

*SkillsTutor*<sup>™</sup> Study  
Colton Joint Unified School District

**Educational Services Division**

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## SkillsTutor Program Background

*SkillsTutor* is an interactive Internet based computer assisted instruction program. It provides language arts and mathematics instruction at the third through eighth grade levels. It is owned and operated by Houghton Mifflin Harcourt.

In the 1999-2000 school year, Bloomington Middle School implemented the network based version of this program, *CornerStone*, to contribute to its technology magnet middle school offerings and to increase student performance. It was later offered as part of its after school Intensive Instruction program and as an elective course. Later, the Internet version, *SkillsTutor*, was implemented as part of the seventh and eighth grade summer English Academy for English Learners for all middle school students in the district. Eventually, all middle schools implemented *SkillsTutor* as part of their middle school Intensive Instruction program.

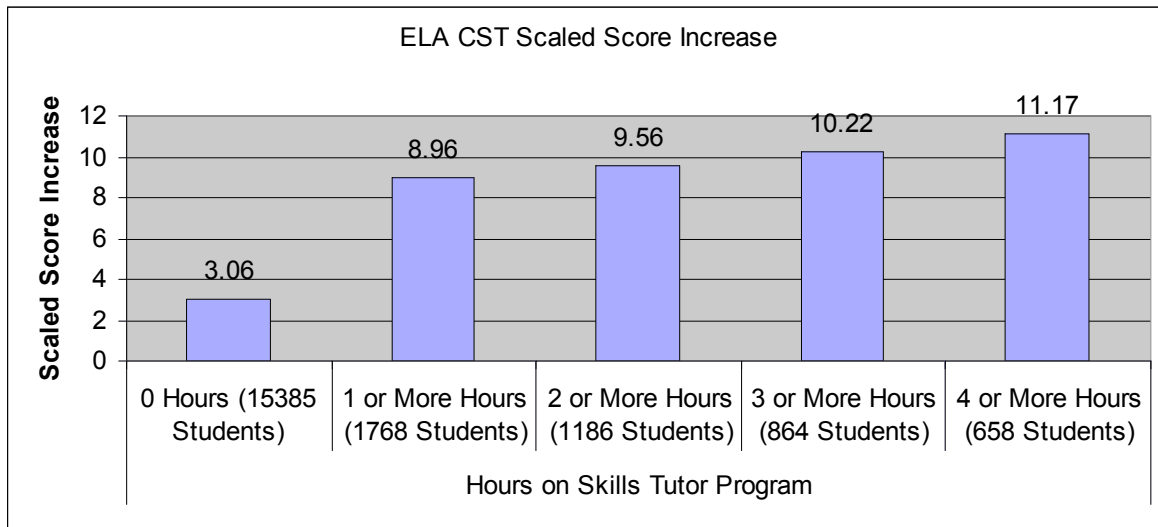
*SkillsTutor* showed success at increasing academic performance of selected English Learner middle school students. These students were immediately below the Proficient level (2006-07 Assessment and Evaluation Study). *SkillsTutor* was then offered to all elementary schools with inconclusive results (2007-08 Assessment and Evaluation Study). The recommendation was to increase the number of selected students using the program and to increase the time spent using the program so that the program could be evaluated more fully.

The *SkillsTutor* program has three levels of instruction in English Language Arts and Math. Level A is for third and fourth graders, Level B is for fifth and sixth graders and Level C is for seventh and eighth graders.

# Evaluation

## Scaled Score Comparisons

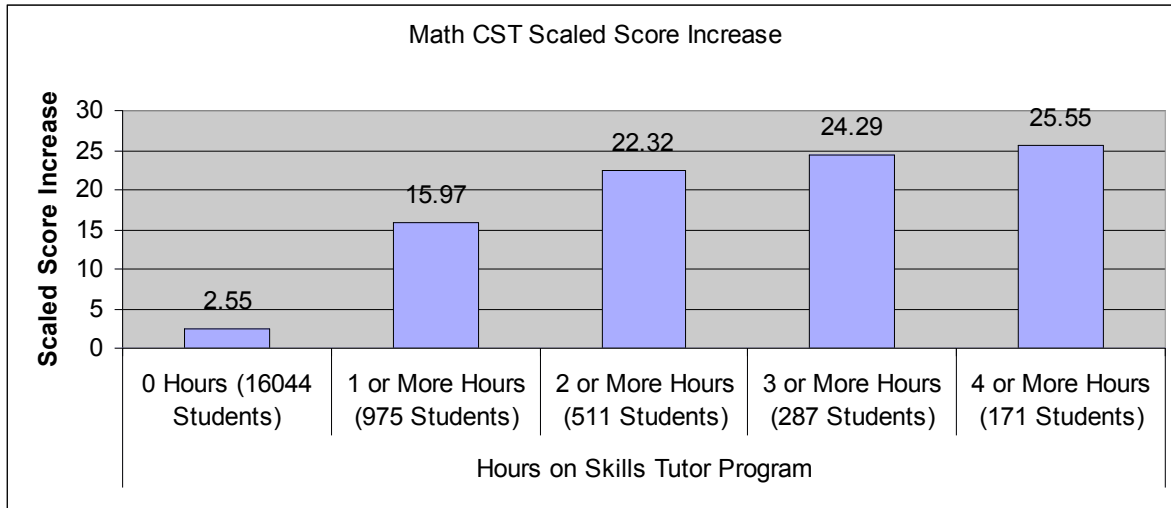
To evaluate the effectiveness of the *SkillsTutor* program at increasing student performance, scaled score increases on the State’s annual standardized tests, the California Standards Tests (CSTs) were measured for all Colton Joint Unified School District students. Comparisons of increases were made between students who participated in the program and students who did not. **Figure 1** below shows that students who participated in the Language Arts component of the program increased substantially more than non-participants with respect to the English Language Arts California Standards Test (ELA CST) scaled scores.



