Cultivating Learning and
Positive Change

Case Study Research of *Study Island* in Florida

October 1, 2008

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INTRODUCTION

Study Island is a web-based standards mastery program that combines highly specific and dynamic content with real-time reporting to create a customized assessment, diagnostic, and instructional program based on each state's standards. The content of the *Study Island* program is unique to each state and provides assessment and skill practice in all major subject areas in both tested and untested grade levels.

During program implementation, students answer a customizable set of questions that correspond to a state's standards and learning objectives. If students answer a question incorrectly, the program provides immediate feedback and opportunities for remediation and further learning. The *Study Island* system also uses adaptive testing technology to create individualized learning paths for each student, cycling students down, as needed, to lower levels of practice in skill areas that are building blocks for more difficult skills. This allows students the opportunity to practice continually, build their skills until they reach mastery level for each standard, and demonstrate proficiency at state-required levels. The *Study Island* program also uses motivation tools such as gaming and student-controllable instructional sequences both to engage students and provide students with autonomy over their learning environment.

Through a comprehensive system of assessment and instructional practice tools, the program functions both as an instructional program and a progress-monitoring tool, providing instructors with ongoing and in-depth feedback regarding student progress toward mastery of content standards. Educators can use the system as a stand-alone tutorial program or as a supplement to their classroom curriculum. The flexible nature of the program creates a personalized learning experience for each student, helping instructors to individualize and differentiate instruction in order to meet the needs of all students and target remediation to the areas that are most critical. The web-based platform of the program creates a learning environment that is accessible from any computer connected to the internet, allowing students to practice skills both at school and at home. Through its interactive and flexible instructional platform, *Study Island* provides engaging, ongoing practice and remediation to help students meet their required standards in all major content areas.

Study Island strongly believes that its products must demonstrate proven effectiveness in increasing student learning. As such, it has contracted with Magnolia Consulting, LLC, an external, independent consulting firm specializing in educational evaluation, to provide a summary and extension of pre-existing case study evaluations within the state of Florida. The purpose of this work is to examine the impact of *Study Island* on student achievement at schools using *Study Island* in order to illustrate the effectiveness of *Study Island*. This Florida specific report is part of a larger nationwide report, *Case Study Summaries of Study Island*, available through Study Island.

METHOD

The methodology of the full nationwide report, *Case Study Summaries of Study Island,* uses extant data that is available to the public through the state Department of Education databases. The evaluation in the full report employs a quasi-experimental framework with design variations by each case. Data sources for this study include historical, state-level, aggregated achievement data, as well as demographic information for either states or individual *Study Island* schools.

Analyses also vary for each case but include:

- comparisons of student achievement before and after *Study Island* use
- comparisons between schools using *Study Island* and local or state norms
- comparisons of changes in proficiency between schools using *Study Island* and other schools in the district or region not using *Study Island*
- trends in growth of student achievement over time at *Study Island* schools

Specifically, the full study addresses the following overarching evaluation question(s) for each case study exemplar (depending on the data available):

1. Is there significant growth over time in student achievement after the students have used *Study Island*?
2. Is there a significant difference in student achievement between schools using *Study Island* and schools not using *Study Island*?

Evaluators conducted statistical analyses in the full study when possible to quantify changes in achievement or differences in achievement between groups. Because state departments of education typically report student results from state testing in the format of the percentage of students meeting proficiency levels, evaluators chose statistical procedures that evaluate the magnitude of the difference between two percentages to analyze these data points. For example, these procedures allow one to compare the change in the percentage of students meeting standards from one year to the next to determine if there was statistically significant growth in the percentage of students meeting proficiency standards before and after program use. Likewise, one can use these procedures to determine if there was a difference in the percentage of students meeting standards between a school using the program and those schools that did not use the program.

Due to the inherent nature of case study analysis using extant aggregate data, limitations exist with regard to the conclusions that one can draw from these analyses. Without a true experimental design that controls for confounding factors and examines data at a student level, other variables may be interacting with those of interest to produce these results. Although the present report presents findings only from the state of Florida, the full report includes data and analyses from a variety of states, grade levels, content areas, and learning environments. One can descriptively examine the findings of these analyses together to determine if overarching patterns exist within the data that can support the overall effectiveness of *Study Island.*

This Florida specific report presents an evaluation of student achievement in math and reading at *Study Island* schools within the state of Florida compared to all non-*Study Island* schools in the state, and three evaluations that examine the growth of student achievement in math at three different *Study Island* schools in Florida.

