



Donna Hargens, Ed.D., Superintendent

## **SuccessMaker & Study Island**

**Program Evaluator:**

Dr. Joseph Prather, Program Evaluation Specialist

**Data Management, Planning, and Program Evaluation Department  
Robert Rodosky, Ph.D., Executive Director**

**Planning and Program Evaluation  
Dena Dossett, Ph.D., Director**

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## EXECUTIVE SUMMARY

### **Design/Purpose**

Extended learning is an important component of the JCPS Vision 2015 Strategic Plan. Focus Area 3, Strategy 3.2 and Success Indicators 3.1 and 3.2 describe the importance of increasing extended learning through technology. SuccessMaker and Study Island are two current computer-based programs aimed to increase learning. Both programs are considered interventions and are available for student use in and out of school. SuccessMaker was encouraged for students scoring at the Novice level in Reading and/or Math, while Study Island was encouraged for students scoring at the Apprentice level in Reading and/or Math.

### **Implementation**

The current paper examined SuccessMaker and Study Island during the 2011-2012 and 2012-2013 school years. Overall, usage of SuccessMaker was much higher than Study Island. For SuccessMaker, there were 13,998 (2011-2012) and 23,718 (2012-2013) students that logged on. Of this group, 3,379 (2011-2012) and 3,658 (2012-2013) 4<sup>th</sup>-8<sup>th</sup> grade students that had a minimum of 300 minutes (5 hours) usage on SuccessMaker Reading and there was a comparable control student. Of all the users, there were 1,522 (2011-2012) and 3,553 (2012-2013) 4<sup>th</sup>-8<sup>th</sup> grade students that had a minimum of 300 minutes (5 hours) usage on SuccessMaker Mathematics and there was a comparable control student.

For Study Island Reading, there were 12,906 (2011-2012) and 15,929 (2012-2013) students that logged on. For Study Island Reading, there were 161 (2011-2012) and 1053 (2012-2013) students that had a minimum of 300 minutes (5 hours) usage and there was a comparable control student. For Study Island Mathematics, there were 286 (2011-2012) and 1,518 (2012-2013) students that had the minimum of 300 minutes usage and there was a comparable control student. It is important to note the increase in Study Island users in both Reading and Mathematics between the two years.

### **SuccessMaker: Impact on Achievement**

- In Reading, utilizing a matched control group design, data consistently showed SuccessMaker was not improving student KPREP growth in Reading. Overall, SuccessMaker Reading showed a statistically negative impact on student growth in Reading.
- When examining their previous achievement, students that scored “Novice” and used SuccessMaker Reading had some statistically significant positive results for 2011-2012, but for 2012-2013 the results tended to be statistically significant negative results. For all other groups (“Apprentice” and “Proficient”/“Distinguished”), the results tended to be statistically significant negative results.
- In Mathematics, utilizing a matched control group design, data consistently showed SuccessMaker was not improving student KPREP growth in Mathematics. Overall, SuccessMaker Mathematics showed a statistically negative impact on student growth in Mathematics.
- When examining their previous achievement, students that scored “Novice” and used SuccessMaker Mathematics had tended to have positive differences (although not statistically significant) for 2011-2012, but for 2012-2013 the results tended to be statistically significant negative results. For all other groups (“Apprentice” and “Proficient”/“Distinguished”), the results tended to be statistically significant negative results for 2012-2013 (2011-2012 tended to have negative differences, but not statistically significant).

### Study Island: Impact on Achievement

- In Reading, utilizing a matched control group design, data showed that Study Island was related to improving student growth in Reading. The Study Island group consistently outscored the control group (with the exception of 2012 8<sup>th</sup> graders, which had a very low sample size, and 2013 6<sup>th</sup> graders – neither of which were statistically significant), but for 2012 none of the differences was statistically significant and for 2013 4<sup>th</sup> grade, 7<sup>th</sup> grade, and “All” were statistically significant.
- For 2012 Study Island Reading, the students who participated in the We Succeed and Success in 60 outscored the control group by a greater margin than those who did not participate in the program, but this difference was not statistically significant. This may be attributable to the intentionality and teacher support provided by these two programs.
- In 2012 Study Island Reading, comparatively, very few Novice students used Study Island which was the recommendation to the schools. In 2013, the Novice students using Study Island (at least 300 minutes) had a statistically significant higher average growth scores than the students that did not use Study Island. The Apprentice and the Proficient/Distinguished Study Island groups both had larger growth scores than the students not using Study Island, but the difference did not reach the level of statistical significance.
- For Study Island Reading, the overall effect size is .14, which would be classified as small.
- In Math, utilizing a matched control group design, data showed that Study Island was related to improving student growth in Math. In 2012, The Study Island group consistently outscored the control group (with the exceptions of 6<sup>th</sup> and 8<sup>th</sup> graders which had a relatively low sample size), but none of the differences were statistically significant. In 2013, with an increased sample size, the Study Island students had a statistically significant higher growth score than the control group students for all grade levels.
- In 2012, there were much higher numbers of the We Succeed students that met the minimum of 300 minutes in math than in reading (51 compared to 6). The students who participated in the We Succeed and Success in 60 outscored the control group by a greater margin than those that did not participate in the program, but this difference was not statistically significant.
- In 2012 using growth scores, students from all levels of KCCT performance outscored the control group by nearly the same margin (ranging from 3.27 to 5.09), but this was not statistically significant. In 2013, the Study Island students outperformed on growth scores the control students for all levels of KPREP performance. This was statistically significant.
- The effect size is .21, which would be classified as small.

### Recommendation

Since SuccessMaker has consistently not improved student KPREP growth scores, this program should be discontinued. Study Island has consistently shown positive results (often statistically significant), therefore more students should be placed on Study Island. This includes students classified as “Novice”. Study Island should be continually monitored to determine if effects continue to be positive and to determine if certain grade levels or performance levels have better results. Please note that these recommendations are made based on KPREP growth scores for 4<sup>th</sup>-8<sup>th</sup> graders only.

