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Public schools face seemingly endless scrutiny. Educators have experienced an increased level of accountability and demand to graduate students who are college ready or well prepared to enter the workforce. The topic of educational funding is often at the forefront of public discussion and debate in Texas. While policymakers recurrently examine the way public schools have been funded (Fermanich, 2009), school district leaders are forced to unrelentingly evaluate and assess the efficacy and results of instructional programs and performance measures. With the push for college readiness for all students, the topic of funding adequacy has continued to be an issue.

The No Child Left Behind Act of 2001 (No Child Left Behind Act of 2011 [NCLB], 2002) required states to create standards for minimum expectations and to annually assess those standards to ensure all students are on grade level and on track to graduate (Green, 2007). The Texas legislature added to the requirements of NCLB with state-imposed provisions of HB1 in 2006, which issued a report card to each school district. The Texas Academic Excellence Indicator System (AEIS) was used to gather and report information from each district based on assessment results as well as economic and demographic information (Texas Education Agency [TEA], 2011b). AEIS report data provided a means to compare the educational success or failure of districts based on assessment data and college readiness indicators.

Texas public school districts have received funding from various sources including state and federal budgets as well as outside and local sources, such as foundations, nonprofit, and parent organizations. Each district decides how to allocate funds for Function 11, which is designated for instructional spending under the guidelines of the Financial Accountability System Resource Guide, the document that prescribes the rules for financial accounting for Texas school districts. The amounts allocated to Function 11 vary greatly from district to district. In spite of greater pressure to increase student achievement and academic readiness, there has been little or no increase in funding sources for school districts.

Because the AEIS includes reporting of districts' financial information, a comparison of district expenditures and student achievement can be made for Texas districts. With economic recovery indicators continuing to show very modest gains, the Texas legislature chose to decrease funding for public schools by more than $4 billion in 2011. Therefore, a question of major concern to taxpayers, parents, and citizens was whether a correlation exists between instructional expenditures and results on college readiness measures.

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Theoretical Framework

Numerous studies of the relationship between expenditures and student achievement have yielded mixed results. One of the landmark research studies was the 1966 U.S. government sponsored report, *Equality of Educational Opportunity*, later referred to as the *Coleman Report*. The report presented a dismal message concerning the effectiveness of schools and school resources on student achievement (Coleman, 1966). Student background and economic status had greater implications on student achievement than differences in school resources. Differences in schools, and specifically teachers, had a significant impact on student success.

Texas students have a variety of educational needs. Educating students to higher standards translates to increasing overall educational outcomes (Odden, 2001). An increase in standards is not possible without increasing resources provided (Odden, 2001). If all students are to meet the expectation of being college ready, instructional funding must be adequately allocated to meet the needs of the diverse groups that comprise Texas's student population.

College Readiness

For the purpose of this study, college readiness was defined as "the level of preparation a student needs to enroll and succeed—without remediation—in a credit-bearing general education course at a postsecondary institution that offers a baccalaureate degree or transfer to a baccalaureate program" (Conley, 2007, p. 1). The college ready student is able to understand what is expected in a college-level course, can understand the content, and is able to intellectually problem-solve for the requirements in the class.

The idea of having all students prepared for college has been the goal of high school programs across Texas. One hurdle has been the correlation between enrolling in college and family income and race/ethnicity. Mortensen (2006) reported, "only 47% of recent high school graduates from families in the bottom income quartile (up to $36,174 annual income) enter college, compared to 83% of students from the top income quartile (more than $96,560) in annual income" (p. 168).

The topic of college and career readiness has received an increasing amount of attention from educators and policymakers. In 2002, the U.S. Census reported, "over the course of a lifetime a person with a bachelor's degree will earn nearly twice as much as someone with only a high school diploma" (Day & Newburger, 2002, p. 2). Although the research supported the higher earning potential, some students still struggled to adjust to post-secondary life.

Livingston (2011) advocated that high schools do as best they can with the resources they have. He credited teachers and counselors with working to prepare students for success at the postsecondary level, yet questioned why so many are not successful. The solution he offered was for high schools and colleges to work together to establish standards and address the issues. In an effort to prepare students, Livingston urged high school educators and state education officials to coordinate efforts to improve college and career readiness.

