Summer 7-25-2015

The Influence of Curriculum Customization on Grade 3 Student Achievement in Language Arts and Mathematics in New Jersey's 30 Poorest School Districts

Michael DeTuro
michael.deturo@student.shu.edu

Follow this and additional works at: https://scholarship.shu.edu/dissertations

Part of the Curriculum and Instruction Commons, Educational Leadership Commons, Elementary and Middle and Secondary Education Administration Commons, Other Education Commons, Other Educational Administration and Supervision Commons, and the Urban Education Commons

THE INFLUENCE OF CURRICULUM CUSTOMIZATION ON GRADE 3 STUDENT
ACHIEVEMENT IN LANGUAGE ARTS AND MATHEMATICS IN NEW JERSEY'S
30 POOREST SCHOOL DISTRICTS

MICHAEL DETURO

Dissertation Committee

Christopher H. Tienken, Ed. D., Mentor
Barbara Strobert, Ed. D.
Thomas Tramaglini, Ed. D.
Rodney Warfield, Ed. D.

Submitted in partial fulfillment
of the requirement for the degree of
Doctor of Education

Seton Hall University

2014

SETON HALL UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN SERVICES
OFFICE OF GRADUATE STUDIES

APPROVAL FOR SUCCESSFUL DEFENSE

Doctoral Candidate, **Michael DeTuro,** has successfully defended and made the required

modifications to the text of the doctoral dissertation for the **Ed.D.** during this **Summer**

Semester 2014.

DISSERTATION COMMITTEE
(please sign and date beside your name)

Mentor:
Dr. Christopher H. Tienken _____ 7-25-14

Committee Member:
Dr. Barbara Strobert _____ 7-25-14

Committee Member:
Dr. Thomas Tramaglini _____ 7-25-14

Committee Member:
Dr. Rodney Warfield _____ 7-25-14

The mentor and any other committee members who wish to review revisions will sign
and date this document only when revisions have been completed. Please return this
form to the Office of Graduate Studies, where it will be placed in the candidate's file and
submit a copy with your final dissertation to be bound as page number two.

Abstract

THE INFLUENCE OF CURRICULUM CUSTOMIZATION ON GRADE 3 STUDENT
ACHIEVEMENT IN LANGUAGE ARTS AND MATHEMATICS IN NEW JERSEY'S
30 POOREST SCHOOL DISTRICTS

The purpose for my correlational cross-sectional study was to explore the
influences of proximal and distal forces on curriculum development and how it affects
student achievement as it pertains to NJ ASK Grade 3. I sought to determine the strength
and direction of the relationships between curriculum customization at the local level and
student achievement on the NJ ASK 3 in Mathematics and Language Arts. Seventy-four
elementary principals were surveyed pertaining to development, design, and
implementation of their curriculum.

Dedication

As I sit back and reflect on this process, I am absolutely amazed at the work that was put in, not by me, but by someone who was my biggest cheerleader, my rock, my warden to keep me on track, and my everything. Jessica DeTuro, you inspire me to better myself every day. When I spoke to you about taking on this program, you were behind me 100%. This program was extremely challenging for you, leaving you with the lion's share of the work at home, with the children, the house—for goodness sake, you moved our entire family when I was away at SHU for the summer. You are a true superhero.

I love you with all of my heart. It is my hope that this product makes you proud of the man that you have supported for the past 14 years.

TABLE OF CONTENTS

I. INTRODUCTION

II. REVIEW OF THE LITERATURE

III. METHODOLOGY

IV. ANALYSIS OF DATA

V. RECOMMENDATIONS AND CONCLUSIONS

<p style="text-align: center;">**List of Tables**</p>

List of Figures

CHAPTER I

INTRODUCTION

Background

After the passage of the No Child Left Behind Act in 2002, prior to the implementation of the Common Core State Standards, educational leaders in each state developed curriculum standards for the subjects of mathematics, language arts, and science. They set student proficiency definitions for achievement as measured by state mandated assessments and created state level education performance monitoring systems. On June 1, 2009, the National Governors Association (NGA) and Council of Chief State School Officers (CCSS) unveiled the Common Core State Standards in mathematics and English language arts. One stated purpose of the standards was to "provide a consistent clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them (National Governors Association, 2009). According to the National Governors Association, another purpose of the Common Core State Standards was to prepare the students of each state to be able to compete in the global economy.

The proponents of the Standards claim the Standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that students need for success in college and careers. The mission of the Common Core Standards uses such language, as "With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy" (National Governors Association, 2010).

Another stated purpose of the Common Core Standards is to broaden consistency amongst state curriculum standards. A final professed purpose is to enhance students' college readiness. The Standards are bifurcated into two domains: (a) English Language Arts and Literacy, History/Social Studies, Science and Technical Studies, and (b) Mathematics.

On July 24, 2009, President Obama and Secretary of Education Arne Duncan unveiled the Education Recovery Act as part of the American Recovery and Reinvestment Act of 2009. The Education Recovery Act included $4.35 billion in funds for the Race to the Top Program (RTTP). This program created incentives for states to adopt education reform policies in the following areas: great teachers and leaders, state success factors, standards and assessment (including the adoption of the Common Core State Standards), general selection criteria, turning around the lowest achieving schools, data systems to support instruction, and incentives to prioritize STEM (Science, Technology, Engineering, and Math) education.

The introduction of the CCSS marks another policy evolution toward centralized development of standards and a de facto nationalized school curriculum in the 45 states that adopted the Common Core State Standards. As such, it suggests a move away from locally controlled design and development of curriculum. The mandate of state standards brought about by NCLB set in motion an ongoing movement toward distal curriculum design, development, and management. The Common Core begins to solidify the process of distal curriculum practices. This marks a further departure from proximal curriculum development and local control practices of the past.

Historical Underpinnings of Centralization

In our most recent history, No Child Left Behind, as well as the Common Core State Standards Initiative, has been at the forefront of education accountability, global competitiveness, and the national quest to close the achievement gap. Contrary to public belief, this is not the first time that the federal government has been involved in education policy creation and curriculum development. In order to thoroughly understand this viewpoint, one must understand the education policies that were dictated at the federal level.

The Soviet Union launched *Sputnik I* on October 4, 1957. This event triggered the beginning of what would become a five-decade assault on American public school curriculum. This event triggered powerful feelings in America during the time of the Cold War and the Communist policies of Russia. How could America lose the "space race" against our rival, Communist Russia? What did this mean for our future? What were they doing that was better than our space program? Tienken and Orlich (2013) state, "When looking through the U.S. National Archives and the Eisenhower Library, declassified memos suggest that the U.S. Redstone [military rocket], had it been used, could have orbited over a year before" (p. 21). It was not until November 13, 1957, that the president brought up a concern with education. At that point, Eisenhower laid out what now appears to be the backbone of our modern day education reform. "We should, among other things, have a system of nationwide testing of high school students; a system of incentives for higher aptitude students to pursue scientific or professional studies; a program to stimulate good-quality teaching of mathematics and science." (Crompton, 2007, p. 7).

The *Sputnik* event has been referenced and used as a political foundation for a number of reforms that have been put forth since.

1. Race to the Top

2. No Child Left Behind

3. 2003 Math Initiative

4. America 2000

5. 1958 National Defense Education Act

A year after the launch of *Sputnik*, the Woods Hole Conference consisted of scientists, mathematicians, and physicists held at Woods Hole, Cape Cod, Massachusetts. The National Science Foundation, Air Force, The Rand Corporation, the U.S. Department of Education, the American Association for the Advancement of Science, and the Carnegie Corporation provided financial support for this conference. The purpose of the conference was to brainstorm ways to improve science education in the elementary and secondary schools. This was one of many curriculum projects funded by the National Science Foundation in order to reform science education in American schools. From this conference, the report *The Process of Education* was created. The report stated, "Widespread renewal of concern for the quality and intellectual aim of education . . . accentuated by what is almost certain to be a long range crisis of national security" (p. 7). The report also stated, "The top quarter of public school students, from which we must draw intellectual leadership in the next generation, is perhaps the most neglected by our schools in the recent past" (Bruner, 2007, p. 7).

Tanner and Tanner (2007) argue that a decade later there was an about-face when Bruner accused the education system of concentrating on the more intellectually

advanced students and neglecting the children at the bottom. Tanner and Tanner (2007) state that Bruner's contradictory positions highlight how leading educators are prone to see priorities in polarities.

A study done in 1957 that examined the Soviet education system found that they focused on mathematics and science curricula. A mission to the U.S.S.R followed this report to investigate the differences in Soviet and American education. The report came back praising Russia's focus and passion about mathematics and science and how they had developed a priority and curricular focus in these areas. These areas were the center point of the space race crisis discussions. Following this report during the Cold War and "Space Race" era, the American educational system narrowed its aim and looked to reform its curriculum in mathematics and science in order to address this crisis.

The National Defense Education Act of 1958 provided funds in science, math, and foreign language, with the understanding that these fields would lead to national supremacy and security. The federal government provided funds to school systems to enhance programs during the school year as well as during the summer months. Growing concerns by policy makers about the quality of the American school system spawned an attack on the comprehensive high school. James Conant, a U.S. High Commissioner and Ambassador to West Germany, issued a report in 1959 to address school boards. In his report his gave his support to the comprehensive high school approach. This was during a time that Congressional pressure was being put on the education system to align with the divided European system of specialty high schools and tracking of pupils, and two curricular camps emerged. Tanner (1982) describes the European system as a dual or tripartite track system. The less privileged youth are turned

out of school in ninth grade and placed under the direction of the corporate sector, whereas as the more privileged youth continue their schooling.

The Panel of Youth of the President's Science Advisory Committee, chaired by James Coleman, proposed a number of changes in the current school system, which would lead away from the comprehensive approach. Tanner (1982) cited one of the suggestions focused on specialty high schools replacing the comprehensive high school. "Specialty high schools have a clearer mission," declared the report, "for they can build organizational competence and identity around their more restricted focus, and they can attract students and faculty of appropriate and mutually reinforcing interest." This completely contradicted the philosophy of the leading educators of the first half of the century of diversity as the strength of the school system. Tanner (1982) stated that the comprehensive school system was conceived early in the century as the prototype of American democracy; it was now being viewed as an impediment to social control and social predestination.

The Harvard Committee on General Education in a Free Society viewed general education as the means of building unity from diversity. "The root idea of general education is as a balance and counterpoise to the forces which divide group from group within the high school and the high school from the college" (Tanner & Tanner, 2005, p. 318).

Elementary and Secondary Education Act of 1965

President Lyndon B. Johnson passed the Elementary and Secondary Education Act in 1965 as part of his "War on Poverty." This act focused on providing money to districts that have a population with a high level of poverty in order to improve their

educational programs, including preschool programs. The act aimed to close the achievement gap between the "haves" and "have nots."   The assumption behind the bill and Johnson's corresponding speech was that more and better educational services for the poor would move them out of poverty. That would soon be challenged by the Coleman Report (1966), which argued that school improvements (higher quality of teachers and curricula, facilities, or even compensatory education) had only a modest impact on students' achievement.

The federal government continued to focus on school reform and created committees to evaluate the effectiveness of the structure and curricular focus of the current system. A study of career choices of National Merit finalists over a ten-year period following *Sputnik* found that one out of five finalists majored in physics before *Sputnik*, but only one out of ten majored in physics after *Sputnik* (Tanner & Tanner, 2007). The female population of physics majors declined from 4.1% to 1.6%. An editorial in *Science*, the official journal of the American Association for the Advancement of Science, as well as an article in *Carnegie Quarterly* criticized the new curriculum and excessive pressures on youth. They stated that curriculum reforms on adolescents were too much, too fast, too soon, even going as far as stating that in adopting these reforms, educators had committed a crime against a generation.

A Nation at Risk was issued in 1983 by the National Commission of Education, created by the U.S. Secretary of Education and chaired by the president-elect of the University of California. This report stated that "if an unfriendly foreign power had imposed the mediocre educational performance that exists today, we might well view it as an act of war" (p. 5). *A Nation at Risk* called for school reform to meet the nation's

alleged need for techno-industrial mobilization in the wake of the Japanese and German challenge to U.S. dominance in the global economic marketplace. Reid (1988) and Tanner and Tanner (2007) feel the writers of *A Nation at Risk* are not far removed in spirit from the members of the Committee of Ten.

The Committee of Ten stemmed from the recommendations of Harvard President Spencer Elliot. The curriculum reform recommendations focused on preparing students to be "college ready." The recommendations ranged from re-adjusting the scope and sequence of mathematical instruction at the elementary level in order to prepare the students to take algebra and geometry in seventh grade as opposed to high school to recommendations that focused on elementary physics being taught in upper elementary grades. This would prepare the students for higher-level learning. The committee, comprised mostly of college professors, set a framework that they felt would prepare the students for the rigor of university learning.

In the years since the *A Nation at Risk* report was released, the best evidence has been too often ignored by policy makers who uncritically followed the report (Bracey, 2003; Tanner &Tanner, 2007). "The chief premise of *A Nation at Risk* (1983) was that the public schools (not colleges and universities or corporate America) were to blame for the alleged decline of U.S. hegemony over the global industries market, resulting in the economic rise in Japan and Germany in industrial productivity" (Tanner, 2007, p. 306).

Fast-forward to America 2000/Goals 2000, which was another movement building on the premise that the United States was falling short in its education programs. The opening words of America 2000(1991) were the following:

Eight years after the National Commission on Excellence in Education declared us a Nation at Risk, we haven't turned things around in education. George H.W. Bush convened an educational summit with the nation's governors from which the 6 goals were generated that needed to be achieved by the year 2000: (1) all students will start school ready to learn, (2) the high school graduation rate will be at least 90%, (3) U.S. students will leave Grades 4, 8, and 12 having demonstrated competency in the five core subjects of English, mathematics, science, history, and geography; and all students will learn to use their minds well, so they are prepared for further learning and productive employment in the modern economy; (4) U.S students will be first in the world in science and mathematics achievement; (5) every adult will be literate and possess the knowledge and skills necessary to compete in the global economy and exercise their rights and responsibilities of citizenship; and 6) every school will be free of drugs and violence and will offer a disciplined environment conducive to learning (U.S. Department of Education, 1991, p. 19).

This coupled with the focus on test-driven curriculum and a plan to assess student achievement caused concern as to the effectiveness of the initiative and the "thoughtfulness" of the implementation.

America 2000 was soon followed by an educational initiative in 2002 by President George W. Bush. No Child Left Behind was neither a policy report nor a research study. It was an act of Congress, signed into law by George W. Bush in 2001. This act of Congress focused on closing the achievement gap between disadvantaged and advantaged students. The connection between NCLB and America 2000 was the focus

on accountability as it pertained to external high-stakes testing. Much criticism came to this act of Congress, citing that teachers were unable to have the autonomy to make instructional decisions. Teaching to the test philosophy prevailed under the federal No Child Left Behind Act of 2001. The business industrial production model of schooling has been around for over a century. This model focuses on accountability and production efficiency. "This view has survived and prevailed regardless of the evidence showing that curriculum cannot be construed simply as a production process and measured as products analogous to the industrial world (Callahan, 1962; Tanner, 2006; Weiss, 1989)

Another aspect of the No Child Left Behind Act was questioned, as it pertained to financial support that was given to underachieving schools. The model had stipulations embedded into the program that funds could be redistributed if schools did not make Annual Yearly Progress, as was defined in the policy. Funds could be used to transfer students from low-performing schools to higher achieving schools. "Education reform policies based on coercion lack theoretical and empirical foundations and are not scientifically demonstrated" (Tienken & Orlich, 2013, p. 38).

Common Core State Standards

In March 2010, governors and educational leaders from 48 states and two territories in the District of Columbia endorsed developing and implementing the Common Core State Standards for selected content areas for Grades K-12. Tienken and Orlich (2013) state that "Curriculum reforms on adolescents were too much, too fast, too soon" and that "absolutely no experimental or control groups were used to evaluate the quality or efficiency of the standards! Empirical methods were not used to determine the

efficacy of these standards. There is no independently verified empirical evidence supporting this initiative" (p. 104).

Tienken and Orlich (2013) stated that the Common Core notion that a human being can be standardized rests upon the theories of behaviorism and efficiency. Frederick Taylor's scientific management theory (1947) tried to make education more efficient, like business. There is no evidence that the efficiency movement of the late 1800s and early 1900s improved education; in fact, evidence exists that the opposite was true. Standardized instruction assumes that all variables are stable with all students at all times. However, students bring various levels of prior experience, emotions, and attitudes to the classroom.

Statement of the Problem

Wang, Haertal, and Walberg (1993) used evidence from 61 research experts, 91 meta-analyses, and 179 handbook chapters and narrative reviews (the data for analysis represented over 11,000 relationships) in order to generate the journal article titled "Toward a Knowledge Base for School Learning." This article detailed "categories" that exerted the most influence on school learning as well as the least influence. The article categorized the various variables into two specific groups: proximal and distal forces. The proximal forces were identified as being psychological, instructional, and home environment. The distal variables were identified as demographic and organizational policy.

Throughout the study, Wang, Haertal, and Walberg cited that the significant influence came from proximal forces as opposed to distal forces. "Ironically, state, district, and school policies that have received the most attention in the last decade of educational reform appear least influential on learning" (Wang, Haertal, &Walberg,

1993, p. 244). They go further in saying, "Simply instituting new policies, whether state, district, or school level, will not necessarily enhance student learning. Policies don't always reach down to the classroom level" (Wang, Haertal, &Walberg, 1993, p. 244).

School administrators in New Jersey's poorest school districts face intense pressure to raise test scores. Bureaucrats at the New Jersey Department of Education established an accountability program as part of their NCLB waiver application. Part of the program identifies the lowest performing schools in the state, as measured by scores from state mandated tests. Those schools are labeled "Priority Schools" and are partially managed by NJDOE bureaucrats. Part of that management includes the imposition of a "model curriculum" that is handed down by the state and must be implemented as written. Priority Schools cannot be released from priority status without increasing test scores and implementing all the mandated practices established by the NJDOE bureaucrats. School administrators in the Priority Schools must implement the standardized curriculum or risk losing their jobs or having their schools taken over by private management companies.

Although classic literature and literature from the 1990s suggest that customized curriculum positively influences student achievement, little quantitative empirical evidence exists since the NCLB era that explains the influence of customized curriculum on achievement, especially in schools that serve poor students.

Research Questions

1. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3

Mathematics when controlling for school and student demographic factors known to influence achievement?

2. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3 English Language Arts (ELA) when controlling for school and student demographic factors known to influence achievement?

