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Contextual Factors and the Achievement Gap: Does Anyone have the Recipe for Education Equity in the US?

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Abstract

This is a two-part (national and state level) quantitative study focusing on a number of variables such as student attendance, school revenue sources, teacher salary, teacher education level, administration salary, percent of families living in rural poverty, household income, and total expenditures spent per pupil to name a few, and determine how well these variables compare in their ability to predict student ACT scores, state assessment scores, and percent passing on Advanced Placement (AP) exams. Interestingly, total expenditures per student did not significantly predict student success as measured by the outcome variables. This result is likely due to that poor school districts receiving a majority of their funds from federal sources have much of the funding earmarked for specific purposes. Teacher education level and student attendance were the best predictors for student success.

Introduction

Every fall, when the state-mandated test scores come in, the media blitz sounds the alarm across the country, "the schools are failing, the schools are failing!!" Politicians who believe they can bridge the achievement gap create new laws affecting nearly every aspect of education, from standards to teacher preparation programs. Nevertheless, many schools are failing, some more miserably than others, yet some are always successful. With all the political finger pointing at schools, teacher, administrators, and teacher education programs- rarely the means by which schools are funded is under the microscope.

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Past visions of education reform have not addressed the achievement gap. Why? One idea is that the achievement gap results from differences in contextual factors among zip codes. For example, a school whose attendees live in an affluent neighborhood will receive two or three times more local dollars compared to the impoverished school across town. Though the expenditures per student are relatively the same, federal dollars given to poorer districts are earmarked, leaving little money to actually educate students. In essence, "Relying on proper taxes to provide a substantial portion of support for public education can create a funding gap that further exacerbates socioeconomic differences" (Powell, 322).

It's all a matter of what's considered "student success," measured almost exclusively by high stakes testing data. The culture of test scores paints the picture of the good, bad and ugly districts, some that go down in flames of losing their accreditation, other luckier ones who are deemed "exemplary" but often unattainable for many students not lucky enough to live nearby. National, state and local school leaders struggle with trying to determine what to do to keep a district healthy; to improve the ratings to respectable comparisons at all levels, ultimately world-wide. The United States, arguably a world leader in many aspects, has consistently lagged behind most other industrialized nations in providing quality education for all. Different districts try different things, in many different places, fiercely holding on to an ever eroding local control. Some things obviously work well for certain districts, yet the outcome for many others is dismal. Why do some schools have more resources, and consequently produce stronger students, while others only a few miles away, governed by the same standards and ideals of "justice for all" , have dismal outcomes and are faced with closing? Obviously there are contextual factors in the successful schools. What contextual factors lead to student success? Why can't those factors, once identified, be duplicated? It is the Golden Anniversary of the signing of the Elementary and Secondary Education Act, and America has yet to see equality in education. While politicians point fingers at educators, it could be time for educators to point fingers at politicians. Let us examine how far have we have come in the past fifty years to provide equal opportunities in education for all American children.

Purpose

The purpose of this study is to examine the relative effect various contextual factors predict school success, as determined by standardized state assessment scores.

Can money fix the problem, and if so, how?" A second question addressed in this study is, "What can be done to help failing schools get back on track?"

State and national analyses were performed to provide evidence in answering these questions. For the state analysis, contextual factor variables collected included: starting teacher salary by school; percent school attendance; percent of revenue stemming from local, state, and federal sources by school; tax rate for operations by school; and total expenditures per student by school. The dependent variable in the state analysis was percentage of eleventh grade students scoring advanced, proficient, basic, and below basic on the state science exam. Percentage of students, rather than number of students, was a more accurate use as a dependent variable since school districts ranged in size and total number students. The driving question for the state analysis was: Which variable best predicts the percentage of students' scoring proficient on the state assessment (MAP)?

For the national analysis, three-year average household income by state, estimated finances spent per pupil by state, median teacher salary by state, number of colleges per state, number of high school graduates per state, percentage of students ages 5-17 living in rural areas by state, and percentage of students ages 5-17 living in poverty in rural areas by state served as independent variables. ACT scores by state and percentage of students earning a three or better on an AP exam by state served as the dependent variables for the analyses. The question driving the national analysis is: Which independent variable, or contextual factor variable, best predicts students' ACT scores by state and percentage of students passing an AP exam by state.

