Current Issues in Education
Mary Lou Fulton Teachers College • Arizona State University
PO Box 37100, Phoenix, AZ 85069, USA

Volume 13, Number 4 ISSN 1099-839X

The 65% Instructional Expenditure Ratio and Student Achievement: Does Money Matter?

Timothy B. Jones
Sam Houston State University

John R. Slate
Sam Houston State University

Citation

Jones, T.B. & Slate J.R. (2010). The 65% Instructional Expenditure Ratio and Student Achievement: Does Money Matter? *Current Issues in Education*, 13(4). Retrieved from http://cie.asu.edu/

Abstract

In this study, the researchers examined the extent to which Texas public school districts' compliance with the 65% instructional expenditures ratio was related to student academic success on the Texas Assessment of Knowledge & Skills tests. Separated into three groups (i.e., 65% instructional expenditures and higher, 60 to 65% instructional expenditures, and less than 60% instructional expenditures), statistically significant differences were yielded among these groups in the TAKS Reading, Math, Social Studies, Science, and Writing measures. School districts that spent less than 60% of their monies on instructional expenditures had the lowest percent passing rates in all five TAKS tests. Effect sizes ranged from small to large and were consistent across ethnic groups. Implications of these findings and suggestions for further research are discussed.

Keywords: instructional expenditures, student performance, statewide assessments

About the Author(s)

Author: Timothy B. Jones
Affiliation: Sam Houston University
Email: tbj004@shsu.edu
Biographical information: Timothy B. Jones is an Associate Professor and Director of the Educational Research Center and Doctoral Studies in Educational Leadership at Sam Houston State University. Dr. Jones received his Ed.D. in Educational Leadership from Stephen F. Austin State University. He teaches doctoral level ethics, policy, finance and law. His research interests focus on school finance policy, public school law and school improvement.

Author: John R. Slate
Affiliation: Sam Houston University
Email: jrs051@shsu.edu
Biographical information: John R. Slate received his Ph.D. in Psychology from the University of Tennessee, Knoxville. He teaches doctoral level statistics, research design, and academic writing courses in the Department of Educational Leadership and Counseling at Sam Houston State University. His research interests lie in the use of state and national educational databases for school improvement.

Current Issues in Education
Mary Lou Fulton Teachers College • Arizona State University
PO Box 37100, Phoenix, AZ 85069, USA

The 65% Instructional Expenditure Ratio and Student Achievement: Does Money Matter?

Columnist and political commentator George Will (2005a, 2005b), in his article, *One Man's Way to Better Schools*, and then in a policy statement from an organization called First Class Education, gave a wide national audience to First Class Education, an organization founded by Overstock.com President and CEO Patrick M. Byrne. The organization called for all state governments in the United States, by 2008, to spend at least 65% of school district funds on instructional costs as defined by the National Center for Education Statistics (2003). In their policy statement, First Class Education (2005) suggested three critical objectives that would be met with the implementation of the 65 Percent Rule: (a) an increase in the amount of money spent in the classroom without increasing taxes; (b) a reduction in the amount of money spent on non-classroom expenditures such as athletics, teacher training and curriculum, student support such as nurses and counseling, instructional support such as libraries and librarians, food service, student transportation and administration; and hence, (c) provide school children with a first class education indicated by higher student performance. Other organizations have also joined the 65 Percent call. For example, one organization, Americans for Prosperity, cited "Texas Polling Data" that shows "overwhelming support" in Texas for the measure (Americans for Prosperity, 2005).

The No Child Left Behind Act (NCLB, 2001) mandated that schools evaluate not only the academic performance of all students but, more importantly, the academic performance of students by ethnic membership as well as by variables such as economic status and at-risk status. The 65% instructional expenditures ratio mandate should be evaluated along the same lines. That is, the extent to which this mandate affects the academic performance of students similarly across ethnic membership is unknown and merits attention.

