Poverty and Middle Level Achievement in a Common Core State: What are We Missing?

Lauren Davis, *Montana State University-Bozeman*

Abstract

The purpose of this study was to determine whether a significant difference exists in academic achievement between all students and economically disadvantaged students when compared by socioeconomic levels in the North Carolina middle grades learner (as measured by reading and mathematics standardized tests). It also sought to determine whether significant differences exist between economically disadvantaged students in the various middle level grades (6-8). This article analyzes proficiency data in state-level standardized assessments from a most recent testing year (2017) with North Carolina middle level students. While student socioeconomic status and its impact on student achievement are the focus of this article, this study also analyzes proficiency trends while delving into inequity implications. A review of the literature establishes a long-term pattern of an achievement gap with disadvantaged students. Recognizing the impact of poverty on student achievement as measured by standardized tests, the author questions the explicit practices of the middle level educator to better support economically disadvantaged middle level students. This study illuminates some evidence-based best practices while also exploring the asset-based learning model and growth mindset as strategies to support adolescent learners experiencing high poverty.

Introduction

Eli Khamarov said it best: "Poverty is like punishment for a crime you didn't commit." This is especially true of the millions of children that are currently enrolled in our public education system that live below the federal poverty threshold ("Child Poverty," 2018). Students living in poverty experience a plethora of inequities, not the least of which is an inequity in academic achievement; historically, students of lower socioeconomic status are academically outperformed by their wealthier counterparts (White, 1982).

In response to this ongoing equity issue, the North Carolina Department of Public Instruction adopted the Common Core curricular standards. Anecdotally, state and district level leaders shared with teachers that these new standards were to be an "equalizer" of sorts regarding socioeconomic status and student achievement (Author, 2014). The "common core state standards" (CCSS) initiative, launched in 2009 and implemented in 42 states as of 2015, sought to address the 'race to the bottom' problem (lack of academic progress) by having the states adopt uniformly rigorous standards for English Language Arts and Mathematics proficiency in grades 3-12 (Common Core Standards, 2013; Gewertz, 2013; Lee, 2016; Porter et al., 2011, as cited by Lee & Wu, 2017). While there has been previous research performed to determine the validity of the claim of the CCSS being an "equalizer" during the initial year of implementation of Common Core Standards in North Carolina in 2013 (Dotson & Foley, 2016), this study analyzes testing data from the 2016-2017 academic year to determine if any improvements in closing the gap have been made since the inception of the curriculum standards.

Conceptual Framework: Descriptive Case Study

The conceptual framework implemented for this research is that of a descriptive case study. According to Gall et al. (2007), a case study is:

> A form of empirical inquiry that enables the in-depth examination of a particular phenomenon, issue or object in real life situations…[that] are the preferred method when it comes to answering questions of 'how' and 'why', when there is a little control over events. (as cited in Stjelja, 2013, p. 3)

In descriptive case studies, descriptions of an intervention – or in this instance, a phenomenon – are provided; a phenomenon for a study could be an examination of a process, event, person, and the case would be a particular instance of the phenomenon (Gall et al., as cited in Marsella,

2018; Stjelja, 2013). For this quantitative study, the phenomenon of a relationship between student socioeconomic disparities and academic achievement is explored through a nonexperimental quantitative research design (of North Carolina assessment and socioeconomic data) (Tobin, 2010, as cited in Stjelja, 2013).

Review of Relevant Literature

Childhood Poverty

In the US today, more than 15.5 million children are poverty-stricken according to the definition of poverty as a family of four living on less than $22,000 annually, which translates to one in five American children ("Achievement Gap," 2004; Brooks-Gunn & Duncan, 1997). Poverty can also reference a lack of time, important relationships and models, proper nutrition, health, and sleep, in addition to monetary resources (Pawloski, 2014). For the purposes of this study, poverty will relate specifically to a student's socioeconomic status as determined by North Carolina Report Card standards for being categorized as "economically disadvantaged" according to eligibility for free or reduced cost lunch.

According to the article "Achievement Gap," 2004, children in poverty have less access than their wealthier counterparts to educational enrichment prior to entry in public schools as well as decreased language development, resulting in smaller vocabularies and lower language skills. A 2012 study supports this assertion in that its results found the gap between high SES and low SES students has grown more than 40% since the 1960s, and this gap is now more than twice the gap between Caucasian and African American students (Tavernise, 2012).