3. How much of the variance in NJ ASK 3 test results in English Language Arts (ELA) and Mathematics are explained by curricular customization?

Purpose of the Study

The purpose for this study was to explain the influence of proximal curriculum customization on student achievement as it pertains to NJ ASK Grade 3 results in Mathematics and English Language Arts at the school level in New Jersey's 30 poorest school districts. I sought to determine the strength and direction of the relationships between curriculum customization at the local level and student achievement on the NJ ASK 3 in Mathematics and English Language Arts.

Since the inception of NCLB, little quantitative correlational research has been conducted that explores the relationship between distal curriculum development and student achievement. On the contrary there is a vast amount of research highlighting the negative effects of statistically invalid high-stakes testing as well as the positive impact of proximal curriculum development aligning the learning experiences to be relevant to the students.

Significance of the Study

One cannot overlook the comparisons that are being made between American educational systems and the educational systems of other countries that are viewed as superior in their educational status. The answer of the Council of School and State Officials (CCSSO) and the National Governor's Association (NGA) to this concern was the creation of the Common Core State Standards. As 46 states adopt the Common Core Standards and districts across the country spend millions of dollars developing their curriculum to meet at least 80% of the Common Core Standards, one needs to ask whether these standards appropriately support learning.

This study builds on prior work on the topic (Tramaglini, 2010) and prevailing theories. It extends some of the studies by including school variables such as student mobility, teacher mobility, school size, and student attendance. All of the variables are demonstrated in the literature to influence achievement in some contexts. By including variables not previously controlled for, the results from this study provide a more fine-grained look at the topic. Furthermore, it extends the work by focusing on the lower elementary grades as opposed to secondary education.

Design and Methodology

I used a correlational design with quantitative methods to explain the influence of curriculum customization on student achievement. Existing data from 73 elementary school principals in 24 of the states 30 poorest districts was used to describe the level of curriculum customization at the school level and NJ ASK 3 scores were used as the dependent variable. Simultaneous multiple regression and hierarchical regression models were created.

Variables

I included five independent variables found in the literature that potentially influence student achievement at the elementary school level:

Independent Variables

1. Free Lunch

2. Instructional Time

3. Attendance

4. Student Mobility

5. Teacher Mobility

Dependent Variables

The dependent, or outcome variables, were the following:

1. NJ ASK 3 Scores, Mathematics and English Language Arts in Abbott School districts

2. 2009 NJ ASK Report Card Data

Instrumentation

Data from two sources were used for this study. One of the sources was downloaded from archived databases: the New Jersey School Report Card (2009 dataset). Being that there is an archival site that provided information pertaining to curriculum development design/implementation, I requested data from a researcher that used Tramaglini's survey (2010). Survey research allows researchers to describe relative characteristics associated with the study (Berends, 2006).

Survey

Tramaglini describes his curriculum quality instrument as a survey that was "adapted (with permission from Pearson Education) from Tanner and Tanner's *Best Practice Checklist for Curriculum Improvement and School Renewal* (2007). Of the 119 total questions in the checklist, 26 were selected as related to the research from the review of the literature describing curriculum quality. Questions were then filtered to meet two other criteria. The first criterion was that the questions needed to be administratively mutable at the school level. Second, the questions needed to reflect aspects of curriculum quality that were practical to high schools" (Tramaglini, 2010, p. 66).

Limitations

A limitation of the study is the number of responses attained from the survey. A request was sent to 278 Abbott school principals across the state of New Jersey. Seventy-three responses were received. The percentage of responses received can cause some concern as it pertains to the generalizability of results. The results may not accurately represent a realistic perspective of all of the DFG A school districts in New Jersey (Gay, Mills, & Airasian, 2009, p. 184).

The statistical analysis looked at free and reduced lunch, yet they were reported together. If this were parsed out, there could be a difference in the data.

Another limitation of this study is the use of correlation research. This research does not describe cause and effect, only relationship. Correlation research "involves collecting data to determine whether, and to what degree, a relationship exists between two or more quantifiable variables" (Airasian, Gay, & Mils, 2009, p. 196).

Finally, a limitation of the study is the assumption that district curriculum leaders effectively controlled the curriculum development and design process for elementary schools. Principals and teachers may have impacted this process at the high school level.

Delimitations

A delimitation of this study is its being limited to school districts in the lowest socioeconomic communities in New Jersey. The rationale for this delimitation was the achievement gap described in the problem statement. The study's focus was on the districts serving the poorest communities because historically socioeconomic factors are the single greatest determining factor of student achievement. Therefore, the need is greater to determine what correlation exists between curriculum quality and student achievement in these school districts. Another delimitation of this study was the decision to focus on student achievement in Grade 3, as measured by NJ ASK. This study attempted to replicate a similar study conducted of the same districts at the high school level.

<div align="center">

Definition of Terms

</div>

Curriculum Quality: For purposes of this study, curriculum quality was defined as the
relationship of three forces: the nature and needs of the learner, the structure and function of the curriculum, and the kind of society professed, upheld, and sought (Tanner & Tanner, 2007, p. 124).

NJ ASK: New Jersey Assessment of Skills and Knowledge. The test is administered
during the spring of each school year to students in Grades 3 through 8. The assessment measures achievement in Mathematics and English Language Arts. It was first administered in the spring of 2004.

District Factor Group: These groupings of school districts in New Jersey began in

1975. The purpose of these groupings is to allow student performance on state

standardized tests to be compared to student performance in communities with

comparatively similar socioeconomic status.

Organization of the Study

In Chapter II the researcher presents a review of the literature pertaining to

student achievement relevant to the independent variables. It was the researcher's hope

that a connection could be made from previous literature to the current mandates and

policies that are in place, aligned to student achievement and curriculum development.

Chapter III provides information about the research methods. Instrumentation,

participants, research procedures, and data analysis are discussed. Chapter IV presents

the research findings. In this chapter, charts are displayed and significance and

relationship are discussed pertaining to the independent and dependent variables.

Chapter V presents conclusions and recommendations for practice and policy.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purpose for this study was to explain the influence of proximal curriculum customization on student achievement as it pertains to NJ ASK Grade 3 results in Mathematics and English Language Arts. The review of literature was comprised of the following search sources: New Jersey Assessment of Skills and Knowledge Grade 3 assessment scores for District Factor Group A elementary schools, percentage of students on free lunch, instructional time, attendance, student mobility, teacher mobility.

The purpose of the literature review was to identify empirical studies that attempt to determine the statistical significance, if any, school, student, teacher, or curricular variables have on student achievement as it pertains to the NJ ASK Grade 3 English Language Arts and Mathematics assessment. The intent was to inform education leaders, researchers, and policy makers about the present evidence regarding student achievement predictors.

Literature Search Procedures

The literature reviewed for this chapter was accessed via online databases including EBSCOhost, ProQuest, ERIC, and Academic Search Premier as well as online and print editions of peer-reviewed educational journals. Educational texts pertaining to curricular quality, development, and design were reviewed as well. Each section of the reviewed literature included experimental, quasi experimental, meta-analysis, and non-experimental treatment/control group studies.

Methodological Issues in Studies of Predictors on Student Achievement

When reviewing the literature pertaining to student, teacher, and school variables as they are associated with predicting student achievement on state standardized tests, I noted that the research and studies contained various methodological issues. Some of the issues were, but were not limited to, the following: (1) there was a lack of experimental studies, which placed a heavy reliance on correlational designs; (2) many of the studies did not report on experimental effect sizes; and (3) there was a lack of clarify of terms used specifically in the studies on SES (free and reduced-lunch indicators).

Johnson (2001) clarified these issues as follows:

Although the strongest designs for studying cause and effect are the various randomized experiments, the fact remains that educational researchers are often faced with the situation in which neither a randomized experiment nor a quasi-experiment (with a manipulated independent variable) is feasible (p. 3).

Johnson affirmed that "non-experimental research is frequently an important and appropriate mode of research in education" (p. 3); therefore, it was effectively incorporated into my literature review.

While reading the literature, I also noted that many of the major studies on curriculum are on secondary education; more specifically, Tramaglini's study focused on curriculum quality and design at the secondary level. With the dearth of existing studies, it was difficult to conduct an extensive search on elementary education. Therefore, some of the secondary studies were included in the literature review.

Inclusion and Exclusion Criteria for Literature Review

The following criteria were used when deciding on sources to use for this study:

1. Experimental, quasi-experimental, and non-experimental methods with control groups

2. Peer-reviewed dissertations or government reports

3. Books

4. Published within the last 30 years unless considered seminal work

SES Classification and Free and Reduced-Price Lunch

In 1972, a study by Christopher Jenks concluded that "the character of a school's output depends largely on a single input, namely the characteristics of the entering children, and that everything else is either secondary or irrelevant" (Tanner & Tanner, 2007, p. 210). The study provided a convenient justification for abandoning the school as a means of improving the opportunities of the inner city poor and reducing the "investment in schooling." It echoed the belief that schools in poverty are bound to fail.

Educational research often includes student background variables as statistical controls to enhance the credibility of inferences. Socioeconomic status (SES) is one of the most frequently used student variables. SES has gained considerable traction in education due to its widely documented relationship with achievement, covering more than nine decades of research (Bryant, Glazer, Hansen, & Kursch, 1974; Coleman et al., 1966; Holley, 1916; Lynd & Lynd, 1929; Sirin, 2005; White, 1982). Harwell and LeBeau (2010) submit that SES is frequently used as a covariate in analyses of educational data (Dauber, Alexander, & Entwisle, 1996; Lubienski & Lubienski, 2006; Mathematical Policy Research, 2008) or as a matching variable (General Accounting Office, 2003; Pentz et al., 1990) to statistically control for its effects, to increase statistical power, and to enhance causality arguments (White, 1982).

Before detailing the educational ramifications of poverty, one must understand the definitions of SES, which will enhance one's comprehension of this topic. Three definitions that are representative are (1) "the social and economic life chances individuals experience" (Powers, 1982, p. 1), (2) "differential access (realized and potential) to desired resources" (Oakes & Rossi, 2003, p. 775), and (3) "a shorthand expression for variables that enable the placement of persons, families, households and aggregates such as statistical local areas, communities and cities in some hierarchical order, reflecting their ability to produce and consume the scarce and valued resources of society" (Hauser & Warren, 1997, p. 178). Walpole (2003) points out that "low" SES students tend to have less access to cultural capital (specialized or insider knowledge not taught in schools) and social capital (contacts in networks that can lead to personal or professional gains), which have been argued to be key components of a student's educational success.

At the end of the 2006-2007 school year, approximately 18.4 million children received the support of the free and reduced-lunch (FRL) program, or about 60% of all school lunches served (Food and Nutrition Service [FNS], 2008). Harwell & LeBeau (2010) present that students are certified as eligible for an FRL in one of two ways. One way relies on income information provided by a householder. Students are eligible for a reduced-price lunch if their household income is less than 185% of the federal poverty guidelines and for a free lunch if their household income is less than 130% of the poverty guidelines. Using the poverty guidelines for 2008 for the 48 contiguous states, students living in a household of four whose income is less than $1.85 \times \$21,200 = \$39,220$ would be certified as eligible for a reduced-price lunch, whereas students from households

whose income is less than $1.3 \times \$21,200 = \$27,560$ would be certified as eligible for a free lunch. Data available for the 2007–2008 school year indicate that 92% of all K–12 students in the United States had access to an FRL, which is less than 100% because school district participation is voluntary. A second avenue to eligibility is direct certification, based on whether a household receives food stamps, has foster children in the home, or participates in at least one federally funded assistance program such as WIC or TANF (Food and Nutrition Service, 2008).

The origins of offering free and reduced-price lunches can be traced to early European and U.S. programs designed to feed hungry children (Gunderson, 2003). However, the impetus for large-scale federal involvement came in response to evidence that men from poor families were disproportionately denied admittance to the armed services during World War II because of physical problems associated with poor nutrition (Devaney, Ellwood, & Love, 1997). This provided the impetus for the Richard B. Russell National School Lunch Act (NSLA), which was signed into law by President Harry Truman in 1946. The goal of the NSLA was to promote the health and well being of children and increase student learning by providing a low-cost healthy meal. The NSLP is part of the NSLA (Ralston et al., 2008).

Sirin (2005) conducted a meta-analysis review of the literature on socioeconomic status (SES) and academic achievement in journal articles published between 1990 and 2000. The sample included 101,157 students, 6,871 schools, and 128 school districts gathered from 74 independent samples. The results showed a medium to strong SES-achievement relationship. The reason for this study was in response to White (1982), who carried out the first meta-analytic study that reviewed the literature on this subject by

focusing on studies published before 1980 examining the relationship between SES and academic achievement and showed that the relationship varies significantly with a number of factors such as the types of SES and academic achievement measures. Sirin (2005) presents that current research is more likely to use a diverse array of SES indicators, such as family income, the mother's education, and a measure of family structure, rather than looking solely at the father's education and/or occupation.

In general terms, however, SES describes an individual's or a family's ranking on a hierarchy according to access to or control over some combination of valued commodities such as wealth, power, and social status (Mueller & Parcel, 1981). Conversely, there seems to be an agreement on Duncan, Featherman, and Duncan's (1972) definition of the three-part nature of SES that incorporates parental income, parental education, and parental occupation as the three main indicators of SES (Gottfried, 1985; Hauser, 1994; Mueller & Parcel, 1981).

Data from the National Assessment of Educational Progress, for example, indicated that the achievement of children in affluent suburban schools was significantly and consistently higher than that of children in "disadvantaged "urban schools (U.S. Department of Education, 2000).

Sirin (2005) submits that of all the factors examined in the meta-analytic literature, family SES at the student level is one of the strongest correlates of academic performance. At the school level, the correlations were even stronger. He continues by stating that the "reviewer's overall finding, therefore, suggests that parents' location in the socioeconomic structure has a strong impact on students' academic achievement." The impact of SES has many layers of impact. The family SES prepares the students'

academic performance by directly providing resources at home and, as Coleman (1988) indicates, indirectly providing the social capital that is necessary to succeed in school. Family SES also helps to determine the kind of school and classroom environment to which the student has access (Reynolds & Walberg, 1992a).

Sirin (2005) submits that single subject achievement measures, such as verbal achievement, math achievement, and science achievement, yielded significantly larger correlations than general achievement measures (e.g., GPA or a composite achievement test). In general, this finding is in agreement with the findings from longitudinal studies, which show that the gap between low- and high-SES students is most likely to remain the same, if not to widen.

Pereira (2011) submits, as the debate continues regarding specifically what teacher and school resources influence student achievement the most, one aspect of the extant research remains consistently clear: SES is the single strongest predictor of student performance. The Coleman Report (1966) was an extensive 749 page document that detailed information about school environment, pupil achievement and motivation, future teachers of minority groups, higher education, non-enrollment records, case studies of school integration, and special studies.   The most significant yet controversial finding was that once SES was controlled for, school resources had very little influence on academic performance. Pereira (2011) details how Coleman et al. (as cited in Gamoran & Long, 2006) conducted an analysis "by measuring the proportions of variance in student achievement that could be attributed to school facilities, school curriculum, teacher qualities, teacher attitudes, and student body characteristics" (p. 7). Through

questionnaires and surveys and by aggregating data from 60,000 teachers and 570,000 students (as cited in Michel, 2004), he found the following:

> Socioeconomic status explained a greater proportion of student test scores than other measures of school resources such as class size and teacher characteristics; 49% student background, approximately 42% teacher quality, and 8% class size. The report showed that a school's average student characteristics, such as poverty and attitudes toward school, often had a greater impact on student achievement than teachers and schools, and that the average teacher characteristics at a school had a small impact on a school's mean achievement (p. 29).

Michel went further in explaining that the report showed that a school's average student characteristic, such as poverty and attitudes toward school, often had a greater impact on student achievement than teachers and schools, and the average teacher characteristic at a school had a small impact on a school's mean achievement.

The Coleman study has been one that has been both affirmed and challenged over the years. Goldhaber (2002) reported that 60% of the variance in student achievement was directly associated with student SES and family background, followed by 8.5% of the variation due in part to teacher characteristics. Averch, Carroll, Donaldson, Kiesling, and Pincus (1974) performed various studies in the attempt to discover inconsistencies when identifying which school resources dominated the influence on student achievement. Though the results were mixed, their conclusion was the same as Coleman et al. that a student's socioeconomic background is the largest contributor to student success and "that there did not seem to be much value to paying a premium for smaller class size or teacher experience or advanced degrees" (Gamoran & Long, 2006,

p. 7). Furthermore, Jencks et al.'s (1972) investigation determined that after measures were taken into account for "sampling procedures, information-gathering techniques, and analytic methods," the Coleman Report results "[held] up surprisingly well (p. 70). Goldhaber's report (2002) states that based on his previous work, 8.5% of the variation in student achievement is due to teacher characteristic; about 60% of the differences in student test scores are explained by individual and family background characteristics.

Berliner (2006) "brings in abundant data to show clearly that poverty significantly affects school performance and is responsible for the gaps between the poor, urban, and minority students and their middle class suburban White peers" (as cited in Zhao, 2009, p. 14). A study conducted in Texas involving more than 6,000 classrooms showed that low SES classrooms demonstrated lower gains on the norm- referenced assessment program compared to the non-low SES classrooms.

Student Mobility

Accountability has been the key word in educational discussions since before the inception of No Child Left Behind. When analyzing student achievement, one must try to delineate some factors that could affect student achievement. Titus (2007) presented that the United Stated has one of the highest mobility rates in the world with about one fifth of the population moving annually. Further, Maxwell (2008) found when studying 86,000 students in New York City that "standard academic progress–defined as students being continuously enrolled and promoted each year to the next grade–was the exception not the rule."

One must wonder which population this would impact the most. It is noted in various research that highly mobile students tend to be poor and come from single-parent families where the parents have low levels of education attainment (Long, 1992; Smith, Fien & Paine, 2008), and are more likely to be a minority and have a greater chance of qualifying for special education services (Columbus Foundation, 2003). Much of the early research reported mobility as having a negative effect on academic achievement (Dauber, Alexander, & Entwisle, 1993; Frankel & Forlano, 1967; Mantzicopoulos & Knutson, 2000; Rumberger, Larson, Palardy, Ream, & Schleicher, 1998; Straits, 1987). There are variations that are found concerning at what stage the most impact occurs when mobility is high. Paredes (1993) discovered mobility to have a significant effect specific to students at an early age, whereas other researchers found mobility to have an increased effect at a later phase (Strand & Demie, 2007).