The Literature

Six studies were identified as being particularly germane to this study. Roper (1996) examined the relationship between expenditures and student performance using Stanford Achievement Test scores of 127 Alabama public school districts using fourth, seventh, and tenth grade students. When the test scores of the homogeneous groups were analyzed, the instructional support expenditures were not related with student academic achievement. Roper (1996) stated that the relationship between expenditures and achievement was seemingly curvilinear, rather than a typically linear relationship. That is, too little expenditures and too much expenditures were not related positively with student achievement, compared with expenditures in the middle of the range.

Turner (1999) conducted a study in which he examined the relationship between fifth grade state reading scores and per pupil expenditure. Data were collected and analyzed from a sample of 40 public schools in Georgia for the 1997-98 school year. Factors such as percentage of students receiving free and reduced lunch, percentage of total budget used for salaries and benefits, district enrollment, percentage of teachers with a master's degree or higher, and average years of teacher experience were the specific variables analyzed. Only a moderate relationship was demonstrated between per pupil expenditure and fifth grade state reading scores. A stronger relationship was observed between the percentage of students receiving free and reduced lunch and fifth grade reading scores. A relatively low relationship was identified between the percentage of total budget used for salaries and benefits and fifth grade reading scores in Georgia. Turner (1999) also noted an implication from his study was that increasing school spending did not necessarily increase student achievement, and that targeting specific programs might lead to more substantial academic gains than simply increasing overall school spending.

In a recent study, Lance et al. (2003) gathered data on hours of operation, staff and activities, the media collection, educational technology, total library expenditures, and several types of library usage in 657 Illinois school libraries. They demonstrated the presence of statistically significant relationships between various dimensions of school libraries and appropriate indicators of academic achievement. Walters, in a study published in 2005, sought to determine the efficient allocation of school district financial resources for the delivery of educational services as related to performance outcomes in Arkansas public schools. Walters (2005) documented that high academic achieving school districts, compared to other academic achievement levels, had the highest support service cost per student for instruction, the lowest administrative cost per student, the highest percent of net current expenditure for instruction, the lowest transportation cost per student, and the lowest expenditure per pupil cost. Walters (2005) further demonstrated that high academic achieving school districts had the lowest free and reduced lunch rate, the greatest number of students in average daily membership, and the highest percent of White students, when compared to the other achievement levels. These findings were consistent with numerous other researchers who have documented that a variety of factors contribute to high student performance (Lance, Rodney, & Hamilton-Pennell, 2005; Roper, 1996; Turner, 1999; Walters, 2005).

The research literature on the topic surrounding the newly coined phrase "65 Percent Rule" is rather limited (Jones, Bingham, & Jackson, 2007). In November 2005, Standard and Poor's disclosed their findings and conclusions on various 65% policies in their study *The Issues and Implications of the "65 Percent Solution."* In their study, data were examined from the 9 states (i.e., Minnesota, Ohio, Louisiana, Texas, Kentucky, Florida, Kansas, Arizona, and Colorado) that have implemented policy mandates of some type using the 65 Percent Rule. Utilized in this study were state testing data for each individual state.

Using a linear regression analysis, the Standard and Poor's study revealed the absence of a positive correlation between instructional spending allocations and student performance. In fact, documented in the study was "that there is no minimum instructional spending allocation that necessarily produces higher student achievement" (Standard and Poor's, 2005, p. 4). They ultimately concluded, "there is a lack of empirical evidence for mandating a uniform percentage spending threshold across all districts to raise student achievement" (p. 4). In 2006, Standard and Poor's conducted a follow-up addendum to their original study the following year by adding Arkansas to the list of schools and had similar findings (Standard & Poor's, 2006).

Finally, Jones et al. (2007) reported, in a study of more than 1000 school districts in Texas, that no relationship was present between school district instructional expenditure ratios and student academic performance on the state-mandated achievement measure. In addition, Jones and colleagues (2007) explored whether a relationship was also present between instructional expenditure ratios and student performance on the Scholastic Assessment Test (SAT). Similar to their results on the state-mandated achievement measure, Jones et al. identified the lack of a relationship between school instructional expenditure ratios and the SAT. Additionally, Jones et al. (2007) stated that "using the 65 Percent Rule standard or mandate as a dependent variable for prescribing improved student performance negated all other dynamics at play in successful school district operations" (p. 229). They concluded that, "such a uniform standard trivializes the complex nature of the public educational systems across the United States and the task of educating individual children with individual needs" (p. 229).