SUCCESSMAKER**Evaluation Design - SuccessMaker**

In order to evaluate the effectiveness of the SuccessMaker Reading and Math Programs, a file containing all students that used each program during the school year 2012-2013 was compiled. Using these files a control group was computer generated that matched students based on the following criteria: grade, previous reading score (KCCT 2012), gender, race, free/reduced lunch status, and school. To ensure the strongest matches possible, the test and control students had to match on previous reading score, school, and grade and a minimum of 1 of the remaining 3 variables. (Note: The 2012 control group was matched with the same variables and had to match on at least 4 of them, but there was not a requirement as to which ones had to match.) Additionally, the test group, those that used SuccessMaker, must have had a minimum of 300 minutes (minimal acceptable time on program) using the SuccessMaker Program being evaluated. These files also only contained students in 4<sup>th</sup> – 8<sup>th</sup> grades that had growth scores from the Kentucky Accountability Model.

For this evaluation, three time usage standards were used. These time usage standards are:

- 300 minutes – to have a minimum number of minutes
- 900 minutes – to have the equivalent of one semester of suggested implementation (15 minutes a day x 4 days week x 15 weeks)
- 1800 minutes – to have the equivalent of two semesters of suggested implementation (15 minutes x 4 days a week x 30 weeks). Note – SuccessMaker Math did not have enough students with over 1800 minutes to complete an analysis in 2012.

*Table 1: Test and Control Group Percent Match - SuccessMaker* shows the percent of students that matched on each particular variable.

*Table 1: Test and Control Group Percent Match - SuccessMaker*

	School Year	Reading 300+ Minutes	Reading 900+ Minutes	Reading 1800+ Minutes	Math 300+ Minutes	Math 900+ Minutes	Math 1800+ Minutes
<b>Number of Students</b>	<b>2012</b>	3,379	1,861	501	1,522	151	NA
	<b>2013</b>	3,964	1,948	541	3,831	1,541	379
<b>Previous Performance</b>	<b>2012</b>	99.50%	99.46%	99.40%	100%	100%	NA
	<b>2013</b>	100%	100%	100%	100%	100%	100%
<b>Location/School</b>	<b>2012</b>	49.22%	42.72%	38.52%	99.80%	99.33%	NA
	<b>2013</b>	100%	100%	100%	100%	100%	100%
<b>Grade</b>	<b>2012</b>	99.38%	99.19%	99.00%	100%	100%	NA
	<b>2013</b>	100%	100%	100%	100%	100%	100%
<b>Free/Reduced Lunch</b>	<b>2012</b>	82.24%	80.28%	80.64%	92.97%	92.67%	NA
	<b>2013</b>	95%	95%	95%	95%	94%	97%
<b>Race</b>	<b>2012</b>	96.95%	96.67%	97.80%	78.45%	79.33%	NA
	<b>2013</b>	83%	80%	76%	86%	85%	89%
<b>Gender</b>	<b>2012</b>	99.82%	99.79%	99.60%	77.86%	74.00%	NA
	<b>2013</b>	82%	80%	76%	82%	81%	80%
<b>Avg # of Matches</b>	<b>2012</b>	5.18	5.18	5.15	5.49	5.45	NA
	<b>2013</b>	5.6	5.5	5.5	5.6	5.6	5.7

To determine the effectiveness of SuccessMaker Reading and Math Programs, the dependent variable to be used is the Kentucky Accountability Model's growth score (for approximately 300 reading and 300 mathematics paired students at least one was missing a growth score and not included in the analysis). This measure was determined to be the best measure of effectiveness since the growth score is calculated by comparing students that started at approximately the same reading or math level.

### SuccessMaker Reading

When doing a comparison of the test students, those that used SuccessMaker Reading at least 300 minutes, to the control group by grade level, the test students performed either at the same level or below that of the control group. This pattern holds the same even when controlling for students with a minimum of 900 minutes and 1800 minutes. *Table 2: SuccessMaker and Reading Growth Score Comparison* shows the number of matched students, means of each group, and whether statistically significant. Note that the number of minutes includes the higher minute groups. For example, the students counted in the 1800+ group are also in the 900+ Minutes and the 300+ Minutes groups.

When examining the data, there is a clear indication that SuccessMaker Reading is not improving student growth scores for students. In fact, in most cases, there is a statistically significant negative impact when SuccessMaker Reading students are compared to the control group.

*Table 3: SuccessMaker and Reading Performance Level* shows the percentage of students that scored at each performance level the year prior to starting SuccessMaker Reading. The goal was for SuccessMaker to be used primarily with Novice students and occasionally with Apprentice students. This table shows that Proficient students were overrepresented, especially at the 3<sup>rd</sup> and 4<sup>th</sup> grade levels, with Novice students being underrepresented in year 2012 (2011 Performance Level), but this was significantly improved in year 2013 (2012 Performance Level).

The next part of the analysis examines how students did using SuccessMaker Reading comparing students with only those that had similar KCCT (2012)/KPREP (2013) Reading score the year prior. When examining students that scored a Novice on the KCCT/KPREP reading score the year prior, there was a statistical difference overall between test student and control students, with test students outperforming their matched counterparts in Reading growth by 4.19 points ( $p < .05$ ) in 2012, but underperforming their matched counterparts in Reading growth by 7.66 points ( $p < .001$ ) in 2013. When examining the test-control students by grade, only the difference for 6<sup>th</sup> graders, 300 minutes or more, between the test students and the control students remained statistically significant in 2012, while in 2013 all grade levels statistically underperformed the control group ( $p < .05$  or lower). For all grades in the Novice group, the SuccessMaker Reading students outperformed the control group with the exception of 6<sup>th</sup> graders, 1800 minutes or more in 2012. (This particular group, 6<sup>th</sup> graders with 1800 minutes or more, had a relatively small number of participants ( $n=10$ ).) In 2013, the reverse is true. All Novice control group of students outperformed the SuccessMaker Reading students in all grades all minutes except 7<sup>th</sup> and 8<sup>th</sup> grade, over 1800 minutes, which was statistically not significant (the 6<sup>th</sup> grade control group performed better than the SuccessMaker Reading students, but the difference was not statistically significant).

*Table 4: SuccessMaker and Novice Reading Growth Score Comparison* shows the average growth scores for the test students (SuccessMaker Reading), the average growth scores for the control group, the difference between the two, and if the difference was significant.