Educators have been researching the causes of postsecondary failures to address the college readiness question. Pittman (2011) posited that while academic preparation is of great concern, other just as alarming issues might exist. Employers have asserted that what is missing in job

readiness is "a lack of social, emotional and civic competencies—including a work ethic, a spirit of teamwork and communication skills" (Pittman, 2011, p. 96). These deficiencies have been labeled as *life readiness* skills that have not been developed. According to Pittman, the "distressing number of college students who need remedial courses and the dissatisfaction among business leaders with the preparation of high school graduates has ignited the institutional and political movement to tackle the readiness problem" (Pittman, 2011, p. 96).

College readiness researchers have recognized that not all high school graduates plan to attend college (Gewertz, 2011; Rosenbaum, Stephan, & Rosenbaum, 2010). However, a survey of the research on readiness for entry into the skilled workforce showed that employers want employees to be able to read and communicate well, perform relatively complex mathematical calculations accurately, possess a strong knowledge of basic science, possess a fundamental knowledge of American culture and the world beyond, and be capable of thinking critically and adjusting to rapidly changing work environments (Texas Higher Education Coordinating Board [THECB], 2009b). The college and career readiness standards were created to provide a foundational level of knowledge to enable students to be successful in either arena.

Importance of College Readiness

The author of the *Monthly Labor Review* article, “Occupational Employment Practices to 2014” reported, "approximately 54% of all new job openings in the 2004-2014 decade are projected to be filled by workers with education beyond high school" (Hecker, 2005, p. 76). Recognizing the importance of a world-class education, the 79th Texas Legislature, Third Called Special Session, passed House Bill 1, the Advancement of College Readiness in Curriculum. Section 28.008 of the Texas Education Code reflects the directive to increase the number of students who are college and career ready when they graduate from high school (THECB, 2009a). The TEA and the THECB were given the joint responsibility of developing a college ready curriculum.

A 79th Texas Legislature directive required that the TEA and THECB jointly develop the College and Career Readiness Standards. These standards were to detail, "what students must know and be able to do to succeed in entry-level courses at postsecondary institutions in Texas" (THECB, 2009b, p. iii). The overarching goal was to provide students with a smooth transition between high school and college. Texas was among the first states to begin implementing readiness standards.

In spite of legislation and focus on college readiness, the Texas Education News reported the headline, "A Third of High School 2010 Graduates Were Deemed to Not be 'College Ready'" (Texas Education News, 2011, p. 1). The headline referred to an annual Texas Success Initiative (TSI) Readiness Measures report, which compiled the percentages of Spring 2010 graduates who entered a state public higher education institution without scores deemed necessary for college readiness in math, reading, and writing (THECB, 2011). Of the 280,520 students who graduated in 2010, 48.9% enrolled in higher education in the state. Of those enrolled, 66% met all three TSI requirements; however, the remaining 34% did not demonstrate college-ready competencies. Only 73% met the math standard, 81.6% met the reading standard, and 80.9% met the writing standard. Students not meeting the standard are required to enroll in remediation courses before college credit classes can be taken. Texas Education News reported that over $200 million per year is spent on developmental (remedial) courses in Texas public colleges.

Expenditures Versus Student Performance

After the landmark Coleman Report in 1966, researchers began a quest to prove or disprove the expenditure versus student performance question. Hanushek (1986) analyzed numerous studies and determined there was no systemic relationship between expenditures and student achievement. Hanushek (1986, p. 1162) stated, "two decades of research into educational production have produced startlingly consistent results. Variations in school expenditures are not systemically related to variations in student performance." Other researchers have shown a positive relationship between funding and achievement (Wendling & Cohen, 1981; Wenglinsky, 1997). Greenwald, Hedges, and Laine (1996) found a strong positive relationship between funds used for instruction and student achievement. Standard & Poor's (2006) released an analysis of data in nine states that were considering a policy that no less than 65% of budget could be spent on instructional costs. No significant positive correlation was shown between the percentage of funds districts spend on instruction and the percentage of students who scored proficient or higher on state reading and math tests.

Methods

The purpose of this mixed-methods study was to examine the issues surrounding college readiness and the impact of instructional spending on preparing students to be academically ready for college-level work. The amount of instructional funds spent in Texas school districts were compared to the results of college readiness indicators as measured by the exit-level Texas Assessment of Knowledge and Skills (TAKS) as reported on the 2011 AEIS report. Qualitative data were gathered to gain knowledge about the perceptions of college readiness advisors concerning student college readiness.