FLORIDA RESULTS

Florida Schools Using *Study Island* Versus All Other Florida Public Schools

Table 1.
School Characteristics and Demographics for Public Schools in Florida

FL Public Schools (Total Enrollment = 2,675,024)	
School Characteristics	**N**
Type of School	Public
Grade Span	PK-12
Number of Teachers	100,331
Demographics	**Percentage**
Gender	
Male	No Data
Female	No Data
English Language Learner	8.3%
Free or Reduced Lunch	45.8%
Ethnicity	
White	50.5%
Black	24.1%
Hispanic	23.0%
Asian Pacific Islander	2.1%
American Indian	<1%

Background and Analysis

Evaluators examined the growth in math achievement for third-grade students at *Study Island* schools within Florida compared to all other Florida schools from 2007 to 2008 on the Florida Comprehensive Assessment Test (FCAT). In the analysis, evaluators included only the *Study Island* schools that had begun using the program during the 2007-2008 school year. The *Study Island* schools were from both large and small districts and represented urban, suburban, and rural areas.

As shown in Figure 1, from 2007 to 2008 the percentage of third-grade students at non-*Study Island* schools in Florida scoring at a Level 3 or higher on the FCAT math assessment grew by 2.82%. Conversely, the percentage of third-grade students at *Study Island* schools in Florida scoring at a Level 3 or higher on this assessment grew by 9.54%, which was more than three times the growth seen at non-*Study Island* schools within Florida. Additionally, third-grade students at *Study Island* schools in Florida experienced higher growth in the percentage of students scoring at a Level 4 or 5 on the FCAT reading assessment from 2007

to 2008 than third-grade students at other Florida schools. The percentage of students at *Study Island* schools scoring at higher levels of achievement on the FCAT increased by 4.67% while the percentage of students reaching these levels at non-*Study Island* schools grew only 1.93 percentage points during the same year (see Figure 2).

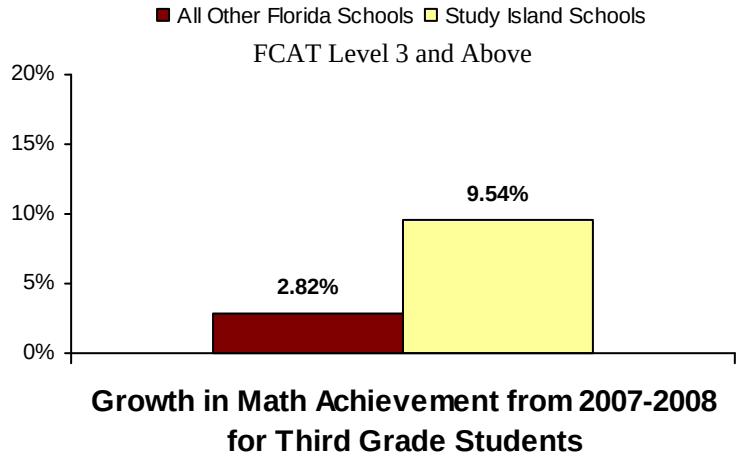

Figure 1. Growth in the percentage of third-grade students scoring Level 3 or higher on the FCAT math assessment from 2007 to 2008. First year *Study Island* schools in Florida compared to all other public schools in Florida.

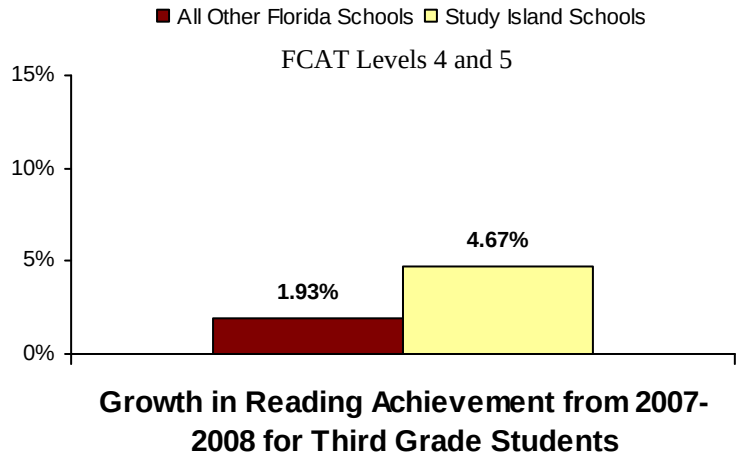

Figure 2. Growth in the percentage of third-grade students scoring at a Level 4 or Level 5 on the FCAT reading assessment from 2007 to 2008. First year *Study Island* schools in Florida compared to all other public schools in Florida.