When comparing SuccessMaker Reading students that scored an Apprentice on the KCCT/KPREP Reading the year prior with a comparable control group, the SuccessMaker Reading students perform statistically the same or below the control group. In 2012, the control group had statistically significant higher growth scores than the SuccessMaker Reading students for 4<sup>th</sup> graders (with more than 300 minutes and more than 900 minutes) and 5<sup>th</sup> graders (with more than 300 minutes and more than 900 minutes). In 2013, the control students had statistically significant higher growth scores than the SuccessMaker Reading students for 4<sup>th</sup> graders (more than 300 minutes, more than 900 minutes, and more than 1800 minutes), 5<sup>th</sup> graders (with more than 300 minutes and more than 900 minutes), 7<sup>th</sup> graders (with more than 300 minutes and more than 900 minutes), and 8<sup>th</sup> graders (more than 300 minutes)

*Table 5: SuccessMaker and Apprentice Reading Growth Score Comparison* shows the average growth scores for the test students (SuccessMaker Reading), the average growth scores for the control group, the difference between the two, and if the difference was significant.

When comparing SuccessMaker Reading students that scored a Proficient/Distinguished on the KCCT/KPREP Reading the year prior with a comparable control group, the SuccessMaker Reading students perform statistically the same or below the control group. In 2012, the control group had statistically significant higher growth scores than the SuccessMaker Reading students for 4<sup>th</sup> graders (more than 300 minutes, more than 900 minutes, and more than 1800 minutes), 5<sup>th</sup> graders (more than 300 minutes, more than 900 minutes, and more than 1800 minutes), 6<sup>th</sup> graders (with more than 300 minutes and more than 900 minutes) and 7<sup>th</sup> graders (with more than 300 minutes). In 2013, the control group had statistically significant higher growth than the SuccessMaker Reading students for 4<sup>th</sup> graders (more than 300 minutes, more than 900 minutes, and more than 1800 minutes), 5<sup>th</sup> graders (more than 300 minutes, more than 900 minutes, and more than 1800 minutes), 6<sup>th</sup> graders (with more than 300 minutes and more than 900 minutes), 7<sup>th</sup> graders (more than 300 minutes), and 8<sup>th</sup> graders (more than 300 minutes).

*Table 6: : SuccessMaker and Proficient and Distinguished Reading Growth Score Comparison* shows the average growth scores for the test students (SuccessMaker Reading), the average growth scores for the control group, the difference between the two, and if the difference was significant. The amount of time did not seem to affect the average growth for the SuccessMaker Reading students.

Within the SuccessMaker Reading Program students receive an initial reading level and then there is a current level which shows where the student is performing at the end of their last session. The ideal is that all students will make a minimum of one year's growth. A few observations from *Table 7A: SuccessMaker Reading Student Grade Level Growth* and *Table 7B: SuccessMaker Reading All Student Grade Level Growth*:

- As time on the program increases, the student performance level increases on program assessments,
- Many students, especially those under 1800 minutes, are falling further behind their peers using SuccessMaker assessments (see Table 7A),
- By examining the KPREP Growth scores in light of the SuccessMaker Reading growth, even though the Proficient/Distinguished students are making over a year's worth of growth in

SuccessMaker Reading, they are not growing as much as their peers not using SuccessMaker Reading as measured by KPREP growth scores.

Table 2: SuccessMaker and Reading Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	1225	42.84	49.50	-6.65	p<.001*
	2013	1063	36.70	50.39	-13.69	P<.001*
5 <sup>th</sup>	2012	1182	43.31	51.44	-8.13	p<.001*
	2013	1102	38.90	49.40	-10.50	p<.001*
6 <sup>th</sup>	2012	351	37.70	40.04	-2.34	n.s.
	2013	611	33.99	40.28	-6.29	p</001*
7 <sup>th</sup>	2012	326	42.68	44.61	-1.92	n.s.
	2013	491	37.55	43.65	-6.10	p<.001*
8 <sup>th</sup>	2012	295	38.48	40.75	-2.27	n.s.
	2013	391	38.52	47.97	-9.45	p<.001*
All	2012	3379	42.08	47.96	-5.883	p<.001*
	2013	3658	37.22	47.24	-10.022	P<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	811	42.91	50.35	-7.44	p<.001*
	2013	615	34.31	50.82	-16.51	p<.001*
5 <sup>th</sup>	2012	675	44.36	51.68	-7.32	p<.001*
	2013	576	37.80	49.47	-11.67	p<.001*
6 <sup>th</sup>	2012	136	40.39	40.51	-.12	n.s.
	2013	263	33.42	40.79	-7.37	P<.01*
7 <sup>th</sup>	2012	117	41.01	45.36	-4.35	n.s.
	2013	189	38.55	47.04	-8.49	p<.01*
8 <sup>th</sup>	2012	122	36.42	36.32	.10	n.s.
	2013	177	39.06	46.89	-7.83	p<.01*
All	2012	1861	42.70	48.88	-6.17	p<.001*
	2013	1820	36.19	48.17	-11.98	p<.001
Test Group 1800+ Minutes						
4 <sup>th</sup>	2012	230	41.59	49.65	-8.06	p<.01*
	2013	188	34.66	50.87	-16.20	p<.001*
5 <sup>th</sup>	2012	179	45.20	49.88	-4.68	n.s.
	2013	183	40.15	49.59	-9.44	p<.01*
6 <sup>th</sup>	2012	34	39.85	46.47	-6.62	n.s.
	2013	63	32.25	39.44	-7.19	n.s.
7 <sup>th</sup>	2012	28	35.25	45.25	-10.00	n.s.
	2013	37	46.08	49.84	-3.76	n.s.
8 <sup>th</sup>	2012	30	32.43	35.10	-2.67	n.s.
	2013	36	38.61	50.53	-11.92	n.s.
All	2012	501	41.86	48.40	-6.54	p<.01*
	2013	507	37.46	48.89	-11.43	p<.001