Data Collection

The indicators of districts' instructional spending and the college readiness indicators represented by the class of 2010's scores on TAKS in language arts and math were analyzed. Of the 1,228 Texas school districts, 190 districts were excluded due to not reporting exit-level TAKS results or funding anomalies. Therefore, data from 1,038 Texas districts were used in the statistical analysis. Private, parochial, and charter schools were excluded, as were schools designated as alternative disciplinary campuses or containing only kindergarten through eighth grade.

A phenomenological design (Creswell, 2007) was used for the study's qualitative part. Five college readiness advisors participated in semi-structured interviews. The advisors were selected from campuses in northeast Texas to highlight the impact of a single regional P-16 council. The advisors had the transition of first-year college students as a primary job responsibility.

Data Analysis

Instructional spending was defined as the "district's total actual expenditures for the 2009-2010 fiscal year that were used to fund direct instructional activities" (Texas Education Agency [TEA], 2011a, p. 13). College readiness indicators were grouped together on the AEIS and "help provide a picture of college preparedness at a given high school or for a specific district" (TEA, 2011a, p. 6). The graduate "must have met or exceeded the college ready criteria on the TAKS exit-level test" (TEA, 2011a, p. 6) in order to be considered college ready. The scores were scaled and reported. For college-ready graduates, "the criteria for each are English language arts

≥ 2200 scale score and a 3 or higher on the essay and math ≥2200 scale score on mathematics test" (TEA, 2011a, p. 7). For the purposes of this study, the only indicators correlated to instructional spending were the percentage of students scoring at the college ready graduate level on the English language arts, math, and both English language arts and math tests for the class of 2010. A product moment correlation coefficient, Pearson's *r*, was used to measure the linear association between the interval variables being analyzed.

Qualitative interview data including transcriptions and field notes were coded to examine the perceptions of the advisor regarding aspects of college readiness. The resulting themes wove together the collective reflections of the college readiness advisors.

Findings

Instructional Spending and English Language Arts College Readiness Measures

To determine whether a significant relationship existed between instructional spending and English language arts college readiness measures the figure indicating total operating expenses for instruction was utilized for analysis. For the class of 2010, the college-ready graduate measure on exit-level English language arts TAKS was the percentage of students who scored greater than 2200 (see Table 1). The mean instructional expenditure was $4,843.00, with a range for districts of $1,772.00 to $14,228.00. The instructional expenditure of many districts fell more than one standard deviation from the mean.

Table 1
Instructional Expenditures and College-Ready Graduates in English Language Arts

	Instructional Expenditures	College-Ready ELA %
Mean	$4843.00	62.93
Minimum	$1772.00	9
Maximum	$14228.00	96
Range	$12456.00	87
Standard Deviation	$1192.00	14.83
Skewness	2.66	-0.59

A Pearson Product Moment correlation was used to determine whether a relationship existed between the two variables. The independent variable was the percent of students scoring at the college-ready graduate level on exit-level TAKS. The dependent variable was the amount of instructional expenditures.

The Pearson Product Moment coefficient for the two variables was .0344, indicating a negligible to low correlation and not meeting the threshold for statistical significance. Therefore, there was no statistically significant relationship evidenced between instructional educational spending and college ready graduate measures reported on the AEIS. The practical significance of the correlation was negligible (Ravid, 2011). The coefficient of determination indicated that less than 1% of the differences in the instructional expenditures could be associated with the college-ready English language arts exit-level TAKS results.

Instructional Spending and Mathematics College Readiness Measures

To determine whether a significant relationship existed between instructional spending and the mathematics college readiness measures, the data from 1,038 Texas public school districts were examined. Data analyzed included the amount for total instructional expenditures and the percent of students deemed college ready by scoring 2200 or higher on the exit-level math TAKS exam. The mean district instructional expenditure was $4,829.00; expenditures ranged from $1,772.00 to $14,228.00 (see Table 2). The mean college-ready graduate percentage on exit-level math TAKS was 60.

