all states is not the only factor to push Kansas higher in rankings; dramatic differences in the demographic makeup of states also work to Kansas' advantage.

■ Demographics Drive Kansas' Rank

As discussed earlier, comparing overall proficiency levels of school districts with dramatically different student body makeups is invalid due to unnecessary but nonetheless real achievement gaps among certain demographic cohorts. The same concept applies to the states.

The significant variances in student body makeup of regional states shown in Table 15 are reflective of the national trend. Some states like Kansas, Missouri and Nebraska are predominantly White, while others like Texas are majority-minority. (Oklahoma's unusually large percentage of students in 'Other' is reflective of their American Indian population.) Each state's primary ethnic breakout and the percentage of low income students and students with disabilities can be found in Appendix "C".

Table 15: Demographic Variances Among Regional States

	White	Hispanic	Black	Other
U.S. average	53%	22%	17%	8%
Kansas	69%	16%	8%	8%
Missouri	76%	4%	18%	2%
Oklahoma	56%	11%	11%	21%
Colorado	61%	29%	6%	5%
Nebraska	74%	14%	8%	4%
Texas	33%	49%	14%	4%

Source: National Center for Education Statistics

Now examine the large achievement gaps between White, Hispanic and Black students in Table 16 and Table 17.[19] The percentage of White students that are Proficient in Reading and Math is more than double those of Hispanic and Black students. To further put that in context, a 10-point gap on NAEP is considered the equivalent of a year's worth of learning, so the typical Hispanic and Black student is more than two years behind the typical White student in Reading and Math. Proficiency levels and average scale scores for all states can be found in Appendix "D" through Appendix "G".

The overall score for a state is the simple average of the scores for each student. But we know there are significant scoring differences among the demographic components, so in order to understand the impact those differences have on the overall average, we can use the mathematical concept of a weighted average to arrive at the same end result. The math is simple; calculate the average score of each cohort, determine each cohort's percentage of total student population (it's 'weight'), multiply each cohort's weight times its average and sum the products.

Table 16: U.S. Average Proficiency Level (% of total)

Subject / Grade Level	White	Hispanic	Black
Reading - 4th Grade	42%	18%	16%
Reading - 8th Grade	41%	18%	14%
Math - 4th Grade	52%	24%	17%
Math - 8th Grade	43%	20%	13%

Source: Nation's Report Card, State results

Table 17: U.S. Average Scale Score (0 to 500)

Subject / Grade Level	White	Hispanic	Black
Reading - 4th Grade	230	205	205
Reading - 8th Grade	272	251	248
Math - 4th Grade	249	229	224
Math - 8th Grade	293	269	262

Source: Nation's Report Card, State results

The formulas for calculating the Kansas and Texas averages using ethnic breakouts as the cohorts (Table 11) are:

Kansas overall score = 0.69(White) +0.16(Hispanic) + .08(Black) +.08(Other)

Texas overall score = 0.33(White) +0.49(Hispanic) + .14(Black) +.04(Other)

Since White students' scores are significantly higher than those of Hispanics and Blacks for both states, Kansas' demographic split makes it appear that Kansas' students' scores are higher than those of Texas. The reality, however, is that Texas' White students and Black students consistently score higher than their Kansas counterparts on Reading and Math in in 4th Grade and 8th Grade; Texas' Hispanic students lead in two categories and they are tied with Kansas in the other two.

These dramatic differences in the demographic makeup of the states and the academic performances of various student cohorts prohibit any valid comparison of states' ***overall*** achievement. We can, however, fairly compare the performance of the same student cohorts among the states.

[19] The Nation's Report Card also provides ethnic breakouts for Asian/Pacific Islander and American Indian but not all ethnicities. Since some ethnic breakouts are not available and White, Hispanic and Black comprise more than 92% of most states' ethnic groups, ethnic comparisons throughout this analysis focus only on those three primary groups.

Table 18: Demographic Differences Skew Overall Scores

Subject / Grade Level	State	All Students Scale Score	All Students U.S. Rank	White Scale Score	White U.S. Rank	Hispanic Scale Score	Hispanic U.S. Rank	Black Scale Score	Black U.S. Rank
Reading - 4th Grade	Texas	218	36	233	10	210	14	210	7
	Kansas	224	14	229	20	209	15	204	21
Reading - 8th Grade	Texas	261	36	274	10	254	21	252	10
	Kansas	267	20	272	21	254	21	248	19
Math - 4th Grade	Texas	241	24	253	7	235	10	232	4
	Kansas	246	7	251	12	235	10	227	9
Math - 8th Grade	Texas	290	10	304	2	283	2	277	1
	Kansas	290	10	295	14	274	8	269	8

Source: Nation's Report Card, State results

Table 19: Comparing Kansas to the National Average (Scale Score)

Subject / Grade Level		All Students Scale Score	All Students U.S. Rank	White Scale Score	White U.S. Rank	Hispanic Scale Score	Hispanic U.S. Rank	Black Scale Score	Black U.S. Rank
Reading - 4th Grade	U.S. Avg.	220		230		205		205	
	Kansas	224	14	229	20	209	15	204	21
Reading - 8th Grade	U.S. Avg.	264		272		251		248	
	Kansas	267	20	272	21	254	21	248	19
Math - 4th Grade	U.S. Avg.	240		249		229		224	
	Kansas	246	7	251	12	235	10	227	9
Math - 8th Grade	U.S. Avg.	283		293		269		262	
	Kansas	290	10	295	14	274	8	269	8
Total scale scores	U.S. Avg.	1,007		1,044		954		939	
	Kansas	1,027		1,047		972		948	
	KS Var.	2.0%		0.3%		1.9%		1.0%	

Source: Nation's Report Card, State results; composite scale scores for 4th Grade and 8th Grade students in Reading and Math.

Table 20: Comparing Kansas to the National Average (Proficiency Levels)

Subject / Grade Level		All Students Proficient or better	All Students U.S. Rank	White Proficient or better	White U.S. Rank	Hispanic Proficient or better	Hispanic U.S. Rank	Black Proficient or better	Black U.S. Rank
Reading - 4th Grade	U.S. Avg.	32%		42%		18%		16%	
	Kansas	36%	10	42%	18	20%	19	18%	17
Reading - 8th Grade	U.S. Avg.	32%		41%		18%		14%	
	Kansas	35%	17	41%	19	18%	27	15%	19
Math - 4th Grade	U.S. Avg.	40%		52%		24%		17%	
	Kansas	48%	6	56%	12	26%	20	18%	20
Math - 8th Grade	U.S. Avg.	34%		43%		20%		13%	
	Kansas	41%	10	47%	12	22%	12	16%	14

Source: Nation's Report Card, State results

Comparing Kansas Scale Scores to the National Average

In Table 14, we saw that Kansas' percentages of students rated Proficient or better are a little above the national average, but of course that was counting students overall. Knowing that Kansas' overall scores are skewed by the state's demographic mix, let's see how each primary ethnic student cohort compares to the national average.

