# A COMPARATIVE STUDY OF READING ACHIEVEMENT OF FLORIDA'S STUDENTS 2002 TO 2013

By

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To Charles, for his unconditional love and support

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| | |
|---|---|
| AMO | Annual Measurable Objectives. The targets set yearly for each school and group in Florida to reduce by 50% the proportion of students scoring below level three on FCAT 2.0 in reading and math and below level 4 on the Florida Alternate Assessment (FAA) in reading and math by 2016-17, using 2010-11 as the baseline. All schools and groups are evaluated annually about meeting these targets (Florida Department of Education, 2013i). |
| AYP | Adequate Yearly Progress. A means of measuring and reporting annual progress made by public school students in core subjects as demonstrated on standardized assessments (United States Department of Education, 2010). |
| CCSS | The Common Core State Standards. A nationally standardized criteria for k12 educational content in each subject area. The CCSS are to be fully implemented with the beginning of the 2013-14 school year (Florida Department of Education, 2013b). |
| DQC | Data Quality Campaign. A Washington, DC, based organization that supports the development and effective use of statewide longitudinal data systems (Data Quality Campaign, 2013a). |
| DSS | Developmental Scale Score. A measure of student's achievement on FCAT considering expectations for progression through the grade levels (Florida Department of Education, 2013m). |
| ELL | English Language Learner. A designation of students who are learning English as a second language (Florida Department of Education, 2013e). |
| EOC | End of Course examinations. Subject area assessments to determine student achievement levels in some subject areas and grade levels (Florida Department of Education, 2013m). |
| ESE | Exceptional Student Education. Educational program for students with exceptional educational needs that may be cognitive, emotional, or physical (Florida Department of Education, 2013e). |
| ESEA | Elementary and Secondary Education Act. An act passed in 1965 that emphasizes equal access to education, establishes high standards and accountability, and authorizes federally funded education programs that are administered by the states. In 2002, Congress amended ESEA and reauthorized it as the No Child Left Behind Act (NCLB) (United States Department of Education, 2010). |

| | |
|---|---|
| ESOL | English for Speakers of Other Languages. An educational program for ELL students (Florida Department of Education, 2013e). |
| FAA | Florida Alternative Assessment. An assessment designed for ESE students whose participation in the general statewide assessment (FCAT, FCAT 2.0, and EOC) is not appropriate even with accommodations (Florida Department of Education, 2013n). |
| FCAT | Florida Comprehensive Assessment Test. A test of student achievement administered annually to students in Florida's public schools in selected grades and subjects. The FCAT measures student achievement in reading, mathematics, science, and writing (Florida Department of Education, 2013d). |
| FCAT 2.0 | The FCAT 2.0 measures student achievement of the Next Generation Sunshine State Standards. Florida began the transition from the FCAT to the FCAT 2.0 with reading in 2011. Science began in the spring of 2012 (Florida Department of Education, 2013c). |
| FDOE | The Florida Department of Education. |
| LEA | Local Education Agency. A public board of education, other public institution, or agency with administrative control and direction for a public school (United States Department of Education, 2010). |
| NAEP | National Assessment of Educational Progress. The largest nationally representative and continuing assessment of America's students' knowledge through assessments conducted periodically in mathematics, reading, science, writing, the arts, civics, economics, geography, and U.S. history (United States Department of Education, 2010). |
| NCES | National Center for Education Statistics. Data services provided by the United States Department of Education, Institute of Education Sciences (United States Department of Education, 2012a). |
| NCLB | No Child Left Behind. An act that is the 2002 reauthorization of the Elementary and Secondary Education Act (ESEA) incorporating accountability, research, and local control/flexibility in a federal effort to support educational efforts to improve achievement for all public school students (United States Department of Education, 2010). |
| NGA | National Governor's Association. An association of state governors that is organized to identify priority issues and deal collectively with matters of public policy and governance at the state and national levels (National Governor's Association, 2013). |

| | |
|---|---|
| NGSSS | The standards adopted in 2007, subsequently called the Next Generation Sunshine State Standards in Reading/Language Arts taught in Florida's public school classrooms and assessed on the FCAT 2.0 reading assessment (Florida Department of Education, 2013a). |
| PSAT | Preliminary Scholastic Aptitude Test. A standardized pencil-and-paper test that is designed to indicate how students will perform on the SAT (College Board, 2012). |
| RTTT | Race to the Top. Educational reform funding program that emerged from President Obama's administration's efforts to reauthorize ESEA that requires states to meet specific criteria (United States Department of Education, 2012b). |
| SAT | Scholastic Aptitude Test. The SAT and SAT Subject Tests are designed to assess academic readiness for college (College Board, 2012). |
| SBOE | State Board of Education. |
| SSS | Sunshine State Standards. Educational standards approved by the SBOE in 1996 (Florida Department of Education, 2013m). |
| TAG, TAP | Technical Assistance Guide, Technical Assistance Paper. Documents explaining test scores and accountability calculations. |

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A COMPARATIVE STUDY OF READING ACHIEVEMENT
OF FLORIDA'S STUDENTS 2002 TO 2013

By

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Major: Educational Leadership

This quantitative study compares the educational outcomes in reading of student groups in the state of Florida from 2002 through 2013 as demonstrated on the Florida Comprehensive Assessment Test (FCAT) in reading. The progress of students who are African American, economically disadvantaged (as designated by the state), Hispanic, or White, in scoring at or above achievement level three, the level of success defined by the state as satisfactory, is used to determine and compare the results of the educational system for each group and for the student population overall. The purpose is to provide an exploratory study of the educational system's progress in advancing student achievement in reading and closing longstanding achievement gaps. The study shows inconsistent progress for students achieving satisfactory learning goals in reading and in closing the reading achievement gap for students from 2002 to 2013, while state reports indicated increased levels of success.

# CHAPTER 1
# INTRODUCTION

## FCAT Scores

Between 2002 and 2013, the reading achievement of students in grades three through ten of Florida's public schools was measured through an annual administration of the Florida Comprehensive Assessment Test (FCAT). FCAT became FCAT 2.0 when the standards assessed in the test were updated in 2011. After each annual administration, the Office of Assessment initially collected students' test results. That office published the test results in tables and charts, and provided summaries of student groups by achievement levels and by content areas assessed on the FCAT/FCAT 2.0. Tables and graphs show score results in aggregated and disaggregated compilations for all students tested by racial, socio-economic, and learner profile groups, grade levels, schools, and districts. Learner profile groups include students receiving special educational services (ESE) and students learning English as a second language (ELL). FCAT scores are divided into five achievement levels. Scores at level three or above are considered sufficient achievement for accountability purposes. (Florida Department of Education, 2014b).

## School Grades

After FCAT scores are determined, the Bureau of Accountability Reporting uses schools' test score results to determine each school's grade under Florida's School Grades accountability system. Grade guides explain the overall school grade scoring system and changes that may have been made each year. The current School Grade system is based on an 800 point scale. The FCAT scores of students scoring at level three or above, and/or gaining one year's growth by advancing one level, contribute to

the point system for a school's grade. Student scores in reading and math are 600 of the 800 points possible. Scores in reading are 300 of the 800 points possible for school grades. Scores of students who fall into the lowest quartile are factored two or three times in the calculation (Florida Department of Education, 2014). Table 1-1 illustrates the categories used by the FDOE for school grade calculations and reporting. Table 1-2 is a sample school grade report.

Table 1-1. Elementary school grade points.

| Reading | Math | Writing | Science |
|---|---|---|---|
| Performance FCAT 2.0, FAA | Performance FCAT 2.0, FAA | Performance FCAT 2.0, FAA | Performance FCAT 2.0, FAA |
| 100 points | 100 points | 100 points | 100 points |
| Learning Gains All Students FCAT 2.0, FAA | Learning Gains All Students FCAT 2.0, FAA | | |
| 100 points | 100 points | | |
| Low 25% Learning Gains FCAT 2.0 | Low 25% Learning Gains FCAT 2.0 | | |
| 100 points | 100 points | | |

(Florida Department of Education, 2013j)

Additional requirements:

- Learning gains requirement for the lowest 25% reinstated.
- Test at least 90% of students, 95% to earn an 'A'
- A performance threshold in reading (25%) will be applied. Grade lowered one letter grade if not met (greater weight on reading).

The points earned result in grades according to the following scale:

- A = ≥ 525 points
- B = 495-524 points
- C = 435-494 points
- D = 395-434 points
- F = < 395 points

(Florida Department of Education, 2013i)

Table 1-2. Sample school grade report.

| Florida School District – Florida Elementary School 2009-2010 | | | | | | |
|---|---|---|---|---|---|---|
| | Reading | Math | Writing | Science | Grade Points Earned | |
| % Meeting High Standards (FCAT Level 3 and Above) | 68% | 58% | 88% | 20% | 234 | Writing and Science: Takes into account the % scoring 4.0 and above on Writing and % scoring 3 and above on Science. Sometimes the District writing and/or science average is substituted for the writing and/or science component. |
| % of Students Making Learning Gains | 62% | 57% | | | 119 | 3 ways to make gains: Improve FCAT Levels Maintain Level 3, 4, or 5 Improve more than one year within Level 1 or 2 |
| Adequate Progress of Lowest 25% in the School? | 53% (YES) | 70% (YES) | | | 123 | Adequate Progress based on gains of lowest 25% of students in reading and math. Yes, if 50% or more make gains in both reading and math. |
| FCAT Points Earned | | | | | 476 | |
| Percent Tested = 100% | | | | | | Percent of eligible students tested |
| School Grade* | | | | | C | Grade based on total points, adequate progress, and % of students tested |

(Florida Department of Education, 2014)

The State Board of Education frequently changes the school grade point system. (Florida Department of Education, 2013j). Table 1-3 illustrates the history of grade point system changes.

Table 1-3. School grade changes.

| | |
|---|---|
| 1999 | The 'A– F' school grading system began and FCAT results were used for the first time.<br>Based on current year data. Included performance in reading, mathematics, and writing, and additional criteria -dropout rates, attendance, and discipline data.<br>Minimum and higher performing criteria set for reading, writing, and math.<br>To receive an A or B, schools were required to meet the higher performing criteria and additional requirements. |
| 2002 | School grades calculation was changed to the points based model we have today – 50% performance and 50% learning gains.<br>Learning gains were added (reading and math).<br>FCAT administered in grades 3 to 10.<br>Learning gains for the lowest 25% in reading added.<br>Learning gains target in reading for the lowest 25% added. |
| 2005 | Additional students added to the calculation.<br>Students with disabilities added to learning gains for students with scores.<br>ELLs added to learning gains. |
| 2007 | Science added to school grading measures.<br>Learning gains for the lowest 25% in mathematics added (along with learning gains target for the lowest 25% in math).<br>Bonus points for high school retakes added. |
| 2010 | Implement new High School measures (50% of HS Grade).<br>Acceleration – participation and success. Graduation rate – all students and at risk. College readiness – SAT, ACT, and PERT. |
| 2012 | New FCAT 2.0 and End-of-course (EOC) assessments with new achievement levels. Students with disabilities and English language learners in performance measures. New middle school acceleration measure. Use federal graduation rate. Allow weighted learning gains for some students. Safety net protection. |
| 2013 | New Science FCAT 2.0 and Geometry and Biology EOC assessments and achievement levels. Safety net provision continued. Reading threshold implemented. |

(Florida Department of Education, 2013o)

Technical Assistance Guides provide additional school grade system details. For example, the scores of students who do not attend the same school for most of the school year are not included in a school's grade calculation (Florida Department of Education, 2014).

School grade results are reported by categories designated by the FDOE, but that information does not include race, ethnicity, special education (ESE), English language learners (ELL), or socioeconomic status (Florida Department of Education, 2014).

## Reading as an Accountability Measure

The FCAT reading results are the focus of this study because of the central importance the FDOE has placed on them. Florida selected reading achievement on FCAT as an accountability measure for schools and as criteria for student promotion and graduation. Table 1.3 shows that the FDOE identified reading, math, and writing as the subjects to measure for accountability in 1999. In 2002, the FDOE chose to emphasize progress for the lowest performing students by assigning additional point value for their achievement in reading and math (Florida Department of Education, 2013o).

Florida statute requires students be retained at the end of grade three if the FCAT reading score indicates a reading deficiency. The statute identifies achieving at a level less than achievement level two as the indicator of a reading deficiency. The law specifies that students achieving level one or two on FCAT reading must receive extensive remediation and ongoing progress monitoring (Florida Senate, 2014).

The FDOE requires students in grades three through nine to take FCAT reading. FCAT reading is the only FCAT required to be taken for all of those years. FCAT

reading is the only assessment that requires achievement of level two or above for promotion in grade three. Students who do not pass FCAT reading in ninth grade are required to retake the test up to five times until passed, or pass the ACT or SAT, or they are unable to receive a standard diploma (Florida Department of Education, 2014e).

**Safety Net**

Changes are made to the school grade system by the Florida legislative body. One of the changes implemented in 2012 and 2013 was the “Safety Net” policy. The policy legislates that no school grade could be lowered by more than one letter from the prior year regardless of the drop in performance resulting from FCAT scores and other school grade criteria. Table 1-4 shows the effect of the policy on school grades in 2013.

Table 1-4. School grades 2012, 2013, with Safety Net.

| Grade | 2012 | 2013 Without Safety Net | 2013 With Safety Net |
|---|---|---|---|
| A | 1,242 (48%) | 756 (29%) | 756 (29%) |
| B | 609 (23%) | 389 (15%) | 680 (26%) |
| C | 494 (19%) | 818 (31%) | 718 (27%) |
| D | 212 (8%) | 390 (15%) | 353 (14%) |
| F | 40 (2%) | 262 (10%) | 108 (4%) |
| Total | 2,597 | 2,615 | 2,615 |

(Smiley & Vasquez, 2013)

The scores of student groups by race and socio-economic status are not included in school grade calculations. The school grades are used to publicly identify a school’s accountability status.

This study analyzed the Department of Education tables and charts to compare the reading achievement scores among all students and students in African American, economically disadvantaged (as designated by the state), Hispanic, and White groups with each other to determine the reading achievement of the students and the changes in the achievement gaps during this period. This study included an overview of the

comparison of the FCAT score results and the school grades that were made public to clarify the level of transparency and specificity in the student and school performance communicated by the FDOE to the public.

The division that reports the test results is the Division of Accountability, Research and Measurement (ARM). Their mission is to provide data that informs policy and to support high standards that lead to continually improving “student achievement and opportunities throughout Florida’s PK-20 education system” (Florida Department of Education, 2013a). The division asserts its intent to support the FDOE mission of “Increasing the proficiency of all students within one seamless, efficient system, by providing them with the opportunity to expand their knowledge and skills through learning opportunities and research valued by students, parents, and communities” (2013a). The division is responsible for an “Accountability system that measures student progress toward the following goals; highest student achievement, seamless articulation and maximum access, skilled workforce and economic development, and quality efficient services for the public” (2013a).

This division is responsible for evaluating and calculating achievement scores that indicate the status of the state, the school districts, and the schools in meeting the state’s goals for student achievement. “The office includes the Bureau of Accountability Reporting, which administers accountability programs such as school grades, AYP determinations, alternative schools' improvement ratings, determinations of schools' Differentiated Accountability program status, and identification of Opportunity Scholarship schools” (2013a).

The accountability programs operate to fulfill requirements imposed by the policies that emerge from statutes. Statutes are created and revised by the state's legislature. New statutes may be created or existing ones may be revised annually. Therefore, the testing and accountability programs are subject to policy and practice revisions annually.