Table 2
Instructional Expenditures and College-Ready Graduates in Math

	Instructional Expenditures	College-Ready ELA %
Mean	$4829.00	60
Minimum	$1772.00	8
Maximum	$14228.00	97
Range	$12456.00	89
Standard Deviation	$1165.00	15.72
Skewness	2.59	-0.57

The r-value reflecting the correlation between the instructional expenditures and the college-ready graduate scores on exit-level math TAKS was 0.0845, thus it was determined that a statistically significant correlation did not exist between instructional expenditures and the college-ready graduate results on the exit-level math TAKS. The practical significance of the correlation was low (Ravid, 2011). The coefficient of determination, $R^2 = 0.0071$ indicated less than 1% of the differences in the instructional expenditures could be associated with the scores of the college-ready graduates on the exit-level math TAKS results.

Instructional Spending and College Readiness Measures

Data were analyzed to determine whether a significant relationship existed between instructional spending and both language arts and math college readiness measures. The independent variable was the percentage of students scoring 2200 or above on the English language arts and math exit-level TAKS exam, indicating college readiness. The mean district instructional expenditure was $4,829.00, and ranged from $1,772.00 to $14,228.00. The instructional expenditure of many of the districts fell more than the one standard deviation from the mean. The mean college-ready graduate percentage on both exit-level TAKS for English language arts math was 48.04 (see Table 3).

A Pearson Product Moment correlation was used in order to determine if a relationship existed between the two variables. The r value, reflecting the correlation between the instructional expenditures and the college-ready graduate scores on both exit-level English language arts and math TAKS, was 0.1102; therefore, it was determined that a statistically significant correlation did not exist between instructional expenditures and the college-ready graduate indicators on both the exit-level English language arts and math TAKS. Additionally, the practical significance of the correlation was low. The coefficient of determination, $R^2 = 0.012$, indicated

that approximately 1% of the differences in the instructional expenditures could be associated with the scores of the college-ready graduates on the exit-level English language arts and math TAKS results.

Table 3
Instructional Expenditures and College-Ready Graduates in English Language Arts and Math

	Instructional Expenditures	College-Read Both ELA & Math %
Mean	$4843.00	48.04
Minimum	$1772.00	4
Maximum	$14228.00	92
Range	$12456.00	88
Standard Deviation	$1192.00	16.11
Skewness	2.66	-0.14

Perceptions of College Readiness Advisors

The perceptions of the college readiness advisors who were interviewed provided insight about the phenomenon of college readiness (Gall, Gall, & Borg, 2007). The advisors were responsible for the transition of incoming freshmen into the college world and worked extensively with college readiness issues.

The themes that emerged as the essence (Creswell, 2007) of the interviews corroborated the issues in college readiness literature. Themes included defining college readiness, failure of the NCLB of 2001 legislation, number of students entering college who are academically unprepared, implications of funding, and additional steps that need to occur in order for students to be successful in college transition.

Conley and McGaughey (2012) emphasized the significance of "all students being college and career ready is one of the most discussed issues in policy circles and secondary schools these days" (p. 28). The college readiness advisors repeated the sentiment. Lack of academic preparation in the areas of math, reading, and writing was a concern for the advisors. Additionally, the skill of critical thinking was discussed as an area in which students entering college were not prepared.

All participants had decisive responses regarding personal definitions of college readiness and referred to college readiness as being multi-faceted. Participants discussed the academic preparedness and social/emotional aspects of college readiness. The advisors' definitions of college readiness mirrored current definitions (Bill & Melinda Gates Foundation, 2011; Conley, 2007).

Participants were not exceedingly familiar with the particulars of NCLB of 2001 legislation. One participant shared, "I think the idea was about giving everyone the same opportunity. . . even with that there are huge discrepancies." Another termed NCLB "a disaster" and noted that it seemed the legislation lowered the bar. Her university raised admission requirements and did not consider for admission students in the lowest quartile.

Academically Unprepared

The advisors repeatedly reported students' academically unpreparedness for college. All advisors focused on math as the area in which students were most unprepared. Several referenced the change in graduation plans at the state level and were hopeful that requiring four years of math, science, social studies, and English language arts would make a difference for incoming students. One participant asked when students who fell under the requirement of four years of core courses for a *recommended* high school graduation plan would graduate. The advisor was not aware that the students had entered college in the fall of 2011.

Implications of Funding

Of the five participants interviewed, only two seemed to understand public school funding. One participant shared, "We will always have wealthy school districts that have more money than they know what to do with and. . . districts that struggle for every dime."