Data Collection

This quantitative study examines several variables that may affect student performance from both a **national** and a **state** perspective. The national analysis was performed by collecting state-by-state statistics regarding three-year average household income, estimated finances spent per pupil, median teacher salary, number of colleges per state, number of high school graduates per state, percentage of students ages 5-17 living in rural areas, and percentage of students ages 5-17 living in poverty in rural areas had significant correlations with composite ACT scores and percentage of students earning a three or better on an AP (Advanced Placement) exam. ACT scores and percentage of students earning a three or better on an AP exam served as the dependent variables for the analyses.

The research question(s) driving the national analysis was: On a national level, what variables were significant predictors for composite ACT score and percentage of students earning a three or better on their AP exam. Data were obtained using sources accessible online. Composite 2011 ACT scores by state were found at http://www.act.org/newsroom/data/2011/states.html. Mississippi had the lowest average ACT score (18.7), while Massachusetts had the highest ACT composite (24.2).

Percentage of students who scored 3 or above on an AP test by state was obtained from the *8th Annual AP Report to the Nation* published by The College Board, 2012, found at http://apreport.collegeboard.org/sites/default/files/downloads/pdfs/AP_Main_Report_Final.pdf. Connecticut, Massachusetts, Maryland, Virginia, and New York are at the top of this list with all having over 25 percent of AP test takers passing earning a 3+ on an exam (The College Board, 2012).

Three-year average median household incomes by state from 2008 to 2010 were found at the United States Department of Commerce, United States Census Bureau report on annual social and economic supplement: http://www.census.gov/hhes/www/income/data/statemedian/. New Hampshire, Connecticut, New Jersey, Maryland, Alaska, Virginia, and Massachusetts topped the list with an average three-year median income of over 60,000 dollars. Arkansas and Mississippi were at the bottom of the list, both having an average three-year median income of less than 40,000 dollars (US Census Bureau, 2012). Data concerning high school graduates in 2008 by state were also obtained from the US Census Bureau website. The US Department of Commerce, United States Census Bureau, *2012 Statistical Abstract* can be viewed at http://www.census.gov/compendia/statab/cats/education.html.

Median teacher salaries by state for 2010-2011 were retrieved from the US Department of Education, Institute of Educational Sciences, National Center for Education Statistics (2011) at http://nces.ed.gov/programs/digest/d11/tables/dt11_084.asp. The salary ranged from just over 34,000 dollars (South Dakota) to over 71,000 dollars (New York). Percent of students ages 5-17 living in rural areas and percent of students ages 5-17 living in rural poverty by state over the five year period 2005-2009 was also found at the US Department of Education, National Center for Education Statistics website. The section entitled Rural Education in America can be found at http://nces.ed.gov/surveys/ruraled/tables/a.1.a.-5r_2009.asp (National Center for Education Statistics, 2012).

Public elementary and secondary estimated finances spent per pupil by state in 2010 can be viewed on the US Census Bureau's Government Division Report issued in June of 2012. The URL for the site is: http://www2.census.gov/govs/school/10f33pub.pdf. Alaska, District of Columbia, New Jersey, New York, Vermont, and Wyoming top the list spending over 15,000 dollars per pupil. The US Census Bureau's Government Division Report also provides statistics on teacher salaries per pupil by state and administration salaries per pupil by state.

Numbers of colleges by state were obtained from *The Chronicle of Higher Education* website at: http://chronicle.com/article/Map-Number-of-Colleges-and/48155/. The site is titled the *Almanac of Higher Education*. This site displays a map showing the number of colleges and universities by state for the 2007-2008 academic year. California tops the list with 433 colleges and universities.

Data collected for the state analysis included: percentage of eleventh grader's scoring advanced, proficient, basic, and below basic on science state assessment (MAP score) among 46 Missouri schools; starting teacher salary by school; percent school attendance; percent of revenue stemming from local, state, and federal sources by school; tax rate for operations by school; and total expenditures per student by school. Percentage of eleventh grade students scoring advanced, proficient, basic, and below basic on the state science exam served as dependent variables for the regression analyses. The purpose of the state analysis was to determine if there were any variables (salary, attendance, revenue source, tax rate, or expenditures per student) that significantly predicted the percentage of students scoring advanced, proficient, basic, or below basic on the state science assessment. Values for eleventh grade students' state science scores by school, percentage attendance by school, breakdown of the sources of revenue by school, expenditures per student by school district, administrator salary by school, and percentage of teachers holding graduate degrees by school were obtained from the Missouri Department of Elementary and Secondary Education website http://dese.mo.gov/.

