

MEMORANDUM

To: Representative Marlene O'Toole, Chair, Florida House Education Committee
Senator John Legg, Chair, Florida Senate Committee on Education Pre-K – 12

CC: Governor Rick Scott
Pam Stewart, Commissioner, Florida Department of Education

From: Adam Cota, concerned parent and education consultant & Erika Donalds, Collier County School Board member (Biographies enclosed)

Subject: High-stakes testing and lost instructional time

Date: March 24, 2015

Summary of key points:

- Florida's well-documented rise in education performance relative to other states ended abruptly around 2009. Florida has since been stuck "about average" relative to other states and is showing below average gains relative to other states during this period.
- One potential contributor: over-testing. We estimate:
 - Up to 10% of class time may be directly or indirectly lost to testing in 2014-15
 - Students may spend the equivalent of ~1 full school year on testing before graduating high school.
 - Districts and the State may spend ~\$2 billion annually for this lost instructional time
- Several policy recommendations have come forth in recent weeks. Based on our analysis, we find that:
 - ✗ Current bills under consideration must be improved to address the underlying issues. Only ~1% of instructional time is lost directly to testing. Capping direct testing time to 5% fails to address the larger, indirect costs (~8% of instructional time lost). We do not recommend including indirect costs in the cap as this would create an unwieldy bureaucracy required to track and audit lost instructional time.
 - ✗ Commissioner Pam Stewart's recent recommendations do not address the primary issues and inefficiencies associated with the current system. The Commissioner recommends eliminating final exams in classes with state EOC exams. We believe this may further decrease student focus during the weeks and months after the assessments are given leading to additional lost instructional time.
 - ✓ Improvements which will significantly reduce lost instructional time include allowing districts to administer paper tests and reducing or eliminating retakes. Student accountability, including promotion and graduation, will be based on a portfolio of measures or a selection of national, norm-referenced assessments, creating less of a focus on a single test or accountability measure.
- We strongly recommend:
 - Governor Rick Scott direct Commissioner Pamela Stewart to investigate the indirect loss of instructional time associated with on-the-ground testing realities and revise the Department of Education's Assessment Investigation Report ("DOE Report") and make changes to recommendations as needed.

- School districts should conduct their own analysis of instructional time lost directly and indirectly due to standardized testing and revise policies as appropriate.
- The State and its districts should
 - Diversify measures of student learning and accountability to avoid a singular focus on standardized tests and associated unintended consequences.
 - Ensure end-of-course assessments are given at the end of the school year.
 - Allow districts the option to utilize paper-based exams.
 - Limit the class periods missed by students and teachers due to testing.

Table of Contents

Summary of key points	1
Chapter 1. Stuck in the Middle: Florida’s stagnating education performance	4
Chapter 2. The impact of testing: lost instructional time and financial cost.....	9
High-stakes testing and lost instructional time	10
The financial “opportunity cost” associated with lost instructional time	12
Chapter 3. Recommendations	13
Chapter 4. Policy analysis.....	16
APPENDIX.....	17
Appendix A: Trends in Florida’s academic performance	17
Appendix B: Estimating lost instructional time.....	25
Appendix C: Cost calculations	30

Chapter 1. Stuck in the Middle: Florida's stagnating education performance

(See Appendix A for additional details)

Summary

Florida ranks average or below average on most measures of academic performance and college preparation and is no longer improving faster than other states.

Florida's well-documented rise in education performance relative to other states ended abruptly around 2009. Our analysis shows that from 1996 to 2009, Florida posted the 2nd largest gains of any state on the NAEP exams, taking the state from 39th to 24th in the country¹. Since then, education performance has stagnated relative to other states, leaving Florida stuck at "about average" performance – 26th in 2013 (See Figure 1).

While the citizens of Florida should be proud of the educational gains since the mid-1990's, several indicators should give pause for reflection as the State and its districts contemplate changes to its assessment and accountability model:

- Florida ranks about average on NAEP relative to other states. However, in recent years it has posted below average gains and lost ground.
- Improvements in FCAT have also plateaued with modest gains in reading and no gains in math for 5-6 years.
- Half of Florida's graduates cannot read at grade-level².
- High school graduation rates remain among the lowest in the country (rank: 40th).
- College going rates remain average relative to other states.
- The percent of Florida's graduates who score at high levels on the ACT or SAT is significantly lower than the national average, even among states with similar percentage of students tested.
- A larger percent of students attending college in Florida require remediation relative to those in other states (about 54% versus about 40% nationwide.)

Florida saw notable gains in multiple measures from the late 1990's to 2009.

Florida's educational gains across a diversity of measures were impressive in the late-1990's into much of the 2000s³. Significant improvements were achieved in both math and reading at various grade levels according to both the FCAT and NAEP⁴ (Figure 1, Appendix Figures A-1 to A-4). High school graduation rates and college-going rates both increased significantly during that period.⁵ (Figures A-5 and A-6).

¹ Rankings based on NAEP exams given in 1996, 1998, 2009 and 2013. State rankings were calculated by state based on average state rankings across 4th and 8th grade reading and math.

² "Half of Florida's high school grads can't read at grade level, says Bill Proctor". Politifact rated this claim "Mostly True". Accessed February 22, 2015: <http://www.politifact.com/florida/statements/2012/feb/23/bill-proctor/rep-proctor-says-half-high-school-grads-cant-read/>

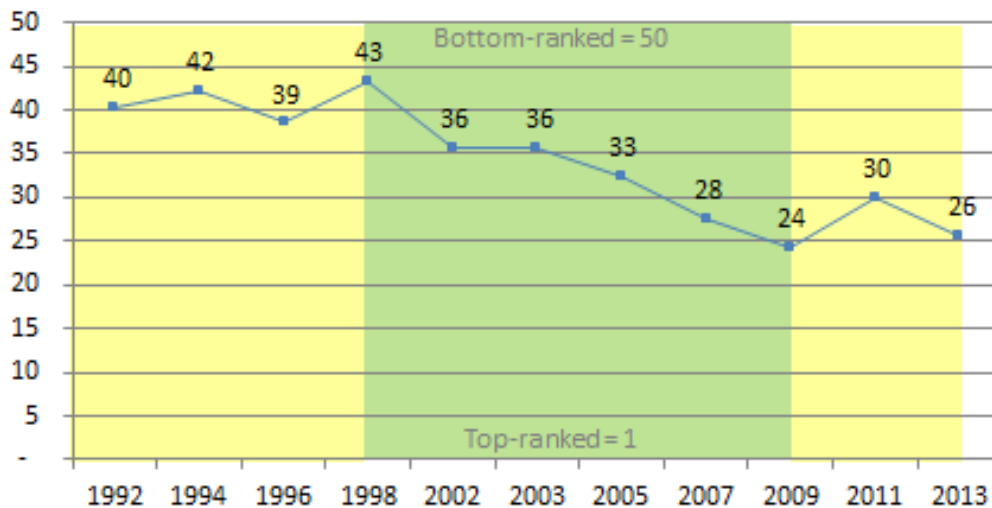
³ According to one analysis, Florida ranked #2 among all states in education gains between 1995 and 2009. See Hanushek, Eric Alan, Paul E. Peterson, and Ludger Woessmann. *Achievement growth: International and US state trends in student performance*. Harvard's Program on Education Policy and Governance, 2012. Accessed March 1, 2015 at: http://www.hks.harvard.edu/pepg/PDF/Papers/PEPG12-03_CatchingUp.pdf

⁴ For NAEP results, see Hanushek, Alan and Peterson. For FCAT, see the Florida Department of Education's February 18th report entitled "Assessment Investigation"

⁵ High school graduation rates are reported in the Florida Department of Education's February 18th report on "Assessment Investigation"

Figure 1. Florida's average NAEP ranking relative to other states

Average rank of Reading and Math, Grades 4 and 8



Note: Normalized for 50 states. Fewer than 50 states participated in NAEP until 2003.

Despite gains, Florida's high school graduation rate trails most other states and the state's college-going rate is about average.

Graduation rates (as calculated using the federal standard) have climbed from about 60% to over 75%. However, Florida still ranks 40th among all states in high school graduation and has for several years⁶ (Figure A-7). The number of high school graduates going directly to college continues to increase but at a similar rate as the national average leaving Florida about average in college participation rates⁷ (Figure A-6).

⁶ High school graduation rates using the federally required standard were accessed for each state at: <http://eddataexpress.ed.gov/data-element-explorer.cfm>

⁷ Data accessed via NCHEMS on March 2, 2015.