Student mobility is being discussed and assessed across the country. The New Jersey Department of Education (NJDOE) under Acting Commissioner Christopher Cerf is gearing up to intervene in 75 predominantly Black and Latino Priority Schools, action that could lead to massive school closings within three years. The schools targeted by NJDOE for closure are in very poor neighborhoods across the state and have served these communities for decades. Seventy-five schools are classified as Priority Schools based on low scores on state standardized tests; 97% of the students attending these schools are Black and Latino, 81% are poor, and 7% are English language learners. The student mobility rate in Priority Schools is a staggering 24%. These schools are located in some of the poorest communities in the state (Education Law Center, 2012).

Eddy (2011) details studies that have found significant impact on student achievement as it pertains to student mobility. Nelson et al. (1996) studied 2,524 elementary students from 24 schools over a three-year period and found students that had moved two or more times over the three-year span demonstrated significantly more behavioral problems (specifically absenteeism and tardiness) than their more stable peers. Researchers have reported varied academic impediments due to mobility, including delayed learning and lowered mathematics and reading achievement (Maxwell, 2008; Strand & Demie, 2007; Temple & Reynolds, 2000)

Teacher Mobility

Teacher mobility represents the rate at which faculty members come and go during the school year. It is calculated by using the number of faculty who entered or left employment in the school after October 15 divided by the total number of faculty reported as of that same date (NJDOE, 2014). Feng and Sass (2011) submit that it has been well established that teacher quality is an important determinant of student achievement and that the observable credentials of teachers in schools teaching disadvantaged students are substantially below those of faculty in schools serving more advantaged students. Previous research has highlighted the disparity in qualifications of teachers in schools serving primarily disadvantaged and minority students versus teachers in schools with more advantaged student bodies (Clotfelter, Ladd, & Vigdor, 2005; Goldhaber, Choi, and Cramer, 2007; Lankford et al., 2002). Teachers in schools serving primarily disadvantaged students are more likely to transfer to a new school district (Hanushek et al., 2004; Imazeki, 2005; Ingersoll, 2001), and teachers in urban inner-city schools are more likely to migrate away from their schools than teachers in other areas (Ingersoll, 2001; Lankford et al., 2002). Similarly, teachers, particularly White teachers,

tend to move away from schools with high percentages of minority students ((Boyd et al., 2005; Feng, 2009, 2010, 2011; Hanushek et al., 2004; Imazeki, 2005; Scafidi, Sjoquist, & Stinebrickner, 2007).

The Urban Institute connected to Duke University, Stanford University, University of Florida, University of Missouri-Columbia, University of Texas, and University of Washington performed a study on Teacher Quality and Teacher Mobility (2011). Their findings echoed similar findings from previous studies: "We find that the most effective teachers are more likely to stay put rather than move to another school in the same district. In the case of exit, we uncover a bimodal quality distribution. The most effective teachers are more likely to exit than middling quality teachers, but teachers at the low end of the quality distribution are also more likely to leave." Further, teachers generally move to better schools with higher achieving students and with smaller shares of poor and minority students.

<div align="center">

Instructional Time

</div>

Instructional time provides teachers with the opportunities to deliver a rigorous, quality curriculum that meets the needs of the students (Marzano, 2007). In this time of accountability, all school leaders are looking for the "silver bullet" leading to student achievement. The following is a review of current and previous research that focuses on instructional time, activities embedded during that time, and the achievement or lack thereof as a result of adjustments to scheduling or length of the school day.

Instructional time is the amount of time per day that a typical student is engaged in instructional activities under the supervision of a certified teacher (NJDOE, 2006). Michel (2004) stated that elementary school schedules tend to be determined by three

factors: instructional minutes of each subject area as dictated by district or state mandates; non-core classes such as art, physical education, library; and other components of the school day such as lunch time. Goodland (1999) performed a study on efficient time utilization and found that the average from the sampled elementary schools was 22.4 hours per week, while 54% of the class time was dedicated to language arts and mathematics and the remainder to social studies, science, physical education, and the arts.

While reviewing studies, information was gleaned that more time does not necessarily mean more content. Some studies demonstrate that the teaching of less content knowledge to incorporate more hands-on activities does not decrease outcomes on standardized tests (Gallagher & Stepein, 1996; Kyle & Shymansky, 1982; Shymansky & Kyle, 1982, 1983 as cited in Clark & Linn, 2003). Clark and Linn (2003) went further to argue that unless teachers invest appropriate opportunities for students to be autonomous guides of their own learning, effective outcomes from knowledge integration process cannot be expected.

Wiley and Harnishfeger (1973) analyzed data from the Equal Educational Opportunity data base that houses information for the school in the state of Michigan. From those data, they analyzed a data set from 40 elementary schools. The author determined that based on the sixth-grade students of the aforementioned schools, the amount of instructional time is a significant determinant in the students' academic achievement. Tobin (1987) submitted that allowing students more instructional time through wait time, higher cognitive achievement was observed in elementary science because students had more time to process their thinking. This is something that

teachers, with the increase of accountability and the race to prepare the students for high-stakes testing, struggle to understand.

Another aspect that one should not overlook is the focus of this instructional time. What is the area on which we should be focusing? Is there a greater importance of one subject over another? The Center for Educational Policy released a report about the shift in instructional time following the enactment of NCLB. The center posited, "Since NCLB took effect, relatively large shifts have occurred at the elementary level in the amount of instructional time allotted for various subjects in a large number of districts. Forty-four percent of all districts nationwide have added time for language arts and/or math, at the expense of social studies, science, art and music, physical education, recess, or lunch. Where these changes have occurred, the magnitude is large, typically amounting to cuts in other subjects of 75 minutes per week or more." (Center for Educational Policy, 2008, p. 3).

Tramaglini (2010) cited the benefits of increasing instructional time as it pertains to increased achievement among socioeconomically disadvantaged students as well as students with above average achievement. Cox (2007) found that more instructional time benefited socioeconomically disadvantaged students who struggled with reading more than students who were not socioeconomically disadvantaged. Crotteau (2002) found that increased instructional time in a non-traditional schedule benefited students with above average ability. By adding class instructional time, students are exposed to non-traditional learning experiences that would not be afforded in a traditional 40-minute classroom schedule. These experiences lead to higher cognition and a deeper understanding of concepts.

Dewalt and Rodwell's 1988 study brought to light the importance of what one does with the increased time and how that could affect student achievement. The study focused on underachieving students in both math and science classes, Grades 5-7. The experimental group received an extra 30 minutes of instruction and the control group did not. The math group did not show significant gains, but the science group did. Upon further investigation, Dewalt and Rodwell (1988) discovered that the math group was taught the same content as the regular math class, while the science teachers differentiated; the math experimental group provided 30 minutes of the same content as opposed to the science experimental group which allocated time for engaging and interactive activities that the regular science class did not experience.

Hong (2012) performed a study to simultaneously examine relationships between teacher quality and instructional time and mathematics and science achievement of eighth grade cohorts in 18 advanced and developing economies. In addition, the study examined changes in mathematics and science performance across the two groups of economies over time, using data from the TIMSS 1995-2007 assessments. He did not find a significant relationship between instructional time and student achievement. Hong cited, "A plausible explanation may be that the quality of instruction matters more than the quantity of instructional hours, and that time on task is more effective in enhancing student outcomes." Research that studied the percentage of instructional time utilized in various countries found that the actual number of days engaged in learning was considerably lower than the number of days in the school year (Abadzi, 2007). The findings are mixed between instructional time and student achievement. What is noted in many of the studies is the effective use of instructional time as it pertains to

instructional activities and how that affects student achievement.

Attendance

School districts across the country focus on increasing attendance due to the common sense conclusion that when students are in school, student achievement is attainable. Learning through osmosis might not be a sure bet. David Wheat (1997) investigated the impact of the truancy program that was implemented by the Virginia General Assembly in 1996. The author states the following, "The connection between attendance and achievement is grounded in common sense. Unless a student is productively engaged . . . he will find it difficult to learn what is taught in school in his absence. In the Virginia study, a statistical analysis revealed that even after the social and economic factors were held constant, schools with higher attendance rates achieved higher test scores" (p. 2). The results of the aforementioned study estimated that reducing excessive absenteeism in the public schools by 25% would result in 22,000 more students scoring above the national average on a standardized test.

Douglas E. Roby of Wright State University focused his research on attendance and wrote a paper called *Research on School Attendance and Student Achievement: A Study of Ohio Schools*. He found that "there is a statistically significant relationship between student attendance and student achievement in Ohio at the fourth, sixth, ninth, and twelfth grade levels. The correlation of student attendance and student achievement is moderate to strong, with the most significant relationship occurring at the ninth grade level, when comparing attendance and achievement rates" (Roby, 2003). Through his research, he also uncovered multiple studies that coincided with his results. In Great Britain, it was noted that school attendance was one of the most important factors associated with progress towards literacy for children in British schools (Tymms,

1996). Dekalb (1999) notes that student achievement is affected in a negative way by absenteeism. One study of African-American males concluded that of the students truant from elementary and high school, 75% did not graduate (Robins & Ratcliff, 1978). Poor attendance averages in school buildings was determined to be one of the factors leading to student test scores being much lower than those of classmates (Barrington & Hendricks, 1989). Coutts (1998) suggests that student attendance should be charted and monitored weekly, since high attendance rates are indicators of effective schools.

Curriculum Development

The Dictionary of Education (1945) defines curriculum as "a body of prescribed educative experiences under school supervision, designed to provide an individual with the best possible training and experience to fit him for the society of which he is a part or to qualify him for a trade or profession."

Herbert Spencer, an English philosopher (1820-1903) questioned, "What knowledge is of most worth?" Spencer contended that the relative worth of a subject was "of transcendent moment," for he granted that "there is, perhaps, not a subject to which men devote attention that has not some value" (French, 1955). He went on to classify the kinds of knowledge:

- Activities ministering directly to self-preservation

- Activities which secure the necessities of life, thus ministering indirectly to self preservation

- Activities dealing with the rearing and discipline of offspring.

- Activities related to proper and social political relations

- Activities related to the leisure aspects of life and to the gratifications of tastes and feelings

The classicists vehemently disagreed with this breakdown of priorities, but it was too late; the progressive education proponents jumped on this "train" and have ridden it for the last 100 years. Even then there was educational discourse on what was important for the students to learn in order to be productive members of the democratic society.

One might question, "What does this all mean?" During this time of Common Core Standards and high-stakes testing, now more than ever it is important to evaluate what the research tells us as it aligns to "What is quality curriculum development?" Curriculum development is something that dates back to Dewey, yet some of the studies that bring the issue to light submit that curriculum developed at the local level proves to increase student achievement. Aiken (1942) details the Eight Year Study, which focused on the benefits of proximal curriculum development. The Eight Year Study was a quasi-experimental study involving 30 high schools across the nation. The schools were given the flexibility to develop curriculum and programs in a non-standardized way, while initiating innovative practices in student testing, program assessment, student guidance, curriculum design, and staff development. The students from the most experimental, nonstandard schools earned markedly higher academic achievement rates than their traditional school counterparts and other progressive-prepared students.

Research on higher level learning and constructivist views of knowledge conclude that students learn best when given an opportunity to incorporate what they are studying into their own experiences (How & Berv, 2000; Resnick, 1987).

Tramaglini and Tienken (2012) submit that empirical evidence indicates that when school personnel use "canned" or distally packaged curriculum, or use only distally developed state standards as a substitute for customized curricula, student achievement can decrease or increase at slower than expected rates.

Goodland & Ritcher (1966) posed the argument about the importance of creating a curriculum that does not force students to conform, but rather embraces the uniqueness of each child. The result is squeezing out what does not conform to the ways of schooling, a denial of what does not fit the mold, and, all too often, alienation of those who come to see themselves as not conforming, sometimes to the point of perceiving themselves as having little worth. This aligns with Popkewitz (1997) who submitted that as is expected of a curriculum, students evolve into different individuals because of their new knowledge. The question then is, "What is the overarching goal of this new acquired knowledge?" The Common Core State Standards tout the notion of students being college and career ready. Does this confirm the constructivist approach on which the curriculum gurus such as Dewey and Piaget have centered their work? Dewey's philosophy is centered on a connection the learner had with the curriculum and the effectiveness of building from that foundation.

No Child Left Behind

The historical aspect of No Child Left Behind, as well as the Common Core State Standards, is presented in Chapter I. It is important to get an understanding of the standards, the accountability that is spurred by NCLB, and the curricular and instructional ramifications that the aforementioned initiatives have had on education.

Tienken and Orlich (2013) submit that NCLB and CCSS are two examples of assessment-driven legislation, but groundwork was laid back in 1978 with the release of the report *Improving Educational Achievement 1978.* The 1978 report called for changes in schooling and recommended a return to basic skills to increase achievement test scores. Susan Newman stated in *Time* magazine on June 8, 2008, that some in the Bush administration viewed NCLB as a way to destroy public education so that school choice vouchers and privatization would become the "go to." NCLB was reduced to demonstrate only quantitative increases of tested student achievement on a narrow portion of the state curriculum. These tests are summative, as they yield no information that can be used in a formative fashion because there are not enough questions to be diagnostic on any skill. Use of any single standardized test for making lifelong decisions for someone else is claimed to be unprofessional by most American educators. That point is strongly made in the *Standards for Educational and Psychological Testing* (1999) and jointly endorsed by the American Educational Research Association, American Psychological Association, and the National Council on Measurement and Education.

The very heart of the No Child Left Behind Act was to "raise the bar" and hold schools accountable by way of mandated high-stakes testing that gives an indication of student achievement. Adequate yearly progress is at the heart of accountability rewards and penalties, clauses of the NCLB reform. Tienken and Orlich (2013) argue that AYP is an illogical application of norm-referenced statistics. Lynn (2003) used NAEP score trends to show the illogical representation of how long it would take to attain 100% proficiency.

- Grade 4 math, 57 years

- Grade 8 math, 61 years

- Grade 12 math, 166 years

Many argue that there is no empirical evidence to support the current national levels being set at their current cut scores. Tienken and Orlich (2013) conclude that NCLB, CCSS, RTTP amount to central control of the most important social institution for the preservation of a participative locally controlled democracy. Bains (2011) coined the phrase "the Stalinization of education" to describe centralization of the free and democratic school system and warn us of the deleterious effects.

Common Core State Standards

In March 2010, governors and education leaders from 48 states plus two territories in the District of Columbia endorsed developing and implementing the Common Core State Standards for selected content areas for Grades K-12. The general criteria used to develop the Common Core Standards are the following:

- Alignment with college and career expectations

- Inclusion of rigorous content and application of knowledge through higher skills

- Built upon strengths and lessons of current standards

- Informed by top-performing countries, so that all students are prepared to succeed in our global economy and society

- Evidence and/or research-based

The Common Core website cites that "The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn so that teachers and parents know what they need to do to help them. The standards are designed

to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy." (National Governors Association, 2010). It goes on to say, "Building on the excellent foundation of standards states have laid, the Common Core State Standards are the first step in providing our young people with a high-quality education. It should be clear to every student, parent, and teacher what the standards of success are in every school."

Tienken and Orlich (2013) submit that the newest installment of the standards represents just another attempt to homogenize schooling. Also, absolutely no experimental or control groups were used to evaluate the quality or efficiency of the standards. Empirical methods were not used to determine the efficacy of these standards. Furthermore, there is no independently verified empirical evidence supporting this initiative.

The Common Core committee states that the standards are internationally benchmarked, yet the standards were copied from high-performing countries without evidence that they have a positive influence on student learning

Some other criticisms that Tienken and Orlich (2013) pose are the lack of evidence or attention to the special populations. The standards were not field-tested on special populations. Tienken and Orlich are not the only researchers that are challenging the Common Core Standards. William J. Mathis published a policy brief called *The "Common Core" Standards Initiative: An Effective Reform Tool?* It highlighted the fact that U.S. states with high academic standards fare no better than those with low academic

standards. Research support for standards-driven, test-based accountability systems is similarly weak, and nations with centralized standards generally tend to perform no better or worse on international tests than those without.

Evidence is leaning in the other direction. Study after study reports the elimination of the arts and physical education, the over-teaching of mathematics and language arts to the detriment of science, social studies, foreign language, and other "non-core areas, and overreliance of high-stakes commercially prepared state tests to monitor the implementation of standards" (AU, 2007; Booher-Jennings, 2005). Campbell's Law (Campbell, 1976) has predicted such an outcome. The subjects prescribed by the Common Core Standards, such as language arts and mathematics, will be given the most time and resources, which in turn will allow the other subjects that are not tested to atrophy.

The notion that a human being can be standardized rests upon the theories of behaviorism and efficiency. Frederick Taylor's scientific management theory (1947), tried to make education more efficient, like business. There is no evidence that the efficiency movement of the late 1800s and early 1900s improved education; in fact, evidence exists that the opposite was true. Standardized instruction assumes all variables are stable with all students at all times. However, students bring various levels of prior experience, emotions, and attitudes to the classroom.

The concern lies in the development of the curriculum. Tienken and Orlich (2013) submit that standardization at the national level distances teachers, students, and administrators from the development process. Wang, Haertal, and Walberg (1993) focus on curriculum organization and articulation and the importance of building at the local

level, which can be considered proximal development. That means it becomes most influential when it is closer to the student. Curriculum must be designed and developed locally, by the teachers, administrators, and students who use and experience it, to have the greatest influence (Tanner &Tanner, 2007; Tramaglini, 2010; Wang, Haertal, & Walberg, 1993). The design organization of the curriculum at the local level are two of the strongest administratively mutable variables identified by Wang, Haertal, and Wahlberg that affect student achievement.

The Common Core's mission focuses on closing the achievement gap and developing students who are ready for the workforce. Common Core proponents feel this can be done with standardization. Some recent evidence against standardization for all lies with the fact that many states did not have mandatory curriculum standards prior to 2002. Prior to No Child Left Behind, less than 50% of the states had mandatory standards. The report released by the National Center of Educational Statistics in April 2009 of the recent NAEP scores for students aged nine, showed a slowdown in academic achievement. The gap between students identified as Black and those identified as White narrowed three points during the No Child Left Behind era. It narrowed nine points during the previous era. There does not exist a strong correlation and certainly not a cause and effect relationship between national standards and national performance. "The strongest 17 economies in the world actually show a negative relationship between their ranking on the international tests and economic strength" (Tienken, 2008, p. 7). There are many countries with national curriculums and standards whose economies are much worse. In fact, America has the largest number of students (15-year-olds) who scored at the top levels in science on the last PISA (OECD, 2009).