\*indicates statistical significance

*Table 3: 2011 SuccessMaker and Reading Performance Level*

Grade	School Year	Test Group % Novice	Test Group % Apprentice	Test Group % Proficient	Test Group % Distinguished
3 <sup>rd</sup>	2011	10.1%	37.6%	48.0%	4.3%
	2012	47.8%	33.9%	16.5%	1.8%
4 <sup>th</sup>	2011	14.4%	48.2%	35.0%	2.5%
	2012	57.7%	29.8%	10.9%	1.5%
5 <sup>th</sup>	2011	36.0%	40.9%	22.2%	0.9%
	2012	75.9%	15.6%	8.1%	0.5%
6 <sup>th</sup>	2011	40.9%	45.2%	12.6%	1.2%
	2012	88.4%	8.7%	2.8%	0.0%
7 <sup>th</sup>	2011	38.3%	50.2%	10.2%	1.4%
	2012	84.2%	10.7%	4.5%	0.5%
ALL	2011	19.8%	43.5%	34.0%	2.7%
	2012	65.1%	23.5%	10.2%	1.1%



Table 4: SuccessMaker and Novice Reading Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	124	44.87	41.15	3.73	n.s.
	2013	495	38.71	48.82	-10.11	p<.001*
5 <sup>th</sup>	2012	169	47.07	45.17	1.91	n.s.
	2013	631	40.78	50.44	-9.66	p<.001*
6 <sup>th</sup>	2012	125	47.74	40.38	7.37	p<.05*
	2013	458	36.75	41.97	-5.22	p<.01*
7 <sup>th</sup>	2012	133	46.38	40.02	6.35	n.s.
	2013	434	39.00	43.06	-4.06	p<.05*
8 <sup>th</sup>	2012	113	45.14	43.10	2.04	n.s.
	2013	327	40.18	48.46	-8.28	p<.001*
All	2012	664	46.32	42.13	4.19	p<.05*
	2013	2345	39.14	46.80	-7.66	p<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	80	46.91	43.25	3.66	n.s.
	2013	303	37.46	50.56	-13.10	p<.001*
5 <sup>th</sup>	2012	109	49.21	46.12	3.09	n.s.
	2013	345	39.88	51.84	-11.96	p<.001*
6 <sup>th</sup>	2012	51	51.20	42.65	8.55	n.s.
	2013	204	35.51	43.33	-7.81	p<.01*
7 <sup>th</sup>	2012	53	43.32	39.62	3.70	n.s.
	2013	168	39.87	46.67	-6.80	p<.05*
8 <sup>th</sup>	2012	49	40.39	39.18	1.20	n.s.
	2013	150	40.41	47.63	-7.22	p<.05*
All	2012	342	46.79	42.93	3.86	n.s.
	2013	1170	38.56	48.74	-10.18	p<.001*
Test Group 1800+ Minutes						
4 <sup>th</sup>	2012	27	48.11	38.26	9.85	n.s.
	2013	95	39.17	47.79	-8.62	p<.05*
5 <sup>th</sup>	2012	38	53.84	44.13	9.71	n.s.
	2013	114	40.80	52.56	-11.76	p<.01*
6 <sup>th</sup>	2012	10	42.30	47.00	-4.70	n.s.
	2013	47	34.68	43.11	-8.43	n.s.
7 <sup>th</sup>	2012	8	32.25	31.63	.625	n.s.
	2013	31	49.94	49.03	.91	n.s.
8 <sup>th</sup>	2012	16	38.38	34.06	4.31	n.s.
	2013	27	38.96	50.26	-11.30	n.s.
All	2012	99	46.87	40.18	6.69	n.s.
	2013	314	40.13	49.16	-9.02	p<.001*

\*indicates statistical significance

Table 5: SuccessMaker and Apprentice Reading Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	460	46.00	50.17	-4.18	p<.05*
	2013	367	36.76	51.50	-14.73	p<.001*
5 <sup>th</sup>	2012	565	45.69	53.71	-8.02	p<.001*
	2013	328	38.56	48.12	-9.56	p<.001*
6 <sup>th</sup>	2012	142	37.64	40.10	-2.46	n.s.
	2013	99	29.35	34.41	-5.06	n.s.
7 <sup>th</sup>	2012	147	43.37	48.92	-5.54	n.s.
	2013	43	28.49	48.02	-19.53	p<.001*
8 <sup>th</sup>	2012	148	35.66	40.37	-4.72	n.s.
	2013	43	30.02	43.95	-13.93	p<.05*
All	2012	1462	43.76	49.44	-5.69	p<.001*
	2013	1170	38.56	48.74	-10.18	p<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	315	46.10	52.06	-5.96	p<.05*
	2013	203	33.24	51.78	-18.54	p<.001*
5 <sup>th</sup>	2012	321	47.45	53.59	-6.14	p<.05*
	2013	169	38.47	46.27	-7.80	p<.05*
6 <sup>th</sup>	2012	58	39.95	38.81	1.14	n.s.
	2013	40	31.23	29.68	1.55	n.s.
7 <sup>th</sup>	2012	53	39.53	50.94	-11.42	n.s.
	2013	18	27.28	47.61	-20.33	p<.05*
8 <sup>th</sup>	2012	60	35.68	35.92	-.233	n.s.
	2013	17	33.00	41.94	-8.94	n.s.
All	2012	807	44.99	50.44	-5.45	p<.01*
	2013	447	34.79	47.18	-12.39	p<.001*
Test Group 1800+ Minutes						
4 <sup>th</sup>	2012	83	42.83	50.86	-8.02	n.s.
	2013	53	34.57	57.77	-23.20	p<.001*
5 <sup>th</sup>	2012	77	48.75	50.62	-1.87	n.s.
	2013	51	44.82	45.67	-.85	n.s.
6 <sup>th</sup>	2012	16	47.00	49.50	-2.50	n.s.
	2013	15	26.73	30.53	-3.80	n.s.
7 <sup>th</sup>	2012	18	39.22	51.83	-12.61	n.s.
	2013	5	29.80	54.40	-24.60	n.s.
8 <sup>th</sup>	2012	9	31.67	47.44	-15.778	n.s.
	2013	4	42.75	46.50	-3.75	n.s.
All	2012	203	44.59	50.60	-6.01	p<.05*
	2013	128	37.80	49.27	-11.47	p<.01*