While Florida's education system may be doing a better job of preparing students for basic levels of high school proficiency, it may not be preparing students for the rigors of college or more advanced thinking.

The percent of students scoring “advanced” on NAEP assessments in Florida only increased from 5% in 2003 to 6% in 2013 while the national average increased from 5% to 7%. While more of Florida’s graduates during this period took the ACT or SAT and scored in the top 80th percentile nationwide, the increases were not as large as those of other states causing Florida to fall further behind on this measure of top-performing graduates⁸ (Figure A-8). Meanwhile, students who attend college find themselves underprepared. About 54% of Florida’s college freshmen who take a placement exam require remedial education upon matriculation versus about 40% of college freshmen nationwide⁹.

NAEP gains were primarily driven by improvements in 4th grade achievement. However, this progress is not sustained by the time those same students become 8th graders raising questions about the level of learning.

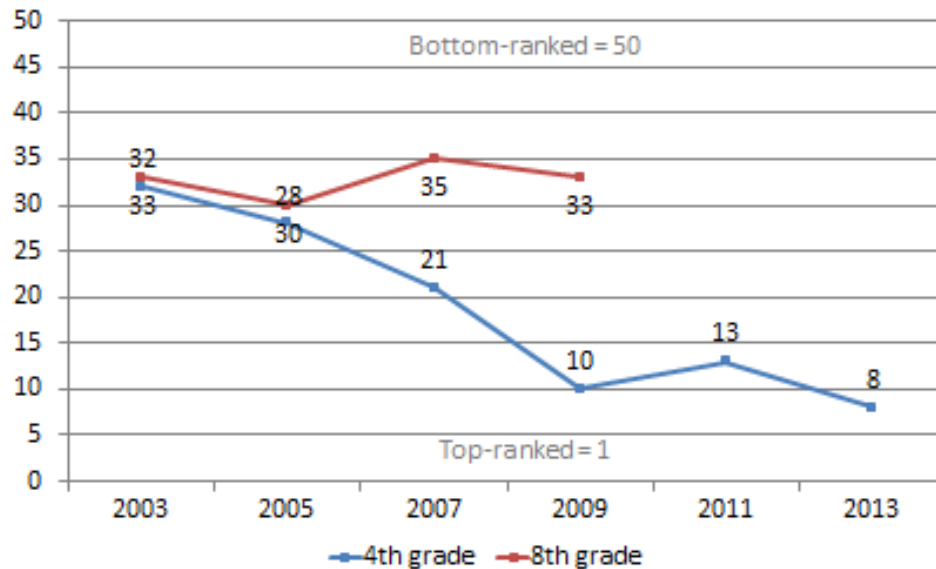
In the last 5-7 years, improvements have been far less consistent than in prior years. Since 2008, reading scores have continued to improve – specifically in 4th grade according to NAEP (Figure 2 and Appendix A). Florida improved from 32nd to 10th in NAEP 4th grade reading between 2003 and 2009 and up to 8th by 2013 (Figure 2 and Appendix A). However, in 2013 the 4th grade cohort from 2009 took the NAEP as 8th graders and failed to sustain their position relative to other states. These students dropped from 10th when they were 4th graders to 33rd as 8th graders.

⁸ Data accessed at NCHEMS on March 2, 2015 at: <http://www.higheredinfo.org/dbrowser/index.php?measure=22>

⁹ “13th Grade: How Florida Schools Are Failing To Prepare Graduates For College”, John O’Connor and Sarah Gonzalez. NPR’s StateImpact, December 3, 2012. Accessed February 22, 2015 at: <http://stateimpact.npr.org/florida/2012/12/03/13th-grade-how-florida-schools-are-failing-to-prepare-graduates-for-college/>

**Figure 2. Florida state rank by cohort over time:
Reading**

Versus that cohort's performance 4 years later in 8th grade



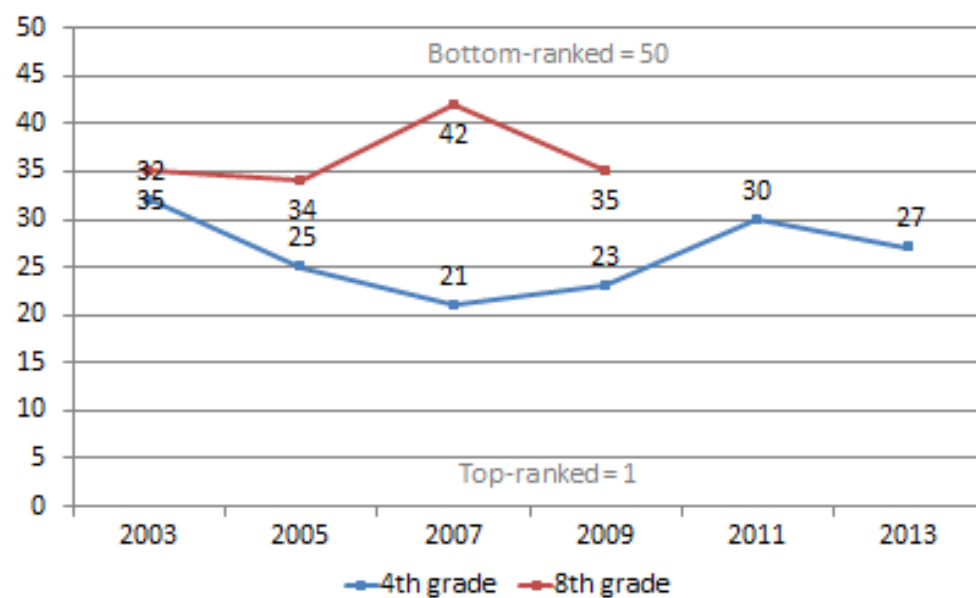
Source: NAEP

Similar patterns are seen in NAEP math (Figure 3 and Appendix A)¹⁰. However, unlike reading, the rise in rankings relative to other states in 4th grade math was not sustained beyond 2007. Since 2007, Florida's ranking in 4th grade math has fallen from 21st to 27th. Like reading, the gains made by 4th graders in math are not sustained by those same students when they become 8th graders.

¹⁰ From 1996 to 2007, Florida improved its average 4th grade math scale score by 26 points – the 2nd largest improvement of any state in the country. However, by 2013 Florida had fallen down to 27th and was one of only 12 states during that period to have failed to improve their average scale score. This pattern was repeated for most other grades and subjects (See Appendix for additional detail).

Figure 3. Florida state rank by cohort over time: Math

Versus that cohort's performance 4 years later in 8th grade



Source: NAEP

Chapter 2. The impact of testing: lost instructional time and financial cost

(See Appendix B for additional details including assumptions and sample calculations)

Summary

We estimate:

- Florida students may be losing almost 10% of class time to testing in 2014-15 including FSA exams, EOCs, benchmarks, first-time takers and retakes, and other lost instruction time. (See appendix for estimates and additional detail.)
- If true, this means that students could spend the equivalent of ~1 full school year on testing before graduating high school.
- Collier County Public Schools may be spending over \$35 million to test students, including the cost of transportation, instruction, etc. while the state of Florida would spend almost \$2 billion annually.

Previous estimates have focused narrowly on the actual seat-time required to take an exam – the “direct” loss of instructional time. Our estimate encompasses the indirect loss of instruction time due to the “on the ground reality” of testing administration. This includes direct testing time, the impact on classes not being tested and the loss of student and teacher focus after high-stakes testing is completed. This “indirect” loss of instructional time may be up to 5-10 times larger than the direct loss of instructional time generally cited by others.

We estimate that the largest amount of lost time (about 6.2% of the school year) comes from the scheduling of FCAT/FSA exams and state-mandated end-of-course assessments several weeks or even months before the end of the school year. Anecdotal evidence suggests that class time is less productive following these exams and students less focused leading to wasted instructional time.

Students spend approximately 2.2% of the school year taking or retaking state- and district-mandated assessments or preparing for the exams. This includes psychological preparation such as FCAT “prep rallies” and motivational assignments which have been reported (e.g. flash mobs and music videos). An additional 1.1% of instructional time is lost when non-exam takers have their classes disrupted when teachers are called away to proctor exams, when classes are left partially empty when select classmates are called out of class to take exams, or when class periods are cut short on testing days (e.g. 35-minute class periods for non-testing classes.)