Purpose of the Study

Our purposes in conducting this study were twofold: (a) to determine the extent to which student academic achievement might differ as a function of school district instructional

expenditure ratios and (b) the extent to which findings would be consistent across ethnic membership. With the state mandate that instructional expenditure ratios be 65% or higher, an analysis of its relationship with student performance is clearly warranted.

Research Questions

The following research questions were addressed in this study: (a) What is the difference in math percent passing rates as a function of instructional expenditure ratios?; (b) What is the difference in reading percent passing rates as a function of instructional expenditure ratios?; (c) What is the difference in science percent passing rates as a function of instructional expenditure ratios?; (d) What is the difference in social studies percent passing rates as a function of instructional expenditure ratios?; (e) What is the difference in writing percent passing rates as a function of instructional expenditure ratios?; and (f) To what extent are differences consistent in student academic achievement among ethnic groups (i.e., White, Hispanic, African American)?

Method

Participants

Data from all Texas public school districts for the most recent school year, 2007-2008, were utilized in this study. The research questions previously mentioned were addressed for all students and then separately by ethnic membership. A total of 943 public school districts had passing rates on the five TAKS academic measures that were utilized in this study. For African American students, a total of 363 school districts provided analyzable data whereas for Hispanic students, a total of 653 public school districts had passing rates available for analysis. The reason for the different sample sizes reflects the manner in which Texas reports educational data. When a small number of students is present at a school, scores are not reported to ensure student anonymity and confidentiality of their scores.

Instrumentation

Archival data were acquired on all Texas public school districts for the 2007-2008 school year. Through accessing and downloading files from the Texas Education Agency (TEA) Academic Excellence Indicator System (AEIS), data that were reported by each public school district were gathered. Specifically, data on the instructional expenditure ratio, overall student performance on each TAKS measure, and student performance by ethnic membership on each TAKS measure were obtained. Because the data for these variables are reported to the state by each school district and/or calculated by the Texas Education Agency, traditional reliability and validity estimates are not appropriate for the variables analyzed in this study. Rather, any errors in these self-reported figures are assumed to be minimal. To determine the extent to which the individual TAKS measures provide reliable and/or valid scores, readers are referred to the TEA website for the technical manuals for each of the TAKS tests.

The dependent variable of instructional expenditure ratio was defined by the Texas Education Agency as:

> This measure, required by TEC 44.0071, indicates the percentage of the district's total actual expenditures for the 2006-07 fiscal year that were used to fund direct instructional activities. The instructional expenditure ratio is a district-level only measure, and is calculated as follows: expenditures reported in function codes 11, 12, 13, 31 and object codes 6112 through 6499 *divided by* expenditures reported in function codes 11-52, 92,and 95 and object codes 6112 through 6499. (TEA, 2008)

Procedures

After accessing the Texas Education Agency's Academic Excellence Indicator System website, connection to each AEIS data file of interest (i.e., school district, financial, and student

achievement) was made. Data from each data file were downloaded as .dat files and then merged using the Statistical Package for the Social Sciences-Version 15. Prior to conducting statistical procedures, the underlying assumptions (e.g., normality of data) were checked. Even though some of the skewness and kurtosis values exhibited a departure from normality (i.e., +/- 3, Onwuegbuzie & Daniel, 2002), the decision was made to use parametric statistical procedures because of their robustness.

Results

The results are presented by subgroup: All Students, African-American Students, Hispanic Students, and White Students.