CHAPTER III

METHODOLOGY

Introduction

This quantitative study examined the influence of curriculum customization at the school level on Grade 3 student performance on the NJ ASK in English Language Arts and Mathematics in New Jersey elementary schools located in some of New Jersey's poorest communities. Five additional independent variables at the school level were also included:

1. Percentage of students on free lunch (The school provides a free or reduced-price lunch to any child from a household meeting criteria for eligibility, based on household size and income)

2. Instructional time (This is the amount of time per day that a typical student is engaged in instructional activities under the supervision of a certified teacher).

3. Attendance (These are the grade-level percentages of students on average who are present at school each day. They are calculated by dividing the sum of days present in each grade level by the sum of possible days present for all students in each grade. The school and state totals are calculated by the sum of days present in all applicable grade levels divided by the total possible days present for all students).

4. Student mobility (This is the percentage of students who both entered and left during the school year. The calculation is derived from the sum of students

entering and leaving after the October enrollment count divided by the total enrollment).

5. Teacher mobility (This represents the rate at which faculty members enter and leave during the school year. It is calculated by using the number of faculty who entered or left employment in the school after October 15 divided by the total number of faculty reported as of that same date).

Through the inclusion of multiple school and student variables that might have a statistical relationship to student achievement, educators and policy makers have research-based knowledge on student achievement. There is limited existing research that explains curriculum customization and how it affects student achievement in high poverty districts.

Research Design

I used the following research design: non-experimental, correlational, and cross-sectional. I used this design and quantitative methods to explain the amount of variance an independent variable had on a dependent variable. Gay, Mills, and Airasian (2009, p. 9) describe correlational research as "collecting data to determine whether, and to what degree, a relationship exists between two or more quantifiable variables."

Correlational studies typically investigate a number of variables believed to be related to a more complex variable, such as achievement. Gay, Mills, and Airasian (2009) remind us that high correlation between two variables does not imply one causes the other, meaning it is not a pure cause and effect relationship; however, the existence of a high correlation permits prediction. This study attempted to extend the work of a

similar study done by Tramaglini (2010) who conducted the study of New Jersey high schools in the same districts.

Gay, Mills, and Airasian (2009, p.176) stated, "Cross-sectional designs are effective for providing a snapshot of the current behaviors, attitudes, and beliefs in a population." Gay, Mills, and Airasian go on to say that this is not the method to use if one is looking at data over time. The data used came from the New Jersey School Report Card as it pertains to the 2009 NJ ASK 3 scores in English Language Arts and Mathematics.

When one collects survey results and analyzes them in an attempt to find relationships, one must understand what the sample size must be in order to be statistically valid. Green (1991) recommends a minimum sample size of at least $50 + 8k$, where k is the number of predictors in the simultaneous regression model. Therefore, with five predictors, I needed a sample size of $50 + 40 = 90$. If one wanted to test the individual predictors, Green suggests a minimum sample size of $104 + k$. The example of five predictors then requires a sample size of $104 + 5 = 109$, according to Green. Following this model, the researcher needed a minimum of 90 cases to meet Green's (1991) requirement for sample size with five predictors to ensure power to test the full model. I received 73 responses from 24 districts. Based on the responses, the sample consisted of 17 less than the 90 needed. The low sample size potentially affected the ability to find statistically significant results.

Research Questions

1. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3 Mathematics when controlling for school and student demographic factors known to influence achievement?

2. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3 English Language Arts (ELA) when controlling for school and student demographic factors known to influence achievement?

3. How much of the variance in NJ ASK 3 test results in English Language Arts (ELA) and Mathematics are explained by curricular customization?

Null Hypotheses

Null Hypothesis 1: There is no statistically significant relationship between curriculum quality and students' language arts or mathematics proficiency level on the NJ ASK 3 for the 2009-2010 school year within New Jersey school districts classified with a district factor grouping A in particular elementary schools with a third grade.

Null Hypothesis 2: There are no statistically significant relationships between student variables aggregated to the school level that predict student Language Arts or Mathematics achievement outcomes as measured by the 2009-2010 NJ ASK 3.

Participants

The participants from the existing data pool were elementary school principals. The participants represented 24 districts located in the three lowest district factor groups (DFG) in the state.

The District Factor Group (DFG) is an indicator of the socioeconomic status of citizens in each district and has been useful for the comparative reporting of test results from New Jersey's statewide testing programs. The measure was first developed in 1974 using demographic variables from the 1970 U.S. Census. A revision was made in 1984 to take into account new data from the 1980 U.S. Census. The DFG designations were updated again in 1992 using the following demographic variables from the 1990 U.S. Census.

The following variables were combined using a statistical technique called principal component analysis, which resulted in a single measure of socioeconomic status:

1. Percentage of adult residents who failed to complete high school

2. Percentage of adult residents who attended college

3. Occupational status of adult household members

4. Population Density

5. Income: median family income

6. Unemployment: percentage of those in the work force who received some unemployment compensation

7. Poverty: percentage of residents below the poverty level

Instrumentation

Data from two different sources were used for this investigation.   One of the sources was downloaded from archived databases: the New Jersey School Report Card (2009). However, there was no information on curriculum quality and design. To attain

the data needed for this investigation, the researcher used an existing survey created by Tramaglini (2010).

Tramaglini (2010) details how the curriculum quality instrument was adapted (with permission from Pearson Education) from Tanner and Tanner's *Best Practice Checklist for Curriculum Improvement and School Renewal* (2007). Questions were then filtered to meet criteria for aspects of curriculum quality that were practical to high schools, but this researcher used the instrument as it pertains to elementary school, particularly third grade.

Data Collection and Analysis

Data were collected from an existing survey database from Luciano (2014). Luciano conducted a census of the entire population of elementary school principals in DFG A, B, and CD.   The population included the most socioeconomically disadvantaged school districts in New Jersey. In New Jersey, school districts categorized as DFG A were targeted for the census. As previously discussed, New Jersey ranks all school districts from A to J based on the socioeconomic status of the communities they serve. This is known as District Factor Groups (DFGs). School districts in DFG A represent the most socioeconomically disadvantaged communities, while school districts in DFG J represent the most affluent communities. Six variables are used to determine a school District's DFG. They are (1) percentage of adults with no high school diploma, (2) percentage of adults with some college education, (3) occupational status, (4) unemployment rate, (5) percentage of individuals in poverty, and (6) median family income. The DFG is reexamined every ten years, using data from the U.S. Census Bureau (1990, 2000, 2010).

A census was conducted of the building administrator (principal) in each district in DFG A elementary schools. These district level leaders were contacted via electronic letter describing the purpose of the study and its design. The electronic letter also requested their participation in the study. All participants agreeing to participate were given access to the survey electronically and asked to complete the survey. All participants were provided assurances their responses would remain confidential. In fact, the electronic survey was designed to ensure that confidentiality could not be broken. Tramaglini and Tienken (2012) explain that the principal is best for this type of study, instead of central office administrators, teachers, or curriculum supervisors, because in New Jersey the principal is ultimately responsible for student achievement and learning at the building level. The principal is responsible for curriculum delivery. The principal approves or provides professional development and curriculum writing.

Furthermore, the researcher retrieved the literacy and mathematics standardized testing and other data on the New Jersey Department of Education website, where the New Jersey School Report Card details the NJ ASK results of the third grade students in the New Jersey DFG A school districts.

The following data appears on the NJDOE website under the category of District Factor Groups (DFG) for School Districts.

Table 1

DFG Table

District Factor Groups (Number of Districts)

A	B	CD	DE	FG	GH	I	I
39	67	67	83	89	76	103	25
1-3	4	5		6		7	8
District Level SES Score Grouping							

Table 2

District Factor Groups (2009)

DFG	Students in DFG Taking NJ ASK 3 Language Arts	% of Total Population (102,761)	Students in DFG Taking NJ ASK 3 Mathematics	% of Total Population (102,761)
A	18,311	17.8%	18,311	17.8%
B	10,343	10%	10,343	10%
CD	9,543	9.2%	9,543	9.2%
DE	12,746	12.4%	12,746	12.4%
FG	12,238	11.9%	12,238	11.9%
GH	13,917	13.5%	13,917	13.5%
I	19,228	18.7%	19,228	18.7%
J	4,303	4.1%	4,303	4.1%

Source: New Jersey Department of Education, 2009; NJ ASK 3 Summary, NJDOE, 2010.

Survey Reliability

Reliability is a measure to determine how reproducible the survey's data are (Litwin, 1995). Gay, Mills, & Airasian (2009) stated that "the more reliable a test is, the more confidence we can have that the scores obtained from the test are essentially the same scores that would be obtained if the test were re-administered to the same test takers at another time or by a different person" (p. 158). This is a replication study originally done by Tramaglini in 2010.

Tramaglini tested the internal consistency for both surveys to ensure the appropriate reliability. To determine the reliability of both sections of the survey instrument, a Cronbach's alpha test of internal consistency was utilized, using SPSS from the data collected during the pilot study (Cronbach, 1951). Minimum Cronbach's alphas of at least .70 or higher were considered as reliable measurements (Nunnally & Bernstein, 1994; Streiner, 2003).

Tramaglini found the pilot results for internal consistency in each of the subscales for curriculum quality was high. The Cronbach's alpha coefficient for curriculum design was .835, curriculum development was .859, and forces that influence curriculum was .804. Again, the internal consistency for each of the subscales was in the acceptable range as noted in the literature.

Table 3

Cronbach's Alpha Table

Cronbach's Alpha	Internal Consistency
a ≥ .9	Excellent
.9 > a ≥ .8	Good
.8 > a ≥ .7	Acceptable
.7 > a ≥ .6	Questionable
.6 > a ≥ .5	Poor
.5 > a	Unacceptable

NJ ASK Reliability

As a result of the NCLB requirements, New Jersey established additional

statewide assessments in Grades 3 through 8 and high school. The statewide assessments

for elementary and middle school grades are administered annually as the New Jersey

Assessment of Skills and Knowledge (NJ ASK) in English Language Arts literacy and

Mathematics at Grades 3 through 8 and in Science at Grades 4 and 8. Testing is

conducted in the spring of each year to allow school staff and students the greatest

opportunity to achieve the goal of Proficiency.

The New Jersey Assessment of Skills and Knowledge (NJ ASK) for Grades 5

through 8 was first administered in 2008 and for Grades 3 and 4 in 2009. The NJ ASK

was designed to be an early indicator of the students' achievement in mastering the

knowledge and skills of the New Jersey Core Content Standards. The results are supposed to be used by the districts to put interventions in place in order to improve instruction and identify areas of weakness in the schools' curriculum.

The NJ ASK Language Arts Literacy and Mathematics scores at Grades 3 through 8 and Science scores at Grades 4 and 8 are reported as scale scores, with score ranges as follows:

• Partially Proficient 100-199

• Proficient 200-249

• Advanced Proficient 250-300

The results are presented for the total students statewide and by educational program and student demographic subgroups: general education, special education, limited English proficient, gender, ethnicity, and economic status.

In order to safeguard student confidentiality, certain information is suppressed in the state summary files according to the following reporting rules:

- Data are not reported where the number of students with valid scores for a particular group is greater than zero but less than 11.

- Data are not reported for groups where over 90% of the students are Partially Proficient.

- Data are not reported where educational program or demographic groups are mutually exclusive.

- Data are not reported when it is otherwise possible to identify individual student performance.

When looking at each instrument used in an empirical study, one must look at the validity. In this study, both NJ ASK as well as the curriculum survey created by Tramaglini needed to be analyzed. The *Standards for Educational and Psychological Testing* states, "Ultimately, the validity of an intended interpretation of test scores relies on all the available evidence relevant to the technical quality of a testing program. This includes evidence of careful test construction; adequate score reliability; appropriate test administration and scoring; accurate score scaling, equating, and standard setting; and careful attention to fairness for all examinees" (p. 17).

Content validity refers to the content and format of a specific instrument. Baker and Linn (2002) suggest that "two questions are central in the evaluation of content aspects of validity: Is the definition of the content domain to be assessed adequate and appropriate? Does the test provide an adequate representation of the content domain the test is intended to measure?" (p. 6). The following two sections help answer these two very important questions and also address Standard 1.6 of the *Standards for Educational and Psychological Testing*. The NJ ASK assessment measures the students' proficiency as it pertains to content mastery of the New Jersey Core Curriculum Content Standards. *The New Jersey Skills and Assessment 2009 Technical Report* discusses the construction of the assessment, including multiple-choice, constructed response, and rubric development. Tienken (2008) questions the validity of such an assessment when one is measuring such a wide array of knowledge with limited questions. He questions how thorough an assessment such as the NJ ASK can be, assessing only a smaller part of a larger domain of content. The way in which the technical report is written leads one to question how thorough the questions are in addressing all standards.

In 1996, the New Jersey State Board of Education adopted the New Jersey Core Curriculum Content Standards, an ambitious framework for educational reform in the state's public schools. The intention of the New Jersey Core Curriculum Content Standards was to formalize what the students were expected to learn in their 13 years in the school system. *The NJ ASK 2009 Technical Report* stated that the expectation is that ongoing collaboration happens at the local and public level to ensure that instruction is thorough and is addressing the standards that have been constructed.

The report goes on to explain that since the adoption of the original 1996 New Jersey Core Curriculum Content Standards (CCCS), the New Jersey State Board of Education approved administrative code that implements all aspects of standards-based reform. N.J.A.C. 6A:8 requires districts to align all curriculums to the standards, ensure that teachers provide instruction according to the standards, ensure student performance is assessed in each content area, and provide teachers with opportunities for professional development that focuses on the standards.

The report claims the Core Curriculum Content Standards are represented on each test by balancing sub-domain coverage on each test, by proportionally representing items corresponding to Partially Proficient, Proficient, and Advanced Proficient performance categories on each test, and by matching item format to the requirements of the content and standards descriptions.

Analysis Construct

The following provides a visual diagram that guided the data analysis of the study.

Independent Variables   Dependent Variables

The relationship between curriculum customization at the local level and student

achievement on NJ ASK Grade 3 Mathematics and Language Arts

| Curriculum Customization | ⟹ | Student Achievement on NJ ASK Grade 3 Math and LA |

Figure 1. Curriculum customization and its connection with student achievement.
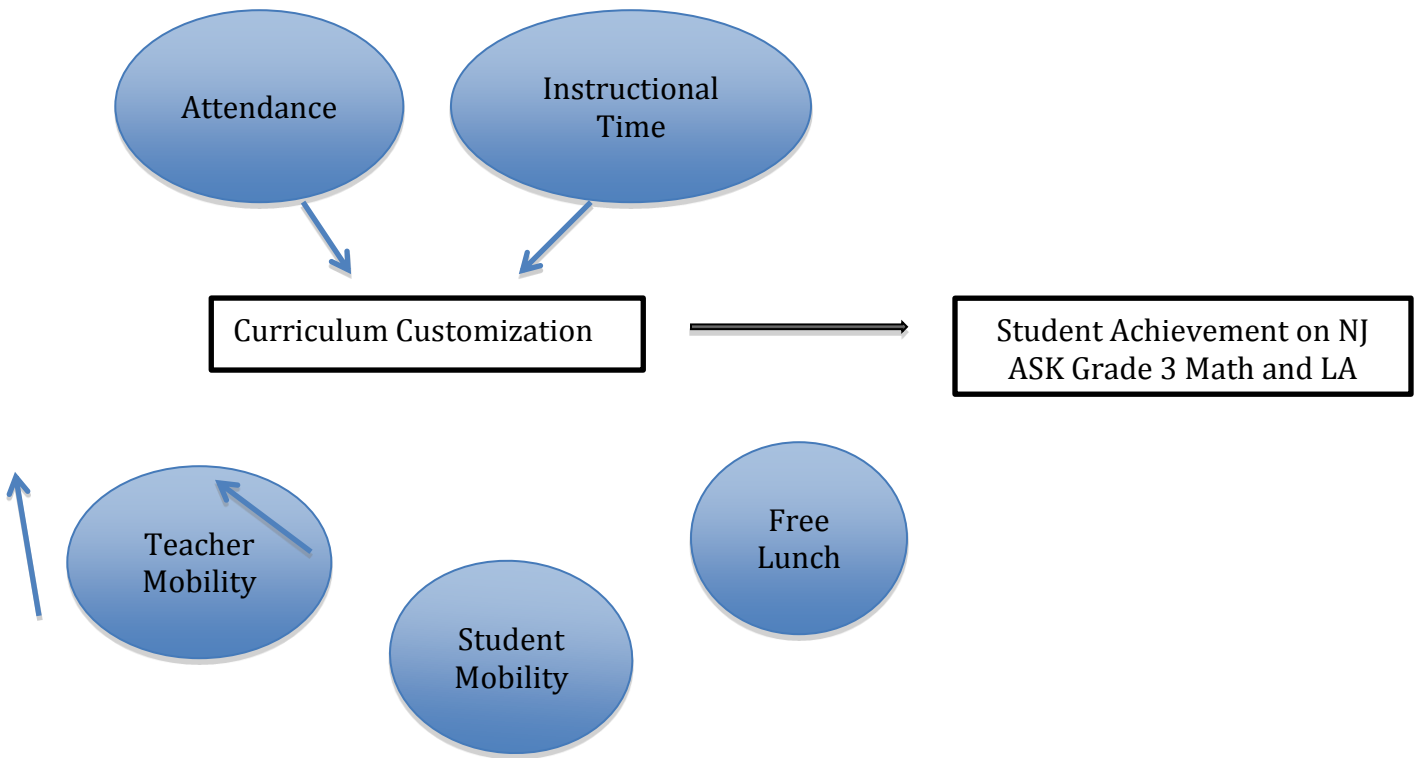
Figure 2. The relationship between curriculum customization at the local level and
student achievement on NJ ASK Grade 3 Mathematics and Language Arts when
controlling for variables of attendance, instructional time, teacher mobility, student
mobility, free lunch.

Table 4

Description of the Variables Used in the Study from the 2010 NJDOE Data Set

Variable	Definition	Level of Measurement	Status
Attendance	These are the grade-level percentages of students on average who are present at school each day. They are calculated by dividing the sum of days present in each grade level by the sum of possible days present for all students in each grade. The school and state totals are calculated by the sum of days present in all applicable grade levels divided by the total possible days present for all students.	Ordinal	
Instructional Time	This is the amount of time per day that a typical student is engaged in instructional activities under the supervision of a certified teacher.	Ordinal	
Teacher Mobility	This represents the rate at which faculty members enter and leave during the school year. It is calculated by using the number of faculty who entered or left employment in the school after October 15 divided by the total number of faculty reported as of that same date.	Ordinal	
Student Mobility	This is the percentage of students who both entered and left during the school year. The calculation is derived from the sum of students entering and leaving after the October enrollment count divided by the total enrollment.	Ordinal	
Free Lunch	The school provides a free or reduced-price lunch to any child from a household meeting criteria for eligibility, based on household size and income.	Ordinal	

Data Analysis

Being that the strongest variables were unknown at the time, I first used simultaneous regression to begin to answer the research questions. Leech, Barrett, and Morgan (2008) propose that simultaneous regression is the most appropriate method to use when there is a modest set of predictors and the researcher does not know which variables will create the best prediction equation. The use of simultaneous regression maximized the prediction of the variables (Pedhazur, 1997).