High-stakes testing and lost instructional time

While Florida's education reform engine appears stalled, parents and educators have voiced near unanimous concerns about "over-testing", suggesting that precious instructional time is lost due to the direct and indirect effects of testing. Some have suggested that up to 40% of instructional time may be lost due to testing¹¹. Meanwhile, state officials and some education reformers have claimed that testing requires less than 1% of the available instructional time – a claim that PolitiFact rates "false" on its Truth-o-meter¹². Despite these widely varying estimates, most acknowledge that testing and accountability have contributed to Florida's gains. At the same time, those on both sides of the debate suspect that the pendulum has swung too far with respect to time and focus spent on testing.

Anecdotal evidence suggests that Florida's state-mandated testing program leads to a significant loss of instructional time beyond the direct 'seat time' impact. However, to date, estimates from state and district officials have neglected to quantify indirect loss of instructional time and instead have focused only on the direct losses due to testing 'seat time'.

In this memo we outline our estimates of the indirect and direct lost instructional time and related costs associated with high-stakes testing¹³. **It is recommended that a thorough analysis be conducted to confirm these assumptions.**

There are three primary sources for the analysis in this memo:

- Information provided by Collier County Public Schools at their December workshop on Assessments. Includes the numbers and types of tests, applicable grade levels and the amount of time scheduled for each test.
- Detailed budget data published online by the Florida Department of Education by district¹⁴.
- An informal survey of Collier County teachers.

Across all assessments, the biggest source of lost time was the loss of focus at the end of the year for high-stakes assessments which are, in many cases, given weeks or months in advance of the end of the school year (6.2% of instructional time lost on average across all grade levels and subjects). Anecdotal evidence suggests that students and teachers may lose focus after these high-stakes "end-of-course" assessments. These assessments are meant to assess the key standards learned in that year or class and in many cases account for the largest share of students' grades. Passing certain assessments is also required to graduate or progress beyond 3rd grade. For teachers, student assessment scores are currently 50% of teacher evaluations. Given the high-stakes nature of the assessments, it is predictable that students and teachers may "relax"

¹¹ For instance, a September 16, 2014 blog entry at Stop Common Core Florida states that testing is not "merely a distraction when it takes 40% of instructional time". <http://www.flstopcccoalition.org/blog/2014-09/>

¹² Amy Sherman, "Florida education commissioner says the FCAT takes up "less than 1 percent of the instructional time" during the school year" accessed March 2, 2015 at PolitiFact: <http://www.politifact.com/florida/statements/2012/jul/30/gerard-robinson/florida-education-commissioner-says-fcats-equal-le/>

¹³ Defined as "standardized tests developed specifically for the purpose of evaluating teachers and students. Performance on these tests may result in important consequences to schools, administrators, teachers, and students. Passing could bring rewards to teachers (bonuses) and schools (positive reviews in local newspapers), whereas failure could bring severe penalties to teachers and principals (termination), schools (closure or "take-over"), and to students (denied diploma or retained in grade)." See: Nichols, S. L., Glass, G. V, Berliner, D.C. (2012) High-stakes testing and student achievement: Updated analyses with NAEP data. *Education Policy Analysis Archives*, 20 (20) Retrieved January 28, 2015, from <http://epaa.asu.edu/ojs/article/view/1048>

¹⁴ School District Summary Budgets available at the Florida Education Finance Program (FEFP) website. Retrieved January 28, 2015 from <http://www.fldoe.org/finance/fl-edu-finance-program-fefp/school-dis-summary-budget.stml>

after the assessments are complete without keeping the same pace and focus as they otherwise would to close out the school year. Given the significant amount of instructional time which may be lost or impaired, state and local administrators and policymakers must not simply dismiss these estimates or maintain faith that this loss of focus is not occurring. **It is not a question of “if” this is occurring but really “to what extent” it is occurring.** It would be prudent for all concerned to assess the on-the-ground reality.

Table 1. Instructional time lost by assessment and source of lost time

Assessment	Student days lost	Days / Student (UFTE)	% of school year lost by source			
			Due to direct testing	Due to indirect impact on others	Due to loss of focus at EOY	TOTAL
FCAT	533,412	12.29	0.8%	0.7%	5.4%	6.8%
State-mandated EOCs	129,999	3.00	0.4%	0.4%	0.9%	1.7%
District-required EOCs	24,908	0.57	0.3%	0.0%	0.0%	0.3%
Benchmarks	1,837	0.04	0.0%	0.0%	0.0%	0.0%
CELLA	50,003	1.15	0.6%	0.0%	0.0%	0.6%
FAIR	6,820	0.16	0.1%	0.0%	0.0%	0.1%
TOTAL	740,159	17.21	2.2%	1.1%	6.2%	9.6%

In addition, we estimate that 2.2% of instructional time is lost to direct testing including the time scheduled for students to take assessments as well as discussions to prepare students for the exam. For instance, it has been reported that some schools have FCAT “prep rallies” to motivate students and decrease stress while some teachers have created student assignments to learn “flash mobs” or music videos for the same purposes (a simple YouTube search yields many examples.)

Finally, we estimate that an additional 1.1% of instructional time was wasted when students who were not being tested were not productively engaged in a class. This may be due to teachers being called out to proctor assessments for another class or classrooms being booked for assessments (e.g. computer labs). In addition, when students are called out of classes to take an assessment some classes may be left with many students missing. Teachers must then decide to move ahead without the missing students or slow down the entire class. In the case of students called out to retake exams required to graduate, the missing students may be the weaker students in the class and those least able to make up missed class time. As a result, at least some teachers opt to slow down the rest of the class with anecdotal reports of “movie days” when other students are out of the class for testing.

Summed by exam, the largest contributors to lost classroom time include the FCAT (6.8% of total instructional time lost on average across grade levels) and other state-mandated end-of-course assessments (1.7%).

Additional details and assumptions leading to these estimates can be found in Appendix B. It is clear that the true cost of testing goes well beyond the direct cost of the exam and proctoring or even the lost instructional time when students are pulled out for testing. These estimates do not include the anxiety and other intangible impacts from high-stakes assessments.

The financial “opportunity cost” associated with lost instructional time

(See Appendix C for additional details including assumptions and sample calculations.)

When a student goes to school, there are operational costs required to directly or indirectly support the instructional activities. Direct support of instruction includes the cost of teachers and textbooks. The indirect cost includes the student transportation and facility costs among others.

When a student spends part of a day or all of a day testing, these resources are marshaled to support the assessments. For instance, students are transported to school, in part, to take an exam on exam days as opposed to participating in an instructional activity. Teachers spend their time proctoring exams as opposed to teaching which means that some share of teachers’ salaries is “spent” on exam administration as opposed to direct instruction.

This “opportunity cost” associated with testing is the cost of the resources used to support assessment as opposed to other activities including direct instruction. We estimated this cost as follows:

- District budgets were downloaded from the Florida Department of Education website.
- Variable costs were calculated as costs of instruction, instructional support and general support less food service (which is largely reimbursed through federal funds) and plant operations and maintenance (primarily fixed costs associated with the facilities). For Collier County Public Schools, \$366 million of its \$438 million budget was estimated to be variable costs according to this definition. See the appendix for calculations.
- It is assumed that the “opportunity cost” associated with testing is proportional to lost instructional time. There are a few ways to calculate this, all of which are equivalent but some of which may be more intuitive for some:
 - A variable cost per student per day was calculated to be \$46.84 (see Appendix C). Based on the estimate of 740,159 days lost (17.21 per student) in Collier County Public Schools due to testing (from Table 1 above), the opportunity cost is estimated to be ~\$35 million for Collier County schools alone. Statewide, the variable costs per student per day are calculated at \$38.58 leading to an opportunity cost of \$1.8 billion.
 - Alternatively, one can apply the % of instructional time lost (9.6% from Table 1 above) to the total variable cost for Collier County public schools (\$366 million) and statewide variable costs (\$18.8 billion) to get the same estimated opportunity cost (\$35 million for Collier County Schools and \$1.8 billion for the state of Florida.)

Chapter 3. Recommendations

Given the potential impact on our children of this “indirect lost instructional time”, we strongly recommend the following:

- Governor Rick Scott should direct Commissioner Pamela Stewart to investigate the indirect loss of instructional time associated with on-the-ground testing realities and revise the DOE Report and recommendations as needed.
- School districts should conduct their own analysis of instructional time lost directly and indirectly due to standardized testing and revise policies as appropriate.
- The State and its districts should diversify measures of student learning and accountability to avoid a singular focus on standardized tests and associated unintended consequences.