**Figure 1.** Participants in the Skills Tutor Program showed higher English Language Arts scaled score increases than students who spent zero hours in it.

The figure shows that students who spent one hour or more on the program increased nearly three times more scaled score points than students who spent no time on the program. The figure also shows that students who spent two, three and four hours or more on the ELA component of the program experienced greater and greater ELA scaled score increases.

A comparison of Mathematics CST scaled score increases with respect to hours of SkillsTutor Math program participation showed an even more dramatic pattern of Math scaled score increases (**Figure 2**).



**Figure 2.** Participants in the SkillsTutor Program showed higher Mathematics scaled score increases than students who spent zero hours in it.

All differences were statistically significant using an independent t-test ( $p < 0.001$ ).

### Percent Proficient Comparisons

The primary purpose of implementing the *SkillsTutor* Program at the elementary and middle school levels was to increase the percentage of students scoring proficient or higher on the ELA and Math CSTs. The goal was to meet the Annual Measurable Objectives (AMOs – the Percent Proficient criteria for all students and for each subgroup) and make Adequate Yearly Progress (AYP). Sites were provided with lists of English Learner students and Reclassified - Fluent English Proficient students (R-FEPs) targeted for this program. These students were either immediately below the Proficient level (scaled score of 325 to 349) or actually already scoring proficient (350 scaled score points or higher).

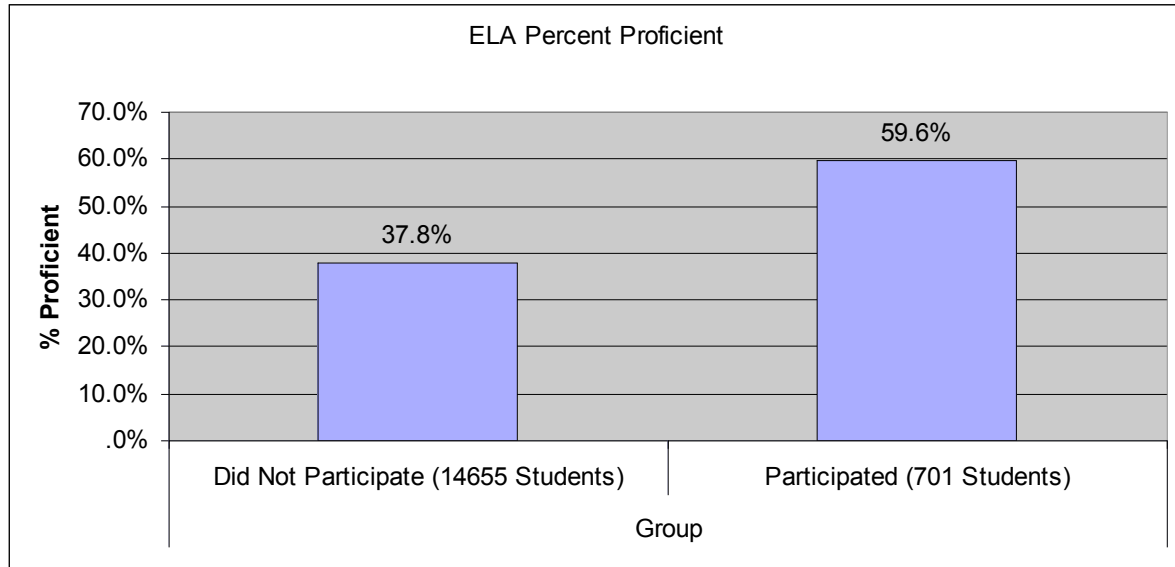
Including students who were already Proficient in the targeted group was to ensure maintenance of their Proficient status. Previous Assessment and Evaluation reports had shown that 67% of all Proficient students do not maintain their Proficient status. That is, 67% of all Proficient students drop down to the Basic level or below in their next year.