Furthermore, the downturn in our nation's economy following the recession in 2008 has resulted in a greater income gap between our schools' wealthy and disadvantaged children:

> ..the Great Recession wreaked havoc among working-class families' employment. This has led to greater residential segregation and homogeneously poor neighborhoods, leading to a higher concentration of poor students in certain schools. (Neuman, 2013, p. 18)

Additionally, living in less-than-ideal neighborhoods (in terms of access to resources, safety), also has a significant impact on a child's academic outcomes. A child's environment is said to affect 66% of his/her/their academic performance, while genetics only affects 34% of academic functioning; moreover, low SES children tend to have the same types of cognitive disorders, the most common being stress, attention deficit hyperactivity disorder, learning delays, attachment issues, and dyslexia (Pawloski, 2014). Children in poverty consistently score six to nine points lower on regulated examinations than their wealthier counterparts and between 6 and 13 points on standardized IQ tests, which is enough of a deviation to make the difference between a child being placed within a regular education or a special education classroom. Only 1.1% of low-income schools are cited as top performers within one's state (Potter, 2013). The same studies showed that low-income students score lower on measures of cognition, health, school achievement, and emotional well- being than wealthier students.

Socioeconomic Status and the Achievement Gap

A plethora of research exists regarding the academic achievement gap between high poverty students and wealthier students. Historically, correlational studies show a strong relationship between high poverty and poor academic performance (Sirin, 2005; White, 1982; White et al., 1993). This correlation is evidenced at the beginning of a child's academic career, and even before, in some cases; Pawloski (2014) states that poverty is more influential to academic performance than even gestational exposure to cocaine. Correlations between SES and student achievement frequently range from .100 to .800 (Tienken, 2010; White). In a meta-analysis of research regarding economic status and achievement, Sirin found that the correlation between these two variables increased throughout the levels of schooling, climaxing in the middle school, and plateauing at the high school level. Caro and colleagues (2009) found similar findings to Sirin's research. They found that the SES gap does not change dramatically until the beginning of grade 7 until grade 10, which emphasizes the importance of quality instruction at the middle grades level. This is also an important factor for why additional study on student achievement and SES at the middle level is crucial as "the [cognitive] effects

of wealth [are] indirect and must accrue over time" (Willingham, 2012, p. 34). These data also support the cumulative advantage theory, which posits that differences associated with one's socioeconomic status and educational achievement increase as time progresses through one's academic career (Caro et al.).

Further, on a national level, recent research shows continued economic disparities in academic achievement among Common Core state adopters (i.e., states that chose to adopt the common core state standards); while the rigor of state standards increased in difficulty in a curvilinear trajectory after the adoption of the Common Core State Standards, high poverty states had lower proficiency levels on Common Core assessments than wealthier states over the 12-year period of the study (Lee & Wu, 2017). Given this trend, a closer look at individual states' assessment scores and student socioeconomic levels are indicated.

Standardized Assessment and Student Performance

Typically, the academic achievement gap is measured through standardized testing and national accountability measures, which is a hotly debated topic in today's educational environment; educators typically lie on either side of the fence for or against standardized testing for various reasons. On the positive side of standardized testing, because a great deal of time and fiscal resources have been invested into the development of reliable assessments, generally the quality of standardized assessments is relatively high; the questions are usually field tested, revised, and well-written, and the questions are aligned with the curriculum through various quality assurance processes that ensure reliability and validity (Brown & Hattie, 2012).

However, there is a great deal of evidence against the validity and reliability of using standardized assessments to measure student achievement and proficiency. Concerns regarding standardized testing include placing too much emphasis upon scores, student testing anxiety, teaching to the test, skewed test results, cheating concerns, and socioeconomic and cultural bias (Brown & Hattie, 2012; Olson, 1999). Sadly, because stakes of standardized tests are so high, test anxiety is now a common ailment amongst students across the nation. The Stanford-9 exam even comes with instructions as to what actions the test administrator must take if a student vomits on a test booklet, according to the 2002 edition of the Sacramento Bee (Ohanian, 2002). Stories like this add to the public sentiment that these tests are inflicting serious harm to children today both academically and emotionally, and these assessments do not result in improved cognition (Horn, 2003; Popham, 2001).