\*indicates statistical significance

Table 6: SuccessMaker and Proficient and Distinguished Reading Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	638	40.21	50.71	-10.50	p<.001*
	2013	199	31.66	51.96	-20.30	p<.001*
5 <sup>th</sup>	2012	439	38.81	51.20	-12.39	p<.001*
	2013	139	30.55	47.96	-17.41	p<.001*
6 <sup>th</sup>	2012	80	22.50	38.42	-15.93	p<.001*
	2013	54	19.09	36.74	-17.65	p<.01*
7 <sup>th</sup>	2012	45	29.22	44.98	-15.76	p<.01*
	2013	14	20.29	48.21	-27.92	p<.01*
8 <sup>th</sup>	2012	34	28.65	34.62	-5.97	n.s.
	2013	21	30.14	48.62	-18.48	p<.05*
All	2012	1236	37.85	49.44	-11.59	p<.001*
	2013	427	29.26	48.45	-19.19	p<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	415	39.79	50.30	-10.52	p<.001*
	2013	108	27.64	49.42	-21.78	p<.001*
5 <sup>th</sup>	2012	239	38.08	51.69	-13.62	p<.001*
	2013	59	22.51	45.59	-23.08	p<.001*
6 <sup>th</sup>	2012	25	19.00	38.04	-19.04	p<.01*
	2013	19	15.58	36.89	-21.31	p<.05*
7 <sup>th</sup>	2012	11	37.00	46.09	-9.09	n.s.
	2013	3	32.33	64.00	-31.67	n.s.
8 <sup>th</sup>	2012	13	24.85	27.38	-2.54	n.s.
	2013	10	29.10	44.20	-15.10	n.s.
All	2012	703	38.15	49.85	-11.07	p<.001*
	2013	199	25.11	47.05	-21.94	p<.001*
Test Group 1800+ Minutes						
4 <sup>th</sup>	2012	119	39.49	51.01	-11.52	p<.01*
	2013	40	24.10	49.03	-24.93	p<.001*
5 <sup>th</sup>	2012	62	35.73	52.03	-16.31	p<.01*
	2013	17	20.00	41.00	-21.00	p<.01*
6 <sup>th</sup>	2012	8	22.50	39.75	-17.25	n.s.
	2013	NA	NA	NA	NA	NA
7 <sup>th</sup>	2012	2	11.50	40.50	-29.00	n.s.
	2013	NA	NA	NA	NA	NA
8 <sup>th</sup>	2012	5	14.80	16.20	-1.40	n.s.
	2013	5	33.40	55.20	-21.80	n.s.
All	2012	196	36.69	49.88	-13.19	p<.001*
	2013	64	23.13	46.67	-23.54	p<.001*

\*indicates statistical significance

Table 7A: SuccessMaker Reading Sample Student Grade Level Growth on Program Assessments

	School Year	All			Novice			Apprentice			Proficient/ Distinguished		
		300+	900+	1800+	300+	900+	1800+	300+	900+	1800+	300+	900+	1800+
4 <sup>th</sup>	2012	0.65	0.80	1.09	0.63	0.78	1.06	0.65	0.80	1.06	0.65	0.81	1.12
	2013	0.57	0.74	1.03	0.57	0.74	1.01	0.54	0.72	0.99	0.58	0.81	1.14
5 <sup>th</sup>	2012	0.55	0.73	1.00	0.57	0.73	0.98	0.53	0.71	0.98	0.56	0.76	1.03
	2013	0.50	0.69	0.98	0.50	0.69	0.96	0.49	0.69	1.03	0.50	0.71	*
6 <sup>th</sup>	2012	0.37	0.58	0.88	0.36	0.55	*	0.37	0.56	*	0.38	*	*
	2013	0.46	0.71	1.17	0.46	0.70	1.13	0.53	0.84	*	0.41	*	*
7 <sup>th</sup>	2012	0.40	0.62	0.88	0.38	0.59	*	0.42	0.64	*	0.41	*	*
	2013	0.45	0.73	1.27	0.45	0.73	1.29	0.47	*	*	*	*	*
8 <sup>th</sup>	2012	0.40	0.62	0.85	0.38	0.59	*	0.40	0.63	*	0.44	*	*
	2013	0.45	0.68	1.09	0.44	0.65	*	0.47	*	*	*	*	*

\* Less than 30 students

Table 7B: SuccessMaker Reading All Student Grade Level Growth

ALL					
Grade	School Year	N	Starting Level	Ending Level	Gain
1	2012	1883	0.79	1.48	0.70
2	2012	2181	1.65	2.30	0.65
3	2012	2785	2.58	3.15	0.58
	2013	1831	2.56	3.17	0.61
4	2012	2516	3.18	3.74	0.56
	2013	1375	3.15	3.72	0.57
5	2012	2251	4.07	4.52	0.45
	2013	1310	3.85	4.35	0.50
6	2012	737	4.75	4.99	0.24
	2013	692	4.24	4.69	0.46
7	2012	670	5.30	5.56	0.26
	2013	544	4.60	5.05	0.45
8	2012	591	5.93	6.18	0.24
	2013	437	5.32	5.78	0.45
ALL	2012	13614	2.94	3.47	0.53
	2013	6215*	3.53	4.06	0.53
300-899 Minutes					
Grade	2012	N	Starting Level	Ending Level	Gain
1	2012	504	0.86	1.21	0.36
2	2012	603	1.75	2.10	0.35
3	2012	795	2.62	2.96	0.34
	2013	608	2.67	2.98	0.30
4	2012	709	3.24	3.58	0.34
	2013	571	3.32	3.64	0.31
5	2012	709	4.16	4.46	0.30
	2013	611	4.04	4.32	0.28
6	2012	245	4.73	4.97	0.24
	2013	405	4.29	4.56	0.28
7	2012	248	5.36	5.64	0.28
	2013	337	4.78	5.06	0.28
8	2012	209	6.07	6.32	0.25
	2013	241	5.43	5.70	0.27
ALL	2012	4022	3.13	3.45	0.32
	2013	2795*	3.84	4.13	0.29
900-1799 Minutes					
Grade	2012	N	Starting Level	Ending Level	Gain
1	2012	691	0.76	1.56	0.80
2	2012	823	1.58	2.33	0.75
3	2012	1092	2.52	3.21	0.69
	2013	760	2.55	3.16	0.61
4	2012	974	3.07	3.75	0.68
	2013	556	3.11	3.73	0.62
5	2012	770	3.89	4.53	0.64