After these targeted students were placed into the program, either after school, or during intercessions, sites were also encouraged to include other students in the program as well.

So, to evaluate the effectiveness of the *SkillsTutor* program with respect to increasing the Percent Proficient rate, students who scored 325 scaled score points or higher the previous year were selected for evaluation. Of these students, those who worked 60 minutes or more on the *SkillsTutor* Program were identified as Participants. Students who worked no time on the *SkillsTutor* program were identified as Non-Participants. The percentage of Participants who

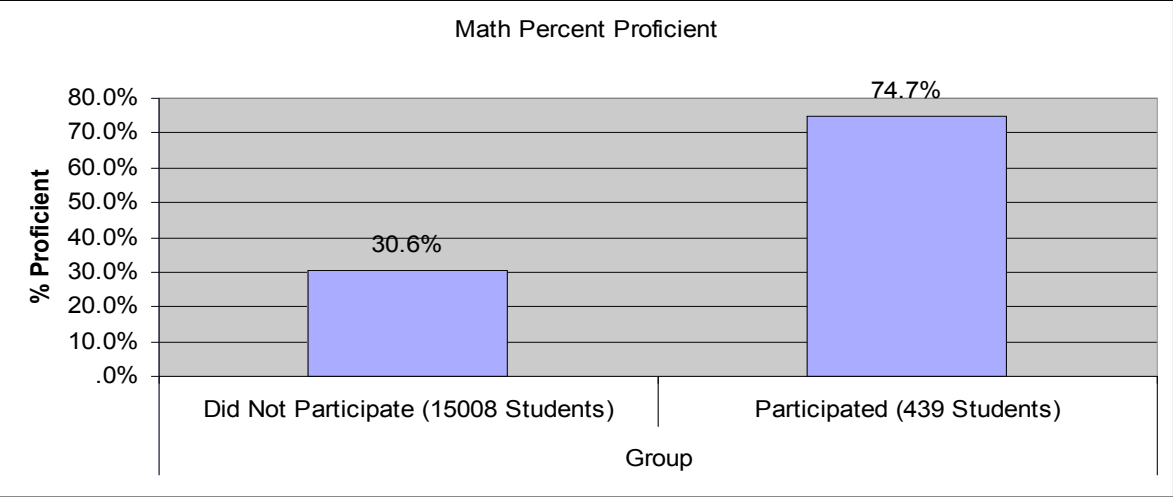
scored Proficient and the percentage of Non-Participants who scored Proficient were compared for both ELA and Math.

**Figure 3** shows the comparison of the percentage of Participants and Non-Participants who scored Proficient on the ELA CST. 59.6% of the Participants scored Proficient on the ELA CST whereas only 37.8% of the non-participants scored Proficient.



**Figure 3.** Comparison of *SkillsTutor* Participants and Non-Participants for English Language Arts (ELA).

The difference in Percent Proficient is even more dramatic for mathematics (**Figure 4**). 74.7% of all Participants scored Proficient on the Math CST. However, only 30.6% of all Non-Participants scored Proficient. The differences between the two groups for ELA and Math were statistically significant using an independent t-test ( $p < .001$ ). The Appendix shows more detailed statistics.



## **Conclusion**

Participation in the *SkillsTutor* program was associated with substantial and statistically significant increases in both ELA and Math CST scaled scores and Percent Proficient scores. Therefore, the Department of 7&8 Educational Services and Assessment and Evaluation recommends that Colton Joint Unified School District continue the *SkillsTutor* program.

The Department also recommends working with the publisher to identify and select ELA and Math lessons within each *SkillsTutor* unit of instruction that are the most frequently tested according to the CST blueprints. It is anticipated that this more prescribed selection of lessons will increase student performance on these state measures even more dramatically.

## Appendix

Further statistics for Percent Proficient Comparisons.

### English Language Arts

#### Group Statistics

Participated in Language Arts		N	Mean	Std. Deviation	Std. Error Mean
ELA Percent Proficient	Y	701	.5963	.49099	.01854
	N	14655	.3780	.48491	.00401

#### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ELA Percent Proficient	Equal variances assumed	6.109	.013	11.635	15354	.000	.21826	.01876	.18149	.25503
	Equal variances not assumed			11.504	766.763	.000	.21826	.01897	.18102	.25551

## Mathematics

### Group Statistics

Participated in Math		N	Mean	Std. Deviation	Std. Error Mean
Math Percent Proficient	Y	439	.7472	.43514	.02077
	N	15008	.3059	.46080	.00376

### Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Math Percent Proficient	Equal variances assumed	28.857	.000	19.806	15445	.000	.44125	.02228	.39758	.48492
	Equal variances not assumed			20.906	467.192	.000	.44125	.02111	.39977	.48272