Partin Elementary

Seminole County School District — Oviedo, Florida

Table 2.
School Characteristics and Demographics for Partin Elementary in Oviedo, Florida

Partin Elementary Seminole County School District, FL (Total Enrollment = 810)	
School Characteristics	**N**
Type of School	Public
Metropolitan Status	Suburb of Mid-Size City
Grade Span	PK–5
Number of Teachers	52
Demographics	**Percentage**
Gender	
Male	49%
Female	51%
English Language Learner	No Data
Free or Reduced Lunch	8%
Ethnicity	
White	81%
Black	7%
Hispanic	10%
Asian Pacific Islander	3%
American Indian	0%

Background and Analysis

This Florida elementary school began using *Study Island* during the 2006–2007 school year as a tool to help students prepare for the Florida Comprehensive Assessment Test (FCAT), Florida's statewide assessment. The year prior to implementing *Study Island*, 66% of tested students made a year's worth of progress in math. However, this percentage grew to 82% the year students began using *Study Island*, helping to solidify the school's "A" rating for the 2006–2007 school year (see Figure 3). Additionally, 92% of students met the criteria for high standards in math[1] after using *Study Island*, which was a gain of 5% over the previous year's score (see Figure 4).

Examining grade-level scores on the FCAT more closely (see Figure 5), the percentage of students meeting the criteria for high standards in math in the third, fourth, and fifth grades rose after the school began using

[1] This rating is based on the percentage of students who scored a Level 3 or above on the FCAT and applies to all Florida schools in this report.

the *Study Island* program. Specifically, for students in third grade, this growth was particularly notable and statistically significant ($z = 4.24$, $p < 0.01$) with 100% of students meeting the criteria the year *Study Island* was introduced. Although the gains in this category were not statistically significant for students in the fourth and fifth grade, if one examines only the gains in Level 4 and 5 classifications (see Figure 6), gains in achievement approached significance for students in the fourth and fifth grade ($z = 1.81$, $p < 0.10$; $z = 1.40$, $p < 0.10$, respectively) and for students in the third grade, gains in Level 4 and 5 classifications were significant ($z = 3.58$, $p < 0.01$).

Examining the change from 2006 to 2007, third-, fourth- and fifth-grade students within the *Study Island* school experienced more growth from 2006 to 2007 both in the percentage of students that scored Level 3 or higher (see Figure 7 and in the percentage of students that scored Level 4 or 5 on the FCAT math assessment (see Figure 8). This growth was largest in the third grade with 13% growth in students scoring Level 3 or higher and 11% growth in the number of students scoring Level 4 or 5 on the FCAT math assessment.

Comparing results from 2007 after students within the *Study Island* school used the program for one school year (see Figure 9), a significantly higher percentage of third-grade students at this school scored Level 3 or higher on the FCAT math assessment than within the district ($z = 5.13$, $p < 0.01$). Within fourth grade, the difference approached significance ($z = 1.95$, $p < 0.10$), and in fifth grade, the difference was significantly greater in favor of students within the *Study Island* school ($z = 3.73$, $p < 0.01$).

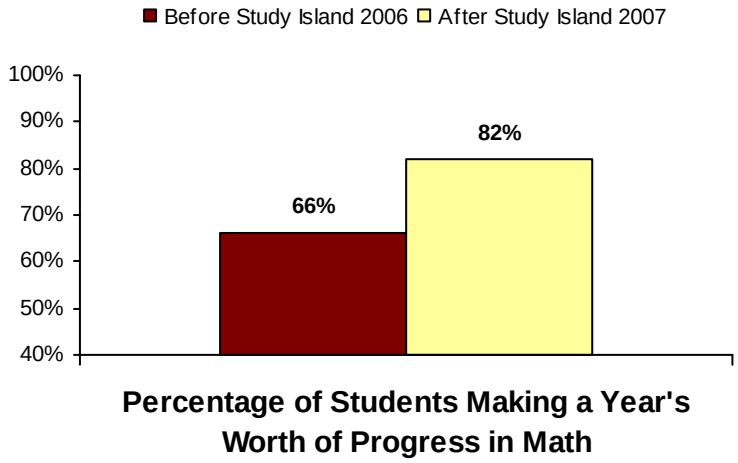

Figure 3. Percentage of students who made a year's worth of progress in math before and after *Study Island* implementation.

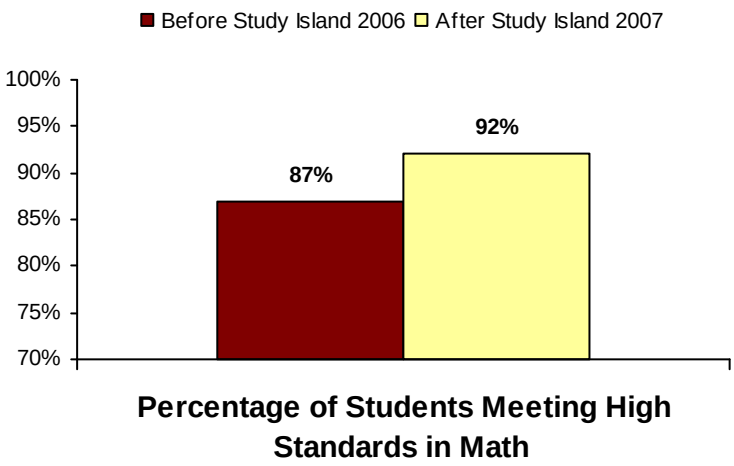

Figure 4. Percentage of students who were meeting high standards in math before and after *Study Island* implementation.