## Statement of the Problem

Reports of test results and accountability ratings including school grades published by the FDOE describe conclusions with related consequences for school systems and schools. The consequences range from recognitions to interventions.

Recognitions include awarding supplemental funding to schools from special funding allocations under the Florida School Recognition program. Under the program, schools that earn a grade of A or B, or move up one grade, earn additional funding of up to $75.00 per student (Florida Department of Education, 2014c).

The interventions occur under the Differentiated Accountability program initiated in 2008. The Differentiated Accountability program categorizes schools by school grades and history. The categories range from Prevent I to Intervene. The consequences for the schools escalate. For example, schools in the Prevent I category are visited by Differentiated Accountability staff periodically to ensure the use of improvement strategies approved by the FDOE. Also, their school improvement plans are audited. Schools in the Intervene category have their school improvement plans audited, are visited more frequently for longer periods of observation and training, and could be forced to replace staff, and/or to repurpose or close the school (Florida Department of Education, 2014d).

The FDOE annually releases FCAT scores, FCAT score summary reports, School Grade reports, and School Grade Technical Assistance Papers, School Grade Guides and media release/press packets. The FDOE reports of FCAT scores and school grades emphasize the average scores of all student groups to illustrate progress. The reports show scores averaged for all student race, socio-economic, English language learner (ELL), and exceptional education (ESE) groups that consistently show progress. When the reports also show disaggregated scores that do not show commensurate progress for some groups, they do not address the achievement deficiencies or achievement gaps between the student groups (Florida Department of Education, 2014b; Florida Department of Education, 2014).

## Purpose of the Study

The purpose of the study is to conduct a quantitative analysis of the progress demonstrated by reading achievement on FCAT/FCAT 2.0 from 2002 to 2013 by students overall and by racial and socio-economic groups. The progress of each group is compared. The overall results of the analysis are compared to the progress consistently reported by the FDOE.

Performance in Florida's schools has been studied widely. An exemplary compilation available to the public for study is the National Center for Educational Statistics' compilations of student performance data in all core subject areas and the related data points, *The Condition of Education 2012* (U.S. Department of Education, 2012b). The center also reports on the reading ability of students, graduation or dropout rates, college readiness rates, among others, without reference to the potential for statistical inconsistency of scores. The study illustrates and emphasizes the variances

in performance in reading on FCAT/FCAT 2.0 among Florida's students by demographic groups.

**Research Questions**

This study addressed the following research questions.

1. What do the FCAT/FCAT 2.0 reading scores of 2002 to 2013 disclose about the achievement of students overall?
2. What are the differences when comparing FCAT/FCAT 2.0 reading scores of 2002 to 2013 of students by race and socio-economic groups?
3. To what degree do students achieve passing scores on FCAT/FCAT 2.0 reading when analyzed by racial and socio-economic groups?

The null hypotheses that guided the study are:

$H_{01}$: There will be no statistically significant difference demonstrated by the FCAT/FCAT 2.0 reading scores of students overall over the period of 2002 through 2013.

$H_{02}$: There will be no significant differences when comparing FCAT/FCAT 2.0 reading scores of students overall with students of racial and socio-economic groups over the period of 2002 through 2013.

$H_{03}$: There will be no significant progress demonstrated by FCAT/FCAT 2.0 reading scores among students in racial and socio-economic groups.

## Significance of the Study

Over two and half million students are enrolled in over three thousand six hundred public schools in 67 school districts Florida. Findings from this study will show the actual progress that has been made in reading with transparency across racial and socio-economic groups. The state's educational accountability system is based on a

high stakes test that has consequences for districts and schools to meet annual accountability measures. Ladd explained at the International Conference for Improving Education through Accountability and Evaluation, “Citizens in this democratic society have a right to expect that schools will be held accountable for effectively serving public interests” (Ladd, 2012). Beyond the accountability stakes, three primary stakeholder groups have an interest in an accurate understanding of student achievement and school performance in Florida’s public schools. Members of the first stakeholder group are current students and their families. Members of the second stakeholder group are taxpayers who are funding the schools. The current taxpaying citizens are funding public education with the implicit expectation that services are delivered with fiduciary responsibility. The concept of fiduciary responsibility requires accurate analysis and reporting of performance. Members of the third stakeholder group are future citizens. The quality of education today will have a significant impact upon the intellectual reasoning and processing capacity of the citizens of the future. Future citizens need to be capable of critical decision making and participate in society as civic leaders or citizens who define the social and economic health of communities.

## Definition of Terms

| | |
|---|---|
| Achievement Levels | Five categories of achievement that represent the success students demonstrate with the content assessed on FCAT. The achievement levels are helpful in interpreting what a student’s score represents. Achievement levels range from one to five, with level one being the lowest and level five being the highest. To be considered on grade level, or making satisfactory progress learning, students must achieve level three or higher (Florida Department of Education, 2013m). |

| | |
|---|---|
| School Grades | Florida schools are assigned a grade based primarily upon student achievement data from the FCAT 2.0, end-of-course (EOC) assessments, and the Florida Alternate Assessment (FAA). Florida uses grades to communicate how well schools and districts are performing relative to state standards. School grades utilize a point system; points are awarded for students who score satisfactory or higher and/or make annual learning gains. The assessment-based components of grades are based on achievement in reading, math, writing, and science, annual learning gains, and the progress of the lowest quartile. School grades for secondary schools include measuring students' participation and performance on EOC assessments, graduation rates, acceleration, and college readiness (Florida Department of Education, 2013j). |
| Learning Gains | Students demonstrate learning gains in one of three ways: Improve achievement levels from one to two, two to three, or four to five; or maintain within the achievement levels of three, four, or five; or demonstrate more than one year's growth within achievement levels one or two (does not include retained students). In the school grade system, schools earn one point for each percent of students who make learning gains in reading and one point for each percent of students who make learning gains in math (Florida Department of Education, 2013k). |
| Low 25%, Lowest quartile | Special attention is given to the reading and math gains of students in the lowest 25 percent in levels one, two, or three in each school. Schools earn one point for each percent of the lowest performing students who make learning gains in reading and math from the previous year. It takes at least 50% to make adequate progress for this group. If a school has less than 50% of this group making gains, schools can still make adequate progress for the group if they demonstrate improvement over the prior year (Florida Department of Education, 2013k). |
| Safety Net | A rule imposed by the State Board of Education that stipulates no individual school's grade will drop more than one letter grade in any one year (Florida Department of Education, 2013l). |

# CHAPTER 2
# LITERATURE REVIEW

This study is a quantitative analysis of the achievement of student groups in reading on Florida's FCAT/FCAT 2.0 from 2002 to 2013. The review of literature covers relevant topics to this study, including:

- Test-based accountability,
- FDOE reports,
- Understanding data, and
- Policy changes.

## Test Based Accountability

Test-based accountability is fundamental to the questioning of the measures of academic achievement by students in Florida's schools over time. Kathryn Ryan's study of test based accountability as practiced in the United States in comparison to School Self Evaluation and Inspection (SSE/I) accountability systems employed in many European nations describes intended advantages and resulting disadvantages of the test-based accountability systems (Ryan, Gandha, & Ahn, 2013). Ryan explains that the test-based accountability nature of NCLB was dependent upon measuring performance with high-stakes assessments based on questionable standards, resulting in negative sanctions, while it was intended to stimulate school improvement (Ryan, Gandha, & Ahn). Ryan explains the result has been minimal, and that improvements are questionable. Most pointedly, from analysis of performance data compilations, including the Nation's Report Card (Nation's Report Card, 2014), Ryan concluded that students have not reached intended levels of mastery in reading, and the achievement gaps between student racial and socio-economic groups that the law was meant to resolve has not been reduced (Nation's Report Card). Ryan suggests test-based accountability

does not serve to improve schools. She emphasizes an analysis of school safety, leadership effectiveness, and school improvement strategies are important steps in improving teaching, learning, and student outcomes, characteristics that are often overlooked by test-based accountability systems (2013, p. 5). Ryan recommends test-based accountability, as well as measures to improve the efficacy of instruction, manage students' behavior and safety better, and advance the quality of both school leadership and management (2013).

**Unintended Negative Consequences**

Unintended, unforeseen negative results of test-based accountability systems that emerged from the NCLB Act of 2001 are emphasized in numerous studies. The negative results range from generally less effective school improvement efforts to specific repercussions to teachers and student groups. Volante and Jafaar summarize a comparison of the negative and positive consequences. They conclude negative outcomes outweigh the positive (2010, p. 170). Negative results of test-based accountability include:

- High-stakes testing of the NCLB accountability era that has not increased student achievement (Aimer & Berliner, 2003; Betebenner & Linn, 2009; Linn, 2010; Volante & Jaafar, 2010; Ryan & Shepard, 2008).
- Failure to reduce the achievement gap (Smyth, 2008; Haretos, 2005; Braun, Chapman, & Vezzu, 2010; Linn, 2010; Volante & Jaafar, 2010; Ryan & Shepard, 2008).
- Increased dropout and reduced graduation rates for some racial and socio-economic groups and for all students overall (Aimer & Berliner, 2003; Volante & Jaafar, 2010).
- Increased retentions, especially in the elementary intermediate grades, and for some racial and socio-economic student groups (Aimer & Berliner, 2003; Haretos, 2005; Volante & Jaafar, 2010).
- Teachers and counselors roles are less facilitative of development and consequently have become more judgmental (Duffy, Giordano, Farrell, Paneque, & Crump, 2008).

- Reduced resource allocations for the arts, social sciences and physical education (Duffy, Giordano, Farrell, Paneque, & Crump, 2008).
- Movement of highly qualified staff to more highly ranked schools (Volante & Jaafar, 2010).
- Sanctions for schools in lower income and racially diverse communities (Maleko & Gawlik, 2011).
- Lack of progress in developing tools that assist in understanding how to promote learning for traditionally struggling groups (Haretos, 2005; Volante & Jaafar, 2010).
- Test-based teaching that compromises student interest and limits content scope (Volante & Jaafar, 2010).
- A failure to engage essential external support for school improvement efforts (Ryan, Gandha, & Ahn, 2013).

The negative consequences for students who do not meet adequate yearly progress (AYP) is particularly damaging in racially diverse schools. The standards for meeting AYP are set based on the achievement of student groups with differing levels of learning history. The sanctions and negative consequences, such as remedial classes and retention, fall heavily upon racial and socio-economic groups with lower scores.

## FDOE Reports

The literature review included the study of measurements of student achievement provided by the FDOE in FCAT/FCAT 2.0 test score report summaries, press releases and technical assistance documents. The FCAT/FCAT 2.0 scores in reading for all students in the racial, socio-economic and learner profile groups are available as Microsoft (MS) Excel spreadsheets online at the FDOE website. Learner profile groups include ESE and ELL. The scores on the FDOE website include grades three through ten on FCAT/FCAT 2.0 in reading, writing, mathematics and science. The scores are displayed in aggregate and disaggregate forms. In aggregate form, without

considering any other data, the scores show a general trend of improvement in educational outcomes for students for each year of the study (Florida Department of Education, 2013h). However, when additional data is considered, such as changes in student groups or grade levels, significant progress is not consistently supported (2013h). Table 2-1 exemplifies the difference when the scores of all students are compared the scores of students designated as economically disadvantaged (econ. dis.) by the state. The table illustrates the percentage of students who scored at level three or above on FCAT in reading in the fifth, eighth, and tenth grade levels, in 2007, 2010, and 2013. The table shows that the average scores of all students are consistently higher than the scores of students in this group, and that the difference is greater at the higher grade levels.

Table 2-1. FCAT reading achievement of student groups by grade level.

| | FCAT reading % ≥ level 3 | | | | | |
|---|---|---|---|---|---|---|
| Grade | Econ. dis. 2007 | All 2007 | Econ. dis. 2010 | All 2010 | Econ. dis. 2013 | All 2013 |
| 5 | 60% | 72% | 60% | 69% | 50% | 60% |
| 8 | 34% | 49% | 43% | 55% | 45% | 56% |
| 10 | 19% | 34% | 26% | 39% | 41% | 54% |

(Florida Department of Education, 2013e)

The problem presented by the lower scores of some student groups and in some grade levels is not directly addressed by FDOE FCAT score reports or school grade reports.

Technical Assistance Guides (TAG) explain changes to achievement levels. Table 2-2 shows the achievement level scores in 2008 and in 2012.

Table 2-2. FCAT reading achievement levels, 2008 and 2012.

| 2008 | | | | | |
|---|---|---|---|---|---|
| Grade | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 3 | 100 – 258 | 259 – 283 | 284 - 331 | 332 - 393 | 394 - 500 |
| 4 | 100 – 274 | 275 – 298 | 299 - 338 | 339 - 385 | 386 - 500 |
| 5 | 100 – 255 | 256 – 285 | 286 - 330 | 331 - 383 | 384 - 500 |
| 6 | 100 – 264 | 265 – 295 | 296 - 338 | 339 - 386 | 387 - 500 |
| 7 | 100 – 266 | 267 – 299 | 300 - 343 | 344 - 388 | 389 - 500 |
| 8 | 100 - 270 | 271 – 309 | 310 - 349 | 350 - 393 | 394 - 500 |
| 9 | 100 - 284 | 285 – 321 | 322 - 353 | 354 - 381 | 382 - 500 |
| 10 | 100 - 286 | 287 – 326 | 327 - 354 | 355 - 371 | 372 - 500 |
| 2012 | | | | | |
| Grade | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 |
| 3 | 140-181 | 182-197 | 198-209 | 210-226 | 227-260 |
| 4 | 154-191 | 192-207 | 208-220 | 221-237 | 238-269 |
| 5 | 161-199 | 200-215 | 216-229 | 230-245 | 246-277 |
| 6 | 167-206 | 207-221 | 222-236 | 237-251 | 252-283 |
| 7 | 171-212 | 213-227 | 228-242 | 243-257 | 258-289 |
| 8 | 175-217 | 218-234 | 235-248 | 249-263 | 264-296 |
| 9 | 178-221 | 222-239 | 240-252 | 253-267 | 268-302 |
| 10 | 188-227 | 228-244 | 245-255 | 256-270 | 271-302 |

(Florida Department of Education, 2013d)

The FDOE publishes media packets to explain the results of testing each year. A typical press release is the report is the FCAT/FCAT 2.0 Media Packet, 2013, made available to the public in June of 2013 on the FDOE website (Florida Department of Education, 2013j). The packet explains the transition from the FCAT to the FCAT 2.0 testing. The report addresses the classification of students scoring at achievement level three or above. In prior years, scoring at achievement level three or above was classified as scoring at or above grade level, and demonstrating sufficient academic success with the standards tested to graduate and be prepared for college or career success, according to statute. “Since a level three score is a satisfactory performance level pursuant to Section 1008.22(3)(c)5., F.S. a level three score that is a graduation requirement indicates the student is on a pathway to college and career readiness” (Florida Department of Education, 2011b). In reading, the score at levels three, four, or

five, indicate that students are able to read at or above the expected capacity for the grade level in which they were enrolled and at which they were tested. The 2013 media packet explains the terminology being used has changed to state that students scoring at level three demonstrated a “satisfactory level of success with the *Next Generation Sunshine State Standards*” (Florida Department of Education, 2013f). Students scoring at level four had demonstrated “an above satisfactory level of success with the *Next Generation Sunshine State Standards*” (2013f), while students scoring at level five had “demonstrated mastery of the most challenging content of the *Next Generation Sunshine State Standards”* (2013f).