Table 19 shows that Kansas' composite score for 4th and 8th Grade Reading and Math is 2.0% above the national average, even though none of the primary ethnic cohorts do that well. The composite score of the largest single cohort, White students, is just 0.3% above the national average.

To put these scales scores in context Table 20 shows the percentage of each cohort that is considered Proficient or better. Again we see that a relatively high national rank is of much less significance when viewed in context of actual proficiency levels; Kansas is ranked #12 in 8th Grade Math for Hispanic students but only 22% of those students are Proficient or better.

In summary, it's true that Kansas ranks in the top half of the country but a focus on national rankings masks the fact that, like all states, Kansas has relatively low levels of proficiency on independent, national assessments. Indeed, Kansas' ***highest*** proficiency level is with White 4th Grade Math students, where only 56% of those students have "solid academic performance" and have "demonstrated competence over challenging subject matter."

Is More Money the Solution for Better Achievement?

Some education officials, including most in Kansas, believe that money drives achievement. Kansas educators often cite a 2006 study from the Kansas Division of Legislative Post Audit (LPA) study that found "… a strong association between the amounts districts spend and the outcomes they achieve."[20] But that LPA study contained other pertinent information that is ignored by those who believe that money drives achievement.

The following is excerpted from "A Kansas Primer on Education Funding, Volume III: Analysis of K-12 Spending in Kansas":[21]

It's true that state assessment test scores show that proficiency scores have increased, and it's also true that this occurred while per-pupil spending was growing, but as shown in Table 10, the relative growth rates have not been proportional.

Reading and Math proficiency scores actually grew faster between the school years of 2000 and 2005 when state and total per-pupil spending was increasing much less than in later years. In fact, the growth in proficiency scores from 2005 to 2009 has actually been less than the growth in per-pupil spending. That's not to say that lower spending increases in the last four years would have produced better test results; the mere fact that two circumstances occurred simultaneously does not mean that one drove the other. The same is true of the belief that spending and achievement are directly related. State test scores have increased while spending also increased, but correlation does not imply causation.

In fact, efforts to obtain proof of the relationship from the Kansas Department of Education have been unsuccessful. State Board of Education member Dr. Walt Chappell filed an Open Records Request on June 9, 2009 asking for "… research which has been done by the KSDE or by researchers contracted by the KSDE which supports a claim that student achievement scores have risen in Kansas due to increased funds appropriated by the Legislature following the Montoy case. Conversely, please provide any research for Kansas which shows at what amount of budget reduction will test scores for Reading, Math, Science, History/Government fall and by how much in what grades and subjects."[22]

The response to Dr. Chappell's request referenced a comment in a Legislative Post Audit (LPA) study

Table 10: Spending & Achievement Comparison

	2000	2005	'00 - '05 Change	2009	'05 - '09 Change
Reading proficiency	59.2	73.1	23.5%	85.7	17.2%
Math proficiency	50.3	68.1	35.4%	82.8	21.6%
State aid per pupil	4,704	5,346	13.6%	7,344	37.4%
Total aid per pupil	7,585	9,707	28.0%	12,660	30.4%

Source: Kansas Department of Education

[20] Legislative Post Audit "Cost Study Analysis, Elementary and Secondary Education in Kansas: Estimating the Costs of K-12 Education Using Two Approaches", January 2006, page 40.

[21] Kansas Policy Institute, "A Kansas Primer on Education Funding, Volume III: Analysis of K-12 Spending in Kansas" by Dave Trabert, http://www.kansaspolicy.org/researchcenters/education/studies/65253.aspx, February, 2010.

[22] Letter from Dr. Walt Chappell to Dr. Alexa Posny, Kansas Commissioner of Education (June 9, 2009), copy in author's possession.

of school expenditures from the school years 2000 through 2005 that said, "We found a strong association between the amounts districts spend and the outcomes they achieve.[23] In the cost function results, a 1.0% increase in district performance outcomes was associated with a 0.83% increase in spending—almost a one-to-one relationship. This means that, all other things being equal, districts that spent more had better student performance. The results were statistically significant beyond the 0.01 level, which means we can be more than 99% confident there is a relationship between spending and outcomes."[24]

Dr. Chappell replied, saying his request was for research conducted subsequent to the increased funding following the Montoy case (post-2005).[25] The response again referenced the LPA study and concluded "… KSDE does not have any other records that are responsive to your request."[26] Accordingly, it can be reasonably concluded that the Kansas Department of Education's sole basis for their belief that is that single paragraph in the LPA cost study.

Interestingly, the Department of Education failed to mention that that same LPA study also disclosed the existence of reputable research that both supported and contradicted their own conclusion.[27] In answering Question 3 of the audit: What Does the Educational Research Show About the Correlation Between the Amount of Money Spent on K-12 Education and Educational Outcomes?, LPA stated:

> Educational research offers mixed opinions about whether increased spending for educational inputs is related to improved student performance. Well-known researchers who have reviewed that body of research have come to opposite conclusions. Likewise, individual studies of specific educational inputs we reviewed sometimes concluded additional resources were associated with improved outcomes, and sometimes concluded they weren't. Because of perceived shortcomings in many of the studies that have been conducted in these areas, many researchers think more and better studies are needed to help determine under which circumstances additional resources actually lead to better outcomes.[28]

There is also existing academic research that says "recent changes to school funding in Kansas reveal little evidence of improving student outcomes as measured by test scores."[29] Dr. Florence Neymotin, an Assistant Professor of Economics at Kansas State University and a Visiting Research Fellow with the Center for Applied Economics at the University of Kansas, conducted the study. She describes it as "… the first-ever economic analysis of the most recent amendments to the School District Finance and Quality Performance Act on student outcomes." Her research did find "weak evidence" of improved graduation rates.

It is also important to note that the 2006 LPA study that found correlation between spending and achievement was only based on results from state assessment tests, and that KSDE has control over the design, standards and results of their own tests. Had LPA been asked to do its analysis using independent NAEP results, they likely would have come to a completely different conclusion because those scores showed little change while spending grew dramatically.

■ Kansas: Big Spending Increase, But Achievement is Flat

Kansas first participated in the NAEP Reading assessments in 1998; the state skipped the 2000 assessment, resumed in 2002 and has consistently participated since then. Kansas first participated in the NAEP Math assessments in 2000 and has consistently participated since then.

As shown in Table 21, test scores have barely changed. The largest gain of 6.0% is in 4th Grade Math and most of that movement preceded the greatest increase in spending. The 8th Grade Reading score has actually declined a point.

Spending, however, rose dramatically over the same period. Total spending jumped 82%, from $3.1 billion to $5.6 billion. Enrollment increased slightly over the period but per-pupil spending still increased 80%. Inflation would account for part of the spending increase but Kansas schools still had significant, real spending increases and virtually no change in achievement.[30]

[23] E-mail from Deanna Lieber, General Counsel, Kansas Department of Education, to Dr. Walt Chappell (June 12, 2009), copy in author's possession.