Using the multiple regression approach, I analyzed the variables that had statistically significant relationships. Multivariate statistical analysis tells how much of the variance found in the outcome variable is attributed to the independent variable. The independent variables include curriculum design, curriculum development, influential forces of the curriculum, attendance rate, instructional time, percentage of students categorized as free or reduced-price lunch, student mobility rate, and faculty mobility rate. The multiple regression model is most appropriate to utilize when there is uncertainty of which variables will create the best prediction equation model. Gay, Mills, and Airasian (2009) submit that multiple regression is an extremely valuable procedure for analysis results of a variety of experimental causal-comparative and correlational studies because it determines not only whether variables are related but also the degree to which they are related. They further inform us that we can see which of the predictor variables are making the most significant contribution to the criterion variable, and we can remove variables from our predictive model if they are not making a significant contribution. The use of path analysis allows one to identify the degree to which the variables interact with one another and contribute to the variance of the independent variable. This identifies the direct and indirect effects on the dependent variable.

Simultaneous multiple regression (SMR) provides researchers with the methodological ability to find linear and non-linear relationships to parse the variation in levels of the dependent variable (Cohen, Cohen, West, & Aiken, 2003: Green, Camilli, & Elmore, 2006). A disadvantage of using SMR is that it does not find cause in the analysis.

The researcher used the Enter method of the SPSS software program (also known as simultaneous regression), where all variables were entered at the same time. Two multiple regression analyses were run for each, one for Language Arts and one for Mathematics. Through the SPSS analyses, the following were analyzed:

- Explanation of Variance: The variance explained how much of the variance in the NJ ASK 3 scores can be explained by the multiple variables.

- Significance of the Regression Equation: The regression equation informed me whether the regression equation is statistically significant (p value $\leq$ .005).

- Explanation of Coefficients: The standardized coefficients indicated a positive or negative direction and the influence the variables have on the NJ ASK 3 scores. The beta (β) and p value were identified. The closer the beta (β) to 1, the stronger the influence of the predictor is. The p value determines significance.

The data analyses added to the current limited literature on the influence of curriculum practices and research-based independent variables on NJ ASK 3 student achievement.

CHAPTER IV

ANALYSIS OF DATA

Introduction

In the age of accountability, building administrators need to thoroughly understand what will make a positive impact on the educational environment in which they are charged to lead. Effective decision making is grounded in empirical evidence and a strong research base. Since the inception of NCLB, little quantitative correlational research has been conducted that explores the relationships between distal curriculum development and student achievement. On the contrary, there is a vast amount of research highlighting the negative effects of statistically invalid high-stakes testing as well as the positive impact of proximal curriculum development aligning the learning experiences to be relevant to the students. This information flies in the face of our current educational landscape and reform agenda.

The purpose for this study was to explain the influence of proximal curriculum customization on student achievement on the NJ ASK Grade 3 in Mathematics and English Language Arts, at the school level, in New Jersey's 30 poorest school districts. The predictor variables included student mobility, eligibility for free lunch, eligibility for reduced lunch, attendance, school characteristic variables of teacher mobility, instructional time, curriculum customization, NJ ASK Math results, and NJ ASK Language Arts results. The dependent variable was the percentage of students Proficient or above on the NJ ASK Math and the NJ ASK Language Arts sections.

I retrieved the Grade 3 NJ ASK English Language Arts and Mathematics standardized testing results and other data on the New Jersey Department of Education website, where the New Jersey School Report Card details the NJ ASK results of third grade students. I used the school-level aggregate percentage of students who scored Proficient or above on the Language Arts test and then for the Mathematics test.

Research Questions

The overarching research question that was answered is as follows: What is the influence of curriculum customization on student achievement?

1. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3 Mathematics when controlling for school and student demographic factors known to influence achievement?

2. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3 English Language Arts (ELA) when controlling for school and student demographic factors known to influence achievement?

3. How much of the variance in NJ ASK 3 test results in English Language Arts (ELA) and Mathematics are explained by curricular customization?

Hypothesis

Null Hypothesis 1 (Ho_1): There is no statistically significant relationship between curriculum quality and students' Language Arts or Mathematics proficiency level on the NJ ASK 3 for the 2009-2010 school year within New Jersey school districts classified with a district factor grouping A in particular elementary schools with a third grade.

Null Hypothesis 2(Ho₂): There are no statistically significant relationships between

student variables aggregated to the school level that predict student Language Arts or

Mathematics achievement outcomes as measured by the 2009-2010 NJ ASK 3.

Variables

Results from previous research suggest variables that influence student

achievement. I included up to eight predictor variables in the simultaneous regression

models (See Table 5).

Table 5

Abbreviated Variable Names

Variable	Label	Description
Free Lunch	% Free Lunch	The school provides a free or reduced- price lunch to any child from a household meeting criteria for eligibility, based on household size and income
Reduced Lunch	Reduced %	The percentage of students receiving reduced-price lunches
Instructional Time	Instruction Mins	This is the amount of time per day that a typical student is engaged in instructional activities under the supervision of a certified teacher
Attendance	Attendance	These are the grade-level percentages of students on average who are present at school each day. They are calculated by dividing the sum of days present in each grade level by the sum of possible days present for all students in each grade. The school and state totals are calculated by the sum of days present in all applicable grade levels divided by the total possible days present for all students
Curriculum Customization	Curriculum Survey Full	Results from the curriculum survey administered to school leaders in the poorest schools in New Jersey.
Teacher Mobility	Teacher Mobility	This represents the rate at which faculty members enter and leave during the school year. It is calculated by using the number of faculty who entered or left employment in the school after October 15 divided by the total number of faculty reported as of that same date
Student Mobility	Student Mobility	This is the percentage of students who both entered and left during the school year. The calculation is derived from the sum of students entering and leaving after the October enrollment count divided by the total enrollment
NJ ASK 3 Language Arts	NJ ASK 3 LA	The performance results from the NJ ASK 3 LA test
NJ ASK 3 Math	NJ ASK 3 Math	The performance results from the NJ ASK 3 LA test

Descriptive Results for Normality

First I explored the dependent variables to ensure normality. I ran tests of skewness and kurtosis, normality plots, histograms, and Smirnov and Shapiro tests. Skewness for Grade 3 Mathematics was .022 and kurtosis was-1.004. Skewness for Grade 3 ELA was .361 and kurtosis was-.381 (See Table 6).

Table 6

Skewness and Kurtosis for Grade 3 Math and ELA

			Statistic	Std. Error
NJ ASK 3 Math	Mean		56.8260	2.24352
	95% Confidence Interval for Mean	Lower Bound	52.3537	
		Upper Bound	61.2984	
	5% Trimmed Mean		56.7267	
	Median		57.4000	
	Variance		367.436	
	Std. Deviation		19.16862	
	Minimum		17.50	
	Maximum		94.70	
	Range		77.20	
	Interquartile Range		32.65	
	Skewness		.022	.281
	Kurtosis		-1.004	.555
NJ ASK 3 LA	Mean		39.5315	2.03620
	95% Confidence Interval for Mean	Lower Bound	35.4724	
		Upper Bound	43.5906	
	5% Trimmed Mean		38.9612	
	Median		38.3000	
	Variance		302.665	
	Std. Deviation		17.39727	
	Minimum		10.30	
	Maximum		85.20	
	Range		74.90	
	Interquartile Range		24.20	
	Skewness		.361	.281
	Kurtosis		-.381	.555

The Q-Q plots (See Tables 7 and 8) suggest small deviation from normality, and this was supported by the results from the Smirnov and Shapiro tests of normality. The Smirnov test for both Math and ELA were not statistically significant at the $p=.099$ and $p=.200$ levels, respectively. Finally the Shapiro test for both Math and ELA were not statistically significant at the $p=.084$ and $p=.165$ levels, respectively. (See Table 9 below).

Table 7

Normal Q Q Plot NJ ASK 3 Math
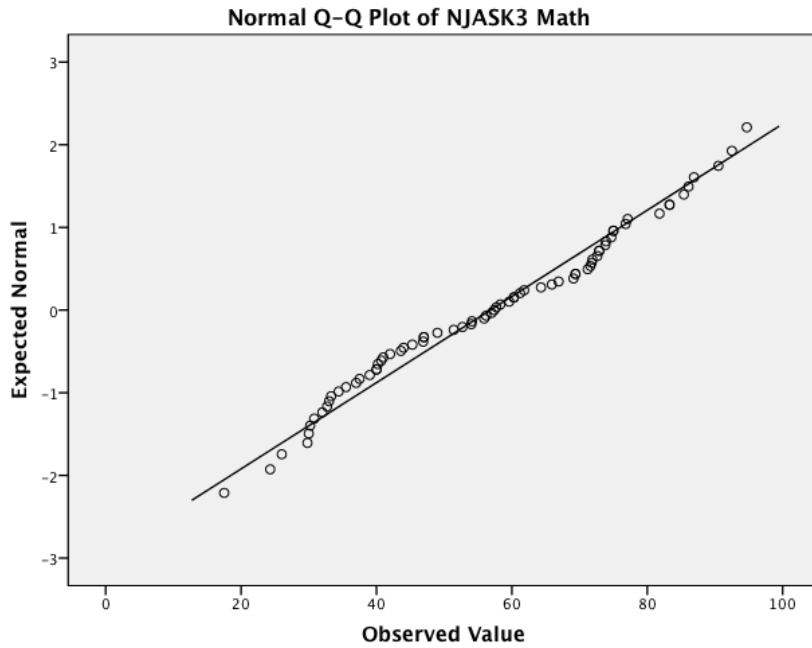
Table 8

Normal Q Q Plot NJ ASK 3 LA

Normal Q-Q Plot of NJASK 3 LA
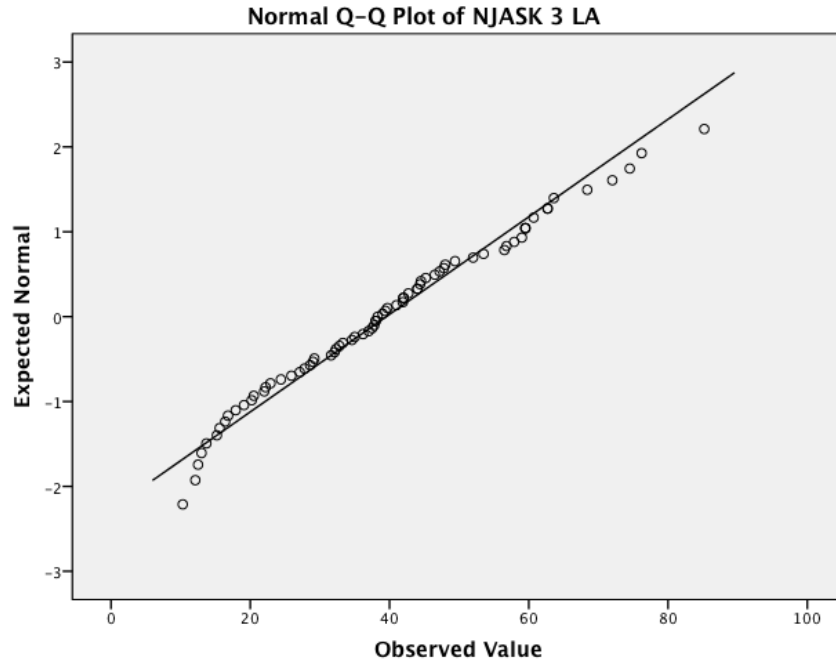
Table 9

Test of Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	*df*	Significance	Statistic	*df*	Significance
NJASK3 Math	.095	73	.099	.970	73	.084
NJASK 3 LA	.059	73	.200[*]	.975	73	.165

* This is a lower bound

[a] Lilliefors Significance Correction

The results from the descriptive exploration of the dependent variables suggest that the data met the assumption of normality.

Descriptive Results for Predictors

Every school in New Jersey is expected to report data as they pertain to student achievement, student demographics, and school data. This information is reported to the public by means of a "School Report Card." The School Report Card is housed on the NJDOE website. The data for the school and student variables were extracted from the NJDOE website. The data pertaining to curriculum development and design were retrieved from the survey results provided from the administered survey. Table 10 provides a descriptive statistical profile for all variables used in this study from the sample 73 schools.

The average percentage of students eligible for free lunch in the sample was 70%, and the maximum was 95%. The average percentage of reduced-price lunch was 9 % with a maximum of 61%. Instructional time had a maximum of 445 minutes and an average of 347 minutes. Attendance rates varied amongst schools in the study, yet the average percentage rate was 93% with a minimum of 85%. NJ ASK 3 scores were reported as % Proficient. The percentages amongst the two subjects varied from NJ ASK 3 LA mean percentage of Proficient scores being 39% as opposed to Math mean percentage of Proficient scores at 56%. Mean percentage of student and teacher mobility was 19% and 4%, respectively, with maximums of 42% and 38%, respectively (See Table 10).

Table 10

Descriptive Statistics on the Variables Used in the Study

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
% Free Lunch	73	14.20	95.22	70.0127	18.07348	-1.034	.281	.752	.555
Reduced %	73	1.85	61.22	9.0807	8.98333	4.123	.281	19.425	.555
Instruction Mins	73	310.00	445.00	347.7397	16.72658	2.484	.281	15.312	.555
Attendance	73	85.90	97.60	93.8767	1.91967	-1.076	.281	2.887	.555
Curric Survey Full	73	1.86	4.00	3.0747	.57551	-.143	.281	-1.113	.555
NJ ASK 3 Math	73	17.50	94.70	56.8260	19.16862	.022	.281	-1.004	.555
NJ ASK 3 LA	73	10.30	85.20	39.5315	17.39727	.361	.281	-.381	.555
Teacher Mobility	73	.00	38.70	4.8219	6.75558	2.839	.281	10.298	.555
Student Mobility	73	.00	42.80	19.7151	9.47860	.243	.281	-.382	.555
Valid N (listwise)	73								

Simultaneous Multiple Regression

"Multiple regression is an extremely valuable procedure for analyzing the results of a variety of experimental, causal-comparative, and correlational studies because it determines not only whether variables are related but also the degree to which they are related" (Gay, Mills, & Airasian, 2009, p. 345). Multivariate statistical analysis tells us how much of the variance found in the outcome variable is attributed to the independent variable. When looking at the results from simultaneous or hierarchical regression models, one needs to look at the R^2 of the statistically significant models and of the individual predictor variables. The R^2 provides the percentage of variance in the criterion variable explained by the predictor variables, and the beta coefficients explain the amount of influence that statistically significant variables have on the dependent variable in the model.

In order to examine the data, I built two simultaneous regression models for math. First I loaded my dependent variable Grade 3 Math into SPSS. Next I entered in the

independent variables, free lunch, reduced lunch, instructional minutes, attendance, teacher mobility, student mobility, and curriculum quality.

The second model that I built was a simultaneous regression model for math including Grade 3 ELA as an independent variable. This was done with the knowledge that in New Jersey there is .77 correlation between the NJ ASK ELA and NJ ASK Math because the NJ Math has a strong language component.

I loaded my dependent variable Grade 3 Math into SPSS. Next I loaded in the independent variables, free lunch, reduced lunch, instructional minutes, attendance, teacher mobility, student mobility, and curriculum quality.

In the model summary (See Table 11 below) the R Square is .242, which indicates that 24.2% of the variance is accounted for in this model.

Table 11

Model Summary for All Variables

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.492[a]	.242	.160	17.56804

[a] Predictors: (Constant), Student Mobility, Attendance , Instruction Mins, Teacher Mobility, Curric Survey Full, Reduced %, % Free Lunch

The results from the ANOVA table (See Table 12) shows that $F = 2.960$ and is statistically significant, $p < .009$. This suggests that the predictor variables statistically significantly combine to predict a portion of the student achievement on the NJ ASK 3 Math. The combination of the predictor variables to predict the student achievement on the NJ ASK 3 Math were derived from the following: student mobility, attendance,

instructional minutes, teacher mobility, curriculum survey full, reduced lunch, and free

lunch.

Table 12

ANOVA Table of the Variables

ANOVA[a]

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
1	Regression	6394.048	7	913.435	2.960	.009[b]
	Residual	20061.352	65	308.636		
	Total	26455.401	72			

[a] Dependent Variable: NJ ASK 3 Math
[b] Predictors: (Constant), Student Mobility, Attendance , Instruction Mins, Teacher Mobility, Curric Survey Full, Reduced %, % Free Lunch

The data in the coefficient table (See Table 13) provide a more fine-grained

explanation of which variables exerted the most influence. The results suggest that

curriculum survey full, the amount of curricula customization at the local level, and

attendance were the only two variables that were statically significant at the .025 and .050

levels. Curriculum had a beta of .268 and attendance had an observed beta of .230

Multicollinearity was examined via VIF and tolerance scores and determined to be within

acceptable limits.

Table 13

Coefficient Table with VIF Scores

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	*t*	Sig.
1	(Constant)	-123.525	114.127		-1.082	.283
	% Free Lunch	-.082	.128	-.078	-.642	.523
	Reduced %	-.261	.250	-.122	-1.045	.300
	Instruction Mins	-.176	.131	-.154	-1.352	.181
	Attendance	2.294	1.149	.230	1.997	.050
	Curric Survey Full	8.934	3.881	.268	2.302	.025
	Teacher Mobility	.168	.318	.059	.527	.600
	Student Mobility	.315	.236	.156	1.333	.187

[a] Dependent Variable: NJ ASK 3 Math

Hierarchical Regression - NJ ASK Math

The initial simultaneous regression models determined the variable entry order that I utilized to create the hierarchical regression models. Curriculum survey full and attendance were statistically significant in the simultaneous regression model at $p=.025$ and $p=.050$, respectively, and they formed the basis for creating hierarchical models (See Table 13 above).

For the first hierarchical regression model, I loaded my dependent variable Grade 3 Math. Then I loaded in the independent variables, first curriculum for Model 1 and then attendance for Model 2 (See Table 14). The remaining variables were entered into the hierarchical regression model based on their beta weights.