All Students

To ascertain whether a difference was present in student performance on the five TAKS measures as a function of instructional expenditures for all students, a multivariate analysis of variance (MANOVA) procedure was conducted and yielded a statistically significant result, $\Lambda = .95$, $p < .001$, $n^2 = .024$. This overall difference was reflective of a small effect size (Cohen, 1988). Univariate follow-up *F*s revealed statistically significant differences for Math, $F(2, 940) = 19.58$, $p < .001$, $n^2 = .04$; for English, $F(2, 940) = 11.75$, $p < .001$, $n^2 = .024$; for Science, $F(2, 940) = 18.16$, $p < .001$, $n^2 = .037$; for Social Studies, $F(2, 940) = 13.57$, $p < .001$, $n^2 = .028$; and for Writing, $F(2, 940) = 10.15$, $p < .001$, $n^2 = .02$. Effect sizes for these statistically significant results were small (Cohen, 1988).

Scheffe` post hoc procedures revealed that the school districts in the less than 60% instructional expenditures ratio group had statistically significantly lower passing rates in math than the other two sets of school districts which did not differ from each other in math passing rates. The same pattern was present for English, Science, Social Studies, and Writing. When the passing rates of all students were analyzed, the poorest passing rates were in school districts in

the less than 60% of instructional expenditures ratio schools. An examination of Table 1 shows the average passing rates for each TAKS measure, separated by instructional expenditures group.

Table 1

Descriptive Statistics for TAKS Passing Rates in Math, English, Science, Social Studies, and Writing by Instructional Expenditure Ratios Group for All Students

TAKS Measure by Instructional Expenditures	*n*	*M*	*SD*
Math			
65% and Above Instructional Expenditures	134	80.34	10.92
60 to 64.99% Instructional Expenditures	473	80.61	8.43
Below 60% Instructional Expenditures	336	76.23	11.94
English			
65% and Above Instructional Expenditures	134	91.35	5.69
60 to 64.99% Instructional Expenditures	473	91.56	4.53
Below 60% Instructional Expenditures	336	89.64	7.06
Science			
65% and Above Instructional Expenditures	134	74.02	12.36
60 to 64.99% Instructional Expenditures	473	73.64	9.48
Below 60% Instructional Expenditures	336	68.92	14.15
Social Studies			
65% and Above Instructional Expenditures	134	91.30	7.01
60 to 64.99% Instructional Expenditures	473	91.24	4.96
Below 60% Instructional Expenditures	336	88.76	9.20
Writing			

65% and Above Instructional Expenditures	134	92.76	5.43
60 to 64.99% Instructional Expenditures	473	92.50	5.57
Below 60% Instructional Expenditures	336	90.64	7.44

African American Students

To determine whether a difference was present in student performance on the five TAKS measures as a function of instructional expenditures for African American students, a MANOVA was conducted and yielded a statistically significant result, $\Lambda = .88$, $p < .001$, $n^2 = .06$. This overall difference was reflective of a moderate effect size (Cohen, 1988). Univariate follow-up *F*s revealed statistically significant differences for Math, $F(2, 360) = 12.44$, $p < .001$, $n^2 = .065$; for English, $F(2, 360) = 9.80$, $p < .001$, $n^2 = .05$; for Science, $F(2, 360) = 15.44$, $p < .001$, $n^2 = .08$; for Social Studies, $F(2, 360) = 8.09$, $p < .001$, $n^2 = .043$; and for Writing, $F(2, 360) = 7.02$, $p < .001$, $n^2 = .038$. Effect sizes for the Math and Science results were moderate whereas the effect sizes for English, Social Studies, and Writing were small (Cohen, 1988).

Scheffe` post hoc procedures revealed that the school districts in the less than 60% instructional expenditures ratio group had statistically significantly lower passing rates in math than the other two sets of school districts which did not differ from each other in math passing rates. The same pattern was present for English, Science, Social Studies, and Writing. In Science, however, all three school district groupings differed. As the percent of instructional expenditures increased, so too did student passing rates on the TAKS Science measure. When the passing rates of African American students were analyzed, the poorest passing rates were in school districts in the less than 60% of instructional expenditures ratio schools. An examination of Table 2 shows the average passing rates for each TAKS measure, separated by instructional

expenditures group. Findings for African American students were commensurate with the results for all students.