Teachers echo these feelings and frustrations as well since their evaluations are often tied to student performance. A 2014 study by Polikoff and Porter evaluated standardized test scores of high-quality teachers based on student surveys and principal observations. In their quantitative analysis they found little to no correlation between excellent teaching and student test scores. Furthermore, this study determined that teachers only account for a maximum of 14% variance in student test scores, supporting the stance that environmental factors far outweigh teacher input when it comes to standardized test scores. Because of this study, some educational associations, like the Houston Federation of Teachers, have filed federal lawsuits against using standardized assessments as evaluative instruments for teachers, arguing that this violates educators' rights.

These studies underscore the impact of external influences and environmental factors on student achievement in standardized assessment measures. Just as a doctor cannot treat a patient's symptoms without attacking the infection, teachers cannot improve academic achievement in students without addressing the underlying economic issues that affect the student and family.

Research Questions

Research Question 1: Are there significant differences in proficiency scores between all middle level students and economically disadvantaged middle level students in North Carolina schools with varying poverty rates on the 2017 standardized achievement tests?

Research Question 2: Are there significant differences in proficiency scores between only economically disadvantaged middle level students in North Carolina schools with varying poverty rates on the 2017 standardized achievement tests?

Research Question 3: Are there significant differences in grade-level proficiency scores between economically disadvantaged middle level students in North Carolina schools on the 2017 standardized achievement tests?

Purpose and Population

This nonexperimental quantitative case study with secondary data analysis was designed to determine how socioeconomic status and student achievement on high-stakes assessments are related in the 2016-2017 academic year and is an expansion of the author's previous study from 2012-2013. The purpose of this study was to determine whether a significant difference exists in academic achievement between all students as well as economically disadvantaged students when compared by socioeconomic levels in the North Carolina middle grades learner (as measured by reading and mathematics standardized tests); it also sought to determine whether significant differences exist between economically disadvantaged students in the various middle level grades (6-8) (based on percentage of students achieving proficiency).

The study analyzed assessment data from 3,573 middle grades students in North Carolina public schools for the 2017 end of grade state assessments. Charter schools, private schools, or schools with a different grade level configuration (like K-8 schools) were not considered to reduce potential variability. Additionally, economically disadvantaged students were identified on the state report card as a subgroup of students who qualified for free and reduced cost lunch at North Carolina public schools.

Socioeconomic levels used for this study were divided into five levels as determined by the percentage of students receiving free or reduced-price lunch (these levels are pre-determined and disaggregated by the North Carolina Department of Public Instruction): 1%-40% of students on free or reduced cost lunch, 41%-60% of students on free or reduced cost lunch, 61%-80% of students on free or reduced cost lunch, and 81%-100% of students on free or reduced cost lunch. Levels 1%-20% and 21%-40% (the highest socioeconomic levels) were combined due to inadequate sample size in each category.

Data Collection and Methodology

The data used for this study were collected from North Carolina School Report cards from the 2016-2017 school years; at the time of this manuscript preparation, these data were the most recent available. These public data were available online through the North Carolina School Report Card website (http://www.ncschoolreportcard.org/src/), which is the official website by which the North Carolina Department of Public Instruction, which reports testing and other data from public schools on a yearly basis; these data were compiled and cleaned by a team of statisticians and psychometricians working for the North Carolina Department of Public Instruction and were provided at the school level to protect student confidentiality. Assessment data are representative of norm-referenced, standardized assessments that use multiple choice questions to ascertain student mastery against Common Core curriculum standards.

In this case study, the level of socioeconomic status of the student and the grade of the student were the independent variables, and the dependent variable was academic achievement as indicated by proficiency levels (percentage of students labeled as proficient) on standardized assessments in the areas of reading and mathematics in the middle grades (grades 6-8). To address research questions 1-2, comparisons were made using independent samples *t* tests to determine whether significant differences exist between student achievement in each grade level, academic year, and tested subject area (mathematics and reading) based on various levels of socioeconomic status levels within the school. For research question 3, a one-way analysis of variance tests (ANOVAs) was performed to determine if significant differences exist between socioeconomic status levels and student proficiency levels as compared by socioeconomic status on reading and mathematics assessments. Minitab was used to quantitatively analyze data, all of which were analyzed at the .05 level of significance.

Results

Research Question 1: Are there significant differences in proficiency scores between all middle level students and economically disadvantaged middle level students in North Carolina schools with varying poverty rates on the 2017 standardized achievement tests?