In the hierarchical regression models summary, the predictor variable was

curriculum survey full; and *R* squared was .138, which indicated that 13.8% of the

variance of the NJ ASK 3 Math in the model was explained by curriculum survey full.

The predictor variable curriculum survey full was statistically significant, .001 with

t= 3.3376 and a *B*= .372. The model was statistically significant at *p* = .001 level.

Models 2, 3, and 4 were not statically significant with .058, .171, and .240 levels,

respectively. The positive beta indicates that curriculum survey full has a positive

influence on the NJ ASK 3 Math. As curriculum customization increases, so does the

percentage of students who achieve Proficient or above on the NJ ASK 3 Math test. The

results from the *R* square change suggest that curriculum customization accounted for

13.8% of the model (See Table 14).

Table 14

Model Summary for Hierarchical Regression Model for NJ ASK Math

Model Summary

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	*R* Square Change	*F* Change	*df* 1	*df* 2	Sig *F* Change	Durbin-Watson
1	.372[a]	.128	.126	17.91855	.138	11.397	1	71	.001	
2	.426[b]	.182	.158	17.58528	.043	3.717	1	70	.058	
3	.451[c]	.204	.169	17.47195	.022	1.911	1	69	.171	
4	.469[d]	.220	.174	17.42084	.016	1.405	1	68	.240	1.643

[a] Predictors: (Constant), Curric Survey Full

[b] Predictors: (Constant), Curric Survey Full, Attendance

[c] Predictors: (Constant), Curric Survey Full, Attendance , Instruction Mins

[d] Predictors: (Constant), Curric Survey Full, Attendance , Instruction Mins, Student Mobility

[e] Dependent Variable: NJ ASK 3 Math

Table 15

Annova Table NJ ASK 3 Math

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16122.570	8	2015.321	12.483	.000[b]
	Residual	10332.830	64	161.450		
	Total	26455.401	72			

[a] Dependent Variable: NJ ASK 3 Math
[b] Predictors: (Constant), Student Mobility, Attendance, Instruction Mins, Teacher Mobility, NJ ASK 3 LA, Curric Survey Full, Reduced %, % Free Lunch

Simultaneous Regression: NJ ASK 3 Math with Language Arts Achievement Included

I ran a second model with Language Arts results included because there is a strong correlation between how a student scores on the Math test and how he or she scored on the Language Arts portion. I followed the same analysis as was used in the first simultaneous model, except I added the variable of NJ ASK LA achievement. The Model Summary (Table 16) indicates that the model was significant at the .000 level while the Adjusted R Square change is .561, which mean that 56% of the variance is accounted for with all the variables in the model.

Table 16

Model Summary for All Variables: Simultaneous Regression: NJ ASK 3 Math with ELA Included

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.781[a]	.609	.561	12.70632	.609	12.483	8	64	.000	1.583

[a] Predictors: (Constant), Student Mobility, Attendance , Instruction Mins, Teacher Mobility, NJ ASK 3 LA, Curric Survey Full, Reduced %, % Free Lunch
[b] Dependent Variable: NJ ASK 3 Math

The results from the ANOVA (See Table 17) suggest that $F = 12.483$ and is statistically significant, $p < .000$. This indicates that the predictor variables significantly combine to predict the student achievement on the NJ ASK 3 Math.

Table 17

ANOVA Table of the Variables: Simultaneous Regression: NJ ASK 3 Math with ELA Included

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16122.570	8	2015.321	12.483	.000[b]
	Residual	10332.830	64	161.450		
	Total	26455.401	72			

[a] Dependent Variable: NJASK3 Math
[b] Predictors: (Constant), Student Mobility, Attendance , Instruction Mins, Teacher Mobility, NJ ASK 3 LA, Curric Survey Full, Reduced %, % Free Lunch

While reporting from the coefficient table with VIF scores (See Table 18 below), the following variables were statistically significant: NJ ASK 3 LA, curriculum survey full, and instructional minutes. NJ ASK 3 LA was significant at the .000 level with a beta of .671, curriculum survey full was significant at the .038 level with a beta level of .180, and instructional minutes was significant at the .042 level with a beta of -.171. The positive

beta indicates that as NJ ASK LA scores increased, so did the NJ ASK Math scores. Also, as curriculum customization increased so did the percentage of students who achieved Proficient or above on the NJ ASK 3 Math assessment. The negative beta indicates that as instructional time decreased, so did the NJ ASK 3 Math percentage of students who were scoring at the Proficient level.

Table 18

Coefficient Table with VIF Scores

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients				Correlations			Collinearity Statistics	
	B	Std. Error	Beta	*t*	Sig.	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-27.921	83.458		-.335	.739					
% Free Lunch	.075	.095	.071	.790	.432	-.214	.098	.062	.760	1.315
Reduced %	.026	.184	.012	.139	.890	-.060	.017	.011	.819	1.222
Instruction Mins	-.196	.094	-.171	-2.073	.042	-.150	-.251	-.162	.898	1.114
Attendance	1.038	.847	.104	1.226	.225	.295	.151	.096	.849	1.178
Curric Survey Full	5.993	2.833	.180	2.116	.038	.372	.256	.165	.844	1.185
NJASK 3 LA	.739	.095	.671	7.763	.000	.733	.696	.606	.817	1.224
Teacher Mobility	.103	.230	.036	.449	.655	.117	.056	.035	.926	1.080
Student Mobility	.091	.173	.045	.528	.599	.129	.066	.041	.833	1.201

[a] Dependent Variable: NJ ASK 3 Math

Hierarchical Regression Math – with Language Arts

Hierarchical Models 1 and 2 were statistically significant at .000 and .020, respectively. In Model 1 (See Table 19), the predictor variable was NJ ASK 3 LA; and the R squared for the model was .538, which indicated that 53.8% of the variance of NJ ASK Math in the model was explained by NJ ASK 3 LA. In Model 2, curriculum customization was added and the R squared increased to .572, which indicated that 57% of the variance of the NJ ASK 3 Math was explained by NJ ASK 3 LA and curriculum survey full. The R squared change from Model 1 to Model 2 was .034, which suggests that 3.4% of the variance was now added by the curriculum survey full.

Table 19

Model Summary Hierarchical Regression: Hierarchical Regression Math with Language Arts

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.733[a]	.538	.531	13.12637	.538	82.541	1	71	.000	
2	.756[b]	.572	.560	12.71712	.034	5.643	1	70	.020	
3	.771[c]	.594	.577	12.47087	.022	3.792	1	69	.056	1.552

[a] Predictors: (Constant), NJ ASK 3 LA

[b] Predictors: (Constant), NJ ASK 3 LA, Curric Survey Full

[c] Predictors: (Constant), NJ ASK 3 LA, Curric Survey Full, Instruction Mins

[d] Dependent Variable: NJ ASK3 Math

The ANOVA table confirmed the results were statistically significant (See Table 20). The independent variables entered in the four models predicted the variance in predicting the NJ ASK 3 Math and were statistically significant (Model 1: F=82.541,

df=1, 71, *p*<.000; Model 2: *F*=46.791, *df*=2, 70, *p*<.000; Model 3: *F*=33.702, *df*=3,69,

p=<.000).

Table 20

Hierarchical Regression ANOVA Table

ANOVA[a]

Model		Sum of Squares	*df*	Mean Square	*F*	Sig.
1	Regression	14221.983	1	14221.983	82.541	.000[b]
	Residual	12233.418	71	172.302		
	Total	26455.401	72			
2	Regression	15134.640	2	7567.320	46.791	.000[c]
	Residual	11320.761	70	161.725		
	Total	26455.401	72			
3	Regression	15724.333	3	5241.444	33.702	.000[d]
	Residual	10731.068	69	155.523		
	Total	26455.401	72			

[a] Dependent Variable: NJASK3 Math
[b] Predictors: (Constant), NJASK 3 LA
[c] Predictors: (Constant), NJASK 3 LA, Curric Survey Full
[d] Predictors: (Constant), NJASK 3 LA, Curric Survey Full, Instruction Mins

An analysis of the strength of each predictor variable was provided in the

coefficient table (See Table 21). In Model 1, the predictor variable NJ ASK 3 LA was

statistically significant, .000 with *t*= 9.085 and *B*= .733. This positive beta indicates that

NJ ASK 3 LA has a positive influence on the NJ ASK 3 Math. As NJ ASK 3 LA

increases, NJ ASK 3 Math increases. As an independent variable, NJ ASK 3 LA is a

predictor of the NJ ASK 3 Math because the beta is close to 1 and the closer the beta is to

1, the stronger the prediction power.   In Model 2, the predictor variables NJ ASK 3 LA

and curriculum survey full was statistically significant, .020 with *t*= 2.376 and a *B*= .193,

which is significantly lower than the first model. Model 3 was not statistically

significant.

Table 21

Coefficient Table of Hierarchical Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	24.890	3.836		6.488	.000					
	NJASK 3 LA	.808	.089	.733	9.085	.000	.733	.733	.733	1.000	1.000
2	(Constant)	7.380	8.255		.894	.374					
	NJASK 3 LA	.752	.089	.683	8.424	.000	.733	.710	.659	.931	1.074
	Curric Survey Full	6.412	2.699	.193	2.376	.020	.372	.273	.186	.931	1.074
3	(Constant)	66.772	31.557		2.116	.038					
	NJASK 3 LA	.751	.088	.682	8.578	.000	.733	.718	.658	.931	1.074
	Curric Survey Full	6.460	2.647	.194	2.441	.017	.372	.282	.187	.931	1.074
	Instruction Mins	-.171	.088	-.149	-1.947	.056	-.150	-.228	-.149	1.000	1.000

[a] Dependent Variable: NJ ASK 3 Math

Simultaneous Regression: NJ ASK 3 LA

The model summary (See Table 22 below) indicates that the model was not significant at the .058 level.

Table 22

Model Summary for All Variables

Model Summary

Model	R	R Square	Std. Error of the Estimate	R Square Change	F Change	$df\,1$	$df\,2$	Sig F Change	Durbin-Watson
1	.428[a]	.095	16.55124	.183	2.078	7	65	.058	1.643

[a] Predictors: (Constant), Teacher Mobility, Instruction Mins, Curric Survey Full, Reduced %, Attendance, Student Mobility, % Free Lunch

[b] Dependent Variable: NJASK 3 LA

The ANOVA table (See Table 23) shows that $F = 2.078$ and is not statistically significant at the .058 level. This indicates that the predictor variables combined cannot significantly predict the student achievement on the NJ ASK 3 LA.

Table 23

ANOVA Table of the Variables

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3985.551	7	569.364	2.078	.058[b]
	Residual	17806.327	65	273.943		
	Total	21791.878	72			

[a] Dependent Variable: NJ ASK 3 LA

[b] Predictors: (Constant), Teacher Mobility, Instruction Mins, Curric Survey Full, Reduced %, Attendance, Student Mobility, % Free Lunch

Research Questions and Answers

The overarching research question that was answered is as follows: What is the influence of curriculum customization on student achievement?

1. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3 Mathematics when controlling for school and student demographic factors known to influence achievement?

The *R* squared value of .242 noted in Table 24 below tells the reader that the predictor variables contributes 24.2 % variance to the model. In the first hierarchical regression model, the *R* squared change was .138 when adding the curriculum survey full. This indicated that 13.8 % of the variance in the student achievement was explained by adding curriculum survey full. Furthermore, it was significant at the *p*=.001 level.

Table 24

Model Summary for all variables

Model Summary

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate
1	.492ᵃ	.242	.160	17.56804

ᵃ Predictors: (Constant), Student Mobility, Attendance , Instruction Mins, Teacher Mobility, Curric Survey Full, Reduced %, % Free Lunch

When adding ELA as one of the predictor variables, the results from the hierarchical regression model summary (See table 25) suggest that when including NJ ASK 3 LA with curriculum survey full that the *R* square change is .572, indicating that 57.2 % of the variance of student achievement in NJ ASK 3 Math was explained by NJ ASK 3 LA and curriculum survey full. In Model 1, NJ ASK 3 LA *R* square change is

.538, which equals 53.8% variance. In Model 2, when adding curriculum survey full, the

R square change increases .034, which means 3.4%.

Table 25

Model Summary Hierarchical Regression

Model Summary

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	*R* Square Change	*F* Change	*df* 1	*df* 2	Durbin-Watson
1	.733[a]	.538	.531	13.12637	.538	85.541	1	71	
2	.756[b]	.572	.560	12.71712	.034	5.643	1	70	
3	.771[c]	.594	.577	12.47087	.022	3.792	1	69	1.552

[a] Predictors: (Constant),NJ ASK 3 LA
[b] Predictors: (Constant) NJ ASK 3 LA, Curric Sury Full
[c] Predictors: (Constant) NJ ASK 3 LA, Curric Sury Full, Instruction Mins
[d] Dependent Variable: NJ ASK 3 Math

2. What is the strength and direction of the relationship between curriculum customization at the local level and student achievement on NJ ASK Grade 3 English Language Arts (ELA) when controlling for school and student demographic factors known to influence achievement?

As indicated in Table 26 below, the significance of the model is at the *p*=.058 level. This does not meet the level of significance; therefore, no relationship can be assessed with this model.

Table 26

Model Summary for All Variables

Model	*R*	*R* Square	Adjusted *R* Square	Std. Error of the Estimate	*R* Square Change	*F* Change	*df* 1	*df* 2	Sig *F* Change	Durbin-Watson
1	.428[a]	.183	.095	16.55124	.183	2.078	7	65	.058	1.406

[a] Predictors: (Constant), Teacher Mobility, Instruction Mins, Curric Survey Full, Reduced %, Attendance, Student Mobility, % Free Lunch
[b] Dependent Variable: NJASK 3 LA

3. How much of the variance in NJ ASK 3 test results in English Language Arts (ELA) and Mathematics are explained by curricular customization?

As previously discussed, in the Math hierarchical regression model (Table 14), the *R* squared change was .138 when adding the curriculum survey full. This indicated that 13.8 % of the variance in the student achievement was explained by adding curriculum survey full. Furthermore, it was significant at the *p*=.001 level. As indicated in Table 26 above, Model Summary for all variables LA, it was not significant at the .058 level.

Null Hypothesis Answered

The Null Hypothesis 1 (Ho$_1$) states there is no statistically significant relationship between curriculum quality and students' Language Arts or Mathematics proficiency level on the NJ ASK 3 for the 2009-2010 school year within New Jersey school districts classified with a district factor grouping A, in particular elementary schools with a third grade. After reviewing the results of the study, the findings for NJ ASK 3 Math with LA (which indicated that 13.8 % of the variance in the student achievement was explained by

adding curriculum survey full) were statistically significant at the $p=.001$ level. These data indicate that one can reject the Null Hypothesis 1 (Ho$_1$).

Hierarchical Model 2 was statistically significant at .020. (See Table 19). In Model 2, curriculum customization was added to Language Arts as a predictor variable; and the R squared was .572, which indicated that 57% of the variance of the NJ ASK 3 Math was explained by NJ ASK 3 LA and curriculum survey full. The R squared change from Model 1 to Model 2 was .034, which suggests that 3.4% of the variance was now added by the curriculum survey full. One can reject the Null Hypothesis 1 (Ho$_1$ for Math). Conversely, one can accept the Null Hypothesis 1 (Ho$_1$ for LA). The model summary for the Multiple Regression Model (See Table 22 Above) indicates that the model was not significant at the .058 level.

Furthermore, the findings suggest that I can reject the Null Hypothesis 2(Ho$_2$) for Math achievement due to the results from the ANOVA table (See table 12) for NJ ASK Math without LA, which shows a statistical significance, $p < .009$. This suggests that the predictor variables are statistically significant when combined to predict a portion of the student achievement on the NJ ASK 3 Math. The combination of the predictor variables to predict student achievement on the NJ ASK 3 Math was derived from: student mobility, attendance, instructional minutes, teacher mobility, curriculum survey full, reduced lunch, and free lunch. Attendance was the only student variable that was significant based on the coefficient table (See Table 13), which gave a more fine-tuned explanation. One can submit that poverty, which is empirically proven to be a variable that impacts student achievement, did not show as significant due to the participants in

this study. There was no variance in socioeconomic standing in this study since all schools that participated came from the same District Factor Group (A).

The results from the coefficient table for NJ ASK Math with LA had a number of variables: were statistically significant; NJ ASK 3 LA, curriculum survey full, and instructional minutes. NJ ASK 3 LA was significant at the .000 level with a beta of .671, curriculum survey full was significant at the .038 level with a beta level of .180, and instructional minutes was significant at the .042 level with a beta of -.171. Yet, when I ran them through an H/R model (See Table 19) only Models 1 and 2, which included NJ ASK 3 LA and NJ ASK 3 LA/curriclum were significant at the .000 level and .020 level, respectively.

Finally, I can accept the Null Hypothesis 2(Ho2) for LA. The model summary for the multiple regression model (See Table 22 Above) indicates that the model was not significant at the .058 level.

Summary

NJ ASK 3 LA and curriculum survey full (curriculum customization) accounted for the greatest amount of variance in student achievement connected to the NJ ASK 3 Math. The results from this study suggest that predictor variables NJ ASK 3 LA as well as curriculum survey have a positive impact on student achievement as it pertains to student performance on the NJ ASK 3 Math assessment.

There is no statistical significance when NJ ASK 3 is the dependent variable. The next chapter presents my conclusions from this study and the larger literature base and provides recommendations for practice and policy.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

The Common Core Standards represent the most recent attempt to standardize the curriculum for America's public school children. Government officials claim that standardization is necessary in order for U.S. students to compete globally for jobs. On its face, the implementation of a set of standardized curricular outputs resembles Frederick Taylor's scientific management theory (1947).

The landmark Eight Year Study demonstrated that curriculum could be an entirely locally developed project, unstandardized across schools, and still produce better results in high school and then in college than traditionally standardized curricular programs (Aiken, 1942). The curriculum paradigm (Tanner & Tanner, 2007) suggests three components should be present while developing a quality curriculum: the learner, the nature of knowledge, and social forces. When one examines the development and implementation of the Common Core, all three components are distant from the child.

Curriculum Customization

Wang, Haertal, and Walberg (1993) spoke about curriculum organization and articulation and coined the term *proximal variables*. They submit that curriculum customization becomes most influential when it is more proximal to the student. Curriculum must be designed and developed locally by teachers, administrators, and students who use and experience it to have the greatest influence (Tanner & Tanner, 2007; Tramaglini, 2010; Wang, Haertal, & Walberg, 1993). Wang and Haertal identified design and organization of the curriculum at the local level as two of the strongest administratively mutable variables that affect student achievement. This idea has again

been reinforced with the data from this study. Curriculum customization was found to be a significant predictor variable for student achievement for NJ ASK Math. One can submit that Curriculum Customization was not found to be statistically significant for NJ ASK LA for many reasons, one being that the study did not achieve a significant sample size.

