Testimony to House Education Committee

Progress in Education

January 19, 2012

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Mr. Chairman and esteemed members of the Committee:

It is a distinct honor to appear before you today and present testimony on the facts about student achievement and begin discussions of methods for improving public education. We appreciate the invitation to appear and commend the Committee for its courage in venturing down this (unfortunately) controversial path. As next week is National School Choice Week, I want to applaud the committee and Chairman Aurand for helping to bring a renewed focus on student achievement at the same time countless groups and many states are doing the same thing at the very same time.

There is no question that some students receive an excellent public education in Kansas. It's great that Kansas students compare well to other states on ACT / SAT scores and that high school graduation rates are better than some states. Of course, these and other comparisons are heavily influenced by demographic differences among the states but still, some students do quite well. Unfortunately, state and national testing data show that that isn't true for many Kansas students.

Before we can assess Progress in Education, we must first decide which measurement criterion is the most important in measuring success:

- National rankings (i.e., success is measured by attaining a certain national ranking).
- Average performance of all students combined within the state (i.e., success is measured by attaining a certain degree of annual improvement).
- Actual student achievement levels (i.e., success is measured by deciding whether actual student achievement is at acceptable levels).

There is certainly merit in understanding each of the above, but one can only truly measure success by first defining it. Absent a clear, pre-set definition of the singular measurement that matters the most, success is too often 'justified' or 'rationalized' based on current conditions.

This may be a subjective decision for which there is no absolute 'right or wrong' answer, but we measure success by determining whether actual student achievement levels are at acceptable levels.

The Facts about National Achievement and Rankings

The National Assessment of Educational Progress (NAEP) conducted by the U.S. Department of Education is considered the gold standard of student assessment by researchers and educators. The Kansas Department of Education (KSDE) obviously finds the NAEP results valid, as they often talk about Kansas' performance on NAEP, citing high rankings in comparison to other states.

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 in reference to overall performance, Table 1 shows that Kansas' rankings are driven by the relatively poor performance of <u>all</u> 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 1: Putting Rank and Achievement in Context

	% Students Proficient+		Kansas
	Kansas	U.S. Avg.	Rank
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)

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

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. 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. Most students in the lower-performing cohorts have not been given equal access to an effective education and therefore do not have an equal opportunity to learn.)

The same concept applies to the states.

The significant variances in student body makeup of regional states shown in Table 2 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).

Table 2: 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 3 and Table 4.[1] 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.

Table 3: 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%

Table 4: 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

[1] 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.

The overall score for a state is the simple average of the scores for each student. But we know that there are significant scoring differences among the demographic components. 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.

The formulas for calculating the Kansas and Texas averages using ethnic breakouts as the cohorts (Table 2) 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 both states' White students' scores are significantly higher than those of Hispanics and Blacks, Kansas' demographic split makes it appear that Kansas' overall 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.

Table 5: Demographic Differences Skew Overall Scores

	All Students		White Students		Hispanic Students		Black Students	
	Scale Score	U.S. Rank	Scale Score	U.S. Rank	Scale Score	U.S. Rank	Scale Score	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

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.

Now let's see how Kansas compares to the national average.

Table 6: Comparing Kansas to the National Average (Scale Score)

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

Table 6 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 7 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.

Table 7: Comparing Kansas to the National Average (Proficiency Levels)

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

Source: Nation's Report Card, State results

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 most 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."

The Facts about State Assessment Results

KSDE reports much higher proficiency levels on state assessment tests than on NAEP. Results vary between the two assessments for a variety of reasons, with one of the most noteworthy being that Kansas has much lower standards than the U.S. Department of Education.

KSDE uses five performance levels to classify achievement: *Exemplary, Exceeds Standard, Meets Standard, Approaches Standard and Academic Warning*, and considers *Meets Standard* to be Proficient. Note the significant differences between their definitions of Meets Standard and Exceeds Standard in Reading:[2]

> **Meets Standard**: When independently reading grade-appropriate narrative, expository, technical and persuasive text, a proficient student has **satisfactory** comprehension.
>
> **Exceeds Standard**: When independently reading grade-appropriate narrative, expository, technical and persuasive text, an advanced student has **full** comprehension.