Independent-samples t tests were conducted to evaluate the hypotheses that North Carolina

middle grades students in schools with varying poverty rates achieved similar proficiency in both reading and math End of Grade Assessments as "economically disadvantaged" middle grades students in schools with varying poverty rates in 2017. The school poverty levels at which students were compared were schools with 1-40%, 41-60%, 61-80%, and 81-100% poverty rates. Rates from 1-20% and 21-40% were not compared because sample sizes were too small for statistical analysis so therefore were combined into one level (1-40%). The tests were significant when comparing differences between all middle level students and economically disadvantaged students at every level except schools with 81-100% poverty rates, so the null hypotheses were rejected at these levels but retained at the highest poverty middle schools. Students who were considered economically disadvantaged on average performed significantly lower on both reading and math standardized assessments than all middle level students at each socioeconomic level except in the highest poverty schools (81-100% poverty rates), where there was no significant difference in proficiency scores. For comparisons where statistical significance was indicated, Cohen's *d* effect sizes ranged from medium (.47) to large (1.60). Table 1 outlines the results of these independent samples t tests.

Table 1

Independent Samples t Tests Comparing All North Carolina Middle Level Student Scores to Economically Disadvantaged (ED) Middle Level Student Scores at Various School SES Levels

	All Middle Level Students			Economically Disadvantaged Middle Level Students						
SES Level of School	*n*	Mean	SD	*n*	Mean	SD	95% Confidence Intervals	Cohen's *d*	*t* Value	Significance (*p*)
1-40% (ED)	768	69.2	11.2	396	49.4	13.4	[18.12, 21.55]*	1.60	22.72	<.001*
41-60% ED	1266	53.9	12.6	630	43.3	12.1	[9.24, 11.96]*	.86	15.30	<.001*
61-80% ED	1190	43.1	13.9	596	36.9	12.3	[4.67, 7.65]*	.47	8.13	<.001*
81-100% ED	349	29.3	15.1	171	27.4	14.7	[-1.26, 5.01]	N/A	1.18	.240

*Significant at the .05 level

Research Question 2: Are there significant differences in proficiency scores between only economically disadvantaged middle level students in North Carolina schools with varying poverty rates on the 2017 standardized achievement tests?

Independent-samples t tests were conducted to evaluate the hypotheses that North Carolina economically disadvantaged middle grades students in schools with varying poverty rates achieved similar proficiency in both reading and math End of Grade Assessments in 2017. The school poverty levels at which economically disadvantaged students were compared were schools with 1-40%, 41-60%, 61-80%, and 81-100% poverty rates. Rates from 1-20% and 21-40% were not compared because sample sizes were too small for statistical analysis so therefore were combined into one level (1-40%). The tests were significant when comparing differences of proficiency rates of economically disadvantaged students at every level so the null hypotheses were rejected. Students who were considered economically disadvantaged at schools with higher poverty rates on average performed significantly lower on both reading and math standardized assessments when

compared with economically disadvantaged schools at schools with lower poverty rates.

Table 2 outlines the results of these tests.

Table 2

95% Confidence Intervals of Pairwise Differences in Mean Proficiency Scores in Reading and Mathematics Standardized Tests of Middle Grades Students Among Different Levels of Socioeconomic Status, 2017

SES Level	N	M	SD	1%-40% ED	41%-60% ED	61%-80% ED
1%-40% ED	396	49.4	13.4			
41%-60% ED	630	43.3	12.1	[4.47, 7.72]*		
61%-80% ED	596	36.9	12.3	[10.81,14.10]*	[4.99, 7.73]*	
81%-100% ED	171	27.4	14.8	[19.38, 24.53]*	[13.45, 18.27]*	[7.07, 11.92]*