Should these estimates be confirmed, it is recommended that state policymakers

- Ensure end-of-course assessments are given at the end of the school year (or semester.)
- Allow districts the option to utilize paper-based exams, which can be administered in a shorter period of time than computer-based exams, given constraints on computer lab space and student-to-workstation ratios.
- Administer exams to limit the number of class periods missed by students and teachers. E.g. Implement an “exam week” to further limit shuffling of students and teachers for proctoring (this may require paper-based exams given limits on computer lab space). Limit the number of retakes taken during normal school hours (e.g. consider after-school or Saturday retakes.)

Table 2 below summarizes the expected impact of each of these recommendations on the various causes of lost instructional time (direct and indirect).

Research suggests the state of Florida will need to identify new reforms beyond standardized testing and accountability in order to improve upon recent education gains. For instance, McKinsey & Company studied 20 school systems which showed significant improvement and analyzed over 600 interventions – a database that may be “the most comprehensive database of global school system reform ever assembled”¹⁵. They found that systems required less centralization and reliance on top-down accountability as a school system improved from “fair” to “excellent”. Specifically:

- Systems which improved from “fair to good” relied on “high quality performance data” and “ensuring teacher and school accountability”.
- Systems which improved from “good to great” instead focused on “ensuring teaching and school leadership is regarded as a full-fledged profession.”
- Systems which improved from “great to excellent” are characterized by a shift in “the locus of improvement from the center to the schools themselves” with a “focus on introducing peer-based learning through school-based and system-wide interaction.”

¹⁵ Mona Mourshed, Chinezi Chijioke, and Michael Barber, “How the world’s most improved school systems keep getting better”, November 2010 accessed March 6, 2015 at: http://www.mckinsey.com/client_service/social_sector/latest_thinking/worlds_most_improved_schools

Table 2. Summary of recommendations

Recommendation	Direct loss	Indirect loss of instructional time			
	Direct testing time	Loss of focus at end of year after exams	Loss of the use of the computer lab during testing periods	Students called out of other classes for testing / retesting	Other classes unable to progress because of missing students or teachers called out for proctoring
Revise the DOE Report on testing to account for the indirect loss of instructional time associated with testing	X	X	X	X	X
School districts should conduct their own analysis of instructional time lost directly or indirectly due to testing and revise policies as appropriate	X	X	X	X	X
The State of FL and districts should diversify measures of student learning and accountability to avoid a singular focus on standardized tests and to avoid associated unintended consequences.	X	X			
Ensure end-of-course assessments are given at the end of the school year.		X			
Allow districts the option to utilize paper-based exams, which can be administered in a shorter period of time than computer-based exams, given constraints on computer lab space and student-to-workstation ratios.		X	X		
Administer exams to limit the number of class periods missed by students and teachers.				X	X

Chapter 4. Policy analysis

Several bills are being considered that relate to high-stakes testing and accountability with a goal of reducing lost instructional time. Similarly, Commissioner Pam Stewart filed a report on assessments and offered recommendations.

- ✗ **Current bills under consideration must be improved to address the underlying issues.** SB616 states “*A school district may not schedule more than 5 percent of total school hours to administer statewide, standardized assessments and district-required local assessments.*” It is unclear however, what is counted in this 5%. For instance, at a student level, only ~1% of instructional time is lost directly to testing. Capping direct testing time to 5% fails to address the larger indirect costs (~8% of instructional time lost). Including indirect costs in the cap will create an unwieldy bureaucracy required to track and audit lost instructional time. Perhaps more importantly, it would have no impact on the largest indirect cost to the current assessment model – the loss of focus after end-of-course and other high stakes tests are given.
- ✗ **Commissioner Pam Stewart’s DOE Report and related recommendations miss the primary issues and inefficiencies associated with the current system of assessments and incentives.** By focusing too narrowly on the direct time lost to testing, we believe the DOE Report on over-testing misses the primary issues and inefficiencies associated with the current system of assessments and incentives¹⁶. The Commissioner remains silent on the indirect loss of instructional time due to testing weeks or months before the end of the school year or “shuffling” caused in part by the scheduling challenges associated with computer-based (versus paper-based) assessments. By not acknowledging these indirect costs, the report fails to address the most significant contributor to lost instructional time. For instance, the report recommends eliminating final exams in classes with state EOC exams, which may further decrease student focus during the weeks and months after the exams are given.
- ✓ **Bills should be considered which will significantly reduce lost instructional time by allowing districts to administer paper tests and reducing or eliminating retakes.** Provisions which will empower local districts to set their own assessment schedule (within constraints established by the state) will presumably significantly reduce the loss of focus at the end of the year after assessments are complete. Many exams could be administered on paper, reducing the amount of student and teacher “shuffling” that must occur and easing scheduling issues. Student accountability including promotion and graduation will be based on a portfolio of measures including a selection of national, norm-referenced assessment, creating less of a focus on a single test or set of standardized tests.

We recommend that all policy analysis take into account the indirect costs associated with testing which are outlined in this memorandum.

¹⁶ See the Florida Department of Education’s February 18, 2015 report entitled “Assessment Investigation” accessible at: <http://www.mynews13.com/content/dam/news/static/cfnews13/documents/2015/2/fl-doe-testing-investigation.pdf>

APPENDIX

Appendix A: Trends in Florida's academic performance

Figure A-1. Overview of Florida education performance gains (1/2)

Category	Measure	Historical gains: ~2000-2008	Recent gains: ~2008-current
FCAT	FCAT Reading	2001: 47% pass 2008: 60% pass	2008: 60% pass 2014: ~64% pass*
	FCAT Math	2001: 49% pass 2008: 65% pass	2008: 65% pass 2014: ~67% pass*
NAEP	NAEP Math: 4 th grade	1996: 45% below basic 2007: 14% below basic	2009: 14% below basic 2013: 16% below basic
	NAEP Math: 8 th grade	1996: 46% below basic 2007: 30% below basic	2009: 30% below basic 2013: 30% below basic
	NAEP Reading: 4 th grade	1998: 47% below basic 2007: 30% below basic	2009: 27% below basic 2013: 25% below basic
	NAEP Reading: 8 th grade	1998: 33% below basic 2007: 29% below basic	2009: 24% below basic 2013: 23% below basic
HS graduation	HS graduation rates (federal formula)	'03-'04: 59.2% '07-'08: 62.7%	'07-'08: 62.7% '13-'14: 76.1%
	HS graduation rank vs. other states (federal formula)	N/A	'12-'13: 40 th

* Approximated due to cut-score change during FCAT 2.0 implementation

Source: NAEP, Florida Department of Education, US Department of Education's DataExpress

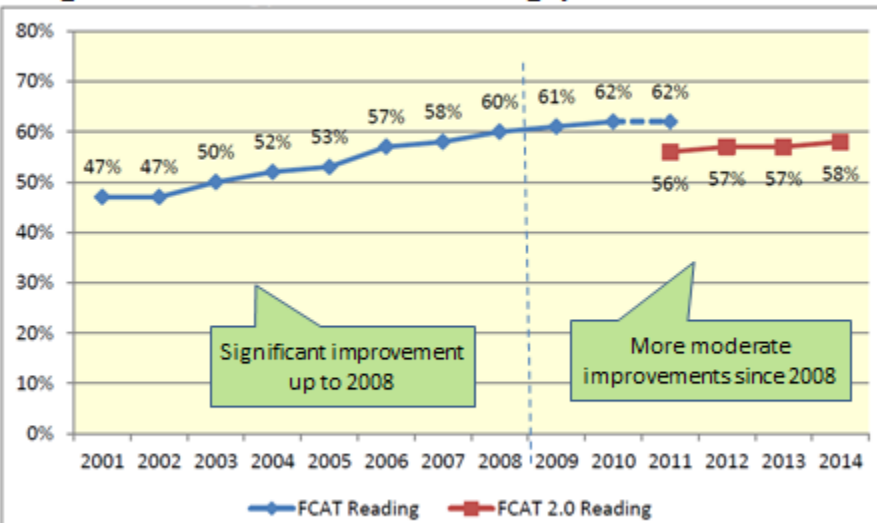
Figure A-2. Overview of Florida education performance gains (2/2)

Category	Measure	Historical gains: ~2000-2008	Recent gains: ~2008-current
College preparation	AP exams with a score of 3 or 4 ("passing score") for every 1000 HS Juniors/Seniors	1998: 101 2007: 197	N/A
	% graduating seniors scoring in 80 th percentile on ACT or SAT	1999: 14.2% 2007: 17.0%	N/A
	% graduating seniors scoring in 80 th percentile on ACT or SAT relative to national average	1999: 0.6% fewer 2007: 1.8% fewer	N/A
College going rate and retention	% of HS graduates going to college direct from HS (relative to national average)	1998: 7.7% below national average 2006: 1.4% below	2010: 0.6% above (FL rate has been at/near national average since 2000)
	First-year college retention: 4-year college (vs. national average)	N/A	2005: 1.2% above nat'l avg. 2010: 0.8% above
	First-year college retention: 2-year college (vs. national average)	N/A	2005: 5.8% above nat'l avg. 2010: 9.8% above
	College remediation rate		Nationwide: ~40% Florida: ~54%