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	2013	480	3.79	4.35	0.56
6	2012	122	4.77	5.25	0.48
	2013	219	4.41	4.98	0.57
7	2012	102	5.23	5.77	0.53
	2013	169	4.40	5.01	0.61
8	2012	104	5.91	6.45	0.54
	2013	159	5.30	5.88	0.59
ALL	2012	4678	2.63	3.32	0.69
	2013	2346*	3.43	4.03	0.60
1800+ Minutes					
Grade	2012	N	Starting Level	Ending Level	Gain
1	2012	436	0.64	1.92	1.28
2	2012	445	1.39	2.64	1.25
3	2012	481	2.40	3.53	1.12
	2013	463	2.43	3.44	1.01
4	2012	405	2.92	4.04	1.12
	2013	248	2.85	3.88	1.03
5	2012	270	3.68	4.70	1.02
	2013	219	3.47	4.45	0.98
6	2012	41	4.66	5.55	0.89
	2013	68	3.38	4.55	1.17
7	2012	28	5.23	6.12	0.88
	2013	38	3.90	5.18	1.27
8	2012	33	5.75	6.60	0.85
	2013	37	4.73	5.82	1.09
ALL	2012	2139	2.23	3.38	1.15
	2013	1074*	2.93	3.96	1.03

\*All – 26 had no grade identified (22 in the 300-899 category, 3 in the 900-1799 category, and 1 in the 1800+ category)

## SuccessMaker Math

When doing a comparison of the test students to the control group by grade level, the test students, those that used SuccessMaker Math 300 minutes or more, performed statistically either at the same level or below that of the control group. This pattern holds the same even when controlling for students with a more minutes using the program. *Table 8: SuccessMaker and Mathematics Growth Score Comparison* shows the means of each group and whether statistically significant.

When examining the data, there is a clear indication that SuccessMaker Math is not improving student growth scores for all students. Additionally, the growth scores do not consistently increase with more time. It is also important to note that the sample size decreases when limiting to students that have used SuccessMaker Math at least 900 minutes in 2012.

*Table 9: SuccessMaker and Mathematics Performance Level* shows the percentage of students that scored at each performance level the year prior to working the program. The goal was for SuccessMaker to be used primarily with Novice students and occasionally with Apprentice students. This table shows that Proficient students were overrepresented in 2012, especially at the 3<sup>rd</sup> and 4<sup>th</sup> grade levels, with Novice students being underrepresented, but this was improved in 2013.

The next part of the analysis examines how students did using SuccessMaker Math comparing students with only those that had similar KCCT (2012)/KPREP(2013) Math score the year prior. In 2012, when examining students that scored a Novice on the KCCT Math score the year prior, there was no statistical difference for any group of students. In 2013, when examining students that scored a Novice on the KPREP Math score the year prior, there was a statistically significant difference with the control students outperforming the SuccessMaker Math students for all grades with 300 minutes or more, for 4<sup>th</sup>, 5<sup>th</sup>, and 8<sup>th</sup> grades with 900 minutes or more, and 4<sup>th</sup>, 5<sup>th</sup>, and 7<sup>th</sup> grades with 1800 minutes or more.

*Table 10: SuccessMaker and Novice Mathematics Growth Score Comparison* shows the average growth scores for the test students (SuccessMaker Math), the average growth scores for the control group, the difference between the two, and if the difference was significant.

When comparing SuccessMaker Math students that scored an Apprentice on the KCCT Math the year prior with a comparable control group, the SuccessMaker Math students performed the same as the control group in 2012 and statistically significantly underperformed the control group in 2013. The only groups that performed statistically the same in 2013 were those students with over 1800 minutes in 4<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grades.

*Table 11: SuccessMaker and Apprentice Mathematics Growth Score Comparison* shows the average growth scores for the test students (SuccessMaker Math), the average growth scores for the control group, the difference between the two, and if the difference was significant.

For 2012, when comparing SuccessMaker Math students that scored a Proficient/Distinguished on the KCCT Math the year prior with a comparable control group, the SuccessMaker Math students perform the same or below the control group with the exception of 4<sup>th</sup> graders with at least 900 minutes. The 4<sup>th</sup> graders with at least 900 minutes had statistically significant higher growth scores than the control group. The control group had statistically significant higher growth scores than the SuccessMaker Math students for 4<sup>th</sup> graders (with more than 300 minutes), 5<sup>th</sup> graders (with more than 300 minutes), and

6th graders (with more than 300 minutes). For 2013, when comparing SuccessMaker Math students that scored a Proficient/Distinguished on the KPREP Math the year prior with a comparable control group, the SuccessMaker Math students performed statistically the same or below the control group. The control group outperformed the SuccessMaker Math students in 4<sup>th</sup> grade (more than 300 minutes and more than 900 minutes), 5<sup>th</sup> grade (more than 300 minutes and more than 900 minutes), 6<sup>th</sup> grade (more than 300 minutes), and 7<sup>th</sup> grade (more than 300 minutes).

*Table 12: SuccessMaker and Proficient and Distinguished Mathematics Growth Score Comparison* shows the average growth scores for the test students (SuccessMaker Math), the average growth scores for the control group, the difference between the two, and if the difference was significant.

Within the SuccessMaker Math Program, students receive an initial math level and then there is a current level which shows where the student is performing at the end of their last session. The ideal is that all students will make a minimum of one year's growth. A few observations from *Table 13A: SuccessMaker Math Sample Student Grade Level Growth* and *Table 3B: SuccessMaker Math All Student Grade Level Growth*.

- Using the 2013 data, the more time the students were on the program the greater their scores on the program's assessment, and
- The program growth scores are very low, showing most students are falling further behind their peers with the exception of 3<sup>rd</sup>, 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade students with at least 1800 minutes.