*Significant at the .05 level

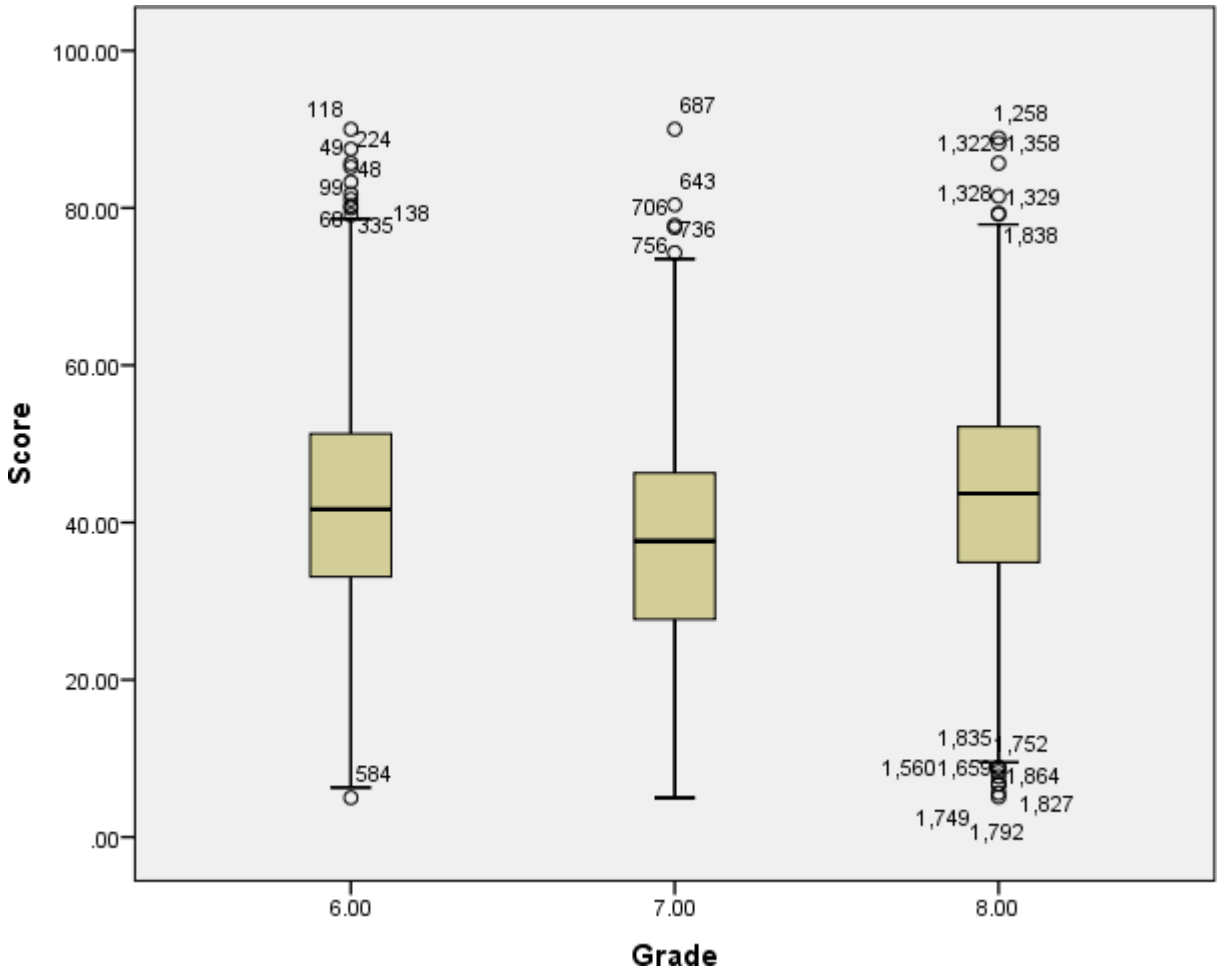
Research Question 3: Are there significant differences in grade-level proficiency scores between economically disadvantaged middle level students in North Carolina schools on the 2017 standardized achievement tests?

A one-way analysis of variance (ANOVA) was performed to determine whether significant differences existed between economically disadvantaged middle level students' proficiency levels in both reading and mathematics standardized assessments in 2017. The factor variable was the grade level descriptor of the student population (6th, 7th, or 8th grade), and the dependent variable was the percentage of economically disadvantaged students passing both the reading and mathematics End of Grade tests in 2017 at each grade level. The ANOVA was significant, $F(2, 1790) = 31.325$, $p < .001$. Therefore, the null hypothesis was rejected. The strength of the relationship between economically disadvantaged proficiency levels and the grade level as assessed by eta square was small (.034).

Because the overall *F* test was significant, post hoc multiple comparisons were conducted to evaluate pairwise difference among the means of the four groups. A Dunnett C procedure was selected for the multiple comparisons because equal variances were not assumed. There were significant differences between the means of students passing both the reading and math standardized assessments at each grade level. Economically disadvantaged students in grades 6 and 8 both performed statistically significantly higher than economically disadvantaged students in grade 7 ($p < .001$ between grades 6 and 7 as well as between grades 7 and 8), but economically disadvantaged students in grades 6 and 8 did not perform significantly different than one another ($p = .243$). The circles on the box plots denote outliers that are further than 1.5 interquartile ranges (and closer than 3 interquartile ranges). The numbers next to the circles indicate the case number of the outliers. A box plot comparing the means between the groups is reported in Figure 1.