* Approximated due to cut-score change during FCAT 2.0 implementation

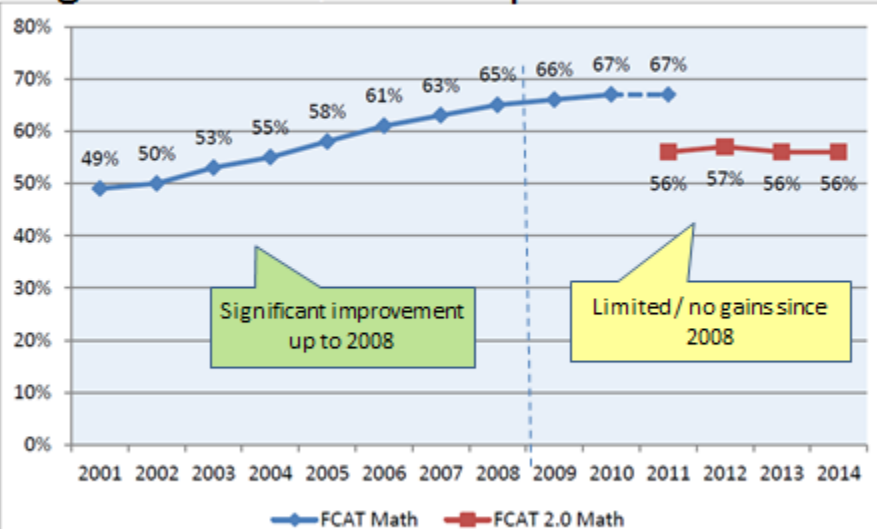
Source: Florida Department of Education, NCHEMS. Remediation data from NPR's State Impact

Figure A-3. FCAT reading performance



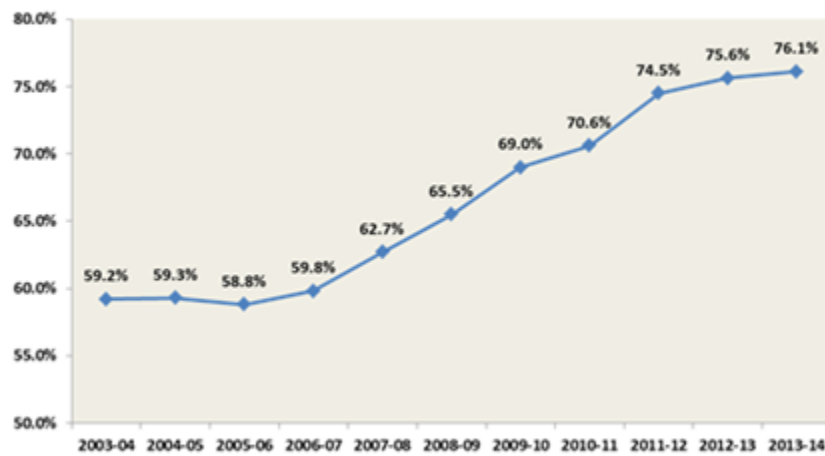
Source: Chart originally appeared without comments in Florida Department of Education's "Assessment Investigation" report released on February 18, 2015. Comments added.

Figure A-4. FCAT math performance



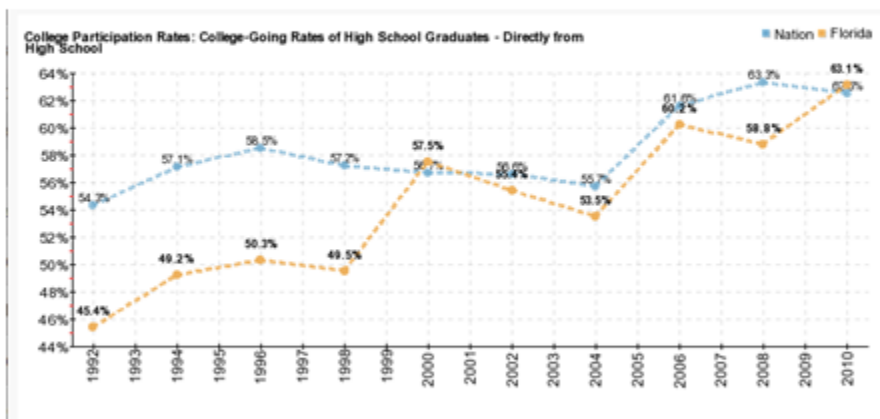
Source: Chart originally appeared without comments in Florida Department of Education's "Assessment Investigation" report released on February 18, 2015. Comments added.

Figure A-5. Florida's graduation rate



Source: Chart originally appeared in the Florida Department of Education's "Assessment Investigation" report released on February 18, 2015.

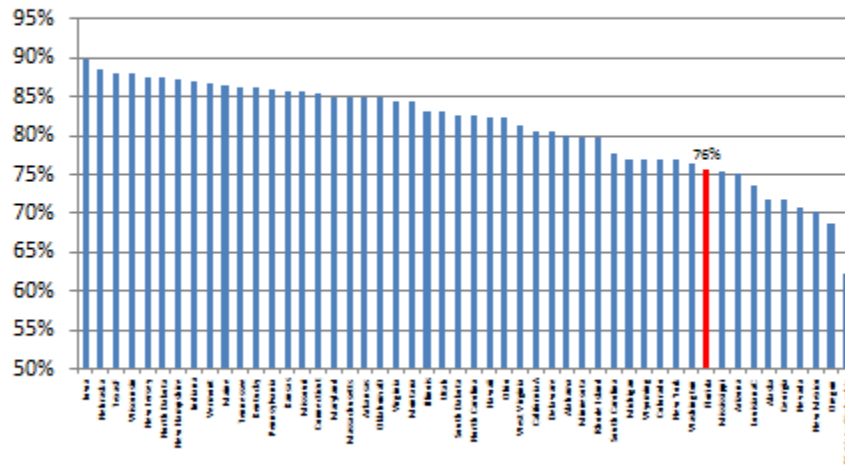
Figure A-6. FCAT math performance



Source: National Center for Higher Education Management Systems (NCHEMS). Accessed March 6, 2015 at: <http://www.higheredinfo.org/>

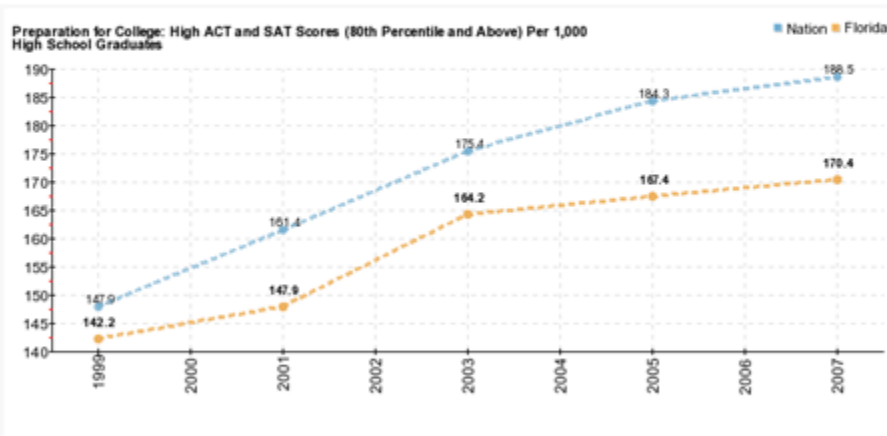
Figure A-7. Graduation rate by state

Federal standard graduation rate, 2011-12



Source: US Department of Education's DataExpress

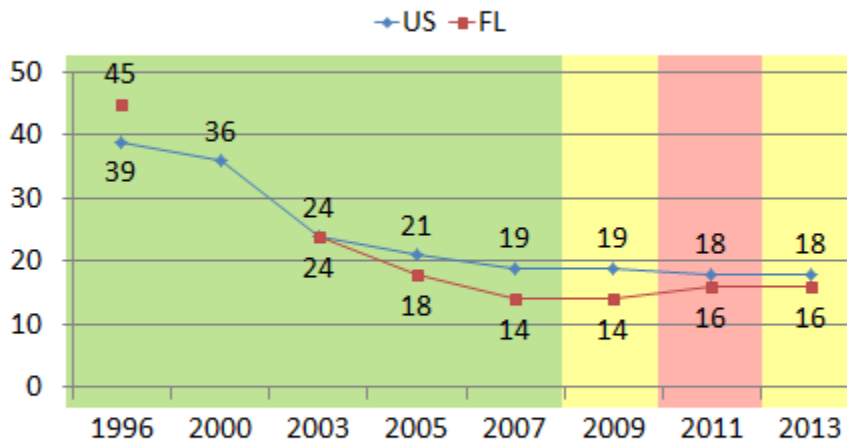
Figure A-8. High ACT and SAT scores



Source: National Center for Higher Education Management Systems (NCHEMS). Accessed March 6, 2015 at: <http://www.higheredinfo.org/>

NAEP: 4th grade math

% below basic



Vs. US Avg.