Participants also addressed the issue of priorities; one participant shared, "budget and legislation determine the priorities regardless of the institution." The perception was that funding choices had implications for districts. One participant stated, "Certainly what districts spend relates to student achievement. Could school districts do better with their funding? Possibly. Our county does a good job with what they have. They have different challenges." The educational funding issue continues to be a source of frustration and confusion for educators (Coalition to Invest in Texas Schools, 2012).

Additional Steps Needed

Participants shared ideas regarding additional steps that should be taken to help students become college ready. One participant shared that districts "could do more to prepare [students] socially. They can have. . .workshops during their senior year after school or during their electives to incorporate some of the expectations." Another advisor referenced the *disconnect* between high school and college and the differences between the expectations of the two entities.

Advisors addressed the need for a support system. "Any learning environment can improve. Working together with colleagues to get better is critical," acknowledged a community college advisor. Another participant believed that "the bigger issue is the support from home."

Advisors discussed the need for a viable curriculum that leads to college readiness. A participant addressed the need for "a more rigorous curriculum and encouraging students to take Advanced Placement classes."

Conclusions

It was concluded that no statistically significant relationship existed between instructional spending amounts by Texas school districts and college readiness indicators of English language arts and math as measured by TAKS exit-level results. The findings were supported by previous educational spending and student achievement research (Coleman, 1966; Hanushek, 1986; Standard & Poor's, 2006) in which no statistically significant relationships were found.

The interviews conducted with college readiness advisors echoed issues documented in the research surrounding college readiness. According to the report, *Beyond Rhetoric: Improving College Readiness Through Coherent State Policy*, "improving college readiness must be an essential part of national and state efforts to increase college degree attainment" (National Center for Public Policy and Higher Education, 2010, p. 2). The article's authors described a disconnect between public schools and higher education. This disconnect was mentioned by the college readiness advisors interviewed. The authors attributed the disconnect to each entity's "deeply held philosophical and educational values" (National Center for Policy and Higher Education, 2010, p. 6). As reported by the advisors, there is work to be done in the area of college readiness. The collaboration that needs to occur between P-12 and higher education is at a critical level to ensure students are successful in the transition to college.

Implications for Practice

Legislators have placed curriculum standards at the center of improvement efforts. The inconsistencies from state to state have been viewed as a deterrent to systemic improvement of college readiness. The result has been the common core standards. Those standards define college and career readiness as "the ability to succeed in entry-level, credit-bearing, academic college courses and in workforce training programs" (Rothman, 2012, p. 13). As of February 2013, Texas had not adopted the common core standards.

The issue of funding is of critical importance in the arena of college readiness. As one participant shared, "Budget always has an effect. Budget and legislation determine the priorities regardless of the institution." Texas school districts continue to pursue the concepts of equity and adequacy for all students. The TEA "administers billions of dollars in both state and federal funds that support a variety of programs to benefit public education" (TEA, 2012, para. 1). The goal of the legislature's funding system must be to allocate funds to schools for the preparation of students and creation of a system to ensure that students are college or career ready upon high school graduation.

Summary

The passage of the federal NCLB Act of 2001 (2002) placed demands on educators across the nation to produce higher and higher levels of student achievement. Those expectations, in addition to the demands from state legislators and higher education institutions, have made student achievement a priority in all states. The addition of legislative action advocating a P-16 focus for the TEA and the THECB has led to heightened importance of college readiness. The current level of educational funding makes it necessary for school districts to more closely scrutinize what will yield returns in the area of student achievement. Legislation that emphasizes college readiness only increases the responsibility of school districts to produce graduates who are ready for the rigors of college.

References

Bill & Melinda Gates Foundation. (2011). *College ready education*. Retrieved from http://www.gatesfoundation.org/college-ready-education/Pages/default.aspx

Coalition to Invest in Texas Schools. (2012). *School funding 101*. Retrieved from http://www.investintexasschools.org/schoolfunding/history.php

Coleman, J. (1966). *Equality of educational opportunity*. Washington, DC: U.S. Government Printing Office.

Conley, D. (2007). *Redefining college readiness*(Vol. 3). Eugene, OR: Educational Policy Improvement Center.

Conley, D., & McGaughey, C. (2012). College and career readiness: Same or different? *Educational Leadership, 69*(7), 28-33.