Figure 1

2017 Proficiency Levels of Middle Grades Students According to Grade Level



The figures that follow compare reading, math, and overall school grades according to poverty levels of less than or greater than 50% poverty in North Carolina in 2017 (as assigned by the North Carolina Department of Public Instruction). Figure 2 compares overall school grades in all North Carolina middle schools in 2017 divided by poverty rates (less than 50% or greater than 50% poverty rates), and Figures 3 and 4 compare reading and math grades in all North Carolina middle schools in 2017 according to the same poverty levels. Finally, Figure 5 compares the mean proficiency scores specifically for middle level students in North Carolina from the 2011-2012, 2012-2013, 2013-2014, and 2016-2017 academic years, illustrating the progression of student scores since the end of the North Carolina Standard Course of Study through the initial implementation of Common Core after a full 5-year curriculum cycle.

Figure 2

North Carolina Middle Level Overall Grades by School Poverty Percentage (Courtesy of North Carolina Department of Public Instruction)

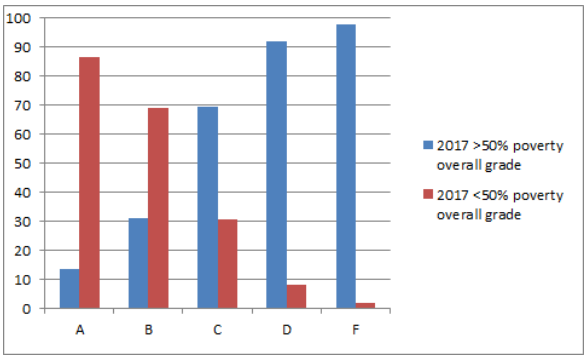


Figure 3

North Carolina Middle Level Reading Grades by School Poverty Percentage (Courtesy of North Carolina Department of Public Instruction)

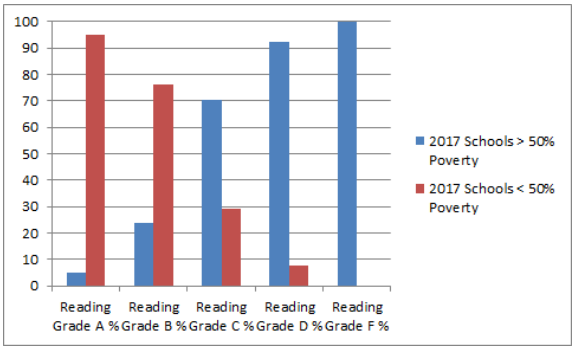


Figure 4

North Carolina Middle Level Mathematics Grades by School Poverty Percentage (Courtesy of North Carolina Department of Public Instruction)

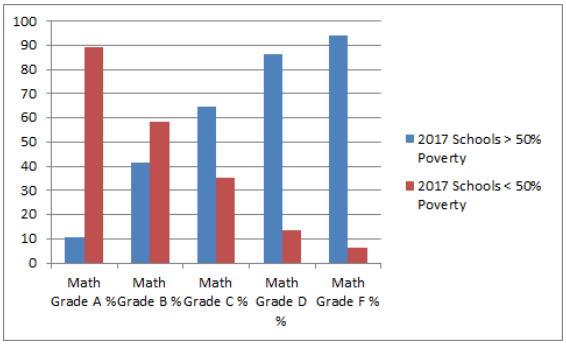
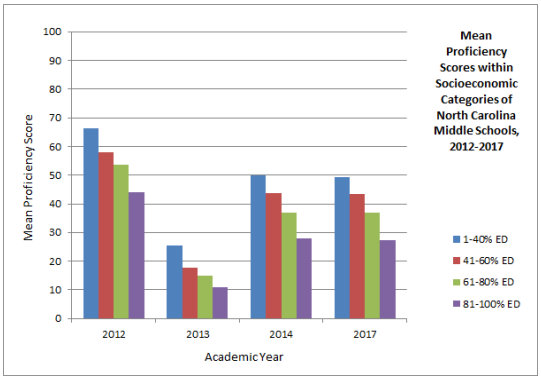


Figure 5

Comparison of Mean Proficiency Scores of Categories of Economically Disadvantaged Schools, North Carolina 2012-2017



Discussion of Findings

Significant differences were found in proficiency levels of each grade level and in each subject area (both reading and math) in 2017. Schools with higher poverty levels scored significantly lower than schools in a higher income bracket (lower poverty levels). This relationship was consistently found for each socioeconomic group comparison (1-40% of students on free or reduced cost lunch, 41-60% of students on free or reduced cost lunch, 61-80% of students on free or reduced cost lunch, and 81-100% of students on free or reduced cost lunch). This suggests that there may be a negative correlation between socioeconomic status and academic achievement.