The FCAT 2013 media packet presents data for grade levels and for the different racial groups as well as learner profile and grade level classifications. The racial groups include African American, Hispanic, and White. The learner profile classifications include ESE and ELL. The grade level reports are organized into three groups. The elementary group includes grade levels three, four, and five. The secondary levels include the sixth, seventh and eighth grade group and the ninth and tenth grade group (Florida Department of Education, 2013f).

The report shows that, overall, 56% of Florida’s public school students demonstrated satisfactory progress in reading in 2011, 57% showed that level of progress in 2012, and 57% showed that level of progress in 2013, without any mention of the lack of significant progress for over 40% of Florida’s students (2013f). The report shows the progress of students in the three main racial groups, African American, Hispanic, and White, also remained stagnant. The percent of African American students showing satisfactory progress in reading ranged from 36% to 38% over the three years.

The percent of Hispanic students showing satisfactory progress in reading ranged from 51% to 53% over the three years. The percent of White students showing satisfactory progress in reading ranged from 68% to 69% over the three years (2013f). All groups showed similar scores of minimal improvement in percentage of students achieving satisfactory levels of success with the reading standards over the three years. As few as 10% of some student groups have achieved satisfactory levels of success. According to FCAT demographic score reports available, the ELL group in grade three showed declining percentages of students achieving level three or above over the three year period (2013f). Table 2-3 shows a comparison of students in the ELL group with all students who scored at level three or above on FCAT in reading for grade levels three, five, eight, and ten. The lack of progress for ELL students, compared to all students, is not discussed in FDOE FCAT score reports or FDOE School Grade reports.

Table 2-3. FCAT reading scores for ELL students and for all students.

| Grade level | Student Group | 2011 % ≥ level 3 | 2012 % ≥ level 3 | 2013 % ≥ level 3 |
|---|---|---|---|---|
| 3 | All | 57 | 56 | 57 |
| 3 | ELL | 18 | 22 | 21 |
| 5 | All | 60 | 61 | 58 |
| 5 | ELL | 22 | 20 | 18 |
| 8 | All | 56 | 55 | 53 |
| 8 | ELL | 12 | 10 | 10 |
| 10 | All | 54 | 50 | 52 |
| 10 | ELL | 11 | 9 | 11 |

(Florida Department of Education, 2013e)

The narratives of the media packet do not address the lack of significant change in the scores, showing the lack of progress, or declines, among students demonstrating a satisfactory level of success with the standards (2013f). Table 2.4 shows the percentage achieving level 3 or above on FCAT in reading of several groups of

elementary school students, only where declines in performance occurred, in the period of 2011 to 2013. The declines were not addressed by the FDOE media packets (Florida Department of Education, 2013f).

Table 2-4. Student groups with FCAT reading achievement declines, 2011-2013.

| Grade | Student group | 2011 % ≥ level 3 | 2012 % ≥ level 3 | 2013 % ≥ level 3 |
|---|---|---|---|---|
| 3 | African American | 38 | 37 | 38 |
| 3 | Econ. Dis. | 46 | 45 | 46 |
| 3 | ELL | 21 | 22 | 18 |
| 3 | Hispanic/Latino | 51 | 52 | 50 |
| 3 | White | 71 | 69 | 71 |
| 3 | Total Students | 57 | 56 | 57 |
| 4 | African American | 39 | 43 | 41 |
| 4 | Econ. Dis. | 48 | 52 | 49 |
| 4 | Hispanic/Latino | 55 | 57 | 56 |
| 4 | White | 70 | 73 | 71 |
| 4 | Total Students | 59 | 62 | 60 |
| 5 | Hispanic/Latino | 53 | 58 | 56 |
| 5 | Total Students | 58 | 61 | 60 |
| 3, 4 & 5 | Econ. Dis. | 47 | 49 | 48 |
| 3, 4 & 5 | Hispanic/Latino | 53 | 56 | 54 |
| 3, 4 & 5 | Total Students | 58 | 60 | 59 |

(Florida Department of Education, 2013e)

## Understanding Data

### Accuracy in Calculations and Conclusions

"The proper functioning of any educational accountability system rests on the valid interpretation of student performance—as does the educational reform for which such an accountability system was put in place: ensuring that our students are achieving rigorous educational outcomes" (Huff & Plake, 2010, p. 130). Misguided use of test score results that determine allocation of school resources could be avoided if data was interpreted with higher accuracy (Wainer, 2011). Wainer's analyses of practices of using data for decision-making shows the process often includes

misinterpretation of the data and the conclusions. Ultimately, this leads to the misguided decisions, policies, and allocation of resources (Duffy, Giordano, Farrell, Paneque, & Crump, 2008; Volante & Jaafar, 2010; Wainer, 2011).

In *Uneducated Guesses*, Los Angeles' Garfield High School students' success on the Advance Placement (AP) Calculus test scores were analyzed and the results were publicized in the 1988 movie *Stand and Deliver.* Wainer explains that an analysis of a national sample of students' Preliminary Scholastic Aptitude Test (PSAT) scores in math and subsequent scores on AP Calculus tests provides information that can be used to predict students' success on the AP Calculus test. Given that the remarkable success of the Garfield students is clearly validated, Wainer poses the question if the teacher, Jaime Escalante, was a particularly good teacher or a good recruiter. The data analysis shows that, indeed, Escalante recruited almost 100% of the students in the school who scored in the highest levels on the PSAT in math. This leads to an initial conclusion that he was an exceptionally crafty recruiter, as opposed to exceptional teacher. Wainer explains that the percentage of students who were recruited from the high scoring PSAT student group that passed the AP Calculus exam was 100%, while about 80% of the students from that same high scoring PSAT group in a school in a more elite community passed the test. Overall, predictive analysis shows that 53 of Mr. Escalante's students should have passed the test, while 83 students actually succeeded. The conclusion is that Mr. Escalante was both an exceptional recruiter and teacher. This type of conclusion from predictive analysis is particularly important to policymaking and resource allocation. Wainer suggests more extensive data gathering

and the importance of using performance data more effectively to improve schools (Wainer, 2011).

Wainer explains, as an example, that predictive analysis can be used to determine score requirements for entry into AP courses, so the classrooms, scheduled class times, and number of teachers designated for AP courses is controlled by the number of students with the capacity for success in the course. The relevance of Wainer's work to this study is founded in the call for more advanced analysis of test scores and the conclusions that are drawn from them.

Wainer suggests methods of data analysis of test scores that are based in science, logic, objectivity, and fundamental common sense. Wainer recommends five criteria for data analysis, which are important to evaluation of schools:

1. An explicit definition of the outcome of interest. Wainer's details specifically address an important topic in current school accountability ratings in Florida: AP course enrollment versus success passing AP tests.

2. A characterization of student ability. The school being held accountable for factors that it cannot control. Wainer suggests that accurate data analysis can reveal what a student is capable of achieving through predictive analysis.

3. A functional connection between success and qualifications. Wainer suggests schools should be evaluated based on what students have the capacity to achieve correlated to what the students actually achieved as a result of the education provided by the school.

4. A model for selection of students into AP courses. Wainer suggests that school systems can best utilize resources by offering AP courses to students who are most likely to succeed in those courses and identifying that student group through aptitude testing.

5. A measure of teaching and motivation. Wainer argues that once data are used logically to make student placement decisions, the teacher efficacy and student motivation factors that elude accurate analysis are more likely to emerge for objective consideration. (Wainer, 2011)

In addition to the fundamental relevance of the importance of accurate data analysis of test scores to evaluating the quality of education to this study, several points in Wainer's text relate directly to school performance accountability in Florida, such as the AP courses, industry certification examinations, school rankings, and state funding.

**Public Perception**

A Harvard University team led by Matthew M. Chingos of the Program on Education Policy and Governance published its research related to the impact of tests scores to public perception of the quality of schools in *Citizen Perceptions of Government Service Quality: Evidence from Public Schools*. In this report, the team described Florida citizens' perceptions on the quality of education students receive in its public schools. The team found that accountability reports about student achievement levels in schools prevailed as the primary factor influencing citizen opinion of the quality of education received by students in the schools. The Harvard team analyzed perceptions of school quality compared to the actual school quality, among citizens with offspring in schools compared to citizens without offspring enrolled in the schools. Florida's parents of students enrolled in schools perceived school quality with accuracy at a rate three times greater than citizens who relied solely upon the state's published reports about school quality (Chingos, Henderson, & West, 2010). The report expresses the importance of citizens having access to accurate information to evaluate government performance correctly and concludes that accountability programs have a causal effect on that capacity. The report specifies, "A regression discontinuity analysis of an oversample of Florida residents confirms that public accountability systems can have a causal effect on citizen perceptions of service quality," and that perceptions are

often “more likely to be colored by partisan or ideological orientations than informed by objective facts” (2010, p. 2).

**Accurate Performance Reporting in Florida**

Bracey concurs with Wainer about insightful, thoughtful, logical, data analysis of test scores but opposes the use of analysis of the results of aptitude testing and achievement testing to determine school quality. Bracey cites potentially serious flaws in both aptitude and achievement tests as the cause for concern (Bracey, 2007). Bracey’s 2007 Phi Delta Kappan article, *Another Way to Game the System*, focuses on the importance of informed data analysis of test scores by accountability systems and the public at large (2007). He describes Florida’s Governor’s claims of progress in educating students in public schools as “another case of skim milk masquerading as cream” (p. 412). Bracey describes research performed by Walter Haney of the Center for the Study of Testing, Evaluation and Education Policy, in the Lynch School of Education at Boston College. In a paper presented at the Hechinger Institute in 2006, Haney presented research on Florida’s test scores, identified gaps in accuracy by the state’s accountability reporting and their causes. Haney describes research on the use of National Assessment of Educational Progress (NAEP) as a quality check of state assessment programs that revealed breaches in the capacity of both NAEP and FCAT test scores to document school quality. Haney describes the accountability reports derived from 2005 test scores of Florida’s students as an “illusion of progress” (Haney, 2006, p. 2). The 2005 NAEP test scores showed notable progress made by Florida’s fourth grade students. While students nationwide only showed a two point increase from 2003 to 2005 in Math proficiency levels, Florida’s students showed a five point increase. Moreover, the race gap in achievement was even more impressive: nationwide, White

students showed a three point increase and African American students showed a four point increase, while in Florida, White students showed a four point increase and Florida's African American students showed an unprecedented nine point increase. Since the standard deviation of the test was 29, Florida's African American students' increase was almost one-third the standard deviation. Haney and Bracey both document the governor's nationally publicized claims of progress in Florida schools overall and specifically in closing the achievement gap. Haney's research, though, leads to erroneous interpretation of the test scores. Haney shows that the policy to retain third grade students who did not pass the state's standardized reading assessment, FCAT, caused the jump. Haney reviewed enrollment data in Florida schools and established transition ratios to reflect the percentage of students who were promoted from one grade level to the next. The data aligned with the policy. Further analysis of student demographic groups emphasized that excessive proportions of African American and Hispanic third grade students had been retained under the new policy in the year prior to the incredibly impressive fourth grade NAEP scores. Conclusions from the test score data that the governor used to advertise the progress being made by Florida's schools in 2005, under the same fundamental principles of accountability and reporting used today, were seriously flawed. It appeared that students improved in achievement because fewer students were tested. The students who were not tested were the students who had been retained. The retained students would have probably scored poorly on the test. A disproportionately large percentage of the students who were retained were Hispanic and African American students, 15 to 20%, versus White students, at 4 to 6% (Haney, 2006).

Haney questions the veracity of Florida's ninth grade and tenth grade students' test scores. Haney notes, "A large bulge in enrollments in grade nine and correspondingly large attrition in student enrollments between grades nine and ten" and the "attrition between grades nine and ten are more than twice as bad in Florida as nationally" (p. 3).

Linn explained that Florida's system of accountability using school grades of A–F based on the students test performance scores and gains from the previous year's scores, results in many schools with grades of A in the state system that fail to make AYP as required by federal law (Linn, 2008).

## Policy Changes

There is a wide range of literature supporting major policy changes to improve student achievement for all student groups and to reduce the achievement gaps between student groups. Ryan promotes an overhaul of the accountability systems to include revision of educational policy to result in the significant learning gains needed in the U.S. (2013, p. 12). Linn calls for an overhaul of educational policy on student testing and system accountability, as well (Linn, 2010).

Broad policy changes are also encouraged by the 2010 study conducted by Braun and associates of Boston College, of the achievement gap between African American and White students in the U.S. based on standardized test outcomes. "It appears there is a need for both fresh thinking on education reform and a more concerted effort to collect comprehensive longitudinal information on states' education policies" (Braun, Chapman, & Vezzu, 2010). The study evaluated the same ten states studied prior to NCLB to compare pre and post NCLB outcomes. The study compared student test scores, as well as policy changes aimed toward reducing the achievement

gap. Overall, substantial gaps in achievement were found and it was determined that NCLB, and related test-based accountability policy changes, made very little difference in achievement of African American students (Braun, Chapman, & Vezzu).

**Improvement Requires Accurate Data**

The importance of data in terms of understanding what students know, what they have learned, and what they need to learn is reiterated across much of the literature. Lezotte's (2011) summary emphasizes the importance of using analysis of test scores to fuel continuous improvement efforts (Lezotte, 2011).

Conclusions drawn from data analysis is intent upon classifying and categorizing schools and instructional systems to benefit executive level decision and policymaking, while work such as Lezotte's is focused on practical level use of data to inform instructional practices and benefit students' learning. Daggett's work is geared toward improving schools. His research teams point out characteristics that can transform schools to achieve high levels of effectiveness. The ten points that Daggett conveys are:

1. Create a culture that embraces the belief that all students need a rigorous and relevant curriculum and all children can learn.
2. Use data to provide a clear unwavering focus to curriculum priorities that is both rigorous and relevant by identifying what is essential, nice to know, and not necessary.
3. Provide students real-world applications of the skills and knowledge taught in the academic curriculum.
4. Create a framework to organize curriculum that drives instruction toward both rigor and relevance and leads to a continuum of instruction between grades and between disciplines.
5. Create multiple pathways to rigor and relevance based upon a student's personal interest, learning style, aptitude, and needs.

6. Set high expectations that are monitored and hold both students and adults accountable for student's continuous improvement in the priorities identified in #2 above.

7. Sustained professional development that is focused on the improvement of instruction.

8. Obtain and leverage parent and community involvement successfully in schools.

9. Establish and maintain safe and orderly schools.

10. Offer effective leadership development for administrators, teachers, parents, and community.

(Daggett, 2005, pp. 3-4)

**Data Driving Instruction**

Daggett emphasized the importance of the use of data to understand students' needs and monitor progress in meeting them. He also stressed the importance of data analysis informing a commitment to continuous improvement, and professional development in skills needed to interpret data reports accurately (Daggett, 2005).

Daggett's call to use data to meet students' learning needs is reinforced widely. As recently as 2008, a study by Dennis in the Journal of Adolescent and Adult Literacy pointed out that standardized testing data are used to make instructional placements yet the test results do not reveal learner needs sufficiently to inform instructional decisions. The authors found that standardized assessments, such as FCAT, are similar to pass/fail tests, indicating if students can read on grade level or not. These tests, however, do not reveal the nature of struggling students' reading problems. Students' instructional needs in reading vary widely, from basic word decoding to advanced comprehension and analysis of text. Students scoring below achievement level 3 on FCAT reading were placed in the same remedial reading classes. Although supplemental tests were performed, Dennis (2008) found that the teachers did not

understand how to use results to make instructional program decisions. Students with very different instructional needs often receive the same instruction which is often ineffective (Dennis, 2008).

