

School Grades Do Not Measure School Quality

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Once again, almost like clockwork, the Florida Department of Education releases school grades and the back-patting in the high scoring districts and/or schools begins. Superintendents congratulate themselves and their schools for educational excellence and some teacher unions brag about having the “best teachers in the State of Florida” and insist on having the highest salaries as well (along with the annual bonuses that “A”schools and their teachers receive). Meanwhile, low performing districts and/or schools are singled out as below average or failing and their teachers typically receive lesser pay and no bonus dollars.

On the surface, at least, we have a well-designed merit system which rewards those who excel and punishes those who do not. Regrettably, such is not the case. A wealth of empirical data have documented the fact that school grades are not a valid measure of school quality, but no one--teachers, administrators, or legislators, especially in the favored districts--seems to care. The time has come to challenge this flawed system and seek a better way to evaluate our schools and reward our teachers.

Let’s begin with a basic fact: ***the primary determinant of a district’s grade is the socio-economic composition of the district, not the schools themselves.*** Study after study has revealed a very strong relationship between poverty levels and schools grades throughout the State of Florida. As an example, consider the following scatterplot, on which each mark represents a given district’s poverty level (as indexed by the percentage of students who qualify for free or reduced-price lunch) and points earned on the FCAT in 2006-07:

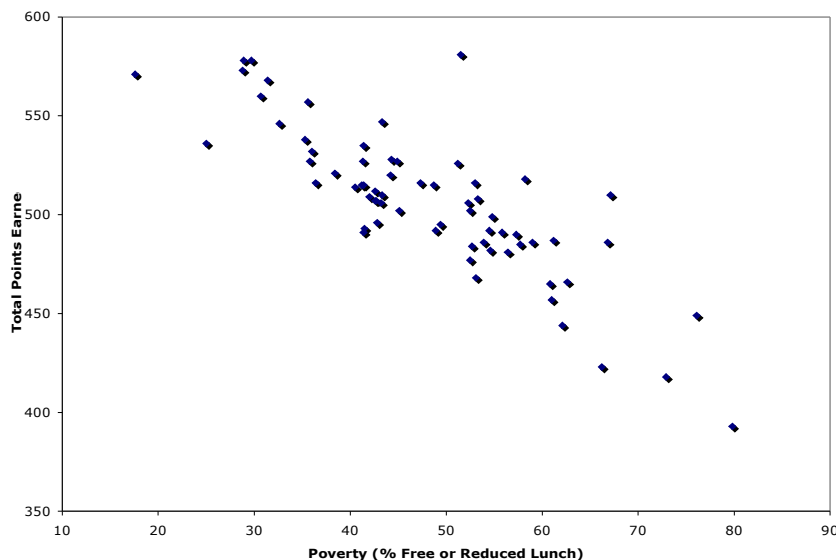


Fig. 1. Scatterplot which shows the correlation between poverty and FCAT scores among Florida’s 67 school districts.

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Note the extraordinarily strong correlation between the poverty level of a given district and the FCAT points earned by that district. It's not the schools that create the differences in school grades; it is almost entirely explained by socio-economic composition of the students who attend those schools. Thus schools located in wealthier districts score higher on the FCAT than those located in poorer districts. As a result, the teachers in the wealthier districts regularly receive higher salaries and bonus dollars whereas those in the poorer districts do not. To suggest that the teachers in poorer districts are inadequate and undeserving of recognition is both demeaning and completely fails to recognize the enormous challenges these teachers face.

Even more persuasive evidence for the FCAT:poverty relationship comes from *within* district comparisons, which presumably would have roughly equal facilities among schools along with consistent administrative and hiring practices. Consider, for example, the following data for three large and socio-economically diverse school districts, which shows the percentage of "A" grades for elementary schools as a function of poverty level:

Table 1
Percentage of "A" Grades in Three Large School Districts
as a Function of Poverty Level

% Free/Reduced Price Lunch	Percentage of "A" Grades		
	Hillsborough	Miami-Dade	Palm Beach
1-25	100%	100%	97%
26-50	90	96	90
51-75	67	77	41
76-100	17	28	24

Once again, we see the very strong connection between poverty and school grades. It is this overwhelming evidence which further reveals the fundamental invalidity and unfairness of Florida's school grading system.