Table 2

Descriptive Statistics for TAKS Passing Rates in Math, English, Science, Social Studies, and Writing by Instructional Expenditure Ratios Group for African American Students

TAKS Measure by Instructional Expenditures	*n*	*M*	*SD*
Math			
65% and Above Instructional Expenditures	78	68.99	11.98
60 to 64.99% Instructional Expenditures	201	67.51	9.03
Below 60% Instructional Expenditures	84	61.43	12.91
English			
65% and Above Instructional Expenditures	78	87.49	6.26
60 to 64.99% Instructional Expenditures	201	85.90	6.14
Below 60% Instructional Expenditures	84	82.89	8.62
Science			
65% and Above Instructional Expenditures	78	60.38	12.88
60 to 64.99% Instructional Expenditures	201	55.44	12.13
Below 60% Instructional Expenditures	84	49.56	12.78
Social Studies			
65% and Above Instructional Expenditures	78	86.71	9.04
60 to 64.99% Instructional Expenditures	201	84.52	9.38
Below 60% Instructional Expenditures	84	80.51	12.39
Writing			

65% and Above Instructional Expenditures	78	90.08	6.71
60 to 64.99% Instructional Expenditures	201	86.61	9.25
Below 60% Instructional Expenditures	84	85.12	9.03

Hispanic Students

To ascertain whether a difference was present in student performance on the five TAKS measures as a function of instructional expenditures for Hispanic students, a MANOVA was conducted and yielded a statistically significant result, $\Lambda = .96$, $p = .001$, $n^2 = .02$. This overall difference was reflective of a small effect size (Cohen, 1988). Univariate follow-up *F*s revealed statistically significant differences for Math, $F(2, 650) = 8.72$, $p < .001$, $n^2 = .026$; for English, $F(2, 650) = 4.70$, $p = .001$, $n^2 = .014$; for Science, $F(2, 650) = 5.74$, $p = .003$, $n^2 = .017$; for Social Studies, $F(2, 650) = 3.32$, $p = .037$, $n^2 = .01$; and for Writing, $F(2, 650) = 8.71$, $p < .001$, $n^2 = .026$. Effect sizes for these results were small (Cohen, 1988).

Scheffe` post hoc procedures revealed that the school districts in the less than 60% instructional expenditures ratio group had statistically significantly lower passing rates in math than the other two sets of school districts which did not differ from each other in math passing rates. The same pattern was present for English, Science, Social Studies, and Writing. When the passing rates of Hispanic students were analyzed, the poorest passing rates were in school districts in the less than 60% of instructional expenditures ratio schools. An examination of Table 3 shows the average passing rates for each TAKS measure, separated by instructional expenditures group. Findings for Hispanic students were commensurate with the results for African American students.

Table 3

Descriptive Statistics for TAKS Passing Rates in Math, English, Science, Social Studies, and Writing by Instructional Expenditure Ratios Group for Hispanic Students

TAKS Measure by Instructional Expenditures	*n*	*M*	*SD*
Math			
65% and Above Instructional Expenditures	101	75.86	9.50
60 to 64.99% Instructional Expenditures	355	75.42	8.01
Below 60% Instructional Expenditures	197	72.27	10.76
English			
65% and Above Instructional Expenditures	101	87.99	5.39
60 to 64.99% Instructional Expenditures	355	87.69	4.77
Below 60% Instructional Expenditures	197	86.35	6.52
Science			
65% and Above Instructional Expenditures	101	65.37	12.51
60 to 64.99% Instructional Expenditures	355	63.39	9.52
Below 60% Instructional Expenditures	197	60.91	13.52
Social Studies			
65% and Above Instructional Expenditures	101	87.49	6.92
60 to 64.99% Instructional Expenditures	355	87.01	6.07
Below 60% Instructional Expenditures	197	85.55	9.31
Writing			
65% and Above Instructional Expenditures	101	91.27	5.34
60 to 64.99% Instructional Expenditures	355	90.50	5.54