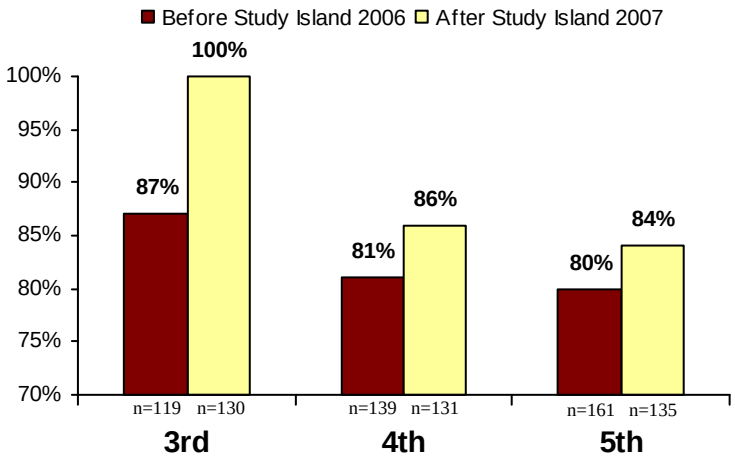

Figure 5. Percentage of third-, fourth-, and fifth-grade students scoring Level 3 and above on the FCAT math assessment before and after *Study Island* implementation.

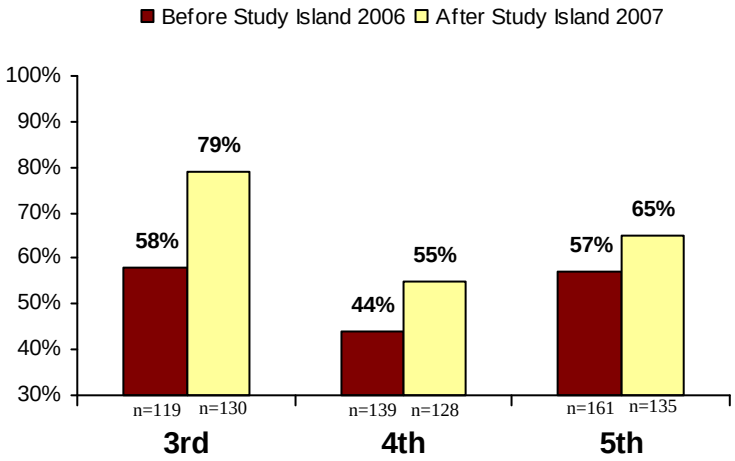

Figure 6. Percentage of third-, fourth-, and fifth-grade students scoring at a Level 4 or 5 on the FCAT math assessment before and after *Study Island* implementation.

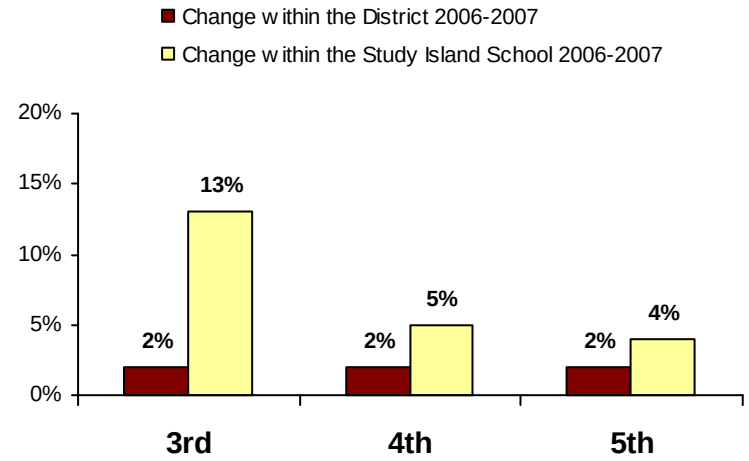

Figure 7. Change in the percentage of third-, fourth-, and fifth-grade students scoring Level 3 and above in math on the FCAT assessment from 2006 to 2007.