[24] Legislative Post Audit "Cost Study Analysis, Elementary and Secondary Education in Kansas: Estimating the Costs of K-12 Education Using Two Approaches", January 2006, page 40.

[25] Letter from Dr. Walt Chappell to Dr. Alex Posny (June 24, 2009), copy in author's possession.

[26] Letter from Deanna Lieber to Dr. Walt Chappell (June 29, 2009), copy in author's possession.

[27] Ibid, pages 107-113.

[28] Ibid, page 107

[29] Dr. Florence Neymotin, "The Relationship Between School Funding and Student Achievement in Kansas Public Schools," December 2008, Center for Applied Economics at the University of Kansas. (http://www.business.ku.edu/_FileLibrary/PageFile/1041/TR08-1205—EducationSpending_Neymotin.pdf, accessed Dec. 28, 2009).

[30] According to the Bureau of Labor Statistics, inflation rose 35.2% between July 1998 and July 2011 (All Urban Consumers, Midwest Urban Cities, all items, current series).

Table 21: Kansas NAEP Scale Score (all students) and Spending History

	Scale Score History					
	Reading		Math		Total Expenditures	
Year	4th	8th	4th	8th	Billions	Per Pupil
1998	221	268	NA	NA	$3.1	$6,828
2000	NA	NA	232	283	$3.4	$7,585
2002	222	269	232	283	$3.8	$8,488
2003	220	266	242	284	$4.0	$8,894
2005	220	267	246	284	$4.3	$9,707
2007	225	267	248	290	$5.1	$11,558
2009	224	267	245	289	$5.7	$12,660
2011	224	267	246	290	$5.6	$12,283

Source: NCES, Nation's Report Card; scale for all tests is zero to 500; Kansas did not participate in the 1998 Math test or the 2000 Reading test; Expenditures per Kansas Dept. of Education

■ Regional Comparison: Lower Spenders have the Best Scores

Kansas' own experience defies the notion that higher spending is the key to raising achievement levels but it is not the only evidence that contradicts that belief. In fact, Table 22 shows that the states with the ***highest NAEP scores in the region actually spend much less per-pupil***.

Colorado spent just $8,718 per-pupil on current expenditures in 2009 and has the highest regional scores with White students on 4th Grade and 8th Grade Reading and Math. Texas spent even less, $8,540 per-pupil, and is a very close #2 with White students and has the best regional scores with Hispanic and Black students. By comparison, Kansas spent $9,951 per-pupil and has lower scores than Texas with all three cohorts.

■ States with the Highest Spending Don't Have the Highest Scores

Another way of testing the theory that spending drives achievement is to study the scores of the states that spend the most money. Table 23 shows the ten states that spent the most money per-pupil (current expenditures) in 2009 and their 2011 scale score rank for 4th Grade and 8th Grade Reading and Math.

New Jersey, Maryland and Massachusetts have fairly consistent high ranks but the others have consistently low to middling ranks, with a smattering of high ranks. In fact, those top-ten spenders only have top-ten rankings 44% of the time. Of the 109 possible opportunities (not counting the eleven 'NA' notations for states that don't have reportable levels of Hispanic and Black students), the top-ten spenders only have 48 top-ten rankings.

Another way of demonstrating the disconnect between spending and achievement is to compare the states' composite scores for a variety of variables. Table 24 lists

Table 22: Regional Scale Scores and Spending Comparison

		2011 Scale Score			2009 Current Spending Per Pupil
		White Students	Hispanic Students	Black Students	
Reading 4th Grade	Kansas	229	209	204	$9,951
	Colorado	236	203	207	$8,718
	Texas	233	210	210	$8,540
	Missouri	226	209	199	$9,529
	Oklahoma	221	207	199	$7,885
	Nebraska	230	208	199	$10,045
Reading 8th Grade	Kansas	272	254	248	$9,951
	Colorado	278	254	257	$8,718
	Texas	274	254	252	$8,540
	Missouri	271	258	244	$9,529
	Oklahoma	265	251	247	$7,885
	Nebraska	272	252	250	$10,045
Math 4th Grade	Kansas	251	235	227	$9,951
	Colorado	254	230	225	$8,718
	Texas	253	235	232	$8,540
	Missouri	246	231	216	$9,529
	Oklahoma	243	227	224	$7,885
	Nebraska	247	226	213	$10,045
Math 8th Grade	Kansas	295	274	269	$9,951
	Colorado	302	271	270	$8,718
	Texas	304	283	277	$8,540
	Missouri	288	267	254	$9,529
	Oklahoma	286	264	262	$7,885
	Nebraska	290	261	255	$10,045
Composite Scores	Kansas	1,047	972	948	$9,951
	Colorado	1,070	958	959	$8,718
	Texas	1,064	982	971	$8,540
	Missouri	1,031	965	913	$9,529
	Oklahoma	1,015	949	932	$7,885
	Nebraska	1,039	947	917	$10,045

Source: Nation's Report Card, State results; scale for all tests is zero to 500; Current spending per U.S. Census Bureau (2009 is most recent); current spending is total spending less capital and debt service.

the twenty states with the highest total composite scores of five variables: Whites, Hispanics, Blacks, Low Income (Free/Reduced Lunch eligibility) and Students with Disabilities. A composite score is calculated for each variable using 4th Grade and 8th Grade Reading and Math average scale scores. Some states have insufficient reporting levels of one or more variables (e.g., Vermont and Wyoming in Table 23), so those states were excluded from this analysis.

While the composite scores for each variable are in a tightly packed range (Highest to Lowest), the per-pupil spending range is quite broad; in fact the highest spending level is more than double the lowest spending level.

Table 23: NAEP 2011 Scale Score Rankings of Highest-Spending States

	'09 Current Spending Per-Pupil	White Students				Hispanic Students				Black Students			
		Reading		Math		Reading		Math		Reading		Math	
		4th	8th	4th	8th	4th	8th	4th	8th	4th	8th	4th	8th
New York	$18,126	12	7	40	28	15	29	36	39	12	12	24	18
New Jersey	$16,271	4	2	4	2	6	12	14	8	2	3	5	5
Alaska	$15,552	44	10	25	11	12	4	2	4	18	10	18	4
Vermont	$15,175	26	10	25	14	NA	NA	NA	NA	20	NA	NA	NA
Wyoming	$14,573	28	21	34	28	11	9	10	21	NA	NA	NA	NA
Connecticut	$14,531	4	3	7	8	28	18	46	41	21	5	31	23
Massachusetts	$14,118	2	4	2	2	6	38	7	14	2	5	1	3
Rhode Island	$13,707	17	21	18	26	28	38	42	42	12	19	18	35
Maryland	$13,449	3	4	2	5	1	2	1	14	6	5	6	11
Pennsylvania	$12,512	10	8	12	19	37	34	36	25	21	34	24	33

Source: Nation's Report Card, State results; states listed as 'NA' lack sufficient levels of minority students to meet minimum reporting requirements; Current spending per U.S. Census Bureau (2009 is most recent); current spending is total spending less capital and debt service.