Below 60% Instructional Expenditures	197	88.47	8.10

White Students

To ascertain whether a difference was present in student performance on the five TAKS measures as a function of instructional expenditures for White students, a MANOVA was conducted and yielded a statistically significant result, $\Lambda = .92$, $p = .001$, $n^2 = .04$. This overall difference was reflective of a small effect size (Cohen, 1988). Univariate follow-up *F*s revealed statistically significant differences for Math, $F(2, 729) = 16.72$, $p < .001$, $n^2 = .04$; for English, $F(2, 729) = 11.17$, $p = .001$, $n^2 = .03$; for Science, $F(2, 729) = 25.07$, $p < .001$, $n^2 = .06$; for Social Studies, $F(2, 729) = 20.51$, $p < .001$, $n^2 = .05$; and for Writing, $F(2, 729) = 8.74$, $p < .001$, $n^2 = .023$. Effect sizes for these results were small, with the exception of Science, which was a moderate effect size (Cohen, 1988).

Scheffe` post hoc procedures revealed that the school districts in the less than 60% instructional expenditures ratio group had statistically significantly lower passing rates in math than the other two sets of school districts which did not differ from each other in math passing rates. The same pattern was present for English, Science, Social Studies, and Writing. When the passing rates of White students were analyzed, the poorest passing rates were in school districts in the less than 60% of instructional expenditures ratio schools. An examination of Table 4 shows the average passing rates for each TAKS measure, separated by instructional expenditures group. Findings for White students were commensurate with the results for African American students and for Hispanic students.

Table 4

Descriptive Statistics for TAKS Passing Rates in Math, English, Science, Social Studies, and Writing by Instructional Expenditure Ratios Group for White Students

TAKS Measure by Instructional Expenditures	*n*	*M*	*SD*
Math			
65% and Above Instructional Expenditures	117	86.40	7.73
60 to 64.99% Instructional Expenditures	396	85.75	6.30
Below 60% Instructional Expenditures	219	82.59	8.23
English			
65% and Above Instructional Expenditures	117	94.84	3.58
60 to 64.99% Instructional Expenditures	396	94.75	2.71
Below 60% Instructional Expenditures	219	93.55	3.74
Science			
65% and Above Instructional Expenditures	117	83.98	8.64
60 to 64.99% Instructional Expenditures	396	82.45	6.46
Below 60% Instructional Expenditures	219	78.57	9.03
Social Studies			
65% and Above Instructional Expenditures	117	95.25	3.62
60 to 64.99% Instructional Expenditures	396	94.32	3.52
Below 60% Instructional Expenditures	219	92.51	5.32
Writing			
65% and Above Instructional Expenditures	117	94.18	5.62
60 to 64.99% Instructional Expenditures	396	93.44	5.73
Below 60% Instructional Expenditures	219	91.68	6.45

Discussion

Researchers previously cited (Jones et al., 2007; Lance et al., 2005; Roper, 1996; Standard and Poor's, 2005, 2006; Turner, 1999; Walters, 2005) have documented the absence of any strong relationships between the 65% instructional expenditure ration and student performance on state assessments or the Scholastic Aptitude Test. These researchers, though important, seem to address the broader systems of state accountability and national norm tests, but ignore perhaps a greater understanding of subsets of the population within these broader systems. In this study, the presence of statistically significant differences were documented between schools that maintain a 60% or higher instructional expenditure ratio in their student performance on the Reading, Math, Social Studies, Science, and Writing portions of the Texas Assessment of Knowledge & Skills compared to schools that have lower than a 60% instructional expenditure ratio.

Further, our findings demonstrate clear relationships between instructional expenditure ratio and sub-population student performance. In contrast to Jones et al. (2007) and Standards and Poor's (2005) who reported the lack of relationships between the 65% instructional expenditures ratio and student test performance, the presence of statistically significant relationships were demonstrated between a benchmark of 60% instructional expenditures and student test performance. As such, a better benchmark may exist at the 60% level than at the 65% level. This recommendation is particularly important as schools continue to close the gap in student performance among sub-group.