Gap to the US average reduced from 6% worse than US to 5% better than US average

Florida has lost ground to other states since 2007

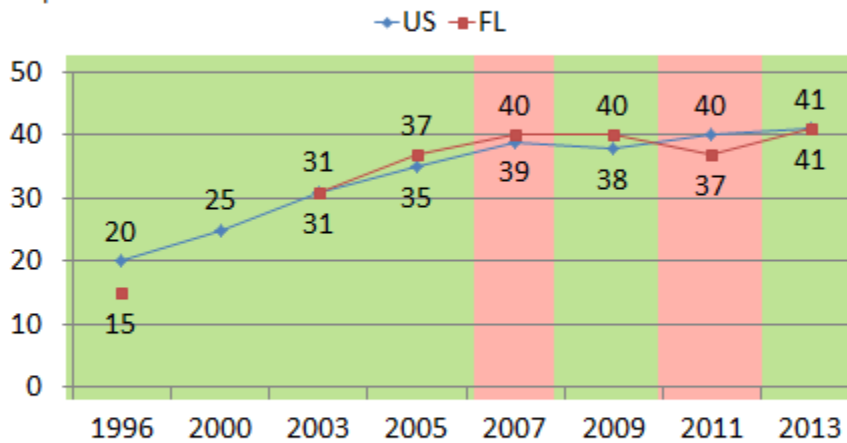
Absolute

Percent below basic decreased from 45% to 14%

Percent below basic has increased by 2%

NAEP: 4th grade math

% proficient



Vs. US Avg.

Gap to US average decreased from 5% below to 2% above

Advantage over the US average eliminated (-2% change)

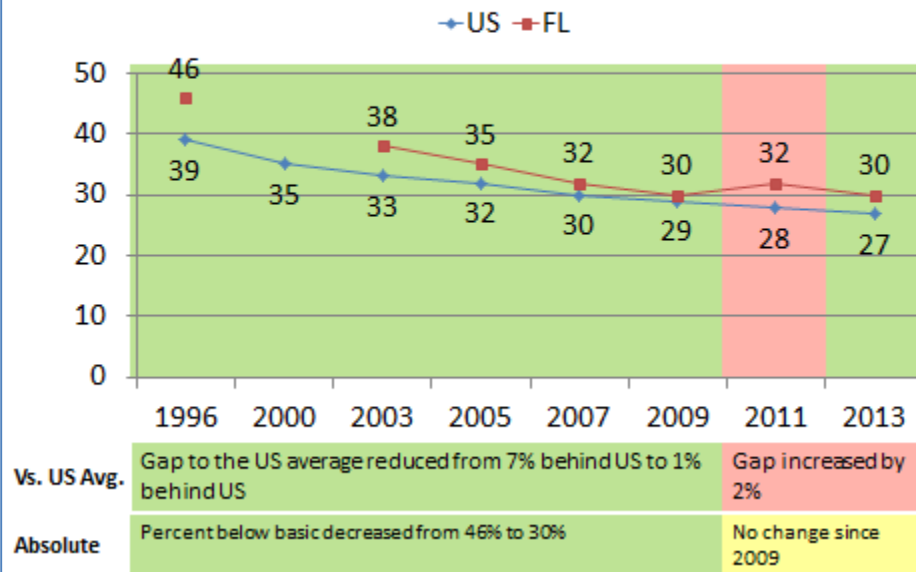
Absolute

% proficient more than doubled from 15% to 39%

Marginal improvement from 39% to 41% proficient

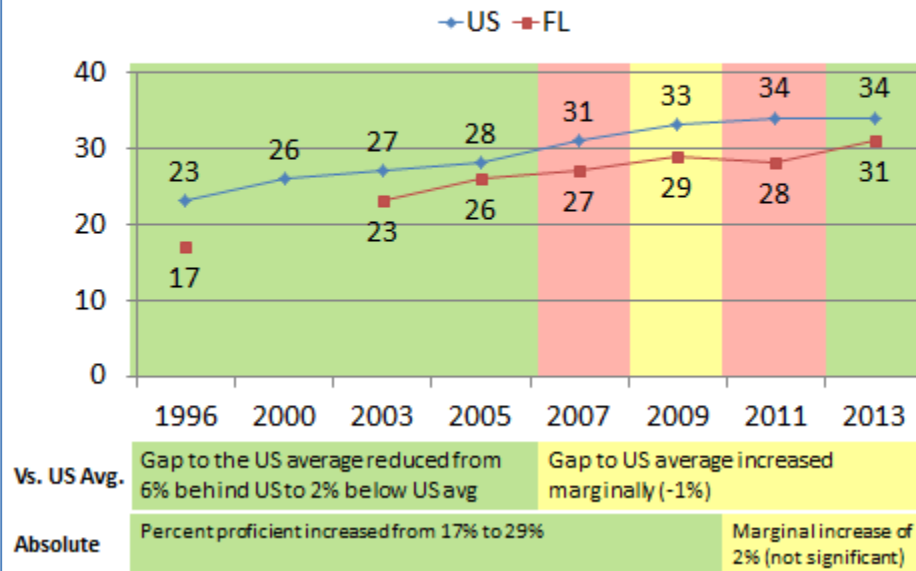
NAEP: 8th grade math

% below basic



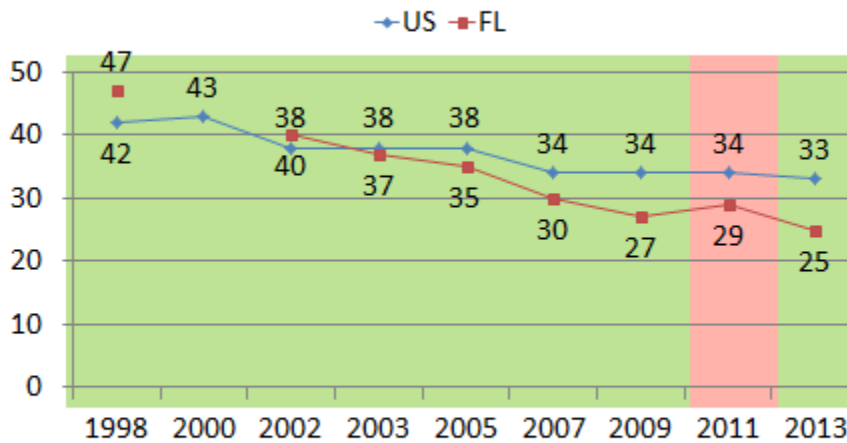
NAEP: 8th grade math

% proficient



NAEP: 4th grade reading

% below basic



Vs. US Avg.

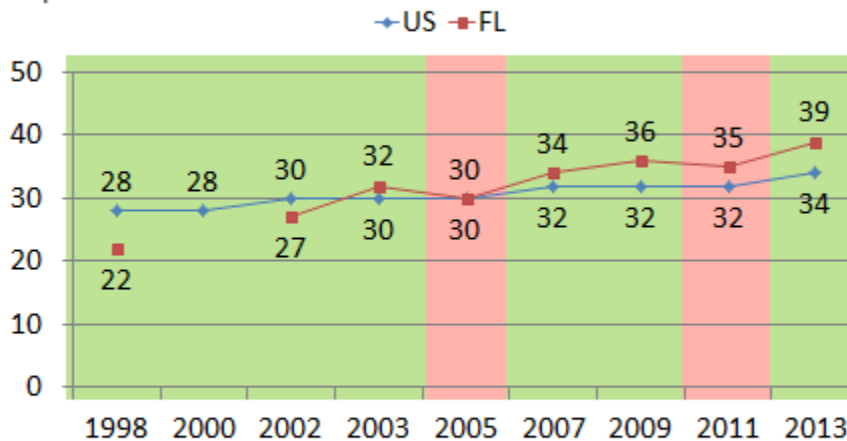
Florida has shown consistent, steady improvement relative to the US average from 5% below the US average to 8% ahead of the US average

Absolute

Percent below basic has steadily decreased from 47% below basic to 25% below basic

NAEP: 4th grade reading

% proficient



Vs. US Avg.