Table 8: SuccessMaker and Mathematics Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	526	42.76	46.26	-3.50	p<.05*
	2013	1006	41.81	50.78	-8.97	p<.001*
5 <sup>th</sup>	2012	458	42.97	47.98	-5.02	p<.01*
	2013	1030	40.77	50.79	-10.02	p<.001*
6 <sup>th</sup>	2012	222	44.25	42.69	1.56	n.s.
	2013	578	36.07	44.73	-8.66	p<.001*
7 <sup>th</sup>	2012	184	43.38	42.26	1.12	n.s.
	2013	524	41.56	49.67	-8.10	p<.001*
8 <sup>th</sup>	2012	132	48.73	47.36	1.38	n.s.
	2013	415	37.53	46.98	-9.45	p<.001*
All	2012	1522	43.63	45.87	-2.24	p<.05*
	2013	3553	40.04	49.19	-9.15	p<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	44	45.09	42.48	2.61	n.s.
	2013	407	42.21	53.50	-11.29	p<.001*
5 <sup>th</sup>	2012	33	38.09	53.48	-15.39	p<.05*
	2013	401	40.02	51.11	-11.08	p<.001*
6 <sup>th</sup>	2012	20	44.90	42.05	2.85	n.s.
	2013	238	36.43	46.27	-9.84	p<.001*
7 <sup>th</sup>	2012	33	43.97	41.76	2.21	n.s.
	2013	204	41.70	50.85	-9.15	p<.01*
8 <sup>th</sup>	2012	21	54.38	46.24	8.14	n.s.
	2013	179	39.19	48.04	-8.85	p<.01*
All	2012	151	44.58	45.19	-.61	n.s.
	2013	1429	40.18	50.56	-10.38	p<.001*
Test Group 1800+						
4 <sup>th</sup>	2013	78	44.85	56.96	-12.12	p<.01*
5 <sup>th</sup>	2013	75	36.09	53.45	-17.36	p<.01*
6 <sup>th</sup>	2013	81	38.91	47.91	-9.00	p<.05*
7 <sup>th</sup>	2013	61	38.62	52.49	-13.87	p<.01*
8 <sup>th</sup>	2013	56	44.05	51.77	-7.71	n.s.
All	2013	351	40.40	52.52	-12.12	p<.001*

\*indicates statistical significance

*Table 9: SuccessMaker and Mathematics Performance Level*

Grade	School Year	Test Group % Novice	Test Group % Apprentice	Test Group % Proficient	Test Group % Distinguished
3 <sup>rd</sup>	2011	23.0%	30.6%	37.5%	8.9%
	2012	42.0%	45.1%	12.5%	0.4%
4 <sup>th</sup>	2011	21.6%	34.9%	35.2%	8.3%
	2012	53.6%	37.5%	7.9%	1.0%
5 <sup>th</sup>	2011	65.8%	25.2%	8.6%	0.5%
	2012	61.8%	33.8%	4.2%	0.2%
6 <sup>th</sup>	2011	72.8%	17.9%	8.7%	0.5%
	2012	75.5%	22.0%	2.5%	0.0%
7 <sup>th</sup>	2011	74.2%	21.2%	4.5%	0.0%
	2012	76.9%	20.7%	2.2%	0.2%
ALL	2011	39.3%	28.8%	26.2%	5.7%
	2012	57.9%	34.6%	7.1%	0.4%

Table 10: SuccessMaker and Novice Mathematics Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	121	49.86	50.46	-0.60	n.s.
	2013	417	43.64	51.24	-7.60	p<.001*
5 <sup>th</sup>	2012	99	46.27	48.10	-1.83	n.s.
	2013	545	42.07	50.15	-8.08	p<.001*
6 <sup>th</sup>	2012	146	48.51	43.18	5.33	n.s.
	2013	352	39.17	45.71	-6.54	p<.01*
7 <sup>th</sup>	2012	134	46.65	42.37	4.28	n.s.
	2013	395	43.77	49.12	-5.34	p<.01*
8 <sup>th</sup>	2012	98	53.53	47.87	5.66	n.s.
	2013	313	37.78	46.27	-8.49	p<.001*
All	2012	598	48.82	46.06	2.76	n.s.
	2013	2022	41.56	48.80	-7.24	p<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	9	54.22	59.33	-5.11	n.s.
	2013	173	42.11	54.36	-12.25	p<.001*
5 <sup>th</sup>	2012	9	46.78	62.67	-15.89	n.s.
	2013	224	41.34	49.69	-8.35	p<.01*
6 <sup>th</sup>	2012	13	49.69	49.00	0.69	n.s.
	2013	160	40.70	46.43	-5.73	n.s.
7 <sup>th</sup>	2012	23	46.78	38.09	8.70	n.s.
	2013	153	44.39	50.62	-6.24	n.s.
8 <sup>th</sup>	2012	12	62.25	55.67	6.58	n.s.
	2013	138	40.04	47.78	-7.73	p<.05*
All	2012	66	51.18	49.68	1.50	n.s.
	2013	848	41.72	48.89	-8.17	p<.001*
Test Group 1800+ Minutes						
4 <sup>th</sup>	2013	35	39.37	55.54	-16.17	p<.01*
5 <sup>th</sup>	2013	44	39.64	53.43	-13.80	p<.05*
6 <sup>th</sup>	2013	55	42.82	47.40	-4.58	n.s.
7 <sup>th</sup>	2013	48	39.58	52.13	-12.54	p<.05*
8 <sup>th</sup>	2013	43	46.14	51.40	-5.56	n.s.
All	2013	225	41.60	51.62	-10.01	p<.001*

