

Cultivating Learning and  
Positive Change

**Case Study Research of *Study Island* in  
Massachusetts**

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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 Massachusetts. 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 Massachusetts 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 Massachusetts, 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 Massachusetts specific report presents an evaluation of student achievement as measured by AYP status for *Study Island* schools within the state of Massachusetts compared to all non-*Study Island* schools in the state.

## MASSACHUSETTS RESULTS

### Massachusetts Schools Using *Study Island* Versus All Other Massachusetts Public Schools

Table 1.  
*School Characteristics and Demographics for Public Schools in Massachusetts*

MA Public Schools (Total Enrollment = 971,909)	
School Characteristics	N
Type of School	Public
Grade Span	PK–12
Number of Teachers	73,629
Demographics	Percentage
<b>Gender</b>	
Male	No Data
Female	No Data
English Language Learner	5%
Free or Reduced Lunch	28%
<b>Ethnicity</b>	
White	74%
Black	8%
Hispanic	13%
Asian Pacific Islander	5%
American Indian	<1%

### Background and Analysis

Evaluators compared the aggregate Adequate Yearly Progress (AYP) results of all *Study Island* schools in Massachusetts that were first-time users of *Study Island* during the 2005–2006 school year to all other public Massachusetts schools. The *Study Island* schools were representative of schools throughout the state and included schools from both large and small districts as well as schools from urban, suburban, and rural areas.

The percentage of *Study Island* schools achieving AYP in reading/English language arts increased 3.0% from 2005 to 2006 while the percentage of all other schools in Massachusetts meeting AYP in this area declined 1.4% (see Figure 1). With regard to AYP status for math, the percentage of *Study Island* schools in Massachusetts meeting AYP in math increased by 2.4% from 2005 to 2006 while the percentage of all other Massachusetts schools meeting AYP increased only by 1.1% (see Figure 2).

Additional analysis found that the percentage of *Study Island* schools in Massachusetts making AYP in reading/English language arts and math was higher than all other Massachusetts schools in 2006. For reading/English language arts, 85.7% of *Study Island* schools in Massachusetts made AYP while only 78.0%

of other Massachusetts schools made AYP (see Figure 3). In math, 83.3% of *Study Island* schools in Massachusetts made AYP while a smaller percentage, 78.7%, of all other Massachusetts schools achieved AYP in math (see Figure 4).

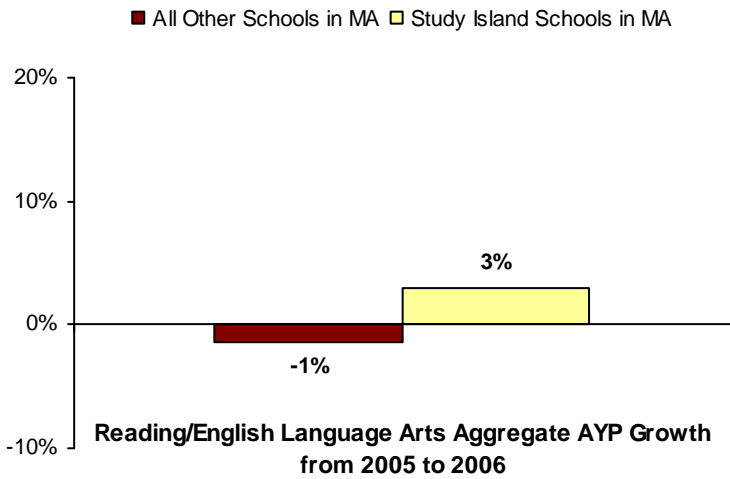


Figure 1. Growth in the percentage of schools meeting AYP for reading/ English language arts. *Study Island* schools in Massachusetts compared to all other schools in Massachusetts.

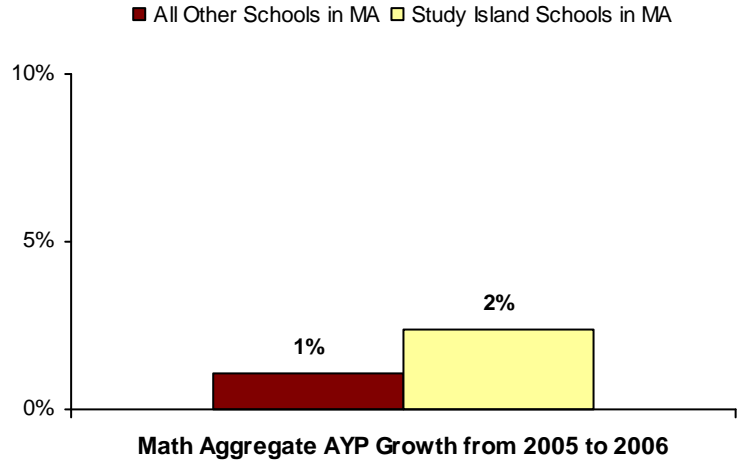


Figure 2. Growth in the percentage of schools meeting AYP for math. *Study Island* schools in Massachusetts compared to all other schools in Massachusetts.

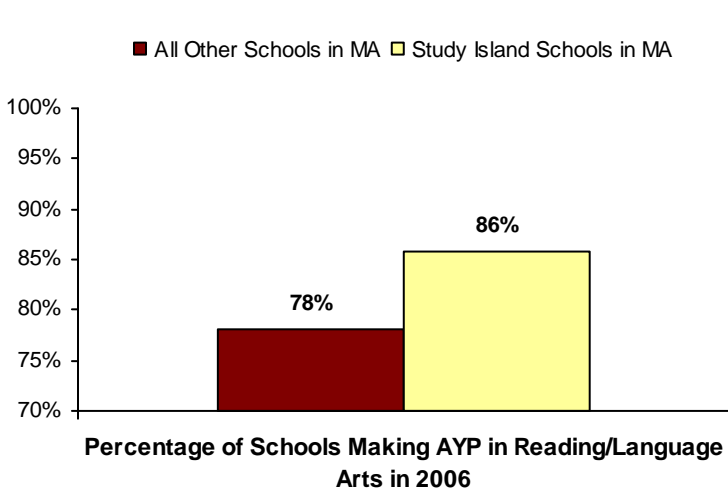


Figure 3. Percentage of schools meeting AYP for reading/English language arts in 2006. *Study Island* schools in Massachusetts compared to all other schools in Massachusetts.

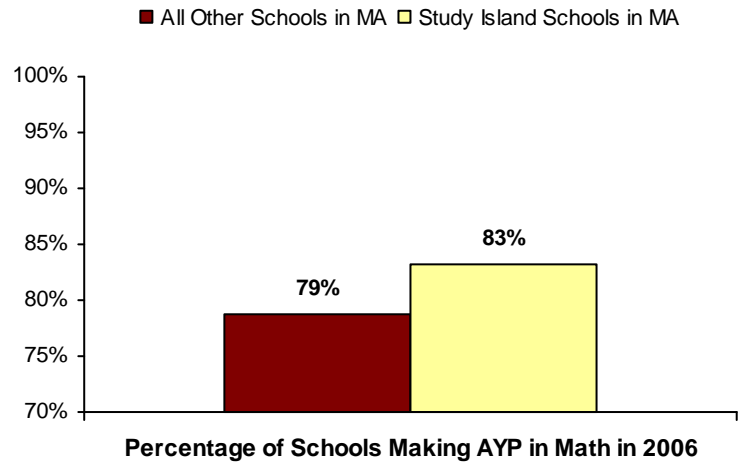


Figure 4. Percentage of schools meeting AYP for math in 2006. *Study Island* schools in Massachusetts compared to all other schools in Massachusetts.