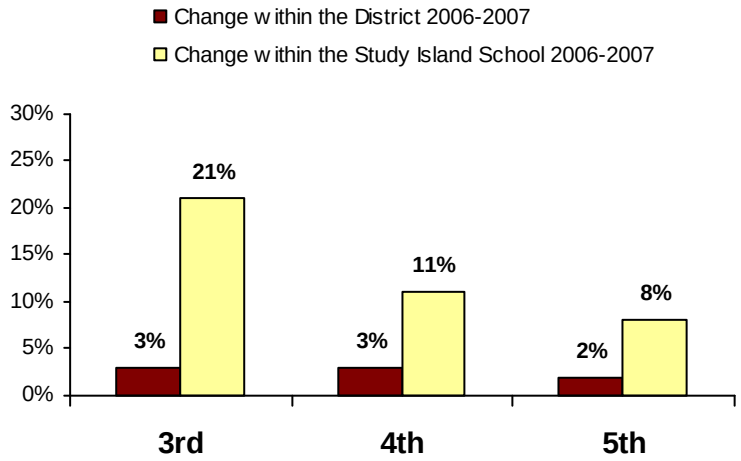

Figure 8. Change in the percentage of third-, fourth-, and fifth-grade students scoring Level 4 and 5 on the FCAT math assessment from 2006 to 2007.

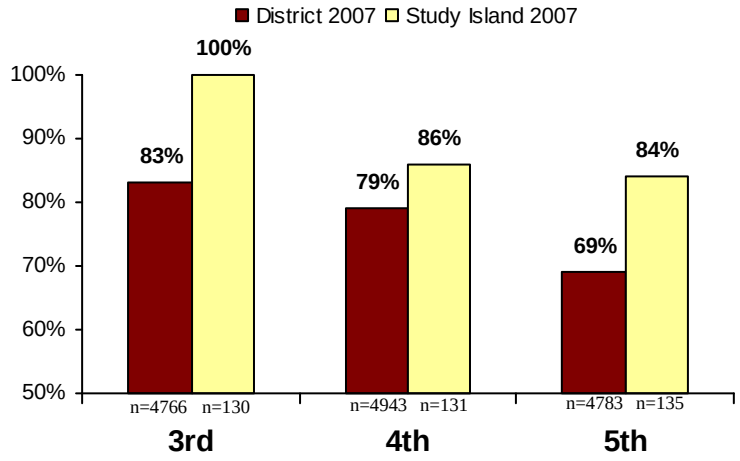

Figure 9. Percentage of third-, fourth-, and fifth-grade students scoring Level 3 and above on the FCAT math assessment in 2007. The *Study Island* school compared to its district.

Cottondale Elementary

Jackson County School District — Cottondale, Florida

Table 3.
School Characteristics and Demographics for Cottondale Elementary in Cottondale, Florida

Cottondale Elementary Jackson County School District, FL (Total Enrollment = 466)	
School Characteristics	**N**
Type of School	Public
Metropolitan Status	Rural
Grade Span	PK–5
Number of Teachers	27
Demographics	**Percentage**
Gender	
Male	54%
Female	46%
English Language Learner	No Data
Free or Reduced Lunch	69%
Ethnicity	
White	77%
Black	21%
Hispanic	1%
Asian Pacific Islander	<1%
American Indian	<1%

Background and Analysis

This elementary school in Florida began using the *Study Island* program in the 2006–2007 school year. As shown in Figures 10 and 11, during the 2005–2006 school year, 64% of students had made a year's worth of progress in math and 73% were meeting high standards in math. These scores earned the school a Grade of "B" as part of Florida's accountability rating system. However, in 2006–2007 when students began using *Study Island*, scores on these indices rose with 81% of students making a year's worth of progress in math and 86% of students meeting high standards, helping the school to receive a Grade of "A" in the 2006–2007 school year.

As shown in Figure 12, students in fourth grade had the highest gains in achievement, rising significantly from 62% to 88% of students scoring at a Level 3 or above on the FCAT math assessment ($z = 3.42$, $p < 0.01$). The gains seen in achievement for fifth-grade students approached significance ($z = 1.81$, $p < 0.10$), and although the gains for third-grade students were not significant, they were already achieving at high levels.

When compared to the district, there were large gains in fourth and fifth grade in the percentage of students scoring Level 3 or above on the FCAT math assessment within the *Study Island* school between 2006 and 2007. In fourth grade, there was only a 1% gain within the district, while within the *Study Island* school, there was a 26% gain. In fifth grade, there was a gain of 6% within the district and 15% within the *Study Island* school (see Figure 13). Although the percentage of students scoring a Level 3 or above rose at a higher rate within the district in third grade, third-grade students within the *Study Island* school had a higher percentage of students scoring at a Level 3 or above in both 2006 and 2007. Third-grade students scoring at a Level 3 or above within the district rose from 74% to 79% while third-grade students scoring at a Level 3 or above within the *Study Island* school rose from 82% to 84%.

In 2007, after this school used *Study Island* for one school year, third-, fourth- and fifth-grade students within the *Study Island* school had a higher percentage of students than the district that scored a Level 3 or higher on the FCAT math assessment. Although this difference was not significant at grade three, it was significant at grade four ($z = 2.03$, $p < 0.05$) and approached significance at grade five ($z = 1.90$, $p < 0.10$; see Figure 14).