Table 24: Similar Composite Scores with Wide Spending Range

States with the Highest Total Composite Scores '09 Current	Spending Per-Pupil	Composite Reading & Math Score Grades 4 and 8					
		White Students	Hispanic Students	Black Students	Students w/ Disabilities	Low Income	Total
Massachusetts	$14,118	1,087	980	973	963	995	4,998
Maryland	$13,449	1,085	966	1,005	954	966	4,975
New Jersey	$16,271	1,083	974	982	936	977	4,952
Texas	$8,540	1,063	971	982	899	977	4,893
Kentucky	$8,756	1,025	944	991	929	979	4,867
Virginia	$10,930	1,056	957	983	904	958	4,858
Florida	$8,760	1,042	942	988	910	969	4,851
Kansas	$9,951	1,047	947	972	899	982	4,847
Delaware	$12,257	1,051	961	978	883	970	4,843
Ohio	$10,560	1,048	939	968	906	974	4,835
North Carolina	$8,587	1,053	948	976	889	968	4,834
Minnesota	$11,098	1,060	937	958	907	971	4,834
Colorado	$8,718	1,070	959	958	877	963	4,827
South Dakota	$8,507	1,039	957	964	895	972	4,826
Connecticut	$14,531	1,072	942	943	913	949	4,819
Indiana	$9,369	1,033	936	968	898	972	4,807
Georgia	$9,650	1,042	945	982	880	957	4,806
Pennsylvania	$12,512	1,055	929	947	901	962	4,793
New York	$18,126	1,044	947	948	887	965	4,790
Washington	$9,550	1,044	955	944	874	962	4,779
Highest	$18,126	1,087	980	1,005	963	995	4,998
Lowest	$8,507	1,025	929	943	874	949	4,779

Source: Nation's Report Card, State results; composite score for each variable is the total scale score for 4th Grade and 8th Grade Reading and Math; Total is the sum of the five composite scale scores. States that lack sufficient reporting levels in any of the five variables are excluded from this analysis. Current spending per U.S. Census Bureau (2009 is most recent); current spending is total spending less capital and debt service.

Whether looking at scale scores or proficiency levels, it's quite clear that student achievement is not determined by spending levels. There are multiple examples of states having the same or quite similar results while having spending differences of thousands of dollars per-pupil.

Texas ties New Jersey's composite scores for Blacks and Students with Disabilities and is within 4% of all other cohorts, yet New Jersey spends 91% more per-pupil.

Washington and New York have the same White composite score and all other cohorts are within 2% of each other, yet New York spends 90% more than Washington.

There are also multiple examples of states having ***better results while spending thousands of dollars per-pupil less than other states.***

Conclusion

Educating our children is probably the most important thing we do as parents and society as a whole, and the only way we can measure whether we are successfully accomplishing that mission is to have a full understanding of student achievement. It may be disconcerting to face certain facts but we do our children no favors by ignoring those facts and pretending that achievement is better.

The first question each Kansan must answer is this:

1. **Is student achievement at acceptable levels?**
   a. Is it acceptable that only about a third of Kansas' 4th grade and 8th grade students are Proficient in Reading on independent national assessment tests?
   b. Is it acceptable that less than half of Kansas' 4th grade and 8th grade students are Proficient in Math on independent national assessment tests?
   c. Is it acceptable that only 55% of Kansas' juniors can read grade-appropriate material with full comprehension on tests designed and scored by the Kansas Department of Education?
   d. Is it acceptable that only 45% of Kansas' juniors usually perform Math accurately most of the time and have well-developed content knowledge on tests designed and scored by the Kansas Department of Education?

If you believe student achievement is acceptable, then you probably want to continue to follow current practices. But if you find student achievement to be unacceptable, the next question is:

2. **Do you believe that achievement will soon reach acceptable levels by continuing to follow current practices and spending more money?**
   a. Taxpayer funding of public education in Kansas increased from **$3.1 billion** in 1998 to **$5.6 billion** in 2011, while test scores on independent national assessments remained virtually unchanged. Do you believe that spending **billions** more will soon drive student achievement to acceptable levels, and if so, how many **billions** of dollars will it take?
   b. If you believe spending **billions** more on current practices is the answer, do you believe that Kansas taxpayers can afford to pay **billions more in state and local taxes** without further weakening the state's economy and job situation?
   c. If you believe that Kansas taxpayers can afford to spend billions more in state and local taxes to increase funding of current educational practices, how many more years (or decades) will it take for student achievement to reach acceptable levels? Put another way, **how many more generations of kids will be denied access to an effective education while we wait for achievement levels to inch ahead?**

Finally, if the answer to Question #2 is 'no',

3. **Are you willing to transform public education and ensure that every student can reach their full potential by having access to an effective education?**

Regardless of the measurement, we do not believe student achievement is even close to acceptable levels. That is not intended as a derogatory comment, but merely reflects reality.

We also believe public education should be transformed to ensure that every student can reach their full potential by having access to an effective education. Thank goodness money isn't the answer. Kansans don't have billions more to spend; even if they did, how many more generations of kids would be denied an effective education while waiting for achievement to inch forward?

Quite a few states (Oklahoma, Indiana, Florida, New Mexico, North Carolina, Ohio and Tennessee to name a few) have said 'yes' to Question #3. The approach each has taken varies somewhat but they are driven by several common and very important principles:

✓ There is no single, silver-bullet solution. Identify multiple solutions and adopt them all.

✓ Change or establish laws that empower local school boards to act in the best interests of students, not the adults in the system.

✓ Change or establish laws that empower parents to decide which educational opportunities are best for their children, rather than having government decide.

✓ Move forward with fierce urgency.