**State Level Data Usage**

The National Governor's Association (NGA) promotes the efforts of the National Data Quality Campaign (DQC) to enhance the capacity of school districts to use data to improve instruction. The DQC stresses the importance of role of state support and coordination. The DQC focuses on the key factors to be considered in the use of data to enhance educational systems and schools effectively. Key points in the publication speak directly to the research topics. The publication stresses the use of data by school districts to improve teaching and learning is not occurring sufficiently well or quickly enough to meet the needs of students' learning for the digital age. College and career readiness levels for all students are not at the point the educational incentives initiated by federal and state governments over the last decade had been planned to cause. The publication explains the efforts to report and use data to make decisions that lead to improved teaching and learning have not been genuinely motivated. The efforts have been compliance measures. School districts nationwide have reported data to meet state requirements but states have not facilitated the use of data that would actually improve teaching and learning (Data Quality Campaign, 2013a). States and districts are not helping one another resolve this issue, according to the DQC. A few states have taken key actions by supporting district efforts to analyze data to evaluate policies and programs, understand patterns of performance, and determine effective allocation of resources, but most have not. Some states have helped districts develop early warning systems that help educators align resources to meet learner needs, but most have not.

The DQC reports that state and district collaboration about the use of data is important to accomplishing these shared objectives that are important to improving schools:

- Maximize data investments and reduce costs and burden.
- Ensure cross district and cross state comparability.
- Meet the needs of all stakeholders.
- Equalize and enhance district capacity.
  (2013a)

To resolve these issues, the DQC identifies four guiding principles for states that speak to this research study:

- Collaboratively identify district data capacity to inform state data efforts.
- Transform data into actionable information and ensure district access.
- Ensure data literacy among educators through preservice and in-service policies and practices.
- Maximize efficiency and minimize burden in data collection.
  (2013a)

These four principles are interrelated in practical application to the importance of using data to understand school performance accurately. Much like the adage that problems cannot be solved if they are not acknowledged, schools cannot be improved if the need for improvement is not understood with accuracy. The third principle, ensure data literacy among educators through preservice and in-service policies and practices, is fundamental to all the principles (2013a). If the key practitioners in the system do not understand how to analyze data and draw conclusions that inform decisions well, the merit of the other principles is greatly reduced.

The review of literature reveals that Florida's educational accountability system did not facilitate clear public understanding of the learning progress achieved by all students in the educational system. Therefore, the third principle, the need to ensure data literacy among educators through preservice and in-service policies and practices, is particularly poignant to this study (2013a). As mentioned briefly in the introduction,

the DQC lists ten actions states must take to be able to use data effectively to improve schools:

1. Link state K–12 data systems with early learning, postsecondary education, workforce, social services, and other agencies.

2. Create stable, sustained support for state longitudinal data systems.

3. Develop governance structures to guide data collection, sharing, and use.

4. Build state data repositories (e.g., data warehouses) that integrate student, staff, financial, and facility data.

5. Implement systems to provide all stakeholders with timely access to the information they need while protecting student privacy.

6. Create progress reports with individual student data that provide information educators, parents, and students can use to improve student performance.

7. Create reports that include longitudinal statistics on school systems and groups of students to guide school-, district-, and state-level improvement efforts.

8. Develop a purposeful research agenda and collaborate with universities, researchers and intermediary groups to explore the data for useful information.

9. Implement policies and promote practices, including professional development and credentialing, to ensure educators know how to access, analyze, and use data appropriately.

10. Promote strategies to raise awareness of available data and ensure that all key stakeholders, including state policymakers, know how to access, analyze, and use the information. (Data Quality Campaign, 2013c)

As of late 2013, the FDOE had not successfully implemented two of the ten actions. The FDOE had not completed actions three and five. Although the FDOE had fulfilled action number seven by creating “reports that include longitudinal statistics on school systems and groups of students to guide school-, district-, and state-level improvement efforts” it had not fulfilled number two so there was not “stable, sustained support for state longitudinal data systems” (Data Quality Campaign, 2013c). Further, the FDOE had not facilitated parental use of the longitudinal data to evaluate their

students' or the systems' progress in educational achievement, "In Florida, parents do not have access to their own children's data that follows their children's progress over time" (Data Quality Campaign, 2013c).

The NGA Issue Brief, *Using Data to Guide Sate Education Policy,* designates similar requirements for effective state and district use of data to inform improvement in schools effectively. The Issue Brief also identifies the problems associated with poor data analysis and communication by reiterating that problems that are not identified cannot be solved, because state policy will not evolve to meet needs that are not known to exist. The Brief states that over $500 million has been spent by the United States federal government to support the effective use of data in school systems and the return on that investment is dismal. The brief stresses the importance of data reporting being easy to access and accurate (National Governor's Association, 2012).

The overarching concern of this type of study is data quality. Betebenner and Linn discussed related data quality issues in an exploratory seminar, *Measurement Challenges within the Race to the Top Agenda,* which addressed the nature of data quality concerns in communicating educational progress. Betebenner and Linn propose, "Longitudinal data analysis techniques and inferences associated greatly inform the quality of growth analyses" (Betebenner & Linn, 2009). Betebenner and Linn reinforce concerns about insufficient research to motivate consistency in standardized practices for analyzing educational data and reporting educational progress. In a separate article published the same year, Betebenner describes the needs of the public and the school based stakeholders in deriving meaning from test scores and accountability systems as determined through surveys: understanding student growth (Betebenner, 2009).

## Summary

The review of literature establishes that the movement of test-based accountability driven by the NCLB Act of 2001 has resulted in outcomes that support questioning the achievement of students by groups and the closing of the achievement gap in Florida. Under NCLB:

- Student achievement has not been increased nationwide.
- The achievement gap between student groups has not been diminished.
- Student achievement data is not used effectively to improve schools systems.
- Instruction has not improved and learning has not advanced.

Effective use of data to inform the public and the school system decision makers about learning progress is not an established standard in the Florida school system, and should be. The representation of learning progress in Florida is not disclosed with focus on achievement issues that are problematic and call for system reforms.

This review of literature confirms the need for analysis of student achievement that is used for accountability purposes. The purpose of this study is reinforced by the literature: there is a need to identify the problem in the variances of student achievement among student groups.

# CHAPTER 3
# METHODOLOGY

This chapter provides the methodology and design of the research used for this study. Initially, the research methodology is explained, followed by descriptions of the variables of consideration, representation of findings, origin and sources of the data, instrumentation, assumptions, and limitations. The chapter concludes with a summary of the methodology used.

## Research Methodology

To achieve the intended outcome for this research, descriptive statistics and statistically analysis were used with FCAT score summary reports in reading. The percentage of students reported as making sufficient progress by achieving level three or above considered by year and by student groups is provided. The statistical analysis was performed using SPSS Version 21.

In general, each research question required the following analysis:

1. Evaluation of the data that are the basis of the information the state provides about school performance and student achievement in Florida's public schools, FCAT/FCAT 2.0 scores in reading, in aggregated and disaggregated comparative charts for the years of 2002 to 2013.

2. Analysis of the performance in reading of students by groups in grades three through ten from 2002 to 2013 to identify trends of achievement among student groups.

3. Comparison of the achievement of student groups and consideration of the results in comparison to public reports released by the FDOE about the progress of the state's schools.

### Research Question One

Research question one required determination if the FCAT/FCAT 2.0 reading scores for all students overall indicated significant learning progress from 2002 to 2013. The reports of the percentage of students scoring at level three and above on FCAT in

reading for each year from 2002 to 2013 was obtained from the FDOE website. The percentage of students who scored at and above level three for all students was compared from 2002 to 2013, and for each school year in between. So, 2002 was compared to 2013, 2002 was compared to 2003; 2003 was compared to 2004, etc., to determine the statistical significance of the differences across the years and each pair of years within the time period. Statistical analysis was used to determine the significance of the differences of the scores. Where there was a statistically significant difference, the student's learning progress was determined to be significant. Where the difference was not statistically significant, the student's learning progress was determined not to be significant. T-test procedures were used for this process because the independent variable consists of only two categories. This step compared the scores of one group of students over two time periods in each procedure. Paired t-tests are selected because the units of analysis are the same. Statistical significance was set at the standard criterion for assessing significance in a t-test, .05. One tailed tests were used for the directional test. The degree of freedom for comparing the eight grade levels was $t(7)$.

**Research Question Two**

Research question two required the analysis of the differences between the percentage of students in four groups who achieved level three and above on FCAT in reading from 2002 to 2013 and each one year span within that period. The reports of the percentage of students who achieved a level three and above on FCAT in reading were obtained from the FDOE website. The results for four student groups were analyzed for question two: African American, economically disadvantaged, Hispanic, and White. The percentage of students in each group achieving level three and above

on the test were statistically compared. ANOVA, a one way analysis of variance, was the statistical tool used for analysis of the differences and determination of the significance of the differences. ANOVA is commonly used when the independent variable has three or more categories. Subsequently, where the difference in outcomes of the four groups had statistical significance, the next step determined which pair of the groups had the significant difference. Post hoc Tukey tests were used to determine which pair of the groups compared cause the significance.

**Research Question Three**

Research question three required analysis of the learning progress indicated by the scores within each of the student groups studied: African American, economically disadvantaged, Hispanic, and White. The reports of the percentage of students within each group who achieved a level three and above on FCAT in reading were obtained from the FDOE website. The percentage of students who achieved level three and above were compared from 2002 to 2013, and for each one year span within that period, for each student group. The comparisons were statistically analyzed to determine if significant progress occurred across the time period, and if significant progress occurred in each one year span within that period. So, the percentage of students achieving level three and above in 2002 was compared to 2013, and 2002 was compared to 2003, 2003 was compared to 2004, 2004 was compared to 2005, etc., for each group. Paired t-test procedures were used to compare percent of students scoring at or above level three on FCAT in reading in each group, across the years, and within each year span, to determine if significant progress was made.

## Variables of Consideration

To address the research questions, data points of FCAT/FCAT 2.0 scores analyzed include

1. The statewide results of FCAT/FCAT 2.0 in reading from 2002 to 2013
2. The results of FCAT/FCAT 2.0 in reading disaggregated by student profiles
3. The total number of students tested and the percentage all students tested who scored at achievement level three and above
4. The number of students tested in the African American, economically disadvantaged, Hispanic, and White groups and the percentage in each group who scored at achievement level three and above

The FCAT score reports are presented on the FDOE Demographics website with scores categorized by learner profiles that include student demographic information, including socioeconomic status, ESE status, ELL status, and racial/ethnic group classification. The state's technical assistance guides were studied to determine the processes used by the state to produce the score reports. The processes used by the state reveal which student groups' scores are attributed to each of the achievement levels. Upon clarification of the students' scores included in each achievement level and learner profile classification, these classifications were compared over the 12 year period to identify consistent groups to compare across the years. The state designates that students scoring at level three and above are meeting the learning standards satisfactorily, also described as performing at or above grade level (Florida Department of Education, 2013d).

In addition to test scores, enrollment membership data are considered to compare quantities of students tested and determine the impact to outcome if present. Upon analysis of the technical assistance guides and enrollment data, clarification of equitable comparison groups were achieved by determining if there were variances in the components of the score reports.

The research questions required comparison of results for each year. Upon clarification of equitable comparison groups, the amount of change that has occurred each year, by each of the categories, was analyzed. Ultimately, the amount of change per year for each of the 12 years, and for the 12 year period overall, for each of the student profile groups was determined.

The research questions required descriptive analysis of the test scores in the score categories listed, across the 12 year period to identify the progress in student achievement by grade level. For this purpose, comparative analysis determined the state's results for the FCAT/FCAT 2.0 test score data for:

1. Each student group and for all students in aggregate
2. All grade levels in aggregate
3. Each year and for the 12 year period in aggregate
4. Achievement of level three or above
5. In reading

The null hypothesis is that there was no significant progress over the years for students overall, no significant differences of achievement among demographic groups of students, and no significant progress of students in the racial and socio-economic groups studied.

## Origin and Sources of Data

All data analyzed for the study were obtained online from the FDOE website. The FDOE website offers public access to FCAT/FCAT 2.0 score reports by district and school, according to student groups, and for the subject area studied, reading, over the years of study, 2002 to 2013. The FCAT/FCAT 2.0 results and the school grades for each level of school and all schools overall, for all years of the study, were obtained from the FDOE website. The FDOE website offers access to all students' scores in

unidentifiable groups meeting accountability criteria for school grades and NCLB/AYP purposes. The FDOE website also provides all TAGs for the score reports.

## Instrumentation

The state of Florida chose FCAT/FCAT 2.0 as the primary source of determining student achievement for most public school students during the years of the study, 2002 to 2013. As related in the introduction, reading achievement on FCAT has been designated by the state for promotion criteria in third grade, special remedial program criteria, and graduation criteria, as well as accountability criteria for schools (Florida Department of Education, 2013f). Therefore, this study focused on FCAT/FCAT 2.0 achievement in reading to determine learning progress over those years. In this study, students' FCAT/FCAT 2.0 scores by achievement at level three and above as defined by the FDOE were analyzed by student groups and in aggregate overall, in reading.

## Assumptions

The validity and reliability of the FCAT/FCAT 2.0 are assumed without question in this study, to reflect the state's practices in evaluating student, school, and district achievement. Assumptions were made that the FDOE Technical Assistance Guides disclose all pertinent and relevant information and updated modifications to understand the way the FCAT/FCAT 2.0 scores are derived, compiled, and presented for public use.

## Limitations

The study limitations include access to information that is made publicly available by the FDOE. Additionally, the limitations presented by the use of the FDOE FCAT/FCAT 2.0 score reports and the information provided in the FDOE's TAGs were imposed upon this study. The FDOE changed the way the students' scores affected

designation of achievement levels across the 2010 and 2011 school years. Therefore, there are limitations to the validity of the achievement of level three and above as the definitive indicator for successful learning. However, the focus of the study is the state's communicated progress to the public, rendering the state's designation of achievement of level three on FCAT/FCAT 2.0 the measure to investigate. The designation is also the state's primary basis for assigning school grades, the means of communicating school quality and progress.

Additional limitations occur with the comparison of groups that contain duplicate student scores. The groups selected for study are the students classified as African American, economically disadvantaged, Hispanic, and White. Duplication occurs because economic disadvantage occurs across all groups. Scores for economically disadvantaged students are duplicated within the scores for the African American, Hispanic, and White students. Additionally, scores for African American, Hispanic, and White students are duplicated within the scores for the economically disadvantaged students. The significance of the limitation is reduced with acknowledgement and offset by the expectation of learning progress for all student groups, regardless of grouping.

## Summary

In summary, this study used the FCAT/FCAT 2.0 test scores published by the FDOE and compared those scores among student groups to identify achievement progress overall and by groups. The study considered the progress made by all students and by students in the African American, economically disadvantaged, Hispanic, and White groups and compared that progress to the designation of quality and progress the state attributes to schools under the school grade system: the percentage of students achieving level three and above. The study used paired t-tests

to compare progress of students overall for the years studied, ANOVA to compare defined groups to analyze progress of the efforts to close the achievement gap, and paired t-tests to determine progress within each group selected for the study. Compilations of the results in tables facilitate understanding of all of the students' scores and the progress over time by students in Florida's public schools.