Statistics were obtained from a convenience sample of 47 high schools across the state of Missouri (northeast, northwest, central, southeast, and southwest, St. Louis, and Kansas City). Schools from rural, suburban, and urban areas were represented in the sample. All data reflect the 2011 school year. Data concerning first year teacher salary with a bachelor's degree in education was obtained from the 2011-2012 salary schedule publication prepared by the Missouri State Teachers Association (MSTA, 2012).

Analysis

National Analysis. Multiple correlations among all variables were performed to determine associations. Subsequently, a series of simple linear regression analyses, involving one predictor variable, were performed to determine significant predictors for both students' composite ACT scores and percent of students earning a 3+ on an AP exam. Predictor variables included three-year average median household income by state: 2008 to 2010; public elementary and secondary estimated finances spent per pupil by state, 2009; median teacher salary by state, number of colleges per state, number of public high school graduates by state; percentage of students ages 5-17 living in rural areas by state; and percentage of students ages 5-17 in rural areas living in poverty. Several multiple linear regression analyses were performed using the significant predictors from the simple linear regression analyses to determine how much variance each predictor variable uniquely explained variance in the dependent variables.

State Analysis. Linear regression analysis was used to determine the amount of variance percent school attendance, sources of revenue, expenditures per student, and beginning teacher salary predicted the percent of eleventh grade students scoring at the advanced and proficient level for the state-wide science assessment. The first set of regression analyses were aimed to determine which variable(s) explained the most variance in percentage of students scoring advanced on the state science assessment. A series of multiple regression analyses were employed to determine if any of the significant predictors from the simple linear regression analysis *uniquely* explained variance in percentage of students scoring at the advanced level on the statewide assessment.

Results

National Data Results. Three-year average median household income and median teacher salary by state showed statistically significant associations to composite ACT score. These correlations, though significant, were weak. All variables have a statistically significant association with the percentage of students receiving a 3+ on an AP exam per state (Table 1). Three year median household income showed the strongest association with percentage of students earning a 3+ score on an AP exam.

Likewise, percentage of students ages 5-17 in rural areas living in poverty displayed a very strong association with three year median household income. Additionally, there is a moderate to relatively strong association between median teacher salary and percentage of students living in rural poverty and three year median household income.

Table 1. Correlations among variables 1-9

Variable	1	2	3	4	5	6	7	8
2	.24							
3	.39**	.55**						
4	.26	.32*	.44**					
5	.21	.47**	.56**	.55**				
6	.03	.36**	-.07	-.15	.37**			
7	.06	.41**	.04	-.15	.38**	.92**		
8	-.20	-.32*	-.51**	-.10	-.68**	-.36*	-.42**	
9	-.41**	-.45**	-.73**	-.29*	-.66**	-.26	-.31*	.87**

* p <.01 **p<.001

Variables

1) Composite ACT Score by State; 2) Percentage of Students by State earning a 3+ score on an AP Exam by State; 3) Three-Year-Average Median Household Income by State: 2008 to 2010; 4) Public Elementary and Secondary Estimated Finances Spent per Pupil by State, 2009; 5) Median Teacher Salary by State; 6) Number of Colleges per State; 7) Number of Public High School Graduates by State; 8) Percentage of Students Ages 5-17 Living in Rural Areas by State; and 9) Percentage of Students Ages 5-17 in Rural Areas Living in Poverty

A series of simple linear regression analyses were performed to determine if variables 3-9 predicted variance in composite ACT score. The most significant predictor for composite ACT scores, explaining 15.4 percent of the variance, was *percentage of students ages 5-17 living in rural areas and in poverty*, $F(1, 49) = 10.10$, $p < .01$. Only one other regression model that significantly explained variance in composite ACT score was *three-year median average household income*. Median household income predicted 13.2 percent of the variance in students' composite ACT scores [$F (1, 49) = 8.60$, $p<.01$].

Multiple regression analysis was used to examine how well *three-year median household income* and *percentage of students ages 5-17 living in poverty in rural areas* predicted students' composite ACT scores. These variables explained 15.3 percent of the variance in composite ACT scores. The high correlation of r = -0.73 between the predictor variables created a spurious relationship (complete redundancy) in the multiple regression model.