Appendix "A": State Reading Assessment Results by Year (all students)							
		2006	2007	2008	2009	2010	2011
3rd Grade	Academic Warning	7.9%	6.3%	5.7%	4.9%	5.5%	4.3%
	Approaches Standard	11.8%	10.3%	10.2%	9.5%	10.6%	9.3%
	Meets Standard	28.0%	28.2%	26.4%	26.4%	26.9%	26.8%
	Exceeds Standard	27.8%	27.0%	29.3%	29.7%	30.9%	31.5%
	Exemplary	22.7%	26.7%	27.8%	29.1%	25.8%	28.1%
4th Grade	Academic Warning	8.5%	6.3%	5.5%	5.1%	5.0%	3.7%
	Approaches Standard	10.3%	8.7%	7.5%	7.2%	7.8%	6.5%
	Meets Standard	29.0%	28.1%	26.5%	26.2%	27.3%	26.3%
	Exceeds Standard	27.9%	28.9%	29.2%	29.3%	32.6%	33.1%
	Exemplary	22.6%	26.6%	30.7%	31.7%	27.0%	30.3%
5th Grade	Academic Warning	9.5%	6.6%	5.8%	5.8%	6.0%	4.7%
	Approaches Standard	11.9%	10.7%	9.9%	9.3%	8.7%	8.1%
	Meets Standard	24.1%	24.3%	24.5%	24.3%	23.6%	23.7%
	Exceeds Standard	23.0%	23.4%	25.7%	25.6%	25.6%	24.6%
	Exemplary	29.8%	33.5%	33.6%	34.5%	35.9%	39.1%
6th Grade	Academic Warning	9.5%	7.9%	6.2%	5.4%	5.3%	4.9%
	Approaches Standard	10.9%	9.5%	8.2%	7.7%	7.8%	7.0%
	Meets Standard	27.5%	26.3%	24.5%	23.7%	24.8%	25.0%
	Exceeds Standard	26.6%	28.7%	29.5%	29.4%	29.0%	29.4%
	Exemplary	23.9%	26.1%	31.1%	33.3%	32.7%	33.6%
7th Grade	Academic Warning	7.9%	6.4%	5.1%	4.0%	3.2%	3.6%
	Approaches Standard	11.0%	8.9%	8.5%	7.6%	7.0%	6.6%
	Meets Standard	25.5%	24.2%	22.8%	21.8%	21.2%	21.6%
	Exceeds Standard	29.3%	29.8%	31.2%	31.8%	31.1%	32.3%
	Exemplary	24.4%	29.2%	31.8%	34.2%	37.0%	36.0%
8th Grade	Academic Warning	9.3%	8.2%	6.6%	5.8%	4.9%	4.1%
	Approaches Standard	11.4%	10.7%	10.4%	8.8%	8.3%	7.9%
	Meets Standard	26.0%	25.6%	24.2%	24.0%	24.6%	23.6%
	Exceeds Standard	27.5%	27.0%	28.2%	28.6%	29.1%	30.0%
	Exemplary	23.9%	26.3%	30.0%	32.0%	32.5%	34.5%
11th Grade	Academic Warning	8.1%	7.2%	6.3%	4.6%	4.0%	3.4%
	Approaches Standard	11.3%	13.2%	10.9%	10.2%	8.5%	7.4%
	Meets Standard	25.2%	25.5%	31.8%	33.5%	34.3%	33.7%
	Exceeds Standard	28.0%	29.1%	26.9%	28.6%	28.5%	29.5%
	Exemplary	23.9%	22.4%	22.7%	22.1%	24.1%	25.9%
All Grades	Academic Warning	8.7%	7.0%	5.9%	5.1%	4.8%	4.1%
	Approaches Standard	11.2%	10.3%	9.4%	8.6%	8.4%	7.5%
	Meets Standard	26.4%	26.0%	25.8%	25.7%	26.1%	25.8%
	Exceeds Standard	27.2%	27.7%	28.6%	29.0%	29.6%	30.1%
	Exemplary	24.4%	27.3%	29.7%	31.0%	30.7%	32.5%

Source: Kansas State Department of Education

Appendix "B": State Math Assessment Results by Year (all students)							
		2006	2007	2008	2009	2010	2011
3rd Grade	Academic Warning	8.7%	6.4%	5.9%	5.1%	4.8%	3.7%
	Approaches Standard	9.1%	7.7%	7.4%	6.7%	7.4%	6.9%
	Meets Standard	28.8%	26.2%	25.8%	26.1%	26.1%	23.0%
	Exceeds Standard	25.0%	26.0%	28.7%	29.5%	27.7%	30.7%
	Exemplary	27.1%	32.1%	31.7%	32.1%	33.7%	35.6%
4th Grade	Academic Warning	9.4%	6.4%	5.8%	5.5%	6.0%	4.9%
	Approaches Standard	8.6%	7.4%	7.6%	7.6%	7.1%	6.8%
	Meets Standard	31.8%	29.6%	28.6%	28.6%	30.5%	28.0%
	Exceeds Standard	24.7%	25.2%	26.3%	26.2%	26.3%	26.6%
	Exemplary	24.2%	29.9%	31.2%	31.8%	29.9%	33.7%
5th Grade	Academic Warning	10.1%	7.7%	5.3%	5.4%	6.3%	4.7%
	Approaches Standard	9.7%	7.5%	7.7%	7.5%	7.2%	7.8%
	Meets Standard	30.5%	28.4%	27.4%	27.0%	27.7%	26.9%
	Exceeds Standard	24.3%	26.7%	27.8%	27.5%	25.3%	24.9%
	Exemplary	24.0%	28.2%	31.3%	32.1%	33.2%	35.6%
6th Grade	Academic Warning	12.3%	9.2%	7.8%	7.7%	7.5%	5.9%
	Approaches Standard	11.7%	10.0%	9.9%	9.1%	8.6%	9.4%
	Meets Standard	28.0%	26.1%	24.8%	24.1%	25.7%	25.2%
	Exceeds Standard	24.9%	26.5%	28.0%	28.1%	27.1%	32.0%
	Exemplary	21.5%	26.6%	29.0%	30.7%	30.9%	27.6%
7th Grade	Academic Warning	12.1%	9.8%	8.0%	7.2%	7.3%	6.2%
	Approaches Standard	16.1%	13.6%	13.5%	12.5%	12.2%	11.3%
	Meets Standard	27.3%	26.7%	26.8%	26.4%	25.7%	26.3%
	Exceeds Standard	24.7%	27.1%	26.6%	27.3%	27.4%	27.4%
	Exemplary	18.1%	21.1%	24.5%	26.1%	26.8%	28.9%
8th Grade	Academic Warning	14.1%	12.2%	11.1%	9.0%	9.0%	6.3%
	Approaches Standard	17.5%	14.7%	14.2%	13.1%	13.6%	11.5%
	Meets Standard	26.0%	25.3%	25.6%	25.3%	25.1%	23.5%
	Exceeds Standard	24.4%	24.7%	25.7%	26.3%	27.5%	29.7%
	Exemplary	16.2%	20.7%	22.7%	25.6%	24.3%	29.0%
11th Grade	Academic Warning	19.7%	12.2%	10.6%	9.2%	8.1%	7.4%
	Approaches Standard	18.4%	14.6%	11.9%	11.6%	11.0%	10.2%
	Meets Standard	25.3%	34.1%	35.2%	35.5%	38.0%	36.9%
	Exceeds Standard	18.6%	21.5%	24.1%	23.4%	24.9%	26.4%
	Exemplary	14.5%	15.7%	15.7%	19.4%	17.5%	19.2%
All Grades	Academic Warning	12.5%	9.2%	7.8%	7.0%	7.0%	5.6%
	Approaches Standard	13.1%	10.8%	10.3%	9.7%	9.5%	9.1%
	Meets Standard	28.2%	28.0%	27.7%	27.6%	28.3%	27.0%
	Exceeds Standard	23.7%	25.4%	26.7%	26.9%	26.6%	28.2%
	Exemplary	20.6%	24.8%	26.6%	28.3%	28.2%	30.0%