# CHAPTER 4
# RESULTS AND ANALYSIS OF DATA

The results of the research study are presented in this chapter. The purpose of the analysis of the data was to clarify the progress in reading achievement represented by FCAT/FCAT 2.0 scores over the 12 years from 2002 to 2013. The student groups for whom the progress was analyzed were students overall and African American, economically disadvantaged (as defined by the state), Hispanic and White. The analysis was performed to determine the progress of the students overall, compare the progress in closing the achievement gap between the student groups, and determine the progress achieved by each of the students groups studied. The researcher analyzed the FCAT/FCAT 2.0 results in reading of students in grades three through ten focused on the percentage of students achieving level three or above. The FCAT/FCAT 2.0 reading results were selected because the FDOE requires the testing every year from grade three through grade ten, uses the scores in calculations that determine third grade promotion, student program placement in grades three through ten, and as criteria for graduation with a standard diploma (Florida Department of Education, 2013f; Florida Department of Education, 2014e).

## Research Questions

The results and analysis for the following research questions were addressed:

1. What do the FCAT/FCAT 2.0 reading scores of 2002 to 2013 disclose about the achievement of students overall?
2. What are the differences when comparing FCAT/FCAT 2.0 reading scores of 2002 to 2013 of students by race and socio-economic groups?
3. To what degree do students achieve passing scores on FCAT/FCAT 2.0 reading when analyzed by racial and socio-economic groups?

## Analysis

From the reports provided by the FDOE, the study analyzed data showing the number of students tested and the percentage of students scoring at level three and above in reading by grade level for all students and for each group of African American, economically disadvantaged (Econ. Dis.), Hispanic, and White students, for grade levels three through ten, from 2002 to 2013.

Table 4-1 provides an overview of the number of students' scores analyzed. All students in regular educational programs in public schools in Florida are required to take FCAT in reading in grades three through ten (Florida Department of Education, 2013f). The changes in the number of students tested overall represents the trend in changing numbers of students within each demographic group. The Hispanic group increased over the period. The economically disadvantaged group increased over the period, as well. The White group decreased over the period by over 100,000 students. The African American group decreased slightly from 2002 to 2013.

Table 4-1. Students tested.

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|
| African American | 357,502 | 362,469 | 363,352 | 363,991 | 359,725 | 354,511 |
| Hispanic | 303,648 | 323,656 | 340,947 | 358,304 | 372,249 | 381,595 |
| Econ. Dis. | 701,361 | 720,572 | 774,982 | 752,495 | 737,151 | 733,034 |
| White | 781,188 | 783,520 | 784,030 | 779,581 | 763,126 | 742,230 |
| All | 1,498,688 | 1,533,913 | 1,559,082 | 1,580,536 | 1,582,232 | 1,571,818 |
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| African American | 352,127 | 350,214 | 350,113 | 353,129 | 352,991 | 352,415 |
| Hispanic | 386,813 | 393,101 | 414,203 | 443,894 | 454,338 | 466,627 |
| Econ. Dis. | 754,239 | 803,361 | 873,660 | 906,218 | 933,227 | 946,833 |
| White | 723,516 | 711,615 | 700,322 | 678,717 | 668,774 | 660,085 |
| All | 1,560,826 | 1,582,232 | 1,571,818 | 1,570,656 | 1,573,009 | 1,578,282 |

(Florida Department of Education, 2013g)

Table 4-2 shows the number of students in each group studied by percentages. The FDOE did not release data for economically disadvantaged students for 2001.

Table 4-2. Percent change in number of students tested, 2001-2013.

| Percent Change | 2001-2013 |
|---|---|
| African American | 3.22 |
| Hispanic | 70.19 |
| Econ. Dis.* | 35.00 |
| White | -14.45 |
| All Students | 9.38 |

*Change is calculated from 2002 to 2013 for economically disadvantaged students.
(Florida Department of Education, 2013g)

Table 4-2 displays the significant increase of over 70% in the population of the Hispanic students from 2001 to 2013 in Florida's public schools. From 2002 to 2013, there was a 35% increase in the number of economically disadvantaged students. From 2001 to 2013, the number of White students tested in Florida's public schools decreased over 14%. Overall, the number of students tested increased by over 9% during the time of the study. The changes each year are reflected in Table 4-3.

Table 4-3. Percent change in number of students tested annually.

| Percent change | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 | 2006-07 |
|---|---|---|---|---|---|---|
| African American | 4.71 | 1.39 | 0.24 | 0.18 | -1.17 | -1.45 |
| Hispanic | 10.74 | 6.59 | 5.34 | 5.09 | 3.89 | 2.51 |
| Econ. Dis. | * | 2.74 | 7.55 | -2.90 | -2.04 | -0.56 |
| White | 1.24 | 0.30 | 0.07 | -0.57 | -2.11 | -2.74 |
| All | 3.87 | 2.35 | 1.64 | 1.38 | 0.11 | -0.66 |
| | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
| African American | -0.67 | -0.54 | -0.03 | 0.86 | -0.04 | -0.16 |
| Hispanic | 1.37 | 1.63 | 5.37 | 7.17 | 2.35 | 2.70 |
| Econ. Dis. | 2.89 | 6.51 | 8.75 | 3.73 | 2.98 | 1.46 |
| White | -2.52 | -1.64 | -1.59 | -3.09 | -1.46 | -1.30 |
| All | -0.70 | 1.37 | -0.66 | -0.07 | 0.15 | 0.34 |

*FDOE did not release data about the economically disadvantaged students in 2001.
(Florida Department of Education, 2013g)

Table 4-4 displays the percentage of students achieving level three and above on FCAT in reading, 2002 to 2013 for the groups studied and students overall for all grade levels. The FDOE states that achieving level three on the test signifies demonstrating satisfactory performance (Florida Department of Education, 2013f). Achievement levels are significant in understanding the communications provided to the public about system success because they are used to derive the grades of A, B, C, D, or F for schools and districts (Florida Department of Education, 2013i).

Table 4-4. Percentage at level three and above, FCAT reading, 2002-2013.

| % ≥ Level three | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|
| African American | 27.38 | 32.14 | 32.13 | 34.50 |
| Econ. Dis. | 33.25 | 36.00 | 38.88 | 39.75 |
| Hispanic | 37.13 | 39.75 | 42.00 | 44.50 |
| White | 59.63 | 62.75 | 63.50 | 64.63 |
| All | 39.34 | 42.66 | 44.13 | 45.84 |
| % ≥ Level three | 2006 | 2007 | 2008 | 2009 |
| African American | 38.75 | 38.75 | 41.13 | 43.00 |
| Econ. Dis. | 43.38 | 43.75 | 46.25 | 49.13 |
| Hispanic | 49.63 | 49.63 | 51.88 | 54.38 |
| White | 67.25 | 68.50 | 70.88 | 72.13 |
| All | 49.75 | 50.16 | 52.53 | 54.66 |
| % ≥ Level three | 2010 | 2011 | 2012 | 2013 |
| African American | 43.13 | 35.75 | 36.75 | 37.75 |
| Econ. Dis. | 50.63 | 43.88 | 44.75 | 45.75 |
| Hispanic | 57.00 | 50.88 | 51.75 | 52.75 |
| White | 72.13 | 67.88 | 68.25 | 68.63 |
| All | 55.72 | 49.59 | 50.38 | 51.22 |
| 2002-2013 | | | | Average % ≥ Level three |
| African American | | | | 36.76 |
| Econ. Dis. | | | | 42.95 |
| Hispanic | | | | 48.44 |
| White | | | | 67.18 |
| All | | | | 48.83 |

(Florida Department of Education, 2013g)

## School Grades and Student Achievement

Tables 4-5 and 4-6 show that a greater percentage of schools are rated as satisfactory than the percentage of students rated as meeting standards for reading on FCAT in Florida. The tables facilitate comparison of students' successful reading achievement with the award of school grades. Over the study period, the education system was able to cause an increase of less than three percentage points in the percent of elementary school students able to demonstrate meeting the standards in reading. Although only 59% of elementary school students achieved level three in reading on FCAT in 2013, over 82% of elementary schools received a school grade of A, B, or C. Table 4-5 shows the percent of schools achieving the grades of A, B, or C, and therefore being considered at or above meeting minimum accountability performance standards by the state's Bureau of School Improvement. This demonstrates the nature of the conclusion of the Harvard study reviewed earlier: the perception of school quality is not consistent with the performance of the students enrolled in Florida's schools. The accountability ratings of schools are based on points derived from students' FCAT test results. However, the schools' ratings exceed the students' achievement. The accountability ratings of schools do not provide an accurate, transparent tool for stakeholders to use to understand the learning progress of students in schools. Averaged over the years of 2002-2013, the state communicated that over 94% of elementary schools performed at the A, B, or C, levels of accountability, based on the point system derived from students' scores and altered periodically by the FDOE. Less than 65% of elementary school students achieved level three or above on FCAT in reading during that period. Averaged over the same period, almost 94% of middle schools were awarded a school grade of A, B, or C, while the

percent of middle school students who achieved level three or above in reading on FCAT averages out to be below 57%. Over the period, 79% of high schools were awarded the A, B, or C grades while less than 41% of high school students achieved a level three or higher in reading on FCAT. The percentage of schools with satisfactory accountability ratings of A, B, or C, is much greater that the percentage of students that have achievement at levels considered satisfactory when all student groups and grade levels are considered.

Table 4-5. School grades by school levels.

| % ABC Schools | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| Elementary | 89.59 | 95.61 | 95.59 | 94.12 | 97.37 |
| Middle | 94.86 | 95.97 | 91.48 | 92.44 | 98.66 |
| High | 82.60 | 81.40 | 72.63 | 70.26 | 79.84 |
| All | 49.09 | 50.35 | 50.21 | 50.34 | 51.64 |
| % Change | | 2.56 | -0.27 | 0.25 | 2.59 |
| % ABC Schools | 2007 | 2008 | 2009 | 2010 | 2011 |
| Elementary | 95.20 | 95.65 | 97.43 | 94.53 | 94.09 |
| Middle | 89.71 | 95.87 | 97.01 | 95.46 | 94.84 |
| High | 66.33 | 78.28 | 67.65 | 85.36 | 93.64 |
| All | 50.45 | 51.74 | 51.89 | 52.14 | 52.46 |
| % Change | -2.31 | 2.56 | 0.29 | 0.47 | 0.62 |
| % ABC Schools | 2012 | 2013 | | Average 2002-13 | Change 2002-13 |
| Elementary | 91.18 | 82.81 | | 94.58 | -7.57 |
| Middle | 86.90 | 79.08 | | 93.93 | -16.63 |
| High | 98.12 | 97.57 | | 79.64 | 18.13 |
| All | 51.70 | 49.44 | | 51.09 | 0.72 |
| % Change | -1.45 | -4.36 | | | |

(Florida Department of Education, 2013f)

Table 4-6. All students' FCAT reading by school levels.

| | % ≥ Level three | | | | |
|---|---|---|---|---|---|
| | 2002 | 2003 | 2004 | 2005 | 2006 |
| Elementary | 56.00 | 60.33 | 65.00 | 68.00 | 69.33 |
| Middle | 48.67 | 51.33 | 50.67 | 51.00 | 57.00 |
| High School | 32.00 | 33.00 | 33.00 | 34.00 | 36.00 |
| All Students | 47.25 | 50.13 | 51.63 | 53.13 | 56.38 |
| | 2007 | 2008 | 2009 | 2010 | 2011 |
| Elementary | 69.67 | 69.67 | 72.00 | 71.00 | 58.00 |
| Middle | 58.00 | 60.33 | 62.33 | 63.33 | 56.33 |
| High | 37.50 | 42.00 | 42.00 | 43.50 | 51.50 |
| All Students | 57.25 | 59.25 | 60.88 | 61.25 | 55.75 |
| | 2012 | 2013 | | Average 2002-13 | Change 2002-13 |
| Elementary | 59.67 | 59.00 | | 64.81 | 5.36 |
| Middle | 56.67 | 57.33 | | 56.08 | 17.81 |
| High | 51.00 | 53.50 | | 40.75 | 67.19 |
| All Students | 56.38 | 57.00 | | 55.52 | 20.63 |

(Florida Department of Education, 2013g)

## Research Question One

Research question one required determination if the FCAT/FCAT 2.0 reading scores for all students overall indicated significant learning progress from 2002 to 2013. The percentage of students scoring at level three and above on FCAT in reading for each year was compared from 2002 to 2013 and for each school year in between. So, 2002 was compared to 2013, 2002 was compared to 2003; 2003 was compared to 2004, etc., to determine the statistical significance of the differences across the years and each pair of years within the time period. Statistical analysis was used to determine the significance of the differences of the scores. Where a statistically significant difference was determined learning progress was determined to be significant. Where the difference was not statistically significant, the students' learning progress was determined not to be significant. T-test procedures were used for this process because the independent variable consists of only two categories. This step compared the scores of one group of students over two time periods in each procedure. Paired t-tests were selected because the units of analysis are the same. Statistical significance was set at the standard criterion for assessing significance in a t-test, .05. One tailed tests were used for the directional test. The degree of freedom for comparing the eight grade levels was $t(7)$.

The percentage of students that achieved at least a level three changed significantly across time, $t(7) = -4.26$, $p = .004$. The percentage of students who achieved at least a level three in 2002 ($M = 46.00$, $SD = 9.47$) was significantly lower than the percentage of students in 2013 ($M = 57.00$, $SD = 2.62$).

Several paired t-test procedures were conducted to determine whether there was a change in the percentage of students who achieved at least a level three from year to

year. The findings in Table 4-8 reveal the percentage of students who achieved at least a level three increased significantly from 2002 to 2003, $t(7) = -4.71$, $p = .001$. The percentage also increased significantly 2005 to 2006, $t(7) = -1.96$, $p = .045$ and 2008 to 2009, $t(7) = -2.30$, $p = .022$. The students progressed significantly from 2002 to 2013 in the ability demonstrating reading skills at or above grade level on FCAT, but, considering the time span, this would be expected. Considering that state accountability system is based on statute, policy, and procedures designed to support annual improvement in schools it would also be expected that teaching and learning would advance each year for all students in the state. However, this analysis reveals that in most years of the study, the percentage of students able to demonstrate the ability to read on or above grade level on FCAT advanced only one or two percentage points. Significant progress was not made each year. Ultimately, by the end of the twelve year study, over 40% of students are unable to read on grade level in Florida schools.

**Research Question One Findings**

The findings in Table 4-7 indicate the percentage of students who scored at satisfactory levels in reading on FCAT progressed significantly over the span of the study, 2002 to 2013. However, Table 4-8 shows that significant progress did not occur every year. The data shows inconsistent progress of all students overall. The findings fail to reject the null hypothesis for question one. Table 4-9 summarizes the findings.