The current educational policy environment is becoming increasing more distal in terms of how policies are developed. More programs are becoming centralized and standardized and less customized at the local level. The Common Core is built at the federal level and is now connected to high-stakes testing. The high-stakes results are beginning to dictate teacher rating and compensations in some states. These factors significantly adjust the use of the Common Core Standards. The Common Core allows the educators flexibility on structure and process, but it locks the educators in to what is taught and the level of student demonstration of learning. The outputs are essentially standardized.

With testing in mind, one must question how authentic the curriculum will be for the diverse communities that make up our country. The curriculum paradigm identifies three components that need to be at the forefront of quality curriculum development: the learner, subject matter, and social forces. The learner needs to be allowed to be an active constructor of meaning, stages of development need to be honored and supported and there needs to be a connection to the content. The subject matter should be problem-based, which allows the students to take ownership of the process, while connecting to socially conscious thinking. Finally, the social forces focus on democracy. Two well-known studies, Pressesin (1985) and Hlebowistch (1987) used this paradigm to evaluate

large scale educational reform programs all the way back in the 1950s and found that the reforms failed due to the gross violations of the paradigm.

While assessing the construction of the Common Core Standards, one could argue that it is missing two of the three components of the paradigm: the learner and democracy. With these two removed, only subject matter remains. When building a curriculum with only the subject matter in mind, it can be connected back to the essentialist mindset based on the narrow definition of academic excellence mastered by subject with high-stakes tests dictating proficiency. The psychometric viewpoint of "All students will be able to . . . " is placed as a benchmark as opposed to "At what point are we receiving the students and how are we going to build their capacity through rich adaptive/interactive curricular opportunities?"

The results of this study reveal that curriculum customization was a statistically significant variable that positively affected student achievement. This means that the more autonomy and the closer the curriculum was developed, designed, and implanted at the local level of DFG A elementary schools, the better the students performed on the high stakes NJ ASK assessment. These results fly in the face of the notion that standards built at the federal level would positively impact achievement in each community. With that said, what should administrators do with these mandates that are already at their school steps**?**

<div align="center">**Implications for Policy**</div>

If given the chance to speak to policy makers, one would submit that based on the vast amount of research ranging from The Eight Year Study to the curriculum paradigm and acknowledging the meta-analysis of research in between, one would argue that

creating policy that allows the members of leadership at the local level to work together to create a strong curriculum is the most supported research-based approach to effectuate change.

As previously stated, the Eight Year Study was an experiment that allowed a select number of high schools across the country to break away from the "cookie cutter" dynamic that people thought would create a competitive student who would excel in college. Moreover, the Eight-Year Study proved that many different forms of secondary curricular design can ensure college success and that the high school need not be chained to a college preparatory curriculum. In fact, students from the most experimental, nonstandard schools earned markedly higher academic achievement rates than their traditional school counterparts and other Progressive-prepared students.

Following this model, creating committees at the local level comprised of educators, school board members, parents, and community leaders will allow for a collaborative exploration and discussion about what is needed in creating a rigorous curriculum for the students that are being served in that community. This aligns with the Curriculum Paradigm in acknowledging the learner, the subject matter, and the social forces present in each community.

This curriculum would allow the students to use the schema that they bring to the classroom in order to develop an understanding of new material. That is when real learning occurs. If one argues on accountability when creating curriculum such as this, one can look at portfolio assessments or performance-based assessments to create an authentic look at the curriculum and learning that is taking place. Formalized assessments are easier to create and score, but that does not mean that they create an

accurate assessment of the learning that takes place over a school year. A performance assessment, according to Annenberg (1990) is defined as follows:

> A performance assessment is one which requires students to demonstrate that they have mastered specific skills and competencies by performing or producing something. Advocates of performance assessment call for assessments of the following kind: designing and carrying out experiments; writing essays which require students to rethink, to integrate, or to apply information; working with other students to accomplish tasks; demonstrating proficiency in using a piece of equipment or a technique; building models; developing, interpreting, and using maps; making collections; writing term papers, critiques, poems, or short stories; giving speeches; playing musical instruments; participating in oral examinations; developing portfolios; developing athletic skills or routines, etc. (Annenberg, 1996, p. 1).

Creating assessment opportunities from this in-depth list allows teachers and building-level administrators to gain a comprehensive understanding of the learners in their classroom. This can be a thoughtful and effective process in getting the children of America "college and career ready."

High-stakes tests are not going away. If used correctly, assessment data from these tests can be used to identify students' strengths and struggles aligned with the standards set forth for the appropriate grade level. That being said, one must understand the appropriate use of these data opportunities. The *Standards for Educational and Psychological Testing* (1999) created by the American Psychological Association, the American Educational Research Association, and the National Council on Measurement

in Education, present a number of principles that are designed to promote fairness in testing and avoid unintended consequences. They include the following:

- Any decision about a student's continued education, such as retention, tracking, or graduation, should not be based on the results of a single test, but should include other relevant and valid information.

- When test results substantially contribute to decisions made about student promotion or graduation, there should be evidence that the test addresses only the specific or generalized content and skills that students have had an opportunity to learn. For tests that will determine a student's eligibility for promotion to the next grade or for high school graduation, students should be granted, if needed, multiple opportunities to demonstrate mastery of materials through equivalent testing procedures.

- When a school district, state, or some other authority mandates a test, the ways in which the test results are intended to be used should be clearly described. It is also the responsibility of those who mandate the test to monitor its impact, particularly on racial and ethnic-minority students or students of lower socioeconomic status, and to identify and minimize potential negative consequences of such testing.

- In some cases, special accommodations for students with limited English proficiency may be necessary to obtain valid test scores. If students with limited English skills are to be tested in English, their test scores should be interpreted in light of their limited English skills. For example, when a student lacks proficiency in the language in which the test is given (students for whom

English is a second language for example), the test could become a measure of their ability to communicate in English rather than a measure of other skills.

- Likewise, special accommodations may be needed to ensure that test scores are valid for students with disabilities. Not enough is currently known about how particular test modifications may affect the test scores of students with disabilities; more research is needed. As a first step, test developers should include students with disabilities in field testing of pilot tests and document the impact of particular modifications (if any) for test users.

As one can see, if the authorities mandating the tests do not account for appropriate use of data and testing experiences, the very tool used to assess and improve educational experiences could have an adverse affect on the population which it is trying to support.

Having all stakeholders involved in curriculum development and assessment building, enhances the communication happening at the local level during the development of a five-year strategic plan. When developing this plan, the stakeholders can take into account the learning that will take place and make decisions that will positively impact the outcome, such as purchases of materials, professional development plans, facility enhancements, etc.

In addition to allowing local-level leaders the opportunity to develop a relevant and effective curriculum for the constituents they serve, one should look at the significant impacts that poverty has on the educational attainment of our youth. Poverty was a major factor in this study. Poverty has been a "hot button" topic of politicians in every political race and forum, and a number of policies have been created in order to distribute money

to schools in order to "fix" the problem. The *Abbott v. Burke* ruling "covered 31 low-wealth, urban school districts, some of which, like Camden and Newark, are among the poorest in the United States. To ensure the children in these schools a 'thorough and efficient' education, as required by the New Jersey Constitution, the Abbott rulings directed implementation of a comprehensive set of improvements, including adequate K-12 foundational funding, universal preschool for all 3- and 4-year old children, supplemental or at-risk programs and funding, and school-by-school reform of curriculum and instruction" (Education Law Center, 2012).

Some look at this as a thorough approach to remediate the inequities with which a child in poverty is confronted on a daily basis. Scherrer (2014) goes into great detail about the flaw in this thought process. Throwing money at the problem only provides surface relief but does not get to the heart of the problem. He goes into detail about the difference between resource-based perspective of the issue; i.e, providing vast amounts of resources, money, and equipment to students of poverty with the expectations that it will automatically make them college and career ready. Scherrer also goes into detail about capabilities perspective, focusing on the factors that cause the acknowledged disparity between the students who suffer from poverty and those in the middle class.

The Annenberg Institute and the Gates Foundation poured millions of dollars into the resource-based perspective. It is suggested that the capabilities perspective be further researched with regard to impact of educational attainment of students in poverty. Monetary allotment needs to be thoughtfully distributed with the capabilities perspective in mind; i.e., healthcare in schools, parental capacity building, exposure and training on higher education opportunities. One must consider these outside factors as they impact

educational attainment. Poor health affects the students' capability to learn (Bradley &

Corwyn, 2002; Currie, 2009). Schools that have placed health clinics in the school have

resulted in improved high school attendance, academic outcomes, and graduation rates

(Walker, Kerns, Lyon, Bruns, & Cosgrove, 2010).

Noguera and Wells (2011, p. 11) notes that there exists substantial evidence that

concentrated poverty impacts performance at school in at least three important ways: (a)

students' academic supports outside of school; e.g., access to tutors, summer enrichment

camps, homework support; (b) conditions that influence students' health, safety, and

wellbeing; for example, access to health care and quality preschool experience; and

conditions that influence the parent and school to develop social capital; for example, a

dearth of potential partner organizations in certain communities. They go on to explain

that there is a collective impact that can take place if the important actors come together

and work toward a common goal. Educating the students who struggle in poverty is not

the sole responsibility of the school. It should be a collective effort of the school,

community, and parents to build the capacity of all involved.

Implications for Practice

This study focused on curriculum customization and how it affected student

achievement in lower socioeconomic elementary schools, specifically at the third grade

level. The results are not meant to be generalized to a larger population, but to inform

researchers, practitioners, and policy makers during this time of educational reform.

School-level administrators should consider the importance of curriculum

customization. School administration in New Jersey are charged with implementing the

Common Core Standards that dictate the objectives/leanings that each student is to

achieve at each grade level. School administrators need to build the capacity of their teachers in a number of ways: understanding of the standards, ability to execute them effectively, and awareness that the teacher can have autonomy to deliver them in a fashion that can connect to the learner. This responsibility is immense.

Now more than ever the administrative team consisting of building-level leadership and other district level curricular support need to be cognizant of the existing research pertaining to proximal forces that affect curriculum quality. The team needs to be aware and follow the mandates of the Common Core, yet be strategic and intentional with the development of the curriculum and the activities aligned with the curriculum. Professional development should focus on the effective strategies that allow students to take ownership of their learning, collaborate with their peers, and explore and discover the essential understanding set forth by the "educational" leaders that created the Common Core. Creating activities that connect the learning to the environment or understanding with which the population is familiar increases the possibility of the students' retention and understating of the material.

Professional development cannot be the sole support that builds that capacity of the teaching staff in implementing rich, rigorous instruction that aligns with the expectations set forth by the Common Core Standards. Creating Professional Learning Communities (PLC) in the building allows teachers to collaborate with a purpose. It takes administrative creativity and oversight to get this project off the ground.

During this time in education, "Not enough time" is the perennial war cry. The school-level administrator needs to assess the schedule, faculty meeting usage, etc., in order to be creative in maximizing the time and making it as productive as possible.

Once the teachers are able to have recurring uninterrupted time, it is up to the administrator to educate the teachers on the norms and functioning of a proper Professional Learning Community.

Richard Dufour (2004) submits that every professional in the building must engage with colleagues in the ongoing exploration of three crucial questions that drive the work of those within a professional learning community:

- What do we want each student to learn?

- How will we know when each student has learned it?

- How will we respond when a student experiences difficulty in learning?

These questions should drive the purpose and focus of every Professional Learning Community. This is a time that teachers come together with a common goal and work together in order to understand and implement the teaching into their classroom. The teachers can unpack the standards, speak about instructional strategies, share student work, and reflect on teaching. This is where true learning occurs. When the teachers feel as though it is their mission/purpose is when there is true "buy in" and commitment to product.

Prior to teachers breaking out in Professional Learning Communities, the school-based instructional leaders need to allocate time to teaching the teachers about the new expectations set forth in the Common Core. This is a monumental task, to say the least, but something that needs to be done in order for teachers to gain a sense of clarity on the expectations, learning outcomes, and levels of rigor that are embedded in the Common Core.

The first step in taking on such a task is to "unpack the standards." This activity promotes a deeper analysis of the standards by asking participants to consider what students need to know and be able to do to demonstrate mastery of the standard. The activity provides an opportunity for reflection by comparing and contrasting the expectations of a standard with one's current curriculum. This is an important experience because it also allows for the identification of professional development/ resources needed to implement each standard. During the "unpacking process" the teachers take an inventory on what they are currently doing in the classroom and how it fits the expectations. Also, this leads to valuable collaboration amongst content/grade level partners to share ideas, resources, and instructional strategies that meet the standards.

This activity is a strong foundation for future activities of collaborating about content, process, and product. This is a logical first step in creating relationships, trust, and interests that will drive the Professional Learning Communities (PLC) throughout the year. The PLC topics can be a result of questions/interests that are triggered by the understanding of the new standards and where to go from there.

The school-level administrator needs to be cognizant of nurturing the PLC's by providing time, feedback, and resources for it to thrive. As previously stated, the administrator needs to be strategic in meeting time and follow up opportunities so the PLC consistently meets and creates worthwhile experiences for the teachers to stay committed to the group.

Tienken and Orlich (2013) present the argument that the Common Core Standards raise concern pertaining to Vygotsky's (1979) "zone of proximal development." When auditing the standards, some of the kindergarten standards are within this "zone," while

some are not. It is yet to be understood if the expectation is to master all of the standards.

This will only come to light with more explanation and the mandated assessment tool that

has been aligned with these standards.

Tienken and Orlich (2013) suggest that to make the Common Core Standards

relevant to the population one is serving, curriculum leaders need to "develop challenging

curriculum and assessments that capitalize on the local strengths, address local needs, and

prepare the students for the global world, but those standards should be based on what is

known about cognitive development. The curriculum should reflect the broad goals that

the general public, school board members, and state legislators identify as being

important."

Rothstein, Jacobsen, and Wilder (2008) detailed what the aforementioned broad

goals should focus on "basic academic skills and knowledge, critical thinking,

appreciation for arts and literature, preparation for skilled employment, social skills and

general work ethic, citizenship, and physical and emotional health." These seem

synonymous with 21st century learning without the constriction of identifying exactly

what needs to be taught and to what level of proficiency. Rothstein et al. (2008) focused

more on learning behaviors.

<div align="center">**Recommendations for Future Research**</div>

This research adds to the extant literature on the influence of curriculum

customization on student achievement. Tramaglini (2010) focused on this in part of his

comprehensive high school study, but this is the first at the elementary level. One study

cannot provide all of the answers related to curriculum customization aligned to student

achievement. In order to add more to the existing literature base, it is important to conduct future research on the following topics:

1. Recreate this study using different District Factor Groups within New Jersey.

2. Recreate this study in other states and at the national level and compare the findings.

3. Conduct a study on teacher perception of Common Core Standards and how it affects instructional delivery in the classroom.

4. Conduct a study after Common Core Standards have been implemented on the increase/decrease of student achievement compared to state designated standards of academic learning.

5. Conduct a longitudinal study following students who have been exposed to Common Core since the beginning of their schooling and compare academic achievement to students who completed schooling prior to implementation.

6. Conduct a longitudinal study on the achievement of schools that utilized the model curriculum provided by the state compared to those who did not as it pertains to high-stakes testing.

Conclusion

Nelson Mandela once said, "Education is the most powerful weapon which you can use to change the world."   The purpose of this study was not to stifle progress or reform but to encourage policy makers to think and respect the extant research base when making significant reforms that will affect the heterogeneous population that makes this

country so great. In our quest for internationally academic supremacy, we need to

identify and acknowledge what is working and build on that as well as adjust what is not,

without "throwing out the baby with the bathwater."

References

Abadzi, H. (2007). *Absenteeism and beyond: Instructional time loss and consequences.* World Bank Policy Research Working Paper Series No. 4376. Retrieved from http://www.openknowledge.worldbook.org/handle/10986/7569License:CCBY3.0

Au, W. (2007). High stakes testing and curricular control: A qualitative metasynthesis. *Educational Researcher*, *36*(5), 258-267.

Aiken, W.M. (1942). *The story of the Eight Year Study*. New York, NY: Harper.

Averch, H. A., Carroll, S. J., Donaldson, T. S., Keilsing, H. J., & Pincus, J. (1974). *How effective is schooling? A critical review of research*. Englewood Cliffs, NJ: Educational Technologies Platform.

Baines, L. (2011, September 16). Stalinizing American education. *Teachers College Record*. Retrieved from http://www.tcrecord.org

Barrington, B., & Hendricks, B. (1989). Differentiating characteristics of high school graduates, dropouts, and nongraduates. *The Journal of Educational Research*, *82*, 309-319.

Berliner, D. C. (2006). Our impoverished view of educational reform. *Teachers College Record*, *108*(6). Retrieved from http://www.tcrecord.org/content.asp?contentid=12106

Boohner-Jennings, J. (2005). Below the bubble: "Educational triage" and the Texas accountability system. *American Educational Research Journal*, *42*(2), 231-268.

Boyd, D. J., Lankford, H., Loeb, S. & Wyckoff, J. H. (2005). Explaining the short careers of high-achieving teachers in schools with low-performing students. *American Economic Review*, *95*(2), 166–71.

Bracey, G. (2003). *Setting the record straight: Responses to misconceptions about American public education*. Portsmouth, NH: Heinemmen.

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology*, *53*, 371–399.

Bruner, J. (2009). *The process of education*. (Revised edition, Vol. 4). Cambridge, MA: Harvard University Press.

Bryant, E. C., Glazer, E., Hansen, M. A, & Kirsch, A. (1974). *Associations between education outcomes and background varibales*. Denver, CO: National Assessment of Educational Progress.

Callahan, R. E. (1962). *Education and the cult of efficiency: A study of the social forces that have shaped the administration*. Chicago, IL: University of Chicago Press.

Campbell, D.T. (1976). *Assessing the impact of planned social change*. Hanover, NH: The Public Affairs Center, Dartmouth College.

Center for Educational Policy. (2008, February 8). Instructional time in elementary schools: A closer look at change for specific subjects. Retrieved from http://www.arteducators.org/research/instructionTimeFeb2008.pdf

Clark, D., & Linn, M. C. (2003). Designing for knowledge integration: The impact of instructional time. *The Journal of the Learning Sciences*. *12*(4), 451-493.