Source: Kansas State Department of Education

Appendix "C": State Demographic Components

	Race / Ethnicity				Low Income	Students w/ Disabilities
	White	Hispanic	Black	Other		
U.S. Average	53.0%	22.0%	17.0%	8.0%	45.0%	13.0%
Alabama	58.4%	4.2%	34.9%	2.5%	54.9%	11.1%
Alaska	53.2%	5.8%	3.8%	37.2%	36.2%	13.6%
Arizona	44.1%	41.4%	6.0%	8.6%	46.5%	11.7%
Arkansas	65.3%	9.2%	21.9%	3.6%	59.6%	13.5%
California	26.7%	49.8%	6.8%	16.7%	55.0%	10.6%
Colorado	60.6%	28.6%	5.9%	4.9%	38.4%	10.1%
Connecticut	63.7%	17.6%	13.9%	4.7%	31.8%	12.2%
Delaware	51.6%	11.3%	33.3%	3.8%	47.0%	15.3%
Florida	46.0%	27.0%	24.0%	3.0%	54.0%	14.2%
Georgia	45.0%	11.3%	37.4%	6.3%	56.1%	10.6%
Hawaii	19.7%	4.6%	2.3%	73.3%	43.3%	11.1%
Idaho	80.4%	15.0%	1.2%	3.4%	43.0%	10.1%
Illinois	54.0%	22.0%	20.0%	4.0%	42.9%	14.9%
Indiana	78.0%	7.1%	13.0%	1.9%	45.3%	16.4%
Iowa	82.2%	8.1%	5.1%	4.6%	36.6%	13.5%
Kansas	68.8%	15.7%	7.7%	7.8%	46.0%	14.0%
Kentucky	84.0%	3.2%	10.7%	2.1%	55.0%	15.6%
Louisiana	49.0%	3.2%	46.0%	1.8%	65.8%	12.3%
Maine	93.4%	1.2%	2.9%	2.4%	42.0%	15.8%
Maryland	46.0%	10.0%	37.9%	6.1%	38.3%	12.1%
Massachusetts	69.1%	14.8%	8.2%	7.9%	32.9%	18.0%
Michigan	71.0%	4.9%	20.1%	4.1%	46.0%	13.8%
Minnesota	75.0%	6.7%	9.7%	8.5%	36.0%	15.0%
Mississippi	46.1%	2.2%	50.1%	1.6%	70.7%	12.9%
Missouri	75.7%	4.1%	17.8%	2.4%	43.8%	14.1%
Montana	83.1%	2.8%	1.1%	13.0%	39.6%	12.1%
Nebraska	73.8%	14.3%	8.0%	3.9%	41.3%	14.7%
Nevada	41.4%	37.5%	11.4%	9.7%	42.4%	11.2%
New Hampshire	90.8%	3.5%	2.0%	3.6%	23.5%	15.3%
New Jersey	53.0%	20.6%	17.1%	9.3%	31.9%	16.4%
New Mexico	25.5%	59.9%	2.1%	12.5%	66.0%	13.7%
New York	50.5%	21.6%	19.0%	8.9%	20.6%	16.6%
North Carolina	53.8%	11.1%	31.0%	4.1%	48.6%	12.4%
North Dakota	84.5%	3.0%	2.4%	10.1%	33.0%	13.9%
Ohio	74.9%	2.9%	17.0%	5.2%	40.3%	14.9%
Oklahoma	56.4%	11.2%	11.0%	21.5%	58.7%	14.5%
Oregon	70.0%	20.0%	2.7%	7.3%	49.0%	13.6%
Pennsylvania	73.0%	7.8%	15.6%	3.6%	38.0%	17.0%
Rhode Island	68.0%	18.6%	9.2%	4.2%	42.0%	18.1%
South Carolina	54.0%	5.7%	38.2%	2.1%	55.0%	14.0%
South Dakota	81.3%	2.8%	2.6%	13.4%	37.1%	15.0%
Tennessee	68.2%	5.5%	24.3%	2.0%	53.1%	12.2%
Texas	33.3%	48.6%	14.0%	4.1%	50.5%	9.2%
Utah	79.0%	15.0%	1.3%	4.7%	41.9%	11.6%
Vermont	93.5%	1.2%	1.8%	3.4%	34.0%	8.4%
Virginia	58.0%	10.0%	26.0%	6.0%	35.7%	13.2%
Washington	66.0%	17.0%	5.6%	11.4%	41.4%	12.2%
West Virginia	92.4%	1.0%	5.3%	1.3%	52.0%	16.3%
Wisconsin	76.0%	8.4%	10.4%	5.2%	37.1%	14.4%
Wyoming	81.4%	12.1%	1.2%	5.3%	35.2%	14.1%

Source: National Center for Education Statistics

Appendix "D": Proficiency Level and Scale Score by State (4th Reading)

	White		Hispanic		Black		Low Income		Students w/ Disabilites	
	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score
U.S. Average	42%	230	17%	205	16%	205	18%	186	11%	207
Alabama	41%	230	16%	205	14%	204	18%	177	9%	209
Alaska	36%	223	24%	212	20%	206	13%	169	5%	191
Arizona	38%	225	16%	203	20%	204	15%	169	5%	202
Arkansas	38%	224	18%	204	11%	197	20%	176	8%	207
California	40%	229	12%	198	19%	208	12%	175	11%	198
Colorado	51%	236	18%	203	18%	207	19%	178	11%	205
Connecticut	55%	239	17%	204	14%	204	17%	188	11%	205
Delaware	47%	234	22%	214	23%	215	21%	192	10%	214
Florida	48%	235	30%	220	17%	209	24%	201	15%	216
Georgia	43%	231	26%	214	19%	208	20%	189	11%	209
Hawaii	38%	226	22%	209	26%	215	15%	158	2%	201
Idaho	37%	225	15%	201	*	*	21%	177	7%	210
Illinois	45%	231	18%	204	13%	198	16%	183	13%	203
Indiana	38%	226	17%	203	13%	203	20%	187	11%	210
Iowa	37%	225	15%	201	11%	193	17%	178	7%	206
Kansas	42%	229	20%	209	18%	204	23%	186	12%	212
Kentucky	37%	226	35%	222	19%	210	23%	207	19%	216
Louisiana	33%	223	22%	208	11%	197	14%	181	7%	202
Maine	33%	223	*	*	15%	192	20%	191	8%	210
Maryland	57%	242	37%	226	22%	213	24%	215	26%	215
Massachusetts	59%	243	23%	216	24%	216	25%	213	22%	218
Michigan	37%	225	20%	206	9%	192	17%	180	10%	205
Minnesota	42%	229	12%	201	16%	199	17%	189	13%	205
Mississippi	30%	220	25%	203	12%	198	15%	171	5%	202
Missouri	39%	226	23%	209	14%	199	20%	186	13%	207
Montana	39%	229	23%	217	*	*	23%	192	12%	214
Nebraska	42%	230	20%	208	15%	199	21%	190	13%	209
Nevada	36%	224	17%	203	15%	202	16%	176	10%	202
New Hampshire	44%	231	26%	217	*	*	25%	197	11%	216
New Jersey	53%	239	25%	216	25%	216	23%	203	21%	215
New Mexico	34%	225	15%	202	17%	208	14%	177	6%	200
New York	46%	232	20%	209	18%	208	23%	189	10%	212
North Carolina	46%	232	20%	207	16%	206	19%	184	10%	208
North Dakota	39%	228	22%	214	29%	220	23%	196	10%	216
Ohio	39%	229	19%	211	13%	204	19%	190	8%	212
Oklahoma	31%	221	18%	207	13%	199	19%	172	6%	208
Oregon	35%	222	12%	196	18%	202	19%	177	10%	204
Pennsylvania	47%	233	17%	202	19%	204	24%	191	14%	211
Rhode Island	43%	230	16%	204	23%	208	19%	176	5%	208
South Carolina	39%	226	20%	208	12%	199	16%	168	6%	202
South Dakota	35%	225	21%	207	18%	204	19%	186	11%	207
Tennessee	31%	221	16%	201	11%	198	15%	177	10%	204
Texas	45%	233	19%	210	18%	210	17%	188	10%	209
Utah	38%	226	13%	196	*	*	21%	184	11%	206
Vermont	42%	228	*	*	24%	205	25%	184	8%	213
Virginia	49%	235	21%	209	19%	210	17%	191	15%	207
Washington	42%	229	16%	199	19%	209	18%	183	10%	204
West Virginia	28%	216	*	*	15%	196	18%	182	13%	204
Wisconsin	39%	227	13%	202	12%	196	18%	182	8%	206
Wyoming	38%	227	22%	213	*	*	23%	194	10%	214