Table 4-7. All students' FCAT reading 2002 to 2013.

| % ≥ Level three | 2002 M | 2002 SD | 2013 M | 2013 SD | t | Sig. |
|---|---|---|---|---|---|---|
| 2002 vs. 2013 | 47.25 | 10.46 | 57.00 | 2.62 | -3.28 | .006 |

Table 4-8. All students' FCAT reading each year.

| % ≥ Level three | M | SD | M | SD | t | Sig. |
|---|---|---|---|---|---|---|
| 2002 vs. 2003 | 47.25 | 10.46 | 50.13 | 11.54 | -4.81 | 0.001 |
| 2003 vs. 2004 | 50.13 | 11.54 | 51.63 | 13.87 | -1.06 | 0.162 |
| 2004 vs. 2005 | 51.63 | 13.87 | 53.13 | 14.68 | -1.47 | 0.092 |
| 2005 vs. 2006 | 53.13 | 14.68 | 56.38 | 15.13 | -1.96 | 0.045 |
| 2006 vs. 2007 | 56.38 | 15.13 | 57.25 | 14.14 | -0.73 | 0.240 |
| 2007 vs. 2008 | 57.25 | 14.14 | 59.25 | 12.26 | -1.82 | 0.506 |
| 2008 vs. 2009 | 59.25 | 12.26 | 60.88 | 13.37 | -2.30 | 0.022 |
| 2009 vs. 2010 | 60.88 | 13.37 | 61.25 | 12.42 | -0.70 | 0.252 |
| 2010 vs. 2011 | 61.25 | 12.42 | 55.75 | 3.20 | 1.63 | 0.735 |
| 2011 vs. 2012 | 55.75 | 3.20 | 56.38 | 4.10 | -0.92 | 0.194 |
| 2012 vs. 2013 | 56.38 | 4.10 | 57.00 | 2.62 | -0.92 | 0.194 |

Table 4-9. Research question one summary of findings.

| Year | Increase |
|---|---|
| 2002 to 2013 | Significant increase |
| 2002 to 2003 | Significant increase |
| 2003 to 2004 | Not a significant increase |
| 2004 to 2005 | Not a significant increase |
| 2005 to 2006 | Significant increase |
| 2006 to 2007 | Not a significant increase |
| 2007 to 2008 | Not a significant increase |
| 2008 to 2009 | Significant increase |
| 2009 to 2010 | Not a significant increase |
| 2010 to 2011 | Not a significant increase |
| 2011 to 2012 | Not a significant increase |
| 2012 to 2013 | Not a significant increase |

## Research Question Two

The second research question sought to determine whether there would be any differences among the studied groups in the achievement of a level three and above on

FCAT in reading from 2002 to 2013. To answer this research question, the percentage of students who achieved level three on FCAT in reading was obtained for students in each of the groups of the study: African American, economically disadvantaged, Hispanic and White. The percentages were compared for each group for each year from 2002 to 2013. Statistical analysis was conducted to determine if there were statistically significant differences in the percentages of students achieving level three and above on FCAT in reading among the student groups.

One-way analysis of variance (ANOVA) procedures were conducted. ANOVAs were conducted because the independent variable, student groups, consisted of four categories, the four student groups of the study. Where a statistically significant difference was determined in the initial calculation, post-hoc Tukey tests were used to determine which pairwise comparisons were contributing to the overall difference.

The findings in Table 4-10 reveal that percentages of students who achieved at least a level three varied significantly across groups from 2002 to 2013. In 2002, White students had a significantly higher mean percentage than African American students ($p$ = .000), Hispanic students ($p$ = .002), and economically disadvantaged students ($p$ = .000). Similarly, in 2003, White students had a significantly higher mean percentage than African American students ($p$ = .000), Hispanic students ($p$ = .003), and economically disadvantaged students ($p$ = .000). In 2004, post-hoc Tukey results indicate that White students had a significantly higher mean percentage than African American students ($p$ = .001), Hispanic students ($p$ = .030), and economically disadvantaged students ($p$ = .011). Note that although the differences were statistically significant, the differences were not as large as the previous years. In 2005, White

students had a significantly higher mean percentage than African American students ($p$ = .003) and economically disadvantaged students ($p$ = .016); there were no significant differences between White and Hispanic students. Similarly, in 2006, White students had a significantly higher mean percentage than African American students ($p$ = .006) and economically disadvantaged students ($p$ = .027). As in 2005, there were no significant differences between White and Hispanic students. The same pattern of findings occurred in 2007: White students had a significantly higher mean percentage than African American students ($p$ = .002) and economically disadvantaged students ($p$ = .012); as in 2005 and 2006, there were no significant differences between White and Hispanic students. In 2008, the pattern reverted to that of 2004: White students had a significantly higher mean percentage than African American students ($p$ = .001), Hispanic students ($p$ = .035), and economically disadvantaged students ($p$ = .004). In 2009, White students did not differ significantly from Hispanic students. White students still had a significantly higher mean percentage than African American students ($p$ = .002) and economically disadvantaged students ($p$ = .017). Again, in 2010, White students did not differ significantly from Hispanic students. White students, however, still had a significantly higher mean percentage than African American students ($p$ = .001) and economically disadvantaged students ($p$ = .017). From 2011 to 2013, White students had a significantly higher mean percentage than African American students ($p$ = .000 during all three years), Hispanic students ($p$ = .000 during all three years), and economically disadvantaged students ($p$ = .000 during all three years). Improvements in the schools and in classroom instruction have not served all students in all student groups. The improvements in schools and in classroom instruction have failed to

address the learning needs of all students. The gap in learning to read at or above grade level is significant across the studied groups for each year of the study.

**Research Question Two Findings**

Table 4-11 shows a summary of the findings derived from the statistical analysis comparing the percentage of students who achieved level three and above on FCAT in reading from 2002 to 2013. Statistical difference was found among the student groups each year of the study. The percentage of students who achieved level three was significantly higher than African American students and economically disadvantaged students each year of the study. The percentage of students who achieved level three was significantly higher than Hispanic students in all years of the study except 2005, 2006, 2007, 2009 and 2010. The data shows significant differences in achievement among groups for most years of the study and rejects the null hypothesis.

Table 4-10. FCAT reading by student groups.

| % ≥ Level three | African American | | Hispanic | | Econ. Dis. | | White | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Year | M | SD | M | SD | M | SD | M | SD | F | Sig. |
| 2002 | 27.38 | 10.28 | 37.13 | 10.52 | 33.25 | 11.63 | 59.63 | 10.89 | 13.53 | 0 |
| 2003 | 29.88 | 11.45 | 39.75 | 11.42 | 36.00 | 11.96 | 62.75 | 11.90 | 12.08 | 0 |
| 2004 | 32.13 | 14.41 | 42.00 | 14.68 | 38.88 | 15.25 | 63.50 | 13.81 | 6.95 | 0.001 |
| 2005 | 34.50 | 15.79 | 44.50 | 15.73 | 39.75 | 16.03 | 64.63 | 14.33 | 5.79 | 0.003 |
| 2006 | 38.75 | 16.47 | 49.63 | 15.69 | 43.38 | 16.67 | 67.25 | 14.64 | 4.94 | 0.007 |
| 2007 | 38.75 | 15.20 | 49.63 | 14.66 | 43.75 | 15.52 | 68.50 | 13.67 | 6.20 | 0.002 |
| 2008 | 41.13 | 13.89 | 51.88 | 12.99 | 46.25 | 13.99 | 70.88 | 11.48 | 7.84 | 0.001 |
| 2009 | 43.00 | 15.19 | 54.38 | 14.01 | 49.13 | 15.25 | 72.13 | 13.09 | 6.06 | 0.003 |
| 2010 | 43.13 | 14.47 | 57.00 | 13.15 | 50.63 | 14.20 | 72.13 | 11.61 | 6.76 | 0.001 |
| 2011 | 35.75 | 3.96 | 50.88 | 3.68 | 43.88 | 3.91 | 67.88 | 3.31 | 107.77 | 0 |
| 2012 | 36.75 | 4.77 | 51.75 | 4.59 | 44.75 | 5.01 | 68.25 | 3.45 | 71.06 | 0 |
| 2013 | 37.75 | 3.92 | 52.75 | 3.01 | 45.75 | 3.37 | 68.63 | 2.62 | 129.29 | 0 |

Table 4-11. Research question two summary of findings.

| Year | African American | Econ. Dis. | Hispanic | White |
|---|---|---|---|---|
| 2002 | Significantly lower | Significantly lower | Significantly lower | Significantly higher |
| 2003 | Significantly lower | Significantly lower | Significantly lower | Significantly higher |
| 2004 | Significantly lower | Significantly lower | Significantly lower | Significantly higher |
| 2005 | Significantly lower | Significantly lower | Not significantly different | Significantly higher |
| 2006 | Significantly lower | Significantly lower | Not significantly different | Significantly higher |
| 2007 | Significantly lower | Significantly lower | Not significantly different | Significantly higher |
| 2008 | Significantly lower | Significantly lower | Significantly lower | Significantly higher |
| 2009 | Significantly lower | Significantly lower | Not significantly different | Significantly higher |
| 2010 | Significantly lower | Significantly lower | Not significantly different | Significantly higher |
| 2011 | Significantly lower | Significantly lower | Significantly lower | Significantly higher |
| 2012 | Significantly lower | Significantly lower | Significantly lower | Significantly higher |
| 2013 | Significantly lower | Significantly lower | Significantly lower | Significantly higher |

## Research Question Three

Research question three required analysis of the learning progress indicated by the scores within each of the student groups studied: African American, economically disadvantaged, Hispanic, and White. The reports of the percentage of students within each group who achieved a level three and above on FCAT in reading were obtained from the FDOE website. The percentage of students who achieved level three and above were compared from 2002 to 2013, and for each one year span within that period, for each student group. The comparisons were statistically analyzed to determine if significant progress occurred across the time period, and if significant progress occurred in each one year span within that period. So, the percentage of students achieving level three and above in 2002 was compared to 2013, and 2002 was compared to 2003, 2003 was compared to 2004, 2004 was compared to 2005, etc., for each group. Paired t-test procedures were used to compare percent of students scoring at or above level three on FCAT in reading in each group, across the years, and within each year span, to determine if significant progress was made.

The findings in Table 4-13 indicate the percentage of African American students who achieved at least a level three changed across time, $t(7) = -3.95$, $p = .003$. The percentage of African American students who achieved at least a level three in 2002 ($M = 27.38$, $SD = 10.28$) was significantly lower than the percentage of African American students in 2013 ($M = 37.75$, $SD = 3.92$).

Several paired t-test procedures were conducted to determine whether there was a change in the percentage of African American students who achieved at least a level three from year to year. The findings in Table 4-13 reveal the percentage of African American students who achieved at least a level three increased significantly from 2002

to 2003, $t(7) = -4.18$, $p = .002$ and from 2004 to 2005, $t(7) = -2.52$, $p = .020$. The percentage also increased significantly from 2005 to 2006, $t(7) = -2.05$, $p = 0.04$; 2007 to 2008, $t(7) = -2.13$, $p = .035$; 2008 to 2009, $t(7) = -1.97$, $p = .045$; 2010 to 2011, $t(7) = -1.96$, $p = .045$; and 2012 to 2013 $t(7) = -2.16$, $p = .034$.

A paired t-test procedure was conducted to determine whether there was a change in the percentage of Hispanic students who achieved at least a level three from 2002 to 2013. The findings in Table 4-14 indicate the percentage of Hispanic students who achieved at least a level three changed across that time, $t(7) = -4.99$, $p = .002$. The percentage of Hispanic students who achieved at least a level three in 2002 ($M = 37.13$, $SD = 10.52$) was significantly lower than the percentage of Hispanic students who achieved at least a level three in 2013 ($M = 52.75$, $SD = 3.01$).

Several paired t-test procedures were conducted to determine whether there was a change in the percentage of Hispanic students who achieved at least a level three from year to year. The findings in Table 4-14 show the percentage of Hispanic students who achieved at least a level three increased significantly from 2002 to 2003, $t(7) = -5.27$, $p = .001$; 2005 to 2006, $t(7) = -2.68$, $p = .016$; 2007 to 2008, $t(7) = -2.26$, $p = .029$; 2008 to 2009, $t(7) = -3.21$, $p = .007$; and 2009 to 2010, $t(7) = -4.93$, $p = .001$.

A paired t-test procedure was conducted to determine whether there was a change in the percentage of economically disadvantaged students who achieved at least a level three from 2002 to 2013. The findings in Table 4-15 indicate the percentage of economically disadvantaged students who achieved at least a level three changed across time, $t(7) = -3.95$, $p = .003$. The percentage of economically disadvantaged students who achieved at least a level three in 2002 ($M = 33.25$, $SD =$

11.63) was significantly lower than the percentage of economically disadvantaged students in 2013 (*M* = 45.75, *SD* = 3.37).

Several paired t-test procedures were conducted to determine whether there was a change in the percentage of economically disadvantaged students who achieved at least a level three from year to year. The findings in Table 4-15 reveal the percentage of economically disadvantaged students who achieved at least a level three increased significantly from 2002 to 2003, $t(7) = -4.92$, $p = .001$; 2007 to 2008, $t(7) = -2.50$, $p = .020$; 2008 to 2009, $t(7) = -3.02$, $p = .008$; and 2009 to 2010, $t(7) = -2.12$, $p = .036$.

A paired t-test procedure was conducted to determine whether there was a change in the percentage of White students who achieved at least a level three from 2002 to 2013. The findings shown in Table 4-16 indicate the percentage of White students who achieved at least a level three changed across time, $t(7) = -2.86$, $p = .012$. The percentage of White students who achieved at least a level three in 2002 (*M* = 59.63, *SD* = 10.89) was significantly lower than the percentage of White students in 2013 (*M* = 68.63, *SD* = 2.62).

Several paired t-test procedures were conducted to determine whether there was a change in the percentage of White students who achieved at least a level three in from year to year. The findings in Table 4-16 reveal the percentage of White students who achieved at least a level three increased significantly from 2002 to 2003, $t(7) = -4.08$, $p = .003$ and from 2007 to 2008, $t(7) = -2.19$, $p = .033$.

Significant improvements in the percentage of students able to demonstrate the ability to read on grade level on FCAT occurred in some years of the study for some groups. However the gains were minimal and ultimately led to less than half of the

students being able to read on grade level in two of the groups studied. Less than 38% of students in the African American group and less than 46% of the students in the economically disadvantaged group were able to demonstrate grade level capacity to read on FCAT at the end of the study. The economically disadvantaged group includes students from all racial, ethnic, and learner profile (ESE, ELL) groups. This indicates the educational system did not sufficiently meet the learning needs of the majority of African American and economically disadvantaged students in reading.

**Research Question Three Findings**

In summary, all student groups showed significant progress in raising the percentage of students who achieved level three and above on FCAT in reading across the span of the study period, from 2002 to 2013. However, not all groups showed significant progress each year in increasing that percentage. The null hypothesis was not rejected by the data analysis.

Table 4-12 shows a summary of the findings. The cells with the word significant indicate that there was significant progress in raising the percentage of students who achieved level three and above on FCAT in reading for the time period indicated in each row by the student groups of each column.

Table 4-12. Research question three summary of findings.

| Comparison years | All students | African American | Econ. Dis. | Hispanic | White |
|---|---|---|---|---|---|
| ‘02 to ‘13 | Significant | Significant | Significant | Significant | Significant |
| '02 vs. ‘03 | Significant | Significant | Significant | Significant | Significant |
| '03 vs. '04 | | | | | |
| '04 vs. '05 | | Significant | | | |
| '05 vs. '06 | Significant | Significant | | Significant | |
| '06 vs. '07 | | | | | |
| '07 vs. '08 | | Significant | Significant | Significant | Significant |
| '08 vs. '09 | Significant | Significant | Significant | Significant | Significant |
| '09 vs. '10 | | | Significant | Significant | |
| '10 vs. '11 | | Significant | | | |
| '11 vs. '12 | | | | | |
| '12 vs. '13 | | Significant | | | |

African American students showed significant progress in improving the percentage of students achieving satisfactory performance levels over the entire study period, from 2002 to 2013, and from 2002 to 2003, 2004 to 2005, 2005 to 2006, 2007 to 2008, 2008 to 2009, and 2010 to 2011. Economically disadvantaged students showed significant progress in improving the percentage of students achieving satisfactory performance levels over the entire study period, from 2002 to 2013, and from 2002 to 2003, from 2007 to 2008, from 2008 to 2009, and from 2009 to 2010. Hispanic students showed significant progress in improving the percentage of students achieving satisfactory performance levels over the entire study period, from 2002 to 2013, and from 2002 to 2003, from 2005 to 2006, from 2007 to 2008, from 2008 to 2009, and from 2009 to 2010. White students showed significant progress in improving the percentage of students achieving satisfactory performance levels over the entire study period, and

from 2002 to 2003, and from 2007 to 2008. The data shows that the group with the higher percentage of students achieving satisfactory performance levels in reading on FCAT, White, improved that percentage less each year than the other groups.