A second series of simple linear regression analyses were performed to determine if variables 3-9 significantly accounted for variance in the percentage of students who received a 3+ on an AP exam. The most significant predictor for the percentage of students who received a 3+ score on an AP exam was *average three- year median household income*. Household income accounted for 29.0 percent of the variance in percentage of students earning a 3+ AP score $F(1, 49) = 21.40$, $p=.001$. Two other variables also predicted percentage of students earning a 3+ AP score at the $p=.001$ level. *Median teacher income* statistically predicted 19.2 percent of the variance in the percentage of students earning a 3+ AP score [$F(1, 49) = 12.90$, $p<.001$]. *The percentage of students living in rural poverty* predicted 18.4 percent of the variance in the percentage of students earning a 3+ AP score [$F(1, 49) = 12.31$, $p<.001$]. A multiple linear regression analysis determined the amount of variance the percentage of students who earned a 3+ AP score was explained by *average three-year median household income* and *median teacher salaries*. These variables predicted 30.8% of the variance in the percentage of students earning a 3+ AP score. Adding *teacher salary* to the regression model did not significantly increase the amount of explained variance in that percentage of students earning a 3+ AP score from what was already explained by *household income* [$F_{change} = 2.28$, $p> .05$]. In the multiple regression model, *average three-year median household income* uniquely accounted for 16.0% of the variance in percentage of students earning a 3+ AP score. *Teacher salaries* uniquely accounted for 4.4% of the variance in percentage of students earning a 3+ AP score.

State Data Results. Beginning teacher salary explained 15.6 percent of the variance in percentage of students scoring at the advanced level [$F (1, 47) = 9.34$, $p< .01$; $r_p = 0.41$]. Attendance did not significantly predict percentage of students scoring at the advanced level. Percentage of school revenue coming from local sources significantly predicted 8.4 percent of the percentage of students scoring at the advanced level [$F (1, 47) = 5.33$, $p < .05$; $r_p = 0.32$].

Percentage of school revenue coming from state sourced did not significantly predict the percentage of students scoring at the advanced level. Percent of school revenue coming from federal funding significantly predicted 16.4 percent of the variance in percent of students scoring at the advanced level [$F(1, 47) = 10.2$, $p < .01$; $r_p = -0.43$]. Tax rate for school operational costs significantly predicted 15.7 percent of the variance in percentage of students scoring at the advanced level [$F(1, 47) = 9.77$, $p<.01$; $r_p = 0.42$]. Total expenditures per student were not a significant predictor of percentage of students scoring advanced on the MAP test. Administrator salary was a statistically significant predictor for students scoring advanced [$F(1, 47) = 10.67$, $p <.01$; $r_p = .43$]. However, the most significant predictor for students scoring at the advanced level was percentage of teachers in a school possessing an advanced degree [$F(1, 47) = 17.5$, $p < .01$; $r_p = .53$].

For the first multiple regression analysis, percent revenue from federal sources, percent of teachers with graduate degrees, and tax rate for operational costs were used to predict percentage of students scoring at the advanced level. The regression model was significant [$F(3, 47) = 6.19$, $p < .01$]. However, the only predictor that uniquely explained a significant amount of variance in percentage of students scoring at the advanced level was percentage of teachers with graduate degrees. Percentage of teachers with graduate degrees uniquely predicted 8.64 percent of the variance in percentage of students scoring at the advanced level [$t(47) = 2.04$, $p<.05$; $pr = .29$]. In a second multiple regression model, administrator salary, percentage revenue from local sources, and percentage of teachers with graduate degrees by school significantly predicted percentage of students scoring at the advanced level [$F(3, 47) = 6.31$, $p<.01$]; however, again only percentage of teachers with graduate degrees uniquely explained a significant amount of variance in percentage of students scoring at the advanced level; $t(47) = 2.58$, $p = .01$. In this regression model, percentage of teachers with graduate degrees uniquely explained 13.1 percent of the variance in percentage of students scoring at the advanced level.

The predictors were also used in simple linear regression models to determine if they significantly predicted the percentage of students scoring at the proficient level. First-year teacher salary, percent revenue from local sources, percent revenue from state sources, percent revenue from national sources, tax rate for operational costs, expenditure per student, and percentage of teachers with graduate degrees all did not significantly predict variance in the percentage of students scoring at the proficient level.

The only significant predictor of percentage of students scoring at the proficient level was attendance. Attendance predicted 24.9 percent of the variance in percentage of students scoring at the proficient level [$F(1, 47) = 16.59$, $p<.01$; $r_p = .52$].