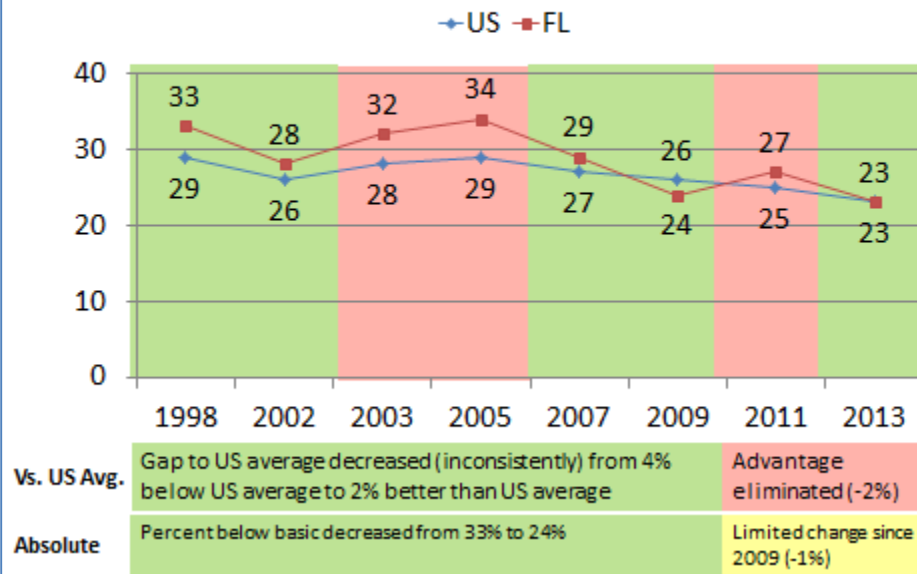
Florida has made steady gains vs. the US average to reverse the proficiency gap from 6% below the US average to 5% above the US average

Absolute

% proficient more than doubled from 15% to 39%

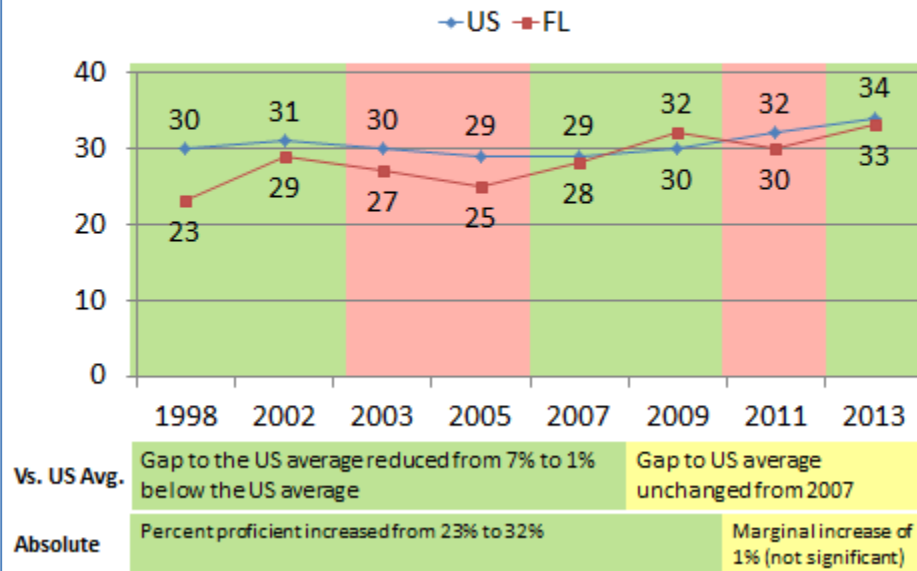
NAEP: 8th grade reading

% below basic



NAEP: 8th grade reading

% proficient



Appendix B: Estimating lost instructional time

Estimates and calculations were performed separately for each assessment and each grade level. What follows is an example calculation for the State-administered EOC exams (Algebra I, Biology, Geometry, US History, Civics, and Algebra II). Similar calculations were performed for assessments administered by Collier County Public Schools: FSA (math, reading, writing, science), other district-administered EOCs required by the state, CELLA, Benchmark assessments and FAIR.

These estimates need to be confirmed. However, the framework for the calculations could be used with revised estimates.

Number of first time exam takers

Assumptions: All students take the course prior to graduation. Students are evenly distributed across reported grade levels. Assumes each exam is taken by all students in BASIC, BASIC w/ ESE and ESOL enrollment categories.

	7th and 8th grade EOCs	High school EOCs*
Total district enrollment: Grades 4-8 "Basic"	11,600	9,303
Total district enrollment: Grades 4-8 "Basic with ESE services"	3,774	2,643
Total BASIC students: Grades 4-8	15,374	11,946
"Basic" students per grade level (grades 4-8)	3,075	2,987
ESOL students (all grades)	5,144	5,144
ESOL students per grade level	396	396
Total students per grade level (Grades 4-8)	3,470	3,382
Expected EOC exam takers per subject**	3,470	3,382

* 7th and 8th grade EOCs include Algebra I and Algebra II while high school subject EOCs include Algebra II, Biology, Geometry and US History. Some students may not take the courses in the same grade. Average exam takers should remain the same in such cases although timing may vary.

A similar method was used to estimate the number of first-time exam takers for all other assessments. While each district has its own assessment strategy, it was assumed that Collier County Public Schools was “typical” with respect to time lost due to district-specific assessments and so estimates were conducted based on extrapolating their assessment calendar across all districts in the state (e.g. assuming other districts did something similar to the CCPS benchmark assessments). We estimated 3000-3500 first-time takers for most assessments based on similar calculations as above. Exceptions included CELLA (given to all 5,144 ESOL students) and FAIR assessments given in grades 6-12 (only required of students who score a 1 or 2 on the reading FSA exam; we assumed 25% of students in each grade level scored at that level or about 850-900 per grade level).

Number of exam re-takers

Assumptions: Pass rates were estimated based on information presented by the district at the Collier County Public Schools December board meeting¹⁷. Pass rates for CCPS were reported at 66-69% per assessment. Pass rates by attempt were estimated. It is assumed that most students (93%) eventually pass the EOC exam.

EOC exams: # of retakes	Pass rate (assumed)	# takers	# passed	Total passed
1st attempt	66%	1.00	0.66	66%
2nd attempt	35%	0.34	0.12	78%
3rd attempt	30%	0.22	0.07	85%
4th attempt	25%	0.15	0.04	88%
5th attempt	20%	0.12	0.02	91%
6th attempt	20%	0.09	0.02	93%
TOTAL		1.92*	0.93	

* The model estimates that there are 0.92 retakers per first-time taker.

Re-takes were only included in the model for State-administered EOCs and 10th grade FCAT in reading and math. For 10th grade FCAT, it was assumed there were 1.3 retakes administered including all attempts for every 1 first-time taker given a first-time pass rate reported at CCPS of 58% and a repeater pass rate of 27%.

FCAT	Pass rate (assumed)	# takers	# passed	Total passed
1st attempt	58%	1.00	0.58	58%
2nd attempt	27%	0.42	0.11	69%
3rd attempt	27%	0.31	0.08	78%
4th attempt	27%	0.22	0.06	84%
5th attempt	27%	0.16	0.04	88%
6th attempt	27%	0.12	0.03	91%
TOTAL		2.23*	0.91	

* The model estimates that there are 1.23 retakers per first-time taker.

Direct instructional time lost (time lost for test takers due to testing and exam preparation)

The amount of direct instructional time lost per exam was calculated as the number of students (both first-time takers and retakers) who took an exam multiplied by the amount of time each exam took to administer. The time required to administer the exam included the amount of time scheduled to take the exam (as reported at the CCPS December board meeting) as well as an estimate for the amount of class time required to (a) discuss the administration of the exam, (b) debrief the results of the exam and (c) other preparation (including FCAT pep rallies and assignments which have been reported including FCAT “flash mobs” and making of music videos). The amount of time scheduled per exam may be conservative as some students receive additional time due to accommodations or other considerations.