While significant improvements in the percentage of students with satisfactory achievement in reading on FCAT occurred for some groups across the study, the improvement was minimal. Most importantly, less than half of the students in the African American and the economically disadvantaged groups demonstrated capacity to read on grade level. The school system did not sufficiently meet the learning needs in reading of the majority of students in those groups.

Table 4-13. African American students' FCAT reading 2002 to 2013.

| % ≥ Level three | *t* | Sig. |
|---|---|---|
| 2002 vs. 2013 | -3.95 | 0.003 |
| 2002 vs. 2003 | -4.18 | 0.002 |
| 2003 vs. 2004 | -1.79 | 0.090 |
| 2004 vs. 2005 | -2.52 | 0.020 |
| 2005 vs. 2006 | -2.05 | 0.040 |
| 2006 vs. 2007 | 0 | 0.499 |
| 2007 vs. 2008 | -2.13 | 0.035 |
| 2008 vs. 2009 | -1.97 | 0.045 |
| 2009 vs. 2010 | -0.15 | 0.444 |
| 2010 vs. 2011 | 1.96 | 0.045 |
| 2011 vs. 2012 | -1.60 | 0.775 |
| 2012 vs. 2013 | -2.16 | 0.034 |

Table 4-14. Hispanic students' FCAT reading 2002 to 2013.

| % ≥ Level three | *t* | Sig. |
|---|---|---|
| 2002 vs. 2013 | -4.18 | 0.004 |
| 2002 vs. 2003 | -5.27 | 0.001 |
| 2003 vs. 2004 | -1.35 | 0.219 |
| 2004 vs. 2005 | -1.83 | 0.109 |
| 2005 vs. 2006 | -2.68 | 0.032 |
| 2006 vs. 2007 | 0 | 0.999 |
| 2007 vs. 2008 | -2.26 | 0.058 |
| 2008 vs. 2009 | -3.21 | 0.015 |
| 2009 vs. 2010 | -4.93 | 0.002 |
| 2010 vs. 2011 | 1.68 | 0.137 |
| 2011 vs. 2012 | -0.98 | 0.361 |
| 2012 vs. 2013 | -1.18 | 0.275 |

Table 4-15. Economically disadvantaged students' FCAT reading 2002 to 2013.

| % ≥ Level three | *t* | Sig. |
|---|---|---|
| 2002 vs. 2013 | -3.95 | 0.003 |
| 2002 vs. 2003 | -4.92 | 0.001 |
| 2003 vs. 2004 | -1.88 | 0.051 |
| 2004 vs. 2005 | -0.96 | 0.185 |
| 2005 vs. 2006 | -1.80 | 0.575 |
| 2006 vs. 2007 | -0.29 | 0.389 |
| 2007 vs. 2008 | -2.50 | 0.020 |
| 2008 vs. 2009 | -3.02 | 0.008 |
| 2009 vs. 2010 | -2.12 | 0.036 |
| 2010 vs. 2011 | 1.81 | 0.565 |
| 2011 vs. 2012 | -1.11 | 0.152 |
| 2012 vs. 2013 | -1.32 | 0.113 |

Table 4-16. White students' FCAT reading 2002 to 2013.

| % ≥ Level three | *t* | Sig. |
|---|---|---|
| 2002 vs. 2013 | -2.86 | 0.012 |
| 2002 vs. 2003 | -4.08 | 0.003 |
| 2003 vs. 2004 | -0.61 | 0.280 |
| 2004 vs. 2005 | -1.35 | 0.110 |
| 2005 vs. 2006 | -1.63 | 0.124 |
| 2006 vs. 2007 | -1.21 | 0.133 |
| 2007 vs. 2008 | -2.19 | 0.033 |
| 2008 vs. 2009 | -1.45 | 0.099 |
| 2009 vs. 2010 | 0 | 0.499 |
| 2010 vs. 2011 | 1.40 | 0.102 |
| 2011 vs. 2012 | -0.57 | 0.292 |
| 2012 vs. 2013 | -0.48 | 0.322 |

## Summary

The statistical analysis findings show inconsistency in the progress of the percentage meeting standards in reading by students overall, comparatively among racial and socio-economic groups, and by each of the student groups studied, from 2002 to 2013. For all students combined, the percentage of students who achieved at least a level three in reading in 2013 was significantly higher than the percentage of students in 2002. However, significant change did not occur every year.

In comparing achievement at level three in reading for each group each year, a significantly higher percentage of White students achieved level 3 and above than most student groups each year since 2002. In considering the progress made in closing the achievement gap, in all years of the study, one group had a significantly higher percentage of students at achievement level three and above than at least two other groups of students.

Although the percentage of Black, Hispanic, and economically disadvantaged students who achieved at least a level three in reading in 2013 was significantly higher than in 2002, the increase in the percentage of students who achieved at least a level three in reading from one school year to the next was not consistent among the groups.

The data analysis reveals that the educational system in the state of Florida has not closed the achievement gap in reading nor met learner needs sufficiently to cause consistent progress in the percentage of students who can meet the reading standards over the period of the study. This is not consistent with school accountability ratings and school grade reports. The percentage of schools with A, B, or C ratings in 2013 was over 57%, while the percentage of students demonstrating grade level capacity in reading on FCAT was less than 50% for some groups. The 2013 School Grade report

published by the state does not mention the performance of the students by groups (Florida Department of Education, 2014f). The FDOE did not inform stakeholders and serve improvement efforts with transparency and accuracy about the limitations in achievement progress in reading for all student groups over the study period.

# CHAPTER 5
# CONCLUSION

## Summary of Results

This study analyzed the reading achievement of student groups in Florida from 2002 to 2013 to determine the significance of the learning progress of all students, the reduction in the achievement gap between student groups and the specific progress of groups of students. Inconsistent progress was evident for all students and for all student groups, and the gaps in achievement among groups was not significantly reduced.

The first research question asked if there was significant progress for all students across the years of the study. Statistical analysis found that the learning progress of all students has been inconsistent, and significant progress has not occurred in most school years of the study.

The second research question asked if there was a reduction in the gaps of achievement among the student groups studied: African American, economically disadvantaged, Hispanic, and White. Statistical analysis revealed that the reduction in the gaps of achievement between student groups has not been accomplished. The scores show significant differences among student groups has persisted each school year. The school system has not advanced in meeting learner needs and causing learning to occur with equity for all student groups for the span of the study.

The third question asked if each of the student groups showed significant learning progress over the period of the study. The statistical analysis found that no student groups have made significant learning progress every year of the study.

In general, the study considered if the FDOE fully disclosed the achievement progress of the students to the public with transparency. Through review of the data and

school grade reports, the study found the FDOE has not used the data to inform improvements effectively and does not publish reports that fully and accurately disclose achievement data to the public.

The FDOE committed to the steps and elements of the Data Quality Campaign (DQC) as part of the commitment to meet federal standards for state educational systems (Data Quality Campaign, 2013a). The DQC of September 2013 promotes the primary focus of their work as agents of change: “Promotes the development of state longitudinal data systems that not only collect data but also transform them into actionable information that answers critical questions” (Data Quality Campaign, 2013d).

The FDOE uses FCAT achievement data as the primary foundation for communicating educational system success to the public though the school grade program. The communication of schools grades to the public is made without explanation of the FCAT performance of all students by racial, socio-economic and learner profile (ESE, ELL) groups. Beyond that, the criteria for school grades have been changed several times by Florida’s State Board of Education (SBOE). For example, most recently, in 2012, and again in 2013, the SBOE changed the school grade criteria by adding a temporary measure, referred to as a safety net, preventing schools from falling more than one grade level in one year to avoid excessive numbers of schools labeled as failing. This practice is inconsistent with the DQC Action 7:

> Create reports using longitudinal statistics to guide systemwide improvement efforts. Create reports that include longitudinal statistics on school systems and groups of students to guide school-, district-, and state-level improvement efforts. All stakeholders need information on school, district, and state performance to gauge progress and make decisions to support continuous improvement at all education levels. (Data Quality Campaign, 2013b)

The longitudinal data show a decrease in enrollment of White students, the demographic group with an average of almost 70% of students scoring at or above level three over the years of the study. An average of less than 55% of Hispanic students achieved the same level of proficiency over the study years, with an increase of almost 70% in enrollment. An average of less than 50% of economically disadvantaged students scored at or above achievement level three over the study years, while the same group represents almost 60% of the enrollment in Florida's schools (Florida Department of Education, 2013e).

However, the FDOE Media packets communicating the school grades and promoting the success of the educational system to the public do not attempt to explain the deficiency in student success among those groups (Florida Department of Education, 2013j). The DQC criteria for improving schools are to publicize longitudinal data about the systems' success educating all student groups with specificity and transparency to empower stakeholders to collaborate in system reform (Data Quality Campaign, 2013d). The Florida SBOE publications have not identified student achievement issues in school grade reports. The SBOE has changed the school grading criteria with the stated justification of preventing school failure labels from being applied where students do not achieve proficiency in the standards of instruction (Florida Department of Education, 2011b). The result is reduced transparency of disclosure about achievement where student learning needs are unmet.

This study verifies achievement among Florida students has not consistently increased for students overall or among many groups, even though state communications consistently report school improvement among schools. Interestingly,

the need for transparency and accuracy in reporting school improvement was emphasized by the former Commissioner of Education, Tony Bennett, during the SBOE meeting in which he proposed the change in school grades referred to as the 'safety net' to prevent school grades from dropping more than one letter in one year. Mr. Bennett was quoted in the media. "We will have to make sure that everyone understands true school performance," Bennett told reporters. "Data will speak for itself, and how that gets reported out and presented is important" (Smiley & Vasquez, 2013).

The statistical analysis in this study shows the educational system has not resulted in the levels of success for African American or economically disadvantaged students as it has for the other groups studied. However, the diminished progress for some student groups is not included in the report of school grades that communicate school performance to the public. As the former commissioner emphasizes, how data "gets reported out and presented" (Smiley & Vasquez, 2013) is important for the public being able to understand school performance. As noted in the Harvard study included in the literature review, the public does not fully understand school performance in Florida.

The study is limited to evaluating the data concerning the subjects of the study that is made publicly available about the FCAT scores and the schools' accountability ratings. It is not the purpose of the study to investigate the validity of the calculations from which the data is derived. The purpose is focused on the clarification of meaning of the student performance data that is made available to the public that is aligned with the research questions. The study is limited to the evaluation of the meaning of the data disclosed by the state. The study is also limited by the changes in school grades, the changes in the cut scores used to determine achievement levels, and the lack of

transparency with which raw FCAT scores are converted to scale scores and developmental scale scores. Although these issues did not directly affect the study results in response to the research questions, these limitations contribute to the problems in understanding student achievement and school, district, and program performance in Florida.

## Implications

The accountability requirements in the educational systems have been increasingly calling for transparency in reporting progress and utility in acquiring and communicating student and system performance data. The implications of the lack of consistency in student performance and publicized reports of school and district performance are that Florida is not using data effectively to support improvement in the educational systems that serve students' learning needs.

It is commonly understood that a problem cannot be solved until it is acknowledged. Upon acknowledgement of a problem, there are a myriad of strategic approaches and steps to be planned and implemented by concerned stakeholders in an underperforming system. The process of improving Florida's educational system and services so more students demonstrate proficiency meeting reading standards cannot start until the problem of underachievement and inequity in achievement are acknowledged, studied and addressed.

The state of Florida, along with all other states, committed to the DQC ten state actions. Florida has not fulfilled all of the ten state actions. The two actions that Florida has not fulfilled are essential to school improvement processes. Table 5-1 shows the ten actions and the state's implementation status.

Table 5-1. DQC state actions.

| Action | | Reported Status |
|---|---|---|
| 1 | Link state K–12 data systems with early learning, postsecondary education, workforce, social services and other critical agencies. | Done |
| 2 | Create stable, sustained support for robust state longitudinal data systems. | Done |
| 3 | Develop governance structures to guide data collection, sharing and use. | Not done |
| 4 | Build state data repositories (e.g., data warehouses) that integrate student, staff, financial and facility data. | Done |
| 5 | Implement systems to provide all stakeholders with timely access to the information they need while protecting student privacy. | Not done |
| 6 | Create progress reports with individual student data that provide information educators, parents and students can use to improve student performance. | Done |
| 7 | Create reports that include longitudinal statistics on school systems and groups of students to guide school-, district-, and state-level improvement efforts. | Done |
| 8 | Develop a purposeful research agenda and collaborate with universities, researchers and intermediary groups to explore the data for useful information. | Done |
| 9 | Implement policies and promote practices, including professional development and credentialing, to ensure educators know how to access and use data appropriately. | Done |
| 10 | Promote strategies to raise awareness of available data and ensure that all key stakeholders, including state policymakers, know how to access, analyze and use the information | Done |

(Data Quality Campaign, 2014a; Data Quality Campaign, 2014b)

The FDOE has not fulfilled action three and action five. Action three is important because data governance is vital to the management of data, so that school system organizations and agencies can define the roles and responsibilities essential to the process of institutionalizing data quality and effective use of data to improve the system. The DQC asserts the importance of an effective data governance strategy. “Without a data governance strategy, there is no clear ownership of the data, no clear business processes for collecting and reporting data, and no accountability for data quality” (Data

Quality Campaign, 2013c). It is vital that the FDOE fulfill the commitment to an effective data governance.

Action five calls for state educational departments to implement data systems that give all stakeholders timely access to all of the student data needed to inform decision making. It is important that parents, teachers, and appropriate stakeholders can access student-level longitudinal data so that it may be used to evaluate learning and educational systems, determine needs, and monitor progress in improvement efforts (Data Quality Campaign, 2013c).

This study focused on the problem of understanding the achievement data that shows the underachievement and inequity in reading achievement by students in Florida's public schools and discussed the lack of public disclosure, acknowledgment and understanding of the problem. The reduced disclosure and acknowledgement of the problem impedes the ability to understand and attempt to resolve the underlying causes of the deficiencies in the educational system. The progress of the system has not been significant in each of the past twelve years. It is concluded that the efficacy of the system will not be sufficient without major policy and practice changes.

A publicly transparent and accurate method of student achievement data acquisition, reporting, and analysis, with highly accurate disclosure of student learning progress, is needed in Florida. Statute, policy, and regularly practiced procedures to support such a system are vital to facilitation of stakeholders' development and implementation of effective improvement plans and procedures.

The commitment to the ten state actions of the DQC has not been fulfilled in practice and the effect is evident in the student achievement data when analyzed. The

study has shown that the efforts of the state's legislators, policymakers, administrators and teachers have resulted in inconsistent progress in student achievement in reading for over a decade. System improvements in the acquisition and implementation of effective student achievement assessment and reporting measures are needed to support effective improvements.