Clotfelter, C.T., Ladd H., & Vigdor, J. (2005). Who teaches whom? Race and the distribution of novice teachers. *Economics of Education Review*, *24*(4), 377–92.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed). Hillsdale, NJ: Erlbaum.

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

Coleman J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, *94*, S95-S120.

The Columbus Foundation. (2003). *Columbus public schools student mobility research project report*. Columbus, OH: The Columbus Foundation Community Research Partners.

Coutts, D. (1998). How to better track effective school indicators: The control chart techniques. *American Secondary Education*, *27*, 2- 10.

Cox, D.D. (2007). *Improving high school students' reading achievement: A study of the organizational structures in high schools that most support improved student achievement in reading*. (Doctoral dissertation). Retrieved from ProQuest Digital Dissertations database (Publication No. AAT 3250486).

Crompton, S. (2007). *Sputnik/explorer: The race to conquer space*. New York, NY: Chelsea House Publishing.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, *16*, 297-334.

Crotteau, R. A. (2002). *The combined effect of ability and format of instruction on Algebra I achievement: A study of the superiority of accelerated block scheduling over traditional scheduling as moderated by student ability*. (Doctoral dissertation). Retrieved from ProQuest Digital Dissertations database (Publication No. AAT 3056466).

Currie, J. (2009). Healthy, wealthy, and wise: Socioeconomic status, poor health in

    childhood, and human capital development. *Journal of Economic Literature*, *47*,

    87–122.

Dauber, S. L., Alexander, K. L., & Entwisle, D. R. (1996). Tracking and transitions

    through the middle grades. Channeling educational trajectories. *Sociology of*

    Education, *69*, 290-307.

DeKalb, J. (1999). Student truancy. Eugene, OR: ERIC Clearinghouse on Educational

    Management (ERIC No. ED429334).

Dewalt, M. W., & Rodwell, F. (1988). Effects of increased learning time in remedial

    math and science. *ERS Spectrum*, *6*(1), 33-36.

Devaney, B. L., Ellwood, M. R., & Love, J. M., (1997). Programs that mitigate the

    effects of poverty on children. *Future of Children*, *7*(2), 88-108.

Duncan, O. D., Featherman, D. L., & Duncan, B. (1972). *Socioeconomic background* and

    achievement. New York, NY: Seminar Press.

Eddy, L. (2011). *The effect of student mobility on student achievement*. (Doctoral

    dissertation). Retrieved from http://uknowledge.uky.edu/gradschool_diss/177

Education Law Center. (2012, May 22). NJDOE intent on closing schools serving

    students of color. Retrieved from http://www.edlawcenter.org/

    newsarchives/other-issues/njdoe-intent-on-closing -schools-serving-students-of-

    color1.html

Feng, L., & Sass, T. (2011, January). *Teacher quality and teacher mobility* (Working

    Paper 57). Washington, DC: National Center for Analysis for Longitudinal Data

    in Educational Research.

Feng, L. (2009). Opportunity wages, classroom characteristics, and teacher mobility. *Southern Economic Journal*, *75*(4), 1165–90.

Feng, L. (2010). Hire today, gone tomorrow: New teacher classroom assignments and teacher mobility. *Education Finance and Policy*, *5*(3), 278–316.

Feng, L. (2011, January). Teacher placement, mobility, and occupational choices after teaching. *Education Economics*, 1-24.

Food and Nutrition Service. (2008). *Program fact sheet*. Alexandria, VA: U.S. Department of Agriculture. Retrieved from http://www.fns.usda.gov/cnd/Lunch/

Frankel, E., & Forlano, G. (1967). Mobility as a factor in the performance of urban disadvantaged pupils on tests of mental ability. *Journal of Educational Research*, *60*(8), 355-358.

French, W. (1955). *Education for all*. New York, NY: The Odyssey Press.

Gallagher S., & Stepein, W. (1996, April) Content acquisition in problem-based learning: Depth versus breadth in American studies. *Journal for Education of the Gifted*, *19*(3), 257-275.

Gamoran, A., & Long, D. A. (2006) *Equality of educational opportunity: A 40-year retrospective* (WECER Working Paper No. 2006-2009). Madison, WI: University of Wisconsin-Madison, Wisconsin Center for Educational Research. Retrieved from http://www.wcer.wise.edu/publications/workingpaper/papers.php

Gay, L. R., Mills, G., & Airasian, P. (2009). *Educational research: Competencies for analysis and applications*. (9th ed.). Upper Saddle River, NJ: Pearson.

Goldhaber, D. (2002, Spring). The mystery of good teaching. *Education Next*, *2*(1). Retrieved from http://educationnext.org

Goldhaber, D., Choi, H, & Cramer, L. (2007). A descriptive analysis of the distribution of NBPTS-certified teachers in North Carolina. *Economics of Education Review*, *26*(2),160–72.

Gottfried, A. (1985, January). Measures of socioeconomic status in child development research: Data and recommendations. *Merrill-Palmer Quarterly*, *31*(1), 85-92.

Green, S. B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioral Research*, *26*, 499-510.

Green, J. L. (2006). *Handbook of complementary methods in education research*. Mahwah, NJ: Lawrence Erlbaum Associates.

Gunderson, G. W. (2003). *The national school lunch program: Background and developmen*t. New York, NY: Nova Science.

Hanushek, E., Kain, J., & Rivkin, S. (2004). Why public schools lose teachers. *Journal of Human Resources*, *29*(2).

Hanushek, E., Kain, J., O'Brien, J. & Rivkin, S. (2005). *The market for teacher quality* (NBER Working Paper 11154). Cambridge, MA: National Bureau of Economic Research.

Harwell, M., & LeBeau, B. (2010). Student eligibility for a free lunch as an SES measure in education research. *Educational Researcher*, *39*, 120-131.

Hauser, R. M. (1994) Measuring socioeconomic status in studies of child development. *Child Development*, *65*(6), 1541-1545.

Hauser, R. M., & Warren, J. R. (1997). Sociological indexes for occupations: A review update, and critique. *Sociological Methodology*, *27*, 177-298.

Heller, R. W. (1969). The Coleman Report Revisited. *Urban Education*, *4*(1),41-54.

Holley, C. E. (1916). *The relationship between persistence in school and home conditions*. Chicago, IL: University Press.

Hong, H. (2012). Trends in mathematics and science performance in 18 countries: Multiple regression analysis of the cohort effects of TIMSS, 1995-2007. *Education Policy Analysis Archives*, *20*(33).

Howe, K., & Berv, J. (2000) Constructing constructivism, epistemological and pedagogical. In D. Phillips (Ed.). *Constructivism in education* (pp. 19-40). Chicago, IL: University of Chicago Press.

Imazeki, J. (2005). Teacher salaries and teacher attrition. *Economics of Education Review, 24*(4), 431-449.

Ingersoll, R. (2001). Teacher turnover and teacher shortages: An organizational analysis. *American Educational Research Journal*, *38*(3), 499-534.

James-Burdumy, S., Perez-Johnson, I., & Vartivarian, S. (2008). *High school reform in Boston public schools: The effect of focus on high schools on student academic outcomes*. Princeton, NJ: Mathematical Policy Research.

Jencks, C., Smith, M., Acland, H., Bane, M.S., Cohen, D., & Gintis, H. (1972). *Inequality: A reassessment of the effects of family and schooling in America.* New York, NY: Basic Books.

Johnson, R. B. (2001). Toward a new classification of nonexperimental quantitative research. *Educational Researcher*, *30*(2), 3-13.

Kyle, W. C., & Shymansky, J. A. (1983). The effects of new science curricula on student performance. *Journal of Research in Science Teaching*, *20*, 387-404.

Lankford, H., Loeb S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools. A descriptive analysis. *Educational Evaluation and Policy Analysis 24*(1), 37–62.

Linn, R. L. (2003). 2003 Presidential address: Accountability, responsibility, and reasonable expectations. *Educational Researcher*, *32*(7), 3-13.

Litwin, M. S. (1995). *How to measure survey reliability and validity*. Thousand Oaks, CA: Sage.

Long, L. H. (1992). International perspectives on the residential mobility of America's children. *Journal of Marriage and the Family*, *54*, 861-869.

Lubienski, S. T., & Lubienski, C. (2006). School sector and academic achievement: A multilevel analysis of NAEP mathematics data. *American Educational Research Journal*, *43*, 651-698.

Lynd, R. S., & Lynd, H. M. (1929). *Middletown: A study of American culture*. New York, NY: Harcourt Brace.

Mantzicopoulos, P., & Knutson, D. J. (2000). Head Start children: School mobility and achievement associated with mobility in military families. *Psychology in the Schools*, *24*, 289-294.

Marzano, R. (2007). *The art and science of teaching: A comprehensive framework for effective instruction*. Alexandria, VA: Association for Supervision of Curriculum Development.

Maxwell, L. (2008). Student mobility in N.Y.C. *Education Week*, *27*(32), 5.

McMurrer, J. Instructional time in elementary schools: A closer look at changes for

specific subjects. *Arts Education Policy Review*, 23-28. Retrieved from

http://www.arteducators.org/research/InstructionalTimeFeb2008.pdf

Michel, A (2004), *What is the relative influence of teacher educational attainment on

students NJ ASK 4 scores?* Seton Hall University Dissertations and Theses

(ETDs). Paper 1759.

Mueller, C. W., & Parcel, T. L. (1981). Measures of socioeconomic status: Alternatives

and recommendations. *Child Development*, *52*(1).

Nelson, P. S., Simoni, J. M., & Adelman, H. S. (1996). Mobility and school functioning

in the early grades. *Journal of Educational Research*, *89*(6), 365-369.

National Governors Association Center for Best Practices & Council of Chief State

School Officers. (2010). Common Core State Standards. Washington, DC:

Author.

New Jersey Department of Education (2006). New Jersey School Report Card. Retrieved

from http://www.state.nj.us/education

Noguera, P., & Wells, L. (2011). The politics of school reform: A broader and bolder

approach for Newark. *Berkeley Review of Education*, *2*, 5–25.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd. Ed). New York,

NY: McGraw-Hill.

Oakes, J. M., & Rossi, P. H. (2003). The measurement of SES in health research: Current

practice and steps toward a new approach. *Social Science and Medicine*, *56*, 769-

784.

Paredes, V. (1993, April). *A study of urban student mobility*. Paper presented at the

annual meeting of the American Educational Research Association, Atlanta, GA.

Pedhazur, E. J. (1997). *Multiple regression in behavioral research: Explanation and

prediction* (3rd ed.). Belmont, CA: Wadsworth.

Pentz, M. A., Trebow, E. A., Hanson, W. B., Mackinnon, D. P., Dwyer, J. H., Johnson,

C. A. (1990). Effects of program implementation on adolescent drug use

behavior. The Midwestern Prevention Project (MPP). *Evaluation Review*, *14*,

264-289.

Popkewitz, T. (1997) The production of reason and power: Curriculum history and

intellectual traditions. *Journal of Curriculum Studies*, *29*(2), 131-164.

Powers, M. G. (1982). Measures of socioeconomic status: An introduction. In M.G

Powers (Ed.), *Measures of socioeconomic status: Current issues* (pp. 1-28).

Boulder, CO: Westview.

Ralston, R., Newman, C., Clauson, A., Githrie, J., & Buzby, J. (2008, July). The national

school lunch program: Backgrounds, trends and issues. *ERS Summary.* Retrieved

from http://www.ers.usda.gov

Resnick, L.B. (1987). Introduction. In L.B. Resnick (Ed.), *Knowing, learning, and

instruction: Essays in honor of Robert Glaser* (pp.1-24) Hillsdale, NJ: Erlbaum.

Reynolds, A. J., & Walberg, H. J. (1992, July). A process model of mathematics

achievement and attitude. *Journal of Research in Mathematics Education*, 23(4).

Robins, L., & Ratliff, K. (1978). *Long range outcomes associated with school truancy.*

Washington, DC: Public Health Service.

Roby, D. (2003). Research on school attendance and student achievement: A study of
Ohio schools. *Educational Research Quarterly*, *28*(1), 4-15.

Rumberger, R. W., Larson, K. A., Palardy, G. J., Ream, R. K., & Schleicher, N. C.
(1998). *The hazards of changing schools for California Latino adolescents*.
Berkley, CA: UC Berkley, Institute for the Study of Social Change, Chicano/Latin
Policy Project.

Scafidi, B., Sjoquist, D. L., & Stinebrickner, T. R. (2007). Race, poverty, and teacher
mobility. *Economics of Education Review*, *26*(2), 145–59.

Scherrer, J. The role of the intellectual in eliminating the effects of poverty: A response
to Tierney. *Educational Researcher*, *43*, 210-207. Retrieved from
http://er.aera.net

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic
review of research. *Review of Educational Research*, *75*, 417-453.

Smith, J., Fien, H., & Paine, S. (2008). When mobility disrupts learning. *Educational
Leadership*, *65*(7), 59-63.

Straits, B. C. (1987). Residence, migrations, and school progress. *Sociology of Education*,
60, 34-43.

Strand, S., & Demie, F. (2007). Pupil mobility, attainment, and progress in secondary
school. *Educational Studies*, *33*(3), 313-331.

Tanner, D. (1982). The comprehensive high school in American education. *Educational
Leadership*, *39*, 606-608.

Tanner, D., & Tanner, L. (2007). *Curriculum development: Theory into practice*. (4th
ed.). Upper Saddle River, NJ: Pearson.

Taylor, F. W. (1947). *Scientific management*. New York, NY: Harper and Brothers.

Temple, J., & Reynolds, A. J. (2000). School mobility and achievement: Longitudinal findings from an urban cohort. *Journal of School Psychology*, *37*, 355-377.

Tienken, C. H. (2008). Rankings of international achievement test performance and economic strength: Correlation and conjecture. *International Journal of Education Policy and Leadership*, *3*(4), 1-15.

Tienken, C., & Donald, O. (2013). *The school reform landscape: Fraud, myth, and lies*. Plymouth, UK: Rowman and Littlefield Publishers.

Titus, D. (2007). Strategies and resources for enhancing the achievement of mobile students. *NASSP Bulletin*, *91*(1), 81-97.

Tobin, K. G. (1987). The role of wait time in higher cognitive level learning. *Review of Educational Research*, *57*, 69-95.

Tramaglini, T. (2010) *Student achievement in lower SES high schools*. (Unpublished doctoral dissertation). Rutgers University, New Brunswick, NJ.

Tymms, P. B. (1996). Toe on the baseline. *The Times Educational Supplement*, *4185*, 12-13.

U.S. Department of Education. (2000). *The condition of education 2000*. (NCES 2000-602). Washington, DC: National Center of Educational Statistics.

Vygotsky, L. (1979). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Walker, S. C., Kerns, S. E. U., Lyon, A. R., Bruns, E. J., & Cosgrove, T. J. (2010). Impact of school-based health center use on academic outcomes. *Journal of Adolescent Health*, *46*, 251–257.

Walpole, M. (2003, Fall). Socioeconomic status and college: How SES affects college experiences and outcomes. *Review of Higher Education*, *27*(1), 45-73.

Wang, M. C., Haertel, G. D., & Walberg, H. J. (1993). Toward a knowledge base for school learning. *Review of Educational Research*, *63*(3), 249-294.

Wheat, D. (1997). *Raising student attendance* (Issue Paper prepared for Thomas Jefferson Institute for Public Policy). Fairfax Station, VA: Thomas Jefferson Institute for Public Policy.

White, K. R. (1982). The relation between socioeconomic status and academic achievement. *Psychological Bulletin*, *91*, 461-481.

Wiley, D. (1973). Explosion of a myth: Quantity of schooling and exposure to instruction, major educational vehicle. *Educational Researcher*, *3*(4), 7-12.

Zhao, Y. (2009). *Catching up or leading the way: American education in the age of globalization*. Alexandria, VA: ASCD.

APPENDIX A

CURRICULUM QUALITY SURVEY

Curriculum Design

1. Adequate attention is given to scope and sequence of the total school curriculum.

   ____a. Strongly in evidence

   ____b. Some evidence

   ____c. Little or no evidence

   ____d. Evidence to the contrary

2. At the elementary level, the curriculum in general education is designed to meet the needs of a heterogeneous student population.

   ____a. Strongly in evidence

   ____b. Some evidence

   ____c. Little or no evidence

   ____d. Evidence to the contrary

3. Curriculum articulation is developed horizontally (between and among subject fields) and vertically (from grade level to grade level and from school to school within the district).

   ____a. Strongly in evidence

   ____b. Some evidence

   ____c. Little or no evidence

   ____d. Evidence to the contrary

4. Statements of educational objectives emphasize the development of higher thinking abilities, in which facts and skills are put to meaningful use.

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

5. The professional staff gives concerted attention to the "general design" of the school curriculum.

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

6. The design of the curriculum serves as a useful resource for lesson design and implementation.

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

7. Curriculum design is a reflection of a system that includes the voices of all

teachers, not just one curriculum writer.

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

8. The scope of all curriculum reflects goals and objectives beyond mandated core curriculum content standards.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

Curriculum Development

1. Teachers and supervisors under the leadership of the director of curriculum [or other school leader] are engaged in continuous and systematic curriculum development.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

2. The responsibility for the curriculum, including the selection and use of curricular materials, resides with the professional staff, not with any external source or special-interest group.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

3. The [curriculum] committee is provided with the needed time for appropriate curriculum development

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

4. A standing curriculum committee is in operation in the school, devoting its efforts to curriculum articulation and to the development of promising programs for educational improvement.

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

5. Curriculum development is treated as a problem-solving process involving the entire professional staff of the school and the school district.

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

6. Stakeholders such as students, parents and Board of Education members work with professional staff on curriculum development.

____a. Strongly in evidence

____b. Some evidence

____c. Little or no evidence

____d. Evidence to the contrary

Forces That Influence Curriculum

1. Standardized tests are used appropriately and do not mitigate a balanced and rich curriculum.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

2. The balance and coherence of the curriculum is maintained in the face of any

    special priorities that may be established for the school.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

3. The textbook does not determine the course of study, but is used along with a rich variety of curricular materials, resources, and activities for productive learning.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

4. Standardized tests are used for diagnostic purposes, not for purposes of determining student grades or for segregating students into different classes.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

5. The curriculum is aligned to multiple performance outcomes, not just proficiency on statewide assessments.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

6. Benchmark assessments are utilized several times per year to provide data that drives curriculum and instruction.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary

7. Results from student assessment of curricular goals on statewide assessments are utilized to place students in courses.

    ____a. Strongly in evidence

    ____b. Some evidence

    ____c. Little or no evidence

    ____d. Evidence to the contrary