Creswell, J. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Day, J., & Newburger, E. (2002). *The big payoff: Educational attainment and synthetic estimates of work-life earnings*. Retrieved from www.census.gov/prod/2002pubs/ *p23-210.pdf*

Fermanich, M. (2009). *Education finance litigation: History, issues, and current status*. Retrieved from http://www.ncsl.org/programs/educ/LitigationCon.htm

Gall, M., Gall, J., & Borg, W. (2007). *Educational research: An introduction* (8th ed.). Boston, MA: Pearson Education.

Gewertz, C. (2011). 'College for all' confronted. *Education Week, 30*(20), 1, 21.

Green, E. (2007). Local success, federal failure. *U.S. News & World Report, 142*(8), 44-45.

Greenwald, R., Hedges, L., & Laine, R. (1996). The effect of school resources on student achievement. *Review of Educational Research, 66*(3), 361-397.

Hanushek, E. (1986). The economics of schooling: Production and efficiency in public schools. *Journal of Economic Literature, 24*(3), 1141-1162.

Hecker, D. (2005). Occupational employment projections to 2014. *Monthly Labor Review, 11*, 70-101. Retrieved from *www.bls.gov/opub/mlr/2005/11/art5full.pdf*

Livingston, J. (2011). *College and career readiness: Preparing all high school students for success at the postsecondary level is critical to U.S. economic growth and security*. Policy paper for McGraw Hill Education. Retrieved from http://www.districtleaderspodcast.org/ccr

Mortenson, T. (2006). Family income and higher education opportunity. *Postsecondary Education Opportunity, 6*, 168.

National Center for Public Policy and Higher Education. (2010). *Beyond the rhetoric: Improving college readiness through coherent state policy, 1-14.* Retrieved from http://www.highereducation.org/reports/college_readiness/CollegeReadiness.pdf

No Child Left Behind Act of 2001 [NCLB], Pub. L. No. 107-110, § 115, Stat. 1425 (2002).

Odden, A. (2001). The new school finance. *Phi Delta Kappan, 83*(1), 85-91.

Pittman, K. (2011). What's readiness got to do with college and career success? *District Administration, 47*(5), 96.

Ravid, R. (2011). *Practical statistics for educators* (4th ed.). Lanham, MD: Rowman & Littlefield Publishers, Inc.

Rosenbaum, J., Stephan, J., & Rosenbaum, J. (2010). *Beyond one-size-fits-all college dreams*. American Educator. Retrieved from *www.aft.org/pdfs/americaneducator/fall2010/Rosenbaum.pdf*

Rothman, R. (2012). A common core of readiness. *Educational Leadership, 69(7), 11-15.*
Standard & Poor's. (2006). *The issues and implications of the '65 percent solution'*. Retrieved from *www.studenttrans.com/docs/65_paper_schoolmatters.pdf*
Texas Education Agency [TEA]. (2011a). *AEIS glossary*. Retrieved from http://ritter.tea.state.tx.us/perfreport/aeis/2011/glossary.html
Texas Education Agency [TEA]. (2011b). *An overview of the academic excellence indicator system of Texas*. Austin, TX. Retrieved from http://ritter.tea.state.tx.us/perfreport/aeis/about.aeis.html
Texas Education Agency. (2012). *Funding*. Retrieved from http://www.tea.state.tx.us/index.aspx?id=2147495409&menu_id=645&menu_id2=789&cid=2147483657
Texas Education News. (2011, November 14). *A third of high school 2010 graduates were deemed to not be "college ready"*. Austin, TX: Author.
Texas Higher Education Coordinating Board. (2009a). *Texas college and career readiness standards*. Austin, TX: University Printing Services.
Texas Higher Education Coordinating Board. (2009b). *Texas college readiness project*. Retrieved from http://www.thecb.state.tx.us/index.cfm?objectid=EA5A973E-F066-4575-D7EAB6132F72DE22
Texas Higher Education Coordinating Board. (2011). *Annual TSI test report of student performance*. Austin, TX: Author.
Wendling, W., & Cohen, J. (1981). Education resources and student achievement: Good news for schools. *Journal of Education Finance, 7*(1), 44-63.
Wenglinsky, H. (1997). How money matters: The effect of school district spending on academic achievement. *Sociology of Education, 70*(3), 221.