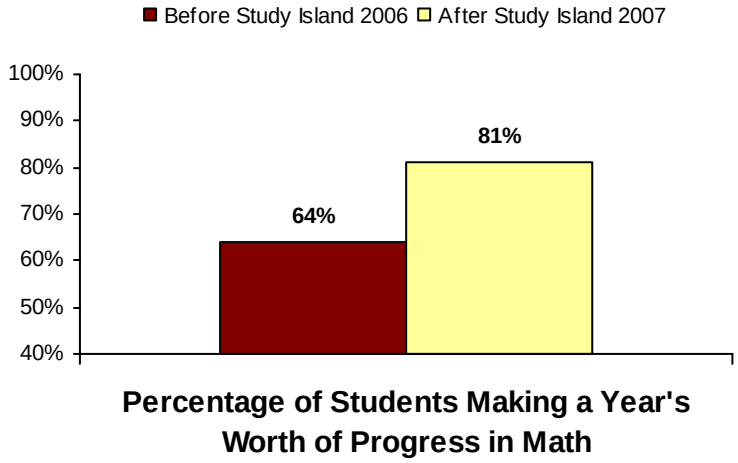

Figure 10. Percentage of students who made a year's worth of progress in math before and after *Study Island* implementation.

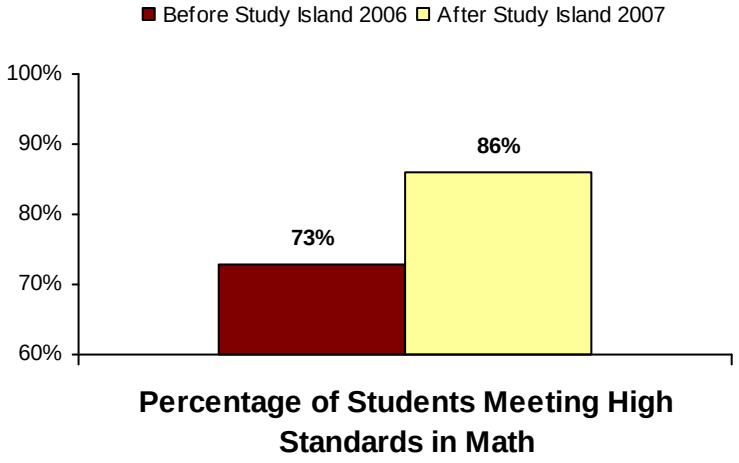

Figure 11. Percentage of students who were meeting high standards in math before and after *Study Island* implementation.

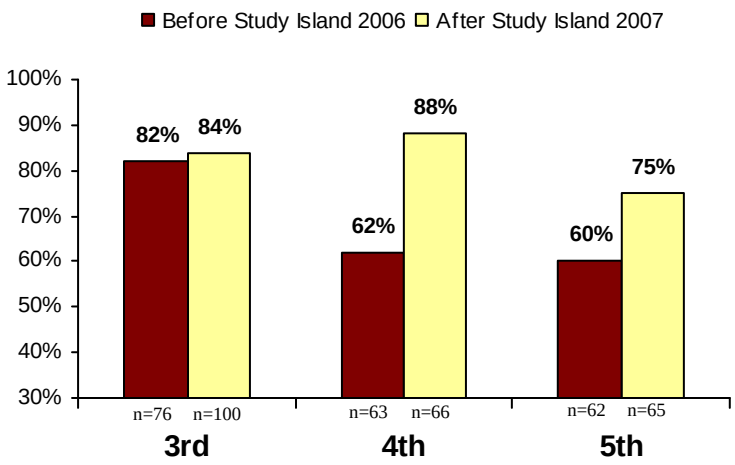

Figure 12. Percentage of third-, fourth-, and fifth-grade students scoring Level 3 and above on the FCAT math assessment before and after *Study Island* implementation.

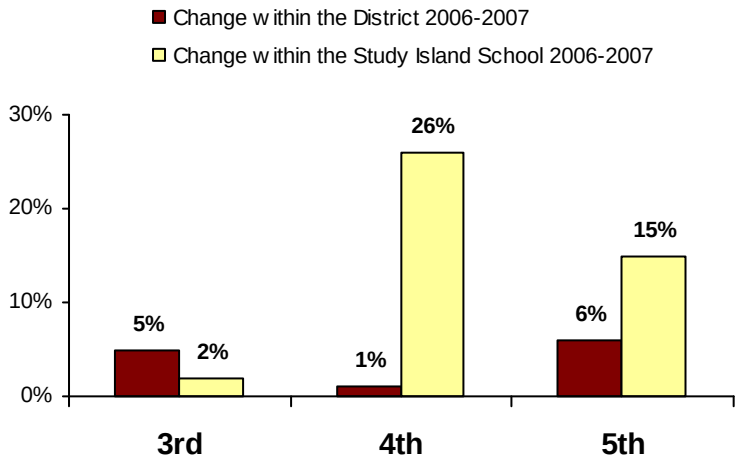

Figure 13. Change in the percentage of third-, fourth-, and fifth-grade students scoring Level 3 and above in math on the FCAT assessment from 2006 to 2007.