Students are not required to have full comprehension of grade-appropriate material to be considered Proficient in Reading. Similarly, students are not required to perform accurately on all grade-level tasks or have well-developed content knowledge to be considered Proficient in Math.

> **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.

KSDE uses 'proficient' and 'satisfactory' interchangeably, even though they have far different meanings. Merriam-Webster's dictionary clearly shows these to be contradictory terms:[3]

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

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[2] Full definitions for Reading performance levels can be found at http://www.ksde.org/Default.aspx?tabid=159. Full definitions for Math performance levels can be found at http://www.ksde.org/Default.aspx?tabid=156.
[3] Merriam-Webster, http://www.merriam-webster.com/

The U.S. Department of Education 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."[4] Indeed, Table 8 shows that 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.

Table 8: NAEP Cut Scores (lower end)

	Grade 4	Grade 8
Basic	208	243
Proficient	238	281
Advanced	268	323
Kansas Equivalent Scale Scores for State Proficiency		
Reading	186	236
Math	217	265

Source: National Center for Education Statistics

Kansas' Cut Scores Reflect Lower Standards

KSDE places students in one of the five performance levels based on the number of correct answers on assessment tests but, indicative of the findings of the U.S. Dept. of Education analysis, they use rather low cut scores.[5]

As shown in Table 9, Exemplary in 3rd Grade Math 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. Even more surprising, High School students can be considered Proficient in Math with as little as 50% correct answers.

Table 9: 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
High School	0-37	38-49	50-67	68-81	82-100

Source: Kansas Dept. of Education

The Reading Performance Level Scores shown in Table 10 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.

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

[5] KSDE, Reading and Math Performance Level Scores http://www.ksde.org/Default.aspx?tabid=159

Table 10: 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
High School	0-53	54-67	68-80	81-88	89-100
Source: Kansas Dept. of Education					

2011 State Assessment Results

We believe that the combination of contradictory definitions of performance levels and low cut scores precludes the use of *Meets Standard* as an accurate measure of whether students are performing at levels that we (and perhaps most Kansans) consider to be acceptable. And while some of the cut scores used for Exceed Standards raise similar concerns, the definitions for Exceeds Standard may be a more appropriate measure for consideration since performance at that level is said to require 'full comprehension of grade-appropriate material' and 'usually performs Math accurately on all grade-level tasks'.

Table 11 Reads Grade-Appropriate Material with Full Comprehension (% of students at *Exceeds Standard* and *Exemplary*)					
	Race / Ethnicity				Low
District	All Students	White	Hispanic	Black	Income
4th Grade	62.9%	69.0%	48.8%	41.4%	50.6%
8th Grade	63.6%	70.8%	45.6%	37.6%	48.8%
11th Grade	54.9%	61.1%	35.4%	30.7%	38.7%

Table 12: Usually Performs Math Accurately on All Grade Level Tasks & Has Well-Developed Content Knowledge (% of students at *Exceeds Standard* and *Exemplary*)					
	Race / Ethnicity				Low
District	All Students	White	Hispanic	Black	Income
4th Grade	59.8%	65.0%	48.2%	39.4%	48.3%
8th Grade	58.0%	64.1%	41.6%	34.2%	43.2%
11th Grade	45.0%	50.9%	27.4%	18.8%	28.4%
Source: Kansas Dept. of Education					

Table 11 shows that less than two-thirds of students can read grade-appropriate material with full comprehension. With one year to go before entering the workforce or moving on to higher education, only 55% of Kansas juniors can fully comprehend grade-level material. There are also quite large achievement gaps among ethnic groups, with only about a third of minority 11th Graders reading at grade-level.

Math results are even lower. Only 45% of Kansas Juniors usually perform Math accurately on all grade-level tasks (with 'usually' defined as answering 68% to 81% of the questions correctly).

Moving Forward

Some education officials, including most in Kansas, believe that more spending is the answer to raising 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."[6] But that LPA study contained other pertinent information that is ignored by those who believe that money drives achievement.

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:[7]

> *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.*

The data also strongly reject the notion that spending drives achievement.

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 13, 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.[8]

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[6] 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.