The fewer students experiencing poverty a school has, the higher the academic achievement scores are for that school. Conversely, the higher the poverty level in a school, the lower the academic achievement. Verification of these findings would suggest that there has been little change in educational outcomes for impoverished children since the Coleman Report (1966), which first established an achievement gap for students in poverty.

Furthermore, the graphical analyses support these assertions in that there is an inverse relationship between school socioeconomic status (greater than or less than 50% poverty rates) and school grades (overall, reading, and mathematics grades as assigned by the North Carolina Department of Public Instruction); that is, the poorer a school is, the lower the grades, and the wealthier a school, the higher the grades. The final graph also indicates that there was a significant decline in student achievement across all socioeconomic status groups in the first year of Common Core implementation (2013). Scores across all socioeconomic levels rebounded in 2014 and continued to improve in 2017, but they have not yet reached pre-Common Core proficiency levels. Additionally, the relationship between socioeconomic status and student achievement remains essentially unchanged despite the change in curricular standards; while a dip in test scores is to be expected any time a new curriculum and assessment are introduced, scores continue to decline despite completing a full curriculum cycle. The poorest students continue to underperform academically.

Interestingly, however, two statistical tests indicated a lack of significant differences in this data analysis. First, no significant differences exist between all middle level students enrolled in North Carolina schools with 81-100% poverty rates and the economically disadvantaged middle grade students enrolled in North Carolina schools with 81-100% poverty rates. In a school with such high poverty rates, it is likely that most students tested would likely fall into the "economically disadvantaged" category, so therefore, no differences would exist between these two groups of students. Secondly, no significant differences exist between economically disadvantaged 6th grade students and economically disadvantaged 8th grade students in North Carolina passing both reading and mathematics assessments in 2017. This indicates that there is no statistically significant difference between proficiency rates in these grade levels, but there is a significant difference between these grade levels and 7th grade economically disadvantaged students passing both assessments; in both situations, 7th grade economically disadvantaged students scored significantly lower than both 6th and 8th grade economically disadvantaged students passing both assessments.

This finding warrants additional research, as it could implicate curricular and/or assessment instrument revisions needed to assist in closing the achievement gap in this grade level. Anecdotally, this author would like to note that as a former 7th and 8th grade English Language Arts and Mathematics teacher in a high poverty school in North Carolina, End-of-Grade field test items for both of these tested subject areas in 7th grade appeared exceedingly complex in their wording as well as in their assessment of multi-step, multi-concept ideas to her economically disadvantaged students – more so than 8th grade field test items, in this author's professional opinion. This anecdotal experience further supports the need for item analysis and review for 7th grade standardized test items and/or standards to investigate the achievement gap with this specific grade level.

Implications for Middle Level Practice

After analyzing these data, it becomes apparent that student socioeconomic status and academic achievement continue to be negatively correlated, supporting earlier research by Sirin (2005) and White (1982); that is, the higher the poverty level within a school, the lower the academic achievement based on standardized test scores. Despite the implementation of new curriculum standards (Common Core) over a 5-year cycle, middle level students in high poverty schools, as well as middle level students considered to be economically disadvantaged, continue to maintain an achievement gap when compared to their wealthier peers. Therefore, more research is needed to examine outliers of highly successful, high poverty middle schools to determine areas in which successful interventions and protocols could be replicated by other middle schools. Additionally, more recent assessment data should be included in future studies to verify a continuation of this trend.

Further, while teachers cannot alter whether a student comes from poverty, thus, middle level educators must work to find areas in which purposeful change can be implemented to offset the impacts of students living in a high poverty environment. As Eric Jensen states regarding teachers, "You can't change what's in your students' bank account, but you can change what's in their emotional account" (2009). Outlined below are some suggested frameworks and methods for closing the achievement gap with the high poverty middle level learner.