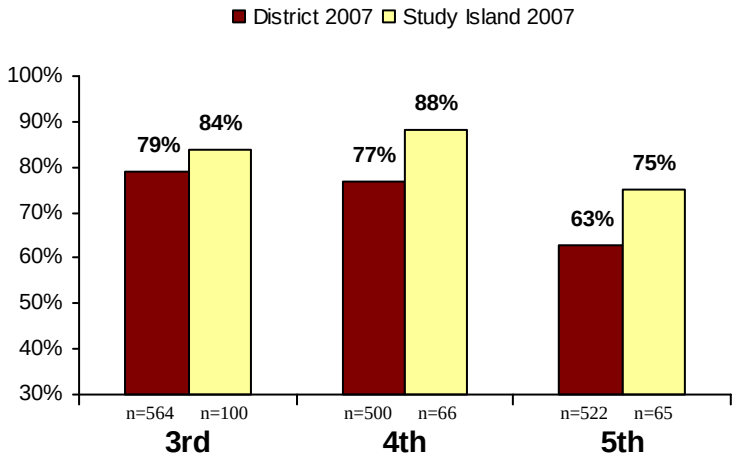

Figure 14. Percentage of third-, fourth-, and fifth-grade students scoring Level 3 and above on the FCAT math assessment in 2007. *Study Island* school compared to its district.

Indiantown Middle School

Martin County School District — Indiantown, Florida

Table 4.
School Characteristics and Demographics for Indiantown Middle School in Indiantown, Florida

Indiantown Middle School Martin County School District, FL (Total Enrollment = 479)	
School Characteristics	**N**
Type of School	Public
Metropolitan Status	Suburb of Mid-Size City
Grade Span	5–8
Number of Teachers	39
Demographics	**Percentage**
Gender	
Male	54%
Female	46%
English Language Learner	No Data
Free or Reduced Lunch	0%
Ethnicity	
White	9%
Black	19%
Hispanic	72%
Asian Pacific Islander	<1%
American Indian	0%

Background and Analysis

In 2006–2007, this Florida school began using *Study Island* to help prepare students for the FCAT and to monitor students' progress toward mastery of math skills. In the 2005–2006 school year, this school received a Grade of "B" through Florida's accountability rating system; however, by the 2006–2007 school year, an increase in math achievement helped to earn the school a Grade of "A."

This growth in math achievement is in part due to the increase in the percentage of students meeting high expectations (scoring at a Level 3 or higher) in math in both the seventh and eighth grades (see Figure 15). In the seventh grade, this gain in achievement approached significance ($z = 1.90$, $p < 0.10$) and was marginally significant in the eighth grade ($z = 1.74$, $p < 0.10$).

As shown in Figure 16, the percentage of students meeting high expectations grew at a much higher rate from 2006 to 2007 within the *Study Island* school than it did within the district in both the seventh and eighth grades (12% and 11%, respectively). Although there was no gain between 2006 and 2007 within the sixth grade at the *Study Island* school, the district sixth-grade students lost ground by 5%.

Although scores in this category remained stable for sixth-grade students from 2006 to 2007, when sixth-grade students are tracked longitudinally over time, the percentage of these students meeting high expectations in math grew significantly after students used *Study Island* for one school year ($z = 4.15$, $p < 0.01$; see Figure 17). Similarly, after the introduction of *Study Island* (see Figure 18), the growth in the percentage of students meeting high expectations in math from seventh to eighth grade was marginally significant ($z = 1.76$, $p < 0.10$). In both cases, the gains seen within the district were also significant ($p < 0.01$ and $p < 0.05$); however, the magnitude of those gains was greater within the *Study Island* school.