Source: Nation's Report Card, State results

Appendix "E": Proficiency Level and Scale Score by State (8th Reading)

	White		Hispanic		Black		Low Income		Students w/ Disabilites	
	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score
U.S. Average	41%	272	18%	251	15%	248	18%	251	7%	230
Alabama	34%	268	16%	246	11%	243	15%	248	2%	217
Alaska	42%	274	24%	260	17%	252	16%	245	3%	225
Arizona	41%	272	17%	251	18%	248	17%	249	3%	221
Arkansas	35%	267	21%	253	9%	238	18%	250	4%	217
California	35%	268	14%	245	11%	243	13%	244	3%	213
Colorado	49%	278	22%	254	22%	257	20%	254	6%	231
Connecticut	54%	283	22%	255	21%	255	23%	257	17%	247
Delaware	42%	273	26%	259	18%	254	21%	256	6%	231
Florida	38%	270	27%	259	14%	248	20%	254	9%	235
Georgia	38%	272	21%	258	14%	251	16%	253	8%	234
Hawaii	41%	273	17%	246	25%	261	16%	246	3%	213
Idaho	37%	271	17%	254	*	*	23%	259	4%	231
Illinois	44%	274	23%	257	15%	249	19%	253	8%	230
Indiana	36%	269	22%	255	14%	247	19%	254	6%	229
Iowa	35%	267	20%	251	12%	247	20%	253	4%	225
Kansas	41%	272	18%	254	15%	248	22%	256	6%	231
Kentucky	39%	271	30%	264	13%	248	25%	260	13%	245
Louisiana	31%	264	19%	249	10%	241	14%	247	4%	223
Maine	39%	271	*	*	21%	248	24%	258	13%	241
Maryland	52%	282	30%	262	21%	255	18%	253	14%	247
Massachusetts	53%	282	18%	248	20%	255	25%	257	16%	249
Michigan	36%	269	26%	260	10%	244	19%	253	7%	230
Minnesota	44%	274	23%	257	15%	246	22%	255	7%	231
Mississippi	33%	267	*	*	9%	240	13%	246	2%	211
Missouri	40%	271	26%	258	11%	244	21%	255	4%	225
Montana	44%	275	27%	262	*	*	30%	263	7%	238
Nebraska	39%	272	20%	252	15%	250	21%	255	8%	232
Nevada	37%	269	15%	247	17%	250	17%	248	5%	218
New Hampshire	41%	273	16%	253	*	*	23%	257	16%	250
New Jersey	56%	284	22%	257	21%	256	20%	255	15%	246
New Mexico	36%	270	16%	251	14%	248	15%	249	4%	223
New York	46%	276	20%	251	18%	251	24%	255	8%	234
North Carolina	40%	271	22%	256	14%	247	18%	252	6%	227
North Dakota	37%	272	*	*	*	*	19%	257	9%	240
Ohio	43%	274	17%	252	14%	247	21%	255	11%	236
Oklahoma	32%	265	15%	251	13%	247	20%	254	6%	227
Oregon	37%	269	16%	250	19%	248	20%	253	5%	227
Pennsylvania	46%	275	16%	250	12%	244	20%	252	10%	235
Rhode Island	41%	272	14%	248	18%	248	18%	251	6%	233
South Carolina	37%	269	22%	257	10%	246	16%	250	5%	224
South Dakota	39%	273	22%	256	17%	256	22%	257	5%	231
Tennessee	31%	265	24%	255	11%	240	17%	250	8%	224
Texas	42%	274	17%	254	15%	252	16%	253	6%	230
Utah	40%	272	13%	247	*	*	20%	254	5%	224
Vermont	45%	274	*	*	*	*	28%	260	7%	234
Virginia	43%	273	24%	259	16%	251	15%	250	9%	231
Washington	42%	272	17%	250	23%	254	22%	255	8%	230
West Virginia	24%	256	*	*	19%	249	15%	246	3%	214
Wisconsin	40%	272	13%	248	10%	240	17%	251	9%	235
Wyoming	40%	272	26%	258	*	*	26%	260	7%	234

Source: Nation's Report Card, State results

Appendix "F": Proficiency Level and Scale Score by State (4th Math)