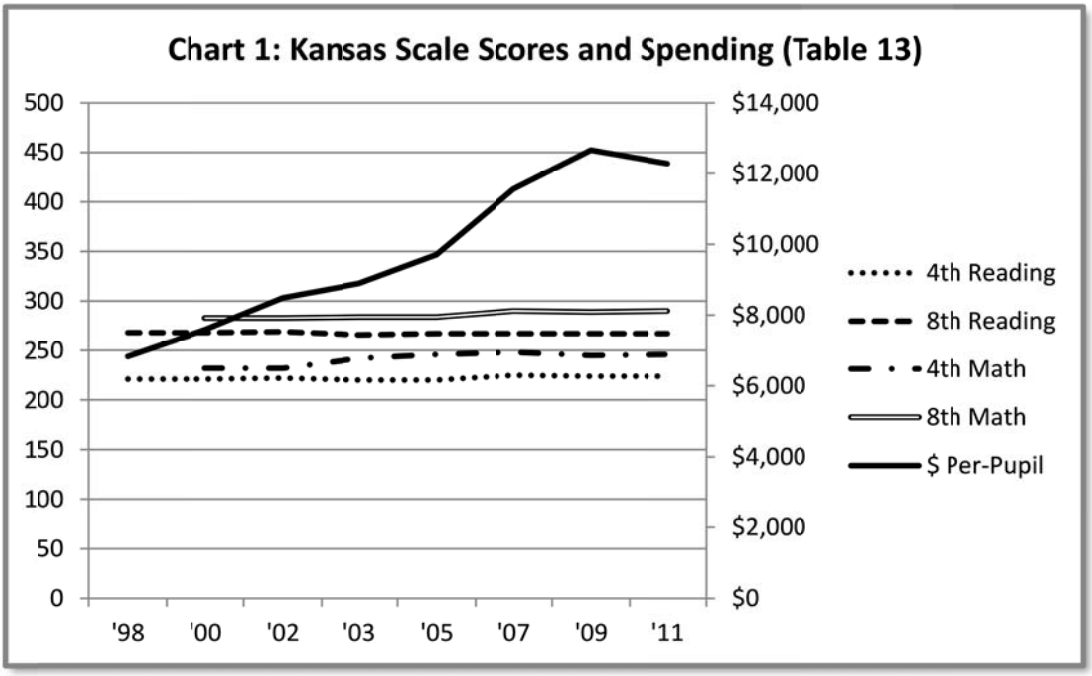
[7] Ibid, page 107

[8] 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 13: Kansas NAEP Scale Score (all students) and Spending History

	Scale Score History				Total Expenditures	
Year	4th Gr. Reading	8th Gr. Reading	4th Gr. Math	8th Gr. Math	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 contradicting that belief. In fact, Table 14 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.

To put that difference in perspective, had Kansas spent at Texas' level in 2009, Kansas districts would have spent $470.4 million less on current expenditures.

Table 14: Regional Scale Scores and Spending Comparison

	2011 Scale Score			2009 Current
	White Students	Hispanic Students	Black Students	Spending Per Pupil
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.

Conclusion

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.

- ✓ The gold standard NAEP assessments show that only about a third of Kansas 4th Grade and 8th Grade students are Proficient in Reading; less than half are Proficient in Math.

- ✓ The gold standard NAEP assessments show that test scores are essentially flat over the last 13 years, despite the fact that 2011 spending was $2.5 billion more than in 1998.
- ✓ While Kansas has much lower standards than NAEP, even those assessments show that only 55% of 11th Grade students can read grade-appropriate material with full comprehension – and only 45% of 11th Grade students usually perform Math accurately on all grade-level tasks (with 'usually' defined as answering 68% to 81% of the questions correctly).

Discussions about how to improve student achievement cannot be bogged down in efforts to assess blame or defend the past, as neither provides any benefit to students.

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.

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 already begun the transformation of public education. 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.
- ✓ Change or establish laws that empower parents to decide which educational opportunities are best for their children.
- ✓ Move forward with fierce urgency.

Thank you once again for the invitation to appear before you today and for beginning the conversation on how we can improve public education in Kansas.