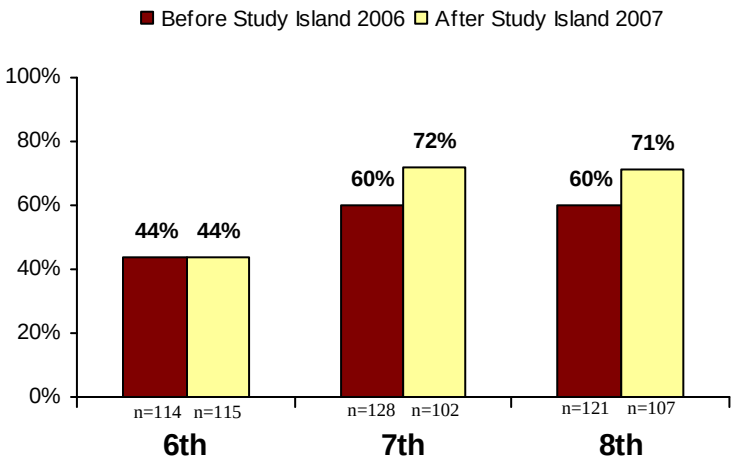

Figure 15. Percentage of six-grade students scoring Level 3 and above on the FCAT math assessment before and after *Study Island* implementation.

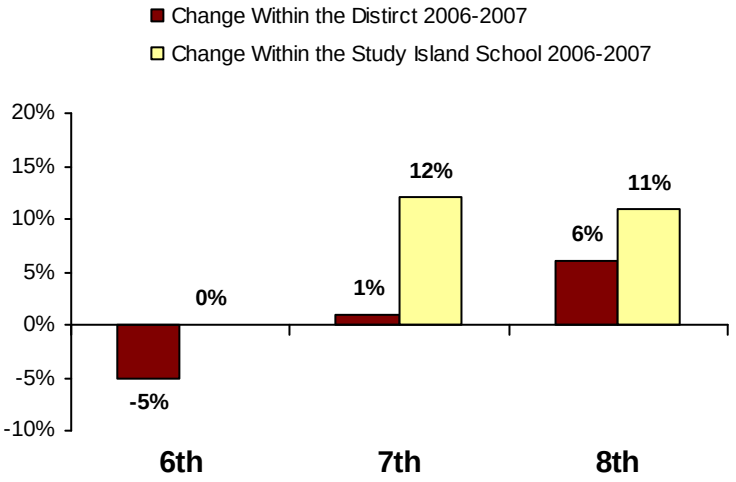

Figure 16. Change in the percentage of third-, fourth-, and fifth-grade students scoring Level 3 and above in math on the FCAT assessment from 2006 to 2007.

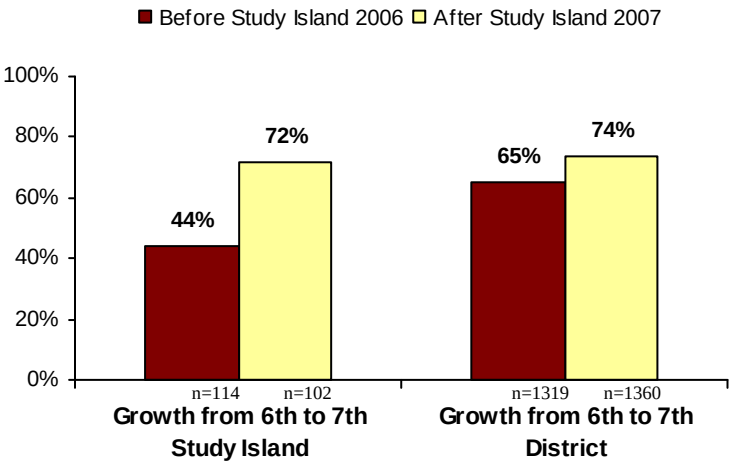

Figure 17. Percentage of students meeting high expectations in math before and after using *Study Island* when the same students are followed over time from sixth to seventh grade. *Study Island* school compared to its district.

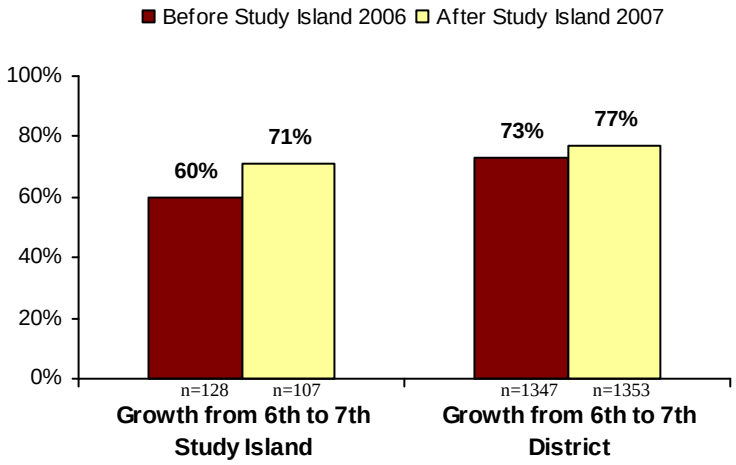

Figure 18. Percentage of students meeting high expectations in math before and after using *Study Island* when the same students are followed over time from seventh to eighth grade. *Study Island* school compared to its district.