Among the most valid and empirically-based best practices for middle level educators working with high poverty students are to:

- Provide access to high quality teachers that have experience working in high poverty settings (Reardon, 2013);
- Provide access to school resources (both at school and at home) to address social inequities and disparities (Muijs et al., 2009);
- Provide parent education and assistance from social services to improve parent involvement (Muijs et al.);
- Facilitate community services provided to families through the school to ensure all learners' non-academic needs are being met (i.e., free dental clinics, parent education workshops, food pantry for families, etc.) (Muijs et al.);
- Provide specialized training and high-quality professional development for faculty and staff in best practices for high poverty and at-risk students (Muijs et al.);
- Offer summer enrichment and summer school programs to promote retention of learning between academic years (Reardon);

- Advocate (through legislators and policymakers) for increased school funding from local, state, and federal agencies in order to provide financial supports that support small school and class size (Brooks-Gunn & Duncan, 1997; Sirin, 2005).

While this list is certainly not all-inclusive, it provides a beneficial starting point for schools that have a large population of high poverty students.

Growth Mindset and a "Culture of Hope"

Additionally, viewing students in poverty using an asset model rather than a deficit model can provide a new perspective for teachers to view their students ("The Gap: Poverty Has Different Meanings in America," n.d., p. 5). Jensen (2009) asserts "when educators believe students are competent, students tend to perform better; conversely, when educators believe students have deficits, students tend to perform more poorly" (p. 65). Furthermore, in identifying what kinds of discrete skills a student has, a teacher inevitably shifts to a strengths-based approach where one focuses on what the student performs well rather than where their deficiencies lie; this approach fosters "resilience, confidence, and flexibility in children" (Osher, as cited by deBros, n.d.). By asking oneself what unique skills these students can bring to the table, it opens the middle level teacher's mind to the theory of multiple intelligences and the possibilities of various learning modalities and entry points for accessing new knowledge. This allows teachers to view impoverished students in a more open-minded, rather than "defiticized," perspective, which emphasizes high expectations and learning possibilities for all.

Reframing one's mindset about students in poverty is not only crucial for middle level educators but changing the mindset of middle level students in poverty is also imperative as well. Recent research regarding the growth mindset indicates a relationship between academic growth, a growth mindset, and a culture of hope (Dweck, 2008). Traditionally, students approach learning from a fixed mindset. They believe that they are born with a fixed level of intelligence and ability, and that level is unchangeable, regardless of effort. On the other side of the coin, a growth mindset involves a person believing that one can improve one's own cognition and intelligence, and this becomes a self-fulfilling prophecy (Dweck). Carol Dweck, the leading researcher in this field, asserts "when students learned through a structured program that they could 'grow their brains' and increase their intellectual abilities, they did better" in an educational setting ("Carol Dweck Revisits the 'Growth Mindset,' 2015). Additional research supports this assertion; Blackwell, Trzesniewski, and Dweck, as cited in Dweck (2008) performed research on student achievement in math and science after categorizing students by self-determinations of whether they had a fixed or growth mindset, and the students with growth mindsets significantly outperformed those with fixed mindsets in both content areas.

Further, developing a growth mindset mentality in a classroom breeds a culture of hope, which is often missing for the high poverty student. By using the word "not yet" when referencing student proficiency measures, it communicates the expectation to the student that they *will* achieve proficiency with further effort, inspiring hope and motivation. Dweck (2016) provides proof that this language and mindset works with low socioeconomic status students; in her book *Mindset: The New Psychology of Success*, one example of the success of this mindset is evidenced in an under-resourced 4th grade class in South Bronx, New York. In one year, this class grew from being behind in academic proficiency to the number one performing class in the entire state of New York (2016). By emphasizing that students can improve their learning outcomes with effort, it gives students in poverty an avenue to escape their circumstances, giving them a chance at a better future for themselves. As Dweck states, "…when educators create growth mindset classrooms steeped in 'yet, equality happens" (TED, 2016, 7:10).

Conclusion

The position paper for the Association for Middle Level Education (formerly National Middle School Association), *This We Believe,* lists two of its essential attributes for an adolescent's education are that it be equitable and empowering (NMSA 2010); the analysis of this data does not support that North Carolina's middle schools are currently offering equitable access to education for the state's economically disadvantaged students. We must work to not only make our schools equitable but also empowering in the sense that students feel a sense of hope in improving their life circumstances to find a way out of poverty. This

author asserts that focusing on evidence-based best practices for supporting economically disadvantaged students and using a strengths-based/asset model approach, combined with a paradigmatic shift to the growth mindset for students and teachers alike, is a way to help close this achievement gap. We want our middle level students to feel empowered to better their lives through education so that students' "hopes, not [their] hurts, shape [their] future[s]" (Schuller, n.d.).

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