Last, simple linear regression analyses were used to determine how much each predictor variable explained the variance in the percentage of students scoring at the basic level. Again, attendance significantly predicted (17.7 percent) variance in the percentage of students scoring at the basic level [$F(1,47) = 9.92$, $p<.01$; $r_p = -.42$]. Percent revenue from federal sources significantly predicted 17.9 percent of the variance in the percentage of students scoring at the basic level [$F(1,47) = 11.28$, $p<.01$; $r_p = .44$]. Tax rate for operations significantly predicted 7.3 percent of the variance in percentage of students scoring at the basic level [$F(1,47) = 4.68$, $p<.05$; $r_p = -.30$]. Administrator salary significantly predicted 13.7 percent of the variance in percentage of students scoring at the basic level [$F(1,47) = 8.43$, $p<.01$; $r_p = -.40$]. First year teacher salary significantly predicted 15.3 percent of the variance in percentage of students scoring at the basic level [$F(1,47) = 9.13$, $p<.01$; $r_p = -.42$]. Percentage of teachers with graduate degrees significantly predicted 15.8 percent of the variance in percentage of students scoring at the basic level [$F(1,47) = 9.82$, $p<.01$; $r_p = -.42$]. Revenue from the state or local level, and expenditures per student did not significantly predict variance in percentage of students scoring at the basic level. Many of the variables that predicted variance in the percentage of students scoring at the basic level are highly correlated. First-year teacher salary and administrator salary exhibited a strong, positive, and significant correlation ($r_p = .79$). The correlations among tax rate for operations, administrator salary, percentage of teachers with graduate degrees ranged from 0.55 to 0.59, $p<.01$. The significant correlations among predictor variables must be considered and taken into account when doing multivariate analyses.

For the multivariate analysis of variance, percentage of teachers with graduate degrees and attendance were used as predictor variables since percentage of teachers with graduate degrees was the only variable that *uniquely* explained variance in percentage of students scoring at the advanced level, and attendance was the only variable that explained variance in percentage of students scoring at the proficient level. Attendance and percentage of teachers with graduate degrees significantly predicted percentage of students scoring at the basic level [$F(2,47) = 11.94$, $p<.01$].

Attendance *uniquely* explained 20.7 percent of the variance in percentage of students scoring at the basic level not explained by the percentage of teachers with graduate degrees (pr = -.46). The percentage of teachers with graduate degrees uniquely explained 20.6 percent of the variance in percentage of students scoring at the basic level not explained by attendance (pr = -.45).

Conclusions

In this study, variables beyond the realm of the school building had the greatest impact on student achievement. Students living in states with high levels of rural poverty and low median household incomes scored the lowest on the ACT and ranked lowest for pass rate on AP exams. Teacher salary uniquely predicted the percentage of students earning a 3+ on an AP exam; however, teacher salary is dependent upon the amount of local revenue, years of experience, and education level. Percentage of teacher's with Master's degrees **uniquely** explained students' state assessment scores. This finding suggests that regardless of years of experience, a teacher's level of education has a positive impact on student test scores. Finally, student attendance uniquely explained the percentage of students scoring at the basic level on the state assessment.

Three year median household income had the strongest association with percentage of students scoring a 3+ on AP exam. The association percentage of students passing an AP exam and median household income and exam is stronger that its associations with expenditures per student, median teacher salary, number of colleges per state, number of high school graduates by state, percentage of students living in rural areas, and percentage of students living in rural poverty. Three year average median household income was also the most significant predictor of percentage of students passing at least one AP exam. This indicates that the distribution of wealth and income is the primary driving force in students' academic success. Not necessarily money spent schools, as measured by expenditures per student; rather, money in the local community.

At the national level, states that have high levels of rural poverty and overall lower household incomes have the highest percentage of students scoring poorly on the ACT exam and not passing at least one AP test.

Additionally, students living in states with high levels of rural poverty and low household incomes are taught by teacher with relatively low pay.

Based on the state analysis, characteristics of classrooms that produce advanced and proficient level students are ones that have (in order of most importance) a high percentage of teachers with graduate degrees, high student attendance, a low percentage of revenue from federal sources, a high tax rate for operational costs, a high beginning teacher salary, and a high percentage of revenue from local sources. This conclusion supports the findings from the national analysis. Schools with high local tax rates have high starting teacher salaries. In effect, schools with higher teacher salaries will attract better teachers; specifically, teachers with Master's degrees. The percentage of teachers with Master's degrees was the one variable in this study that uniquely predicted the percentage of students earning an advanced score on the state assessment. Schools with money can afford more teachers with Master's degrees. These schools have a high percentage of revenue from local sources.