Several cautionary statements are necessary to discourage readers from going beyond the limitations of this study. First, this study represents a causal-comparative research design and, as such, does not yield cause-and-effect results. Second, a limited set of variables was examined that related to instructional expenditure ratios and student academic performance. Third, data

from only one state were analyzed. Fourth, data from only a single school year were analyzed. Therefore, readers are urged to be tentative to the extent they make generalizations from this study. Researchers are encouraged to extend this study by investigating other schooling financial variables.

Though results of this study, as well as the other studies cited, do not offer a panacea on the complete impact of money on student performance, it is clear that money does influence student achievement. It is clearly true that the enterprise of educating young people is complex and involves many variables. One of those variables is resources and thus it clearly stands that money does matter. Perhaps the better question is, "To what extent and in what way does money matter?"

References

Americans for Prosperity. (2005). Highlights on the 65% initiative to put 65 percent of the education funding in the classroom. Retrieved from http://www.americansforprosperity.org/highlights-65-initiative-put-65-percent-education-funding-classroom

American Psychological Association. (2001). Publication Manual of the American Psychological Association (5th ed.). Washington, DC: Author

Byrne, P. M. (2006). Chairman's Perspective. Retrieved from http://www.firstclasseducation.org/index.asp

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). New York, NY: Wiley.

First Class Education. (2005). Frequently asked questions. Retrieved from http://www.firstclasseducation.org/index.asp

Government Affairs Home. (2006). 65% rule background. Retrieved from http://www.txla.org/html/legis/65Rule.html

Jones, T. B., Bingham, W. D., & Jackson, S. H. (2007). The emerging sixty-five percent instructional expenditure rule public policy: Will student performance improve? In Lemasters, L.K. & Para, R. (Eds.), *At the tipping point: Navigating the course for the preparation of educational administrators.* Lancaster, PA: Pro-Active Publications.

Lance, K. C., Rodney, M. J., & Hamilton-Pennell, C. (2005). Libraries make powerful learners: The Illinois study. Retrieved from http://www.islma.org/pdf/ILStudy%20Report.pdf

National Center for Education Statistics. (2003). *Financial accounting for local and state school systems.* Washington DC: Author.

Onwuegbuzie, A. J., & Daniel, L. G. (2002). Uses and misuses of the correlation coefficient. *Research in the Schools, 9*(1), 73-90.

Roper, D. M. (1996). *Alabama public school expenditures as correlates of student academic achievement.* Ed.D. dissertation, The University of Alabama, AL: U.S. Retrieved from ProQuest Digital Dissertations database. (Publication No. AAT 9633936)

Standard and Poor's. (2005). The issues and implications of the "65 percent solution." School Matters. Retrieved from http://www.65percentdeceptionfacts.com/pdf/S&P_report.pdf

Standard and Poor's. (2006). The issues and implications of the "65 percent solution – addendum." School Matters. Retrieved from http://admin.schoolmatters.com/SMResourceHandler/resourcehandler.res?rtype=file&rpid=42767467&flnm=The%20Issues%2065%20Percent%20Solution%20-%20Addendum.pdf

Texas Education Agency. (2008). *Instructional expenditure ratio.* Retrieved from http://ritter.tea.state.tx.us/perfreport/aeis/2008/glossary.html

Turner, Y. M. (1999). *The relationship between student achievement, per-pupil expenditure, and other factors in selected Georgia public schools.* Ed.D. dissertation, University of Sarasota, FL: U.S. Retrieved from ProQuest Digital Dissertations database. (Publication No. AAT 9938767)

Will, G. (2005a, April). One man's way to better schools. *The Washington Post*. p. B7.

Will, G. (2005b, April). The 65 percent solution. Retrieved from http://townhall.com/columnists/GeorgeWill/2005/04/10/the_65_percent_solution

Current Issues in Education

http://cie.asu.edu

Volume 13, Number 4 ISSN 1099-839X