

# Research Results

The Colony High School, Lewisville, TX, 2000

## Abstract

In the first term of their implementation, The Colony used the Cognitive Tutor Algebra I course for some of their weaker students. In previous years, such students would take a two-term Algebra I course, on an accelerated block schedule (equivalent to a two-year course at a non-block school). After introducing the Cognitive Tutor course, these students were asked to complete the course in a single term. Despite the new implementation's providing only half of the course time used in previous years, students using the Cognitive Tutor course passed the Texas state End of Course exam at a higher rate. In addition, students taking Cognitive Tutor Algebra I as a repeat course after having failed a previous course passed at a higher rate than had been seen in previous years.

### **Study Design:**

Comparison group

### **Measures:**

Standardized exam: Texas  
End of Course exam for  
Algebra I

### **Study location:**

The Colony High School;  
Lewisville School District;  
The Colony, TX (Dallas  
suburb)

### **Study conducted by:**

Lewisville Independent  
School District

### **Data analyzed by:**

Lewisville Independent  
School District

### **Course assessed:**

Cognitive Tutor Algebra I

### **Data collection date:**

2000

### **District Information:**

Type: Public, suburban  
Students Enrolled: 2,336  
% of Students Qualifying for  
Reduced Lunch: 4%

### **Ethnic Breakdown:**

African American: 9%  
Caucasian: 76%  
Hispanic: 11%  
Other: 4%

## Participants

Participants were students at The Colony High School, in suburban Dallas. The Cognitive Tutor course was used with two groups of students at the school. One group (the "former AB students") was composed of weaker students who, in previous years, would have taken a two-semester Algebra course (equivalent to a two-year course at a non-block school). The second group (the "repeaters") was a class of students who had previously failed Algebra (using a traditional curriculum) and were repeating the course.

## Method

Both groups of students were offered a one-semester course using the Cognitive Tutor. Following this course (in December, 2000), the students were administered the Texas state End of Course exam, and results were tabulated.

## Results

49% of the former AB students passed the End of Course exam. This compares very favorably with the 15% pass rate for a similar student cohort who took a traditional Algebra course over two terms in Fall 1999/Spring 2000.

The "repeaters" passed the End of Course exam at a rate of 60%. Similar "repeaters" classes had never before shown a pass rate of more than 38%.

## Discussion

With these two groups of weaker students, The Colony has had great success, as compared to previous years. This success comes despite the fact that the AB students using the Cognitive Tutor received half the number of hours of instruction as the comparison group of students from the previous year. In addition, these results were obtained in The Colony's first term using the Cognitive Tutor program. We expect results to strengthen even more over time.

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Suggested Citation: Carnegie Learning, Inc. (2001, September). *Results from The Colony, TX* (Cognitive Tutor Research Report TX-00-02). Pittsburgh, PA.

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