	White		Hispanic		Black		Low Income		Students w/ Disabilites	
	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score
U.S. Average	52%	249	24%	229	17%	224	24%	229	17%	218
Alabama	38%	240	21%	227	8%	215	15%	222	5%	198
Alaska	50%	248	36%	239	15%	225	22%	224	19%	218
Arizona	49%	246	21%	227	23%	224	22%	227	15%	210
Arkansas	45%	244	28%	233	16%	219	26%	230	14%	212
California	57%	252	17%	222	19%	225	18%	222	9%	202
Colorado	60%	254	26%	230	21%	225	28%	231	18%	217
Connecticut	60%	253	19%	222	15%	220	19%	223	18%	216
Delaware	53%	250	25%	231	19%	227	24%	231	14%	217
Florida	52%	250	31%	236	18%	226	26%	232	18%	223
Georgia	51%	249	29%	233	18%	224	21%	227	14%	214
Hawaii	53%	248	39%	237	32%	233	26%	228	5%	194
Idaho	44%	244	17%	223	*	*	27%	232	15%	217
Illinois	52%	249	20%	226	14%	219	20%	225	19%	218
Indiana	51%	249	29%	234	15%	223	31%	235	26%	227
Iowa	47%	246	24%	229	18%	224	28%	233	13%	216
Kansas	56%	251	26%	235	18%	227	33%	238	19%	225
Kentucky	41%	243	30%	236	17%	225	26%	232	21%	224
Louisiana	40%	241	20%	230	12%	219	17%	224	9%	212
Maine	47%	246	*	*	10%	212	31%	235	13%	219
Maryland	64%	258	43%	245	23%	230	26%	233	33%	235
Massachusetts	67%	258	32%	236	27%	235	36%	239	26%	233
Michigan	41%	242	21%	228	8%	211	18%	224	14%	214
Minnesota	60%	255	29%	230	23%	225	33%	235	25%	227
Mississippi	38%	241	22%	229	10%	217	17%	224	14%	213
Missouri	48%	246	24%	231	14%	216	27%	230	21%	221
Montana	50%	247	31%	237	*	*	31%	234	17%	219
Nebraska	48%	247	20%	226	8%	213	21%	227	19%	220
Nevada	48%	247	24%	229	23%	226	25%	229	21%	217
New Hampshire	59%	252	30%	235	27%	235	39%	241	25%	230
New Jersey	64%	256	28%	234	24%	231	27%	233	25%	226
New Mexico	48%	247	23%	228	19%	226	21%	226	11%	210
New York	46%	245	20%	226	17%	224	25%	229	12%	215
North Carolina	59%	253	33%	238	18%	229	28%	235	19%	225
North Dakota	52%	249	24%	233	*	*	29%	235	24%	227
Ohio	53%	249	27%	233	20%	226	30%	234	20%	221
Oklahoma	41%	243	19%	227	14%	224	25%	232	12%	217
Oregon	43%	243	15%	220	14%	215	22%	226	14%	214
Pennsylvania	56%	251	20%	226	17%	224	26%	231	21%	223
Rhode Island	53%	249	21%	224	20%	225	26%	229	13%	212
South Carolina	52%	248	28%	234	13%	220	21%	227	11%	211
South Dakota	46%	246	18%	226	21%	227	25%	231	17%	223
Tennessee	36%	239	19%	228	12%	216	19%	225	12%	211
Texas	60%	253	29%	235	25%	232	28%	234	19%	220
Utah	49%	247	17%	223	*	*	28%	232	20%	222
Vermont	50%	248	*	*	*	*	35%	238	17%	222
Virginia	56%	251	31%	237	20%	229	24%	231	23%	225
Washington	53%	249	22%	226	20%	227	27%	230	18%	216
West Virginia	32%	235	*	*	20%	227	21%	227	17%	217
Wisconsin	55%	251	22%	228	12%	217	27%	231	21%	222
Wyoming	47%	246	31%	235	*	*	32%	236	20%	226

Source: Nation's Report Card, State results

Appendix "G": Proficiency Level and Scale Score by State (8th Math)

	White		Hispanic		Black		Low Income		Students w/ Disabilites	
	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score	Percent Proficient	Scale Score
U.S. Average	43%	293	20%	269	12%	262	19%	269	9%	249
Alabama	28%	280	9%	255	7%	250	9%	256	1%	225
Alaska	47%	296	25%	277	18%	273	21%	269	6%	244
Arizona	46%	294	18%	266	18%	269	19%	267	5%	235
Arkansas	37%	287	20%	272	9%	257	18%	269	3%	238
California	41%	290	13%	260	12%	254	14%	260	6%	232
Colorado	55%	302	20%	271	17%	270	23%	273	8%	251
Connecticut	48%	297	13%	262	12%	262	14%	264	13%	261
Delaware	44%	294	21%	274	14%	266	17%	270	5%	243
Florida	37%	287	22%	274	11%	258	16%	267	9%	250
Georgia	40%	291	25%	277	12%	262	16%	267	4%	244
Hawaii	41%	290	20%	263	26%	277	21%	268	3%	230
Idaho	41%	291	16%	267	*	*	24%	276	6%	243
Illinois	44%	294	19%	272	10%	260	17%	269	10%	252
Indiana	40%	290	21%	275	11%	264	20%	273	7%	255
Iowa	37%	288	14%	269	11%	258	17%	271	4%	246
Kansas	47%	295	22%	274	16%	269	24%	276	10%	257
Kentucky	33%	284	18%	269	13%	261	18%	271	10%	253
Louisiana	31%	283	16%	269	10%	259	14%	265	5%	243
Maine	40%	290	*	*	18%	265	25%	276	13%	257
Maryland	56%	303	27%	273	18%	267	17%	266	12%	257
Massachusetts	58%	304	21%	273	26%	275	29%	280	16%	268
Michigan	35%	286	23%	274	7%	250	16%	266	7%	246
Minnesota	55%	302	18%	270	18%	266	26%	276	14%	260
Mississippi	30%	283	20%	273	8%	255	12%	260	4%	241
Missouri	36%	288	15%	267	7%	254	18%	269	10%	249
Montana	49%	297	31%	285	*	*	31%	280	6%	248
Nebraska	39%	290	11%	261	8%	255	16%	269	6%	250
Nevada	43%	292	15%	266	12%	259	18%	267	6%	242
New Hampshire	45%	293	15%	266	*	*	27%	276	14%	262
New Jersey	59%	304	24%	274	21%	272	24%	274	18%	261
New Mexico	40%	290	18%	269	16%	265	15%	267	6%	245
New York	40%	291	13%	263	13%	264	18%	269	5%	249
North Carolina	48%	296	23%	275	15%	267	22%	273	9%	254
North Dakota	47%	296	*	*	*	*	27%	278	10%	265
Ohio	46%	295	26%	273	12%	263	22%	274	11%	258
Oklahoma	34%	286	15%	264	11%	262	16%	270	10%	246
Oregon	37%	287	17%	268	18%	263	20%	271	7%	247
Pennsylvania	47%	294	22%	269	9%	257	20%	268	11%	252
Rhode Island	42%	292	13%	261	12%	256	16%	267	7%	248
South Carolina	43%	293	25%	273	14%	263	18%	268	7%	245
South Dakota	47%	295	20%	274	21%	270	25%	277	8%	255
Tennessee	28%	281	15%	266	9%	252	13%	262	4%	239
Texas	58%	304	31%	283	21%	277	28%	281	15%	261
Utah	41%	289	9%	257	*	*	20%	269	4%	241
Vermont	47%	295	*	*	*	*	26%	277	9%	257
Virginia	48%	297	27%	279	18%	268	18%	270	12%	257
Washington	46%	294	22%	269	15%	265	25%	273	9%	244
West Virginia	22%	274	*	*	9%	260	13%	264	3%	238
Wisconsin	47%	295	21%	270	11%	256	20%	269	8%	252
Wyoming	41%	291	20%	271	*	*	26%	277	9%	253

Source: Nation's Report Card, State results

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