As reported recently in the Northwest Florida Daily News, the students in Okaloosa, Santa Rosa, and Walton counties perform very well on the FCAT and thus schools grades in these relatively prosperous counties are quite high. Nonetheless, as the following chart shows, the relationship between poverty level and FCAT scores exists within the tri-county districts as well.

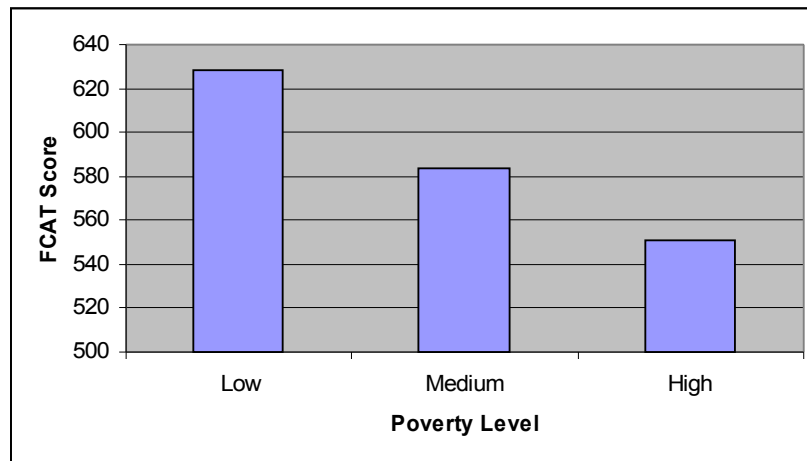


Fig. 2. FCAT scores among elementary school students in Okaloosa, Santa Rosa, and Walton counties as a function of poverty level.

As the chart shows, students at the schools with the lowest poverty level score significantly higher than those at the medium level who, in turn, score higher than those at the highest poverty level.

Are we to conclude that Bluewater Bay Elementary (689 pts.) is a better school than, say, Bob Sikes Elementary (509 pts.) because of better teachers and administrators or are we going to acknowledge the obvious difference in the number of children at these schools who qualify for free or reduced-priced lunches (9.6% at Bluewater vs. 43% at Bob Sikes)? Are the teachers and administrators at Gulf Breeze Middle (675 pts.) far superior to those at Martin Luther King Middle (554 pts.) or should we attribute this result to the 45.6% difference between these schools in the percentage of children who qualify for free or reduced-priced lunches? Most of us would agree, I think, if we examine the data carefully, that it is the composition of the student body, not the teachers or administrators that accounts for the difference in FCAT scores. Moreover, we do not have a single shred of empirical evidence which would attribute these difference to school-related variables but, both locally, statewide, and nationally, the link between standardized test scores and socio-economic status has been well documented.

In fact, the link between test scores and socio-economic status is actually stronger in Florida because the primary contributor to the points earned is based on raw FCAT scores rather than improvement from one year to the next. States which place more weight on annual improvement (so-called “value added” measures) do not face the same dilemma, at least not to the same degree. This fundamental point may offer some clues as to how the system might be changed to make the process more valid and fairer to poorer districts and schools.

As a rather dramatic case in point, consider the following analysis of 109 elementary schools in the Palm Beach district which compared the correlation between poverty (% free or reduced priced lunch) and raw scale scores for Reading and Math in 2008 with the correlation between poverty and the change (i.e., “value added”) in those scores between the 3rd and 4th grades and between the 4th and 5th grades. The relevant correlation coefficients are shown below:

Table 2
The Correlation Between Poverty and Reading and Math Scores
For Elementary School in Palm Beach County Compared to the Correlation Between Poverty and
Improvement from One Grade to the Next

	Reading			Math		
	3 rd	4 th	5 th	3 rd	4 th	5 th
Poverty & Raw Scores	-.888	-.897	-.895	-.826	-.846	-.856
	<u>3rd-4th</u> <u>4th-5th</u>			<u>3rd-4th</u> <u>4th-5th</u>		
Poverty & Change Scores	+.169 +.146			+.125 +.123		

First of all, note the very high correlations between poverty and raw scores on the Reading and Math tests. This is precisely the result we would expect based on earlier research: The higher the level of poverty, the lower the test scores, an inverse relationship. On the other hand, when we look at improvement (“value added”) from one year to the next, the correlations are much smaller and, in fact, positive: The higher the poverty, the greater the improvement in Reading and Math scores from the 3rd to 4th grades and from the 4th to 5th grades. In other words, we see slightly greater improvement in the high poverty schools than in the low poverty schools, even though it is the latter that receive the highest school grades and teacher

bonuses. Given this persuasive evidence, how can we possibly claim that Florida’s school grading system measures school quality?