Poor performing schools have the greatest amount of federal revenue, lowest teacher salaries, lowest administer salaries, lowest percentage of student attendance; and consequently, the fewest percentage of teachers with Master's degrees. Experienced and educated teachers are working in districts where they can make the most money. Not only will educated and experienced teachers be making more money, they will be teaching children from relatively higher SES homes.

Implications

Inequity in education cuts deep and wide, and addressing key contextual factors will result in the success and failure of a school; however, a single school or school district cannot do this alone. This study has shown that wealth and poverty of a district profoundly shapes multiple contextual factors. Students in low SES communities are not getting the same education opportunity- that being the same percentage of highly qualified teachers compared to other children in the United States.

What do impoverished schools need the most? Considering all the variables used in this study, impoverished schools would most benefit from educated teachers with **graduate degrees**. However, to get highly qualified teachers into these schools a number of factors must change. First, qualified teachers must have an incentive for teaching in these areas. The incentive? Teacher salary or student loan forgiveness. Unfortuently, we begin the wheel of ineqity by again asking, "What drives teacher salary?"

Evidence from this study shows that the most vital component for change are teachers. Therefore, an implication of this study is that teacher preparation programs and graduate education programs are vital in addressing the inequities among America's schools. America must have an invested interest in educating teachers and keeping those teachers in impoverished areas. Over the past fifty years, time and money has been exhausted by various agencies and levels of government to address the equity issue in education. Time and money would have better served the country's youth by providing financial aid forgiveness to individuals who earn their Master's degree in education and then go on to serve in low SES communities. There is a vicious cycle ultimetly driven by low teacher salaries in low SES communities, few teachers with Master's degrees in low SES communities, reliance of high stakes tests to determine student achievement and funding, and lack of adequate federal and state support to improve the aformenentioned conditions.

Bibliography

ACT, Inc. (2012). 2011 National and State ACT Scores. Retrieved November 15, 2012 from http://www.act.org/newsroom/data/2011/states.html

Chilcott, L. (Producer), & Guggenheim, D. (Director). (2010). *Waiting for Superman* [Motion picture]. United States: Paramount.

Daniel, K. (2012, Spring). Helping students from poverty succeed. *School and Community*, 98(3), 17-19.

Missouri Department of Elementary and Secondary Education. (2012). Missouri Comprehensive Data System: Performance Data. Retrieved November 15, 2012 from: http://dese.mo.gov/

Missouri State Teachers Association (MSTA) Research. (2012). *Missouri Salary Schedule & Benefits Report*. Columbia, MO: Missouri State Teachers Association.

Powell, S.D. (2009). *Your Introduction to Education*. Boston, MA: Pearson.

The Chronicle of Higher Education. (2009). Almanac of Higher Education. Retrieved November 15, 2012 from: http://chronicle.com/article/Map-Number-of-Colleges-and/48155/.

The College Board. (2012). 8th Annual AP Report to the Nation. Retrieved November 15, 2012 from:http://apreport.collegeboard.org/sites/default/files/downloads/pdfs/AP_Main_Report_Final.pdf

United States Census Bureau. (2012). Report on Annual Social and Economic Supplement. Retrieved November 15, 2012 from: http://www.census.gov/hhes/www/income/data/statemedian/

United States Census Bureau. (2012). Public Education Finances: 2010: Government Division Report. Retrieved November 15, 2012 from: http://www2.census.gov/govs/school/ 10f33pub.pdf.

United States Census Bureau. (2012). 2012 Statistical Abstract. Retrieved November 15, 2012 from: http://www.census.gov/compendia/statab/cats/education.html

United States Department of Education, Institute of Educational Sciences, National Center for Education Statistics. (2011). Digest for Education Statistics: Estimated average annual salary of teachers in public elementary and secondary schools, by state: Selected years, 1969-70 through 2010-11. Retrieved November 15, 2012 from: http://nces.ed.gov/ programs/digest/d11/tables/dt11_084.asp

United States Department of Education, Institute of Educational Sciences, National Center for Education Statistics. (2012). Rural Education in America: Table A.1.a.-5 Rural. Number and percentage of children 0–4 years old and 5–17 years old, those living in rural areas, and those living in poverty in rural areas, by state or jurisdiction: 5-year estimate 2005–2009. Retrieved November 15, 2012 from: http://nces.ed.gov/surveys/ruraled/ tables/a.1.a.-5r_2009.asp