## Recommendations

This study focused on the data showing student achievement in reading in meeting the learning standards with clarity as to student groups and progress over time. The inconsistency in progress of all students and persistent deficits in achievement by some student groups demonstrates why additional research and action planning and implementation is needed to improve measures to understand and improve learning progress in the system. A committed effort of educational leaders to reform education accountability policy and learning progress monitoring practices is needed.

There are a variety of statute, policy, and agency resources needed to support and facilitate research of the problem and implementation of steps to change accountability policy, evaluate school and student performance responsibly, and report and effectively use longitudinal data to improve schools. Since the state has committed to the standards of the DQC, it would be logically advantageous to use the federal resource for the research and policy reform concepts needed. The DQC provides resources to support the statute and policy reforms needed in Florida.

It is recommended that the state organize and engage leadership in the FDOE and the state's school systems to study and develop strategic plans to implement the policy recommendations and practice plans provided by the DQC. The DQC provides planning tools, policy support reports, and publications providing implementation

guidance that are research based and designed to meet state's needs for developing programs to use data to support improvement in schools. DQC resources that are recommended for the state to use are listed in Appendix C.

Most importantly, the state needs to make a commitment to reforms that alter current practices and lead to the use of student achievement data to inform improvement. The importance of the commitment to reform is superior to all other actions because the state has resources, systems and prior commitments that could have led to improvements but resulted in the limited progress documented in this study. The unity of politicians, legislators, educational leaders and school staff members in making a commitment to reformed improvement efforts, strategically planning their implementation, and establishing ongoing progress monitoring and intervention systems, is vital to overcome the limited learning progress documented in the study.

This study analyzed the percentage of students demonstrating grade level reading skills on FCAT, from 2002 to 2013. The analysis focused on all students, as well as the students in the African American, economically disadvantaged, Hispanic, and White groups. The study found that the progress of students in all groups was not consistently significant, and the achievement gap between the groups was not significantly diminished. The progress represented by the FDOE's School Grade program, the School Grade reports and the FCAT Score reports was not supported through statistical analysis of the percentage of students achieving level three or above on FCAT reading. The study found, in concurrence with the literature, that the progress promised by NCLB, and the test-based accountability systems used over the years of NCLB, did not result in the intended advancements for Florida's students in reading.

APPENDIX A
UNIVERSITY OF FLORIDA INSTITUTIONAL REVIEW BOARD (UFIRB) APPROVAL

UF | Institutional Review Board
UNIVERSITY of FLORIDA

PO Box 112250
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352-392-0433 (Phone)
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December 4, 2013

TO: Synthia D. LaFontaine

FROM: Ira S. Fischler, PhD; Chair
University of Florida
Institutional Review Board 02

SUBJECT: **Exemption of Protocol #2013-U-1453**
Comparative Analysis of FCAT Reading Scores of Unidentified Students by Demographic Groups 2000 to 2013

SPONSOR: None

Your protocol submission has been reviewed by the Board. The Board has determined that your protocol is exempt based on the category listed below:

> *45 CFR 46.101(b)(4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.*

Should the nature of your study change or if you need to revise this protocol in any manner, please contact this office before implementing the changes.

IF:dl

APPENDIX B
ADDITIONAL DATA CHARTS

Table B-1. Number and percentage of students tested.

| Number tested | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|
| African American | 357,502 | 362,469 | 363,352 | 363,991 | 359,725 | 354,511 |
| Hispanic | 303,648 | 323,656 | 340,947 | 358,304 | 372,249 | 381,595 |
| Econ. Dis. | 701,361 | 720,572 | 774,982 | 752,495 | 737,151 | 733,034 |
| White | 781,188 | 783,520 | 784,030 | 779,581 | 763,126 | 742,230 |
| All | 1,498,688 | 1,533,913 | 1,559,082 | 1,580,536 | 1,582,232 | 1,571,818 |
| Number tested | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| African American | 352,127 | 350,214 | 350,113 | 353,129 | 352,991 | 352,415 |
| Hispanic | 386,813 | 393,101 | 414,203 | 443,894 | 454,338 | 466,627 |
| Econ. Dis. | 754,239 | 803,361 | 873,660 | 906,218 | 933,227 | 946,833 |
| White | 723,516 | 711,615 | 700,322 | 678,717 | 668,774 | 660,085 |
| All | 1,560,826 | 1,582,232 | 1,571,818 | 1,570,656 | 1,573,009 | 1,578,282 |
| % tested | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| African American | 23.85 | 23.63 | 23.31 | 23.03 | 22.74 | 22.55 |
| Hispanic | 20.26 | 21.10 | 21.87 | 22.67 | 23.53 | 24.28 |
| Econ. Dis. | 46.80 | 46.98 | 49.71 | 47.61 | 46.59 | 46.64 |
| White | 52.12 | 51.08 | 50.29 | 49.32 | 48.23 | 47.22 |
| % tested | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| African American | 22.56 | 22.13 | 22.27 | 22.48 | 22.44 | 22.33 |
| Hispanic | 24.78 | 24.84 | 26.35 | 28.26 | 28.88 | 29.57 |
| Econ. Dis. | 48.32 | 50.77 | 55.58 | 57.70 | 59.33 | 59.99 |
| White | 46.35 | 44.98 | 44.55 | 43.21 | 42.52 | 41.82 |

(Florida Department of Education, 2013g)

Table B-2. FCAT reading by groups: Changes 2003 to 2013.

| % ≥ Level three | 2003 | Change 2002-3 | 2004 | Change 2003-4 | 2005 | Change 2004-5 | 2006 | Change 2005-6 |
|---|---|---|---|---|---|---|---|---|
| African American | 32.14 | 17.42 | 32.13 | -0.06 | 34.50 | 7.39 | 38.75 | 12.32 |
| Hispanic | 39.75 | 7.07 | 42.00 | 5.66 | 44.50 | 5.95 | 49.63 | 11.52 |
| Econ. Dis. | 36.00 | 8.27 | 38.88 | 7.99 | 39.75 | 2.25 | 43.38 | 9.12 |
| White | 62.75 | 5.24 | 63.50 | 1.20 | 64.63 | 1.77 | 67.25 | 4.06 |
| All | 42.66 | 8.43 | 44.13 | 3.43 | 45.84 | 3.90 | 49.75 | 8.52 |
| % ≥ Level three | 2007 | Change 2006-7 | 2008 | Change 2007-8 | 2009 | Change 2008-9 | 2010 | Change 2009-10 |
| African American | 38.75 | 0.00 | 41.13 | 6.13 | 43.00 | 4.56 | 43.13 | 0.29 |
| Hispanic | 49.63 | 0.00 | 51.88 | 4.53 | 54.38 | 4.82 | 57.00 | 4.83 |
| Econ. Dis. | 43.75 | 0.86 | 46.25 | 5.71 | 49.13 | 6.22 | 50.63 | 3.05 |
| White | 68.50 | 1.86 | 70.88 | 3.47 | 72.13 | 1.76 | 72.13 | 0.00 |
| All | 50.16 | 0.82 | 52.53 | 4.74 | 54.66 | 4.05 | 55.72 | 1.94 |
| % ≥ Level three | 2011 | Change 2010-11 | 2012 | Change 2011-12 | 2013 | Change 2012-13 | Average 2002-13 | |
| African American | 35.75 | -17.10 | 36.75 | 2.80 | 37.75 | 2.72 | 36.76 | |
| Hispanic | 50.88 | -10.75 | 51.75 | 1.72 | 52.75 | 1.93 | 48.44 | |
| Econ. Dis. | 43.88 | -13.33 | 44.75 | 1.99 | 45.75 | 2.23 | 42.95 | |
| White | 67.88 | -5.89 | 68.25 | 0.55 | 68.63 | 0.55 | 67.18 | |
| All | 49.59 | -10.99 | 50.38 | 1.58 | 51.22 | 1.67 | 48.83 | |

(Florida Department of Education, 2013d)

Table B-3. FCAT reading by grade levels: Changes 2003 to 2013.

| All Students % ≥ Level three | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|---|---|---|---|---|---|---|
| Elementary | 56.00 | 60.33 | 65.00 | 68.00 | 69.33 | 69.67 |
| Middle | 48.67 | 51.33 | 50.67 | 51.00 | 57.00 | 58.00 |
| High School | 32.00 | 33.00 | 33.00 | 34.00 | 36.00 | 37.50 |
| ≥ Level three All Grades | 47.25 | 50.13 | 51.63 | 53.13 | 56.38 | 57.25 |

| All Students % ≥ Level three | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|
| Elementary | 69.67 | 72.00 | 71.00 | 58.00 | 59.67 | 59.00 |
| Middle | 60.33 | 62.33 | 63.33 | 56.33 | 56.67 | 57.33 |
| High School | 42.00 | 42.00 | 43.50 | 51.50 | 51.00 | 53.50 |
| ≥ Level three All Grades | 59.25 | 60.88 | 61.25 | 55.75 | 56.38 | 57.00 |

(Florida Department of Education, 2013g)

## APPENDIX C
## DQC RESOURCES

- Why Data Matter in ESEA Reauthorization: Recommendations to Ensure Data Are Used to Improve Student Achievement
- Key Elements for Strengthening State Laws and Policies Pertaining to Student Data Use, Privacy, and Security: Guidance for State Policymakers
- Roadmap for High School Feedback Reports
- Roadmap for Teacher Access to Student-Level Longitudinal Data
- Measuring the Education Pipeline: Common Data Elements Indicating Readiness, Transition and Success
- The Power of State Data: Message Map
- Pivotal Role of Policymakers as Leaders of P–20/Workforce Data Governance
- Recommendations for Statewide Longitudinal Data System Use in the Reauthorization of the Elementary and Secondary Education Act
- Supporting Education Policy and Practice through Common Data Standards
- Investing in Educator Data Literacy Improves Student Achievement: Evidence of Impact
- Supporting Education Policy and Practice through Common Data Standards
- Using Data to Improve Teacher Effectiveness: A Primer for State Policymakers
- Using Data to Increase College and Career Readiness: A Primer for State Policymakers
- Preparing Every Citizen for the Knowledge Economy: A Primer on Using Early Childhood, K–12, Postsecondary and Workforce Data
- From Compliance to Service: Evolving the State Role to Support District Data Efforts to Improve Student Achievement
- Data: The Missing Piece to Improving Student Achievement
- Leveraging the Power of State Longitudinal Data Systems: Building Capacity to Turn Data into Useful Information

(Data Quality Campaign, 2014b)

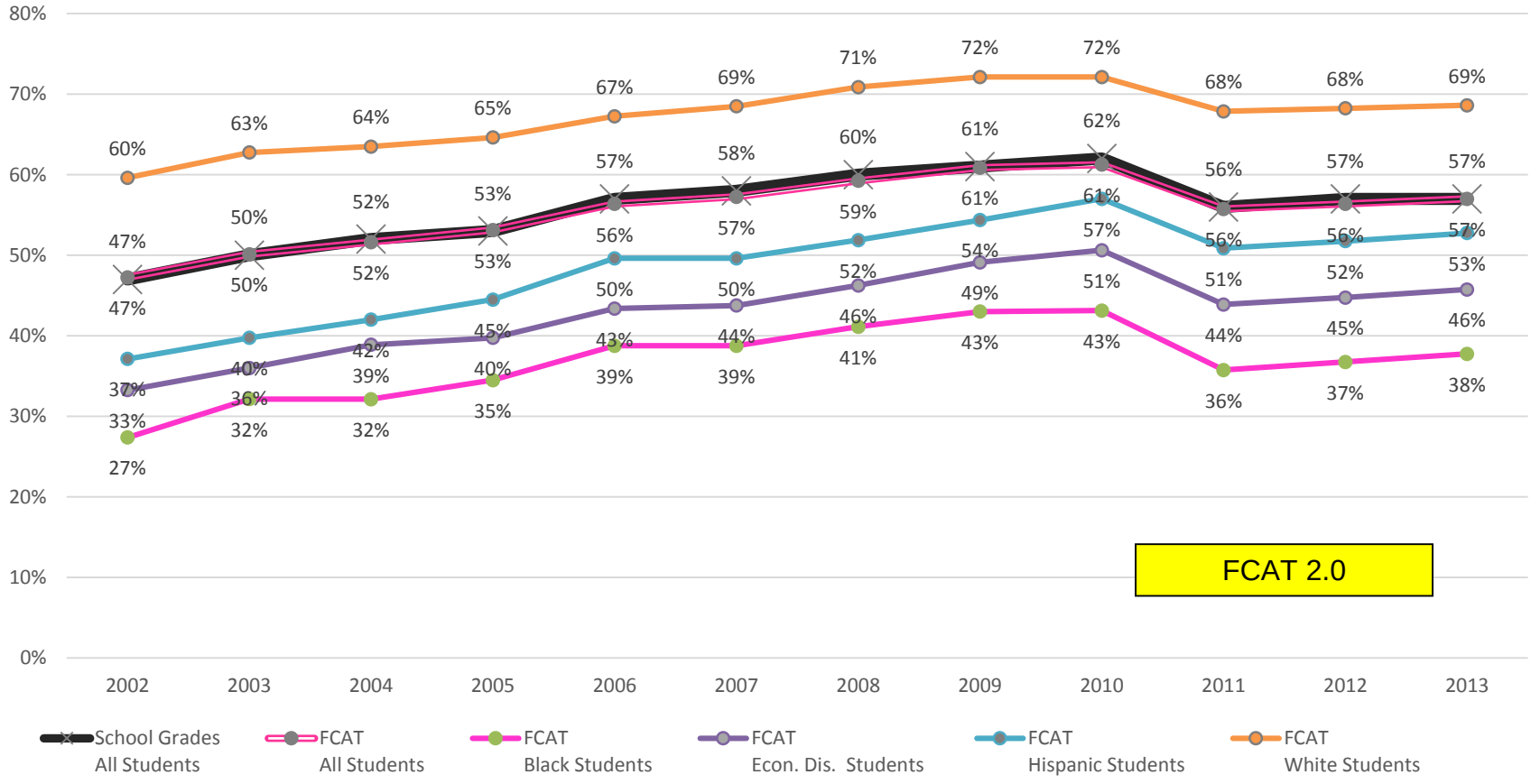


Figure 4-1. Comparison of school grades and FCAT reading averages by groups.
(Florida Department of Education, 2013g)

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# BIOGRAPHICAL SKETCH

Synthia Delina LaFontaine attended the public schools of Fort Worth, Texas. She earned a Bachelor of Arts in Human Learning and Development from Texas Wesleyan University in 1996, with an endorsement in Bilingual Education. In 2003, Synthia earned a Master of Education degree in curriculum and instruction, English for Speakers of Other Languages, (ESOL), from the University of Florida. In 2008, she earned an Educational Specialist degree in educational leadership from NOVA Southeastern University. In 2014, she earned a Doctor of Education degree in educational leadership from the University of Florida.

In Texas, Synthia taught as a bilingual teacher in Fort Worth Independent School District's Sam Rosen Elementary, and taught adults English as a Second Language (ESOL) at Tarrant Count College before moving to Florida in 2000. In Florida, she taught as an ESOL teacher at East Naples Middle School and taught adults ESOL at the Lorenzo Walker Institute in Collier County Public Schools (CCPS). Synthia's administrative positions in CCPS included a site-based administrator at Lorenzo Walker, a district based teacher trainer, and five years as the Coordinator of School Improvement. Subsequently, she became an improvement specialist with the Florida Department of Education, Bureau of School Improvement, Differentiated Accountability Region V team supporting improvement efforts in the public schools of Broward, Palm Beach and Dade counties.