For those unfamiliar with correlational analyses, the following figures may be helpful. These figures show the average reading and math scores as a function of poverty level for Palm Beach elementary schools. As described earlier, the lower the poverty level, the higher the test scores and thus the higher the school grade. To put it simply, we can very accurately predict FCAT scores based only upon the poverty level of the students within each school.

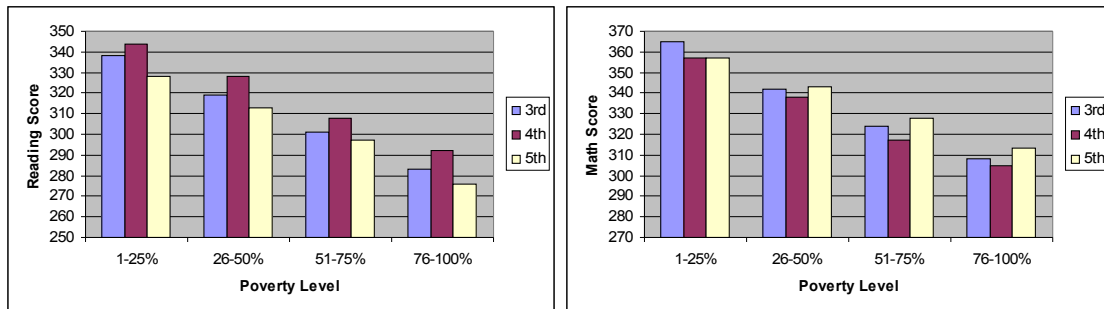


Fig. 3. Average reading and math scores for elementary schools in Palm Beach county as a function of poverty level.

On the other hand, as shown in the following figure, we do not see the same relationship when we look at the improvement of reading and math performance from one year to the next:

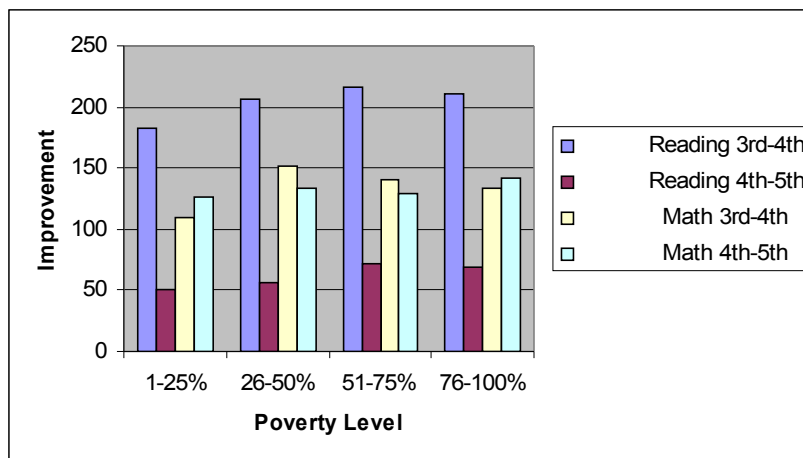


Fig. 4. Reading and math improvement from 3rd to 4th and 4th to 5th grades among Palm Beach elementary schools as a function of poverty level.

While, overall, the average level of improvement is somewhat greater for the higher poverty schools, one should probably not make too much of this difference, since it is surely much harder for schools already performing at a high level to produce even higher scores the following year. Instead, we should focus upon the simple fact that a grading system which emphasizes improvement rather than raw scores would create a dramatically different picture of how well Florida’s schools are performing. We would no doubt discover that some schools in high poverty areas are doing quite well, whereas some of those in wealthier areas are resting on their laurels rather than enhancing student performance.

Everything I know about the administrators and teachers in our tri-county area tells me that Northwest Florida is blessed with very good school systems. However, that conclusion does not stem from the fact that our FCAT scores are higher than most of the school districts in Florida which, as far as I know, have

administrators and teachers every bit as dedicated and hard-working as ours--perhaps even more hard-working, given the challenges that teachers in the poorer districts face. The improvement scores described above provide strong support for this argument. It is time we implement a "value-added" school grading system which emphasizes improvement in academic performance rather than invalid measures which predominantly reflect the socio-economic circumstances of school districts.

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