¹⁷ Details of the 2014-15 annual assessments available here:
http://www.collierschools.com/docs/Local%20Assessment%20Calendar_Extended%20Matrix.pdf

Exams given to first-time exam takers per subject (Civics and Algebra I)	3,470
Exams given to first-time exam takers per subject (Other 4 subjects)	3,382
Total exams given (first-time takers)	20,469
Estimated exams given to re-takers (0.92 re-take exams for every 1 first-time exam)	18,831
Total exams given (first-time takers and repeaters)	39,300
Time per exam (h)	3
Additional classroom time lost per exam (introduction, discussion, preparation, review)	2
Total time lost per exam per student	5
Total student instructional hours lost per exam	196,502
Day-equivalents of instructional time lost due directly to EOC test administration (7 hours per day)	28,072
Total Collier County Public School students	43400
Day-equivalents lost per student	0.65
Total days in the year	180
% of instructional time lost directly due to State-administered EOCs	0.4%

The following chart provides the assumptions by exam for (a) the number of exams given per year per student in the corresponding class / grade, (b) the amount of instructional time required to administer the exam and (c) the amount of instructional time required for other preparation (e.g. discussion of the exam's info and purpose, logistics, discussion of results, psychological preparation, etc).

	Number of assessments per student per year	Exam length (h)	Other discussion and preparation (h)
State-administered EOCs	1	3	2
FCAT (reading and math)	1	3	2
FCAT (writing and science)	1	1.5	1
Other district EOCs (Grades 6-8)	4-5 per student depending on the number of classes which do not have a state-administered EOC	1	0.5
Other district EOCs (Grades 9-12)	2-5 per student depending on the number of classes which do not have a state-administered EOC	1.5	0.5
CELLA	1	2	0.5

Benchmark assessments (K-5)	2 per student per subject (2 subjects in grades K-3 and 4 subjects in grades 4-5)	1	0
Benchmark assessments (6-11)	2 per student per subject (4 subjects in grades 6-11)	1.5	0
FAIR (Grades 3-12)	1	0.75	0.25

Indirect instructional time lost: Loss of focus at end of year (time lost for test takers due to loss of focus after the high-stakes exam)

Based on anecdotal evidence and discussions with parents, teachers and students, we assume that high-stakes “end-of-course” (summative) exams which are administered weeks or months before the end of the school year result in a loss of focus by students and teachers and a decrease in learning. The higher the stakes of the exam, the more likely this is to occur. **It is not a question of “if” this is occurring but rather “to what extent is this occurring?”**

Example calculation

Total exams given (first-time takers)	20,469
Number of days (class periods) per student per subject "lost" post exam (due to loss of student or teacher focus)	20
Total number of class periods lost for end-of-course exams for relevant subjects	409,380
Average number of class periods per school day	6
School-day equivalents of instruction lost for end-of-course exams	68,230
Total Collier County Public School students	43,400
Day-equivalents lost per student	1.57
Total days in the year	180
% of instructional time lost directly due to State-administered EOCs	0.9%

We assume this is only occurring for state-administered EOC exams and FCAT / FSA exams given the timing of their administration. It is possible that it could be occurring to a lesser extent for district-administered EOCs as well depending on scheduling.

	Administration date (Spring)	End of school year (2014-15, CCPS)	Administration date: Number of days before the end of the school year	Assumed loss of instructional time due to loss of focus (days)
State-administered EOCs	March 24 to May 22	June 3, 2015	7.5-49.5	20
FSA	March 3 to May 8	June 3, 2015	17.5-58.5	20

Indirect instructional time lost: Students indirectly impacted (non-exam takers)

High-stakes assessments can disrupt class time for non-exam-takers, especially in grades where students have multiple class periods. Assessments can extend outside of a normal class time, require teachers to proctor other classes, monopolize computer labs which may displace certain classes, or require a significant amount of re-takers to leave their other classes. All of these events can leave a class without a teacher, critical mass of students or class space which can lead to a disruption of instructional time.

Total exams given (first-time takers and repeaters)	39,300
Number of students indirectly impacted per test-taker (e.g. displaced classroom; teacher out for proctoring; classes partially empty)	2
Number of students indirectly impacted	78,601
Time per exam (h)	3
Number of instructional hours lost (students indirectly impacted / not testing)	235,803
Day-equivalents of instructional time lost due directly to EOC test administration (7 hours per day)	33,686
Total Collier County Public School students	43400
Day-equivalents lost per student	0.78
Total days in the year	180
% of instructional time lost directly due to State-administered EOCs	0.4%

Calculations by some teachers and school leaders estimate that instructional time can be disrupted for as many as 4 times as many students as are taking the assessments. We took a more conservative estimate: 2 times as many students may have their class time disrupted as exam there are exam takers. We've only assumed this to occur for state-administered EOCs and FCAT/FSA exams in grades 6-11 given the length of the exams and structure of the school day with multiple periods and classes.

Appendix C: Cost calculations

We used budget data published by the Florida Department of Education¹⁸ to estimate the amount of money districts and the state are spending for the lost instructional time described above. The methodological approach is described in the body of the memo but generally involves calculation of “variable costs” which may scale with the amount of instructional time provided to students.

	Collier County	State of Florida (all districts)
Total instruction, instructional support and general support costs (\$M)	438	22,155
- Food Service (\$M)	22	1,145
- Operation of plant (\$M)	34	1,682
- Maintenance of plant (\$M)	15	570
Estimated variable costs (\$M)	366	18,758
UFTE	43,400	2,700,982
Variable costs per UFTE	8,430	6,945
School days	180	180
Variable costs per UFTE per day	47	39

Method 1:		
Estimated variable costs (\$M)	366	18,758
Lost instructional time (%)	9.6%	9.6%
Estimated cost to support testing (\$M)	\$35 M	\$1,794 M

Method 2:		
Variable costs per UFTE per day	47	39
UFTE	43,400	2,700,982
Estimated days lost per UFTE to testing	17.21	17.21
Estimated cost to support testing (\$M)	\$35 M	\$1,794 M

¹⁸ School District Summary Budgets available at the Florida Education Finance Program (FEFP) website. Retrieved January 28, 2015 from <http://www.fldoe.org/finance/fl-edu-finance-program-fefp/school-dis-summary-budget.stml>

Author Biographies

Adam Cota

Adam Cota is a proud father of two young children and a resident of Collier County who is dedicated to improving our schools and education system. He currently serves as the Senior Vice President for Academic Affairs of a nation-wide consortium of graduate schools where his responsibilities include academic outcomes and employment. Previously, Adam was an Associate Partner at McKinsey & Company where he was a leader of their Education Practice with a focus on improving student outcomes and productivity in higher education and K-12. While at McKinsey & Company, Adam supported a range of clients including state and national governments, large urban school districts, charter schools, non-profit advocacy groups and large research universities. With support from the Gates Foundation, he led a team as they helped a grant recipient develop their Race to the Top application and strategy. Since then, he has grown concerned about Florida's excessive testing environment. He now volunteers his expertise to conduct research to improve Florida's schools and improve our education outcomes.

In addition to his client work at McKinsey, Adam co-authored several papers including Boosting productivity in US higher education and "5 Ways to Make College Much More Affordable for All Americans" published in the Atlantic. His work was cited by Clayton Christensen in his book the Innovative University.

Adam earned his B.S. in Molecular and Cellular biology from the University of California at Berkeley and his M.P.P. from Harvard's Kennedy School of Government.

Erika Donalds, CPA, CGMA

Erika Donalds is a School Board member of the District School Board of Collier County (Florida). She is a founder and past president of Parents R.O.C.K., "Parents' Rights Of Choice for Kids", a non-profit focused on uniting parents and providing representation for parent and student interests on state and local education issues. She was a founding Advisory Board Member for Mason Classical Academy, a Hillsdale College public charter school, and is the weekly Education Correspondent for Daybreak on 92.5FM Fox News Radio. In 2015, Erika helped establish the Florida Coalition of School Board Members and now serves as the organization's Treasurer.

Erika Donalds is a Vice President, Controller and Partner at a New York-based investment management firm with over \$2 billion in assets under management. Erika has been with the firm over 10 years and manages financial reporting, audit & tax, contracts, and compliance with the Global Investment Performance Standards (GIPS). Her success in business earned her the distinction of being named as one of Gulfshore Business' 40-Under-40 in 2014.

Erika graduated Magna Cum Laude with a BS in Accounting from Florida State University and has a Masters in Accountancy from Florida Atlantic University. She and her husband Byron live in Naples and have three sons.