Table 11: SuccessMaker and Apprentice Mathematics Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	161	43.75	45.41	-1.66	n.s.
	2013	457	42.25	51.46	-9.22	p<.001*
5 <sup>th</sup>	2012	160	41.81	46.46	-4.65	n.s.
	2013	388	40.87	52.25	-11.37	p<.001*
6 <sup>th</sup>	2012	56	42.54	42.04	0.50	n.s.
	2013	199	32.39	42.71	-10.32	p<.001*
7 <sup>th</sup>	2012	33	35.88	40.88	-5.00	n.s.
	2013	115	35.83	51.73	-15.90	p<.001*
8 <sup>th</sup>	2012	28	36.64	45.07	-8.43	n.s.
	2013	91	36.70	50.31	-13.60	p<.01*
All	2012	438	41.84	45.00	-3.16	n.s.
	2013	1250	39.26	50.25	-11.00	p<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	15	42.93	50.93	-8.00	n.s.
	2013	192	43.27	53.69	-10.42	p<.01*
5 <sup>th</sup>	2012	5	38.60	69.20	-30.60	n.s.
	2013	151	40.50	53.51	-13.01	p<.001*
6 <sup>th</sup>	2012	6	40.67	33.83	6.83	n.s.
	2013	71	28.94	45.93	-16.99	p<.001*
7 <sup>th</sup>	2012	6	35.83	51.17	-15.33	n.s.
	2013	45	33.80	53.22	-19.42	p<.01*
8 <sup>th</sup>	2012	8	42.38	35.13	7.25	n.s.
	2013	37	33.89	49.05	-15.16	p<.05*
All	2012	40	40.88	47.53	-6.65	n.s.
	2013	496	38.82	52.14	-13.32	p<.001*
Test Group 1800+ Minutes						
4 <sup>th</sup>	2013	34	47.15	57.68	-10.53	n.s.
5 <sup>th</sup>	2013	25	33.36	52.52	-19.16	p<.05*
6 <sup>th</sup>	2013	25	31.84	49.40	-17.56	p<.05*
7 <sup>th</sup>	2013	12	34.17	58.08	-23.92	n.s.
8 <sup>th</sup>	2013	12	37.17	57.00	-19.83	n.s.
All	2013	108	37.86	54.54	-16.68	p<.001

Table 12: SuccessMaker and Proficient and Distinguished Mathematics Growth Score Comparison

GRADE	School Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	244	38.58	44.74	-6.160	p<.05*
	2013	129	34.42	46.65	-12.23	p<.001*
5 <sup>th</sup>	2012	199	42.25	49.15	-6.91	p<.05*
	2013	92	33.07	48.76	-15.69	p<.001*
6 <sup>th</sup>	2012	20	17.90	40.90	-23.00	p<.05*
	2013	25	23.72	45.80	-22.08	p<.05*
7 <sup>th</sup>	2012	17	32.18	44.06	-11.88	n.s.
	2013	13	21.15	46.23	-25.08	p<.05*
8 <sup>th</sup>	2012	6	26.83	49.67	-22.83	n.s.
	2013	11	37.36	39.73	-2.36	n.s.
All	2012	486	38.86	46.42	-7.56	p<.001*
	2013	270	32.45	46.99	-14.54	p<.001*
Test Group 900+ Minutes						
4 <sup>th</sup>	2012	20	42.60	28.55	14.05	p<.01*
	2013	43	37.65	48.47	-10.81	p<.05*
5 <sup>th</sup>	2012	19	33.84	45.00	-11.16	n.s.
	2013	23	25.39	48.48	-23.09	p<.01*
6 <sup>th</sup>	2012	1	**	**	**	**
	2013	6	13.83	43.33	-29.5	n.s.
7 <sup>th</sup>	2012	4	40.00	48.75	-8.75	n.s.
	2013	6	17.00	37.17	-20.17	n.s.
8 <sup>th</sup>	2012	1	**	**	**	**
	2013	4	58.75	47.50	11.25	n.s.
All	2012	45	38.20	36.53	1.67	n.s.
	2013	82	31.99	47.22	-15.23	p<.001*
Test Group 1800+ Minutes						
All	2013	19	38.58	51.26	-12.68	n.s.

\*indicates statistical significance; \*\*Not sufficient number of students

Table 13A: SuccessMaker Math Sample Student Grade Level Growth on Program Assessments

	School Year	ALL			NOVICE			APPRENTICE			PROFICIENT/DISTINGUISHED		
		300+	900+	1800+	300+	900+	1800+	300+	900+	1800+	300+	900+	1800+
4 <sup>th</sup>	2012	0.32	0.54	*	0.34	*	*	0.30	*	*	0.33	*	*
	2013	0.40	0.64	0.93	0.41	0.64	0.88	0.39	0.61	0.92	0.37	0.70	*
5 <sup>th</sup>	2012	0.39	0.72	*	0.39	*	*	0.36	*	*	0.41	*	*
	2013	0.33	0.54	0.76	0.31	0.49	0.72	0.35	0.58	*	0.36	0.70	*
6 <sup>th</sup>	2012	0.29	*	*	0.30	*	*	0.29	*	*	*	*	*
	2013	0.46	0.75	1.11	0.45	0.71	1.04	0.47	0.83	*	*	*	*
7 <sup>th</sup>	2012	0.37	0.69	*	0.36	*	*	0.38	*	*	*	*	*
	2013	0.40	0.71	1.19	0.39	0.69	1.16	0.45	0.77	*	*	*	*
8 <sup>th</sup>	2012	0.38	*	*	0.35	*	*	*	*	*	*	*	*
	2013	0.60	0.91	1.38	0.59	0.88	1.32	0.64	0.99	*	*	*	*

\* Less than 30 students

Table 13B: SuccessMaker Math All Student Grade Level Growth

ALL					
Grade	School Year	N	Starting Level	Ending Level	Gain
1	2012	1110	1.49	1.77	0.28
2	2012	1333	2.15	2.37	0.21
3	2012	2160	2.85	3.10	0.24
	2013	1649	2.48	3.00	0.53
4	2012	1907	3.30	3.52	0.22
	2013	1280	3.23	3.63	0.40
5	2012	1609	3.58	3.82	0.24
	2013	1191	3.88	4.22	0.34
6	2012	523	4.19	4.40	0.20
	2013	649	4.04	4.49	0.45
7	2012	403	4.41	4.65	0.24
	2013	580	4.77	5.17	0.40
8	2012	328	4.83	5.12	0.29
	2013	469	5.34	5.94	0.60
ALL	2012	9373	3.02	3.26	0.24
	2013	5843*	3.56	4.01	0.45
300-899 Minutes					
Grade	School Year	N	Starting Level	Ending Level	Gain
1	2012	478	1.49	1.93	0.43
2	2012	582	2.17	2.48	0.31
3	2012	1095	2.84	3.16	0.32
	2013	848	2.63	2.94	0.31
4	2012	943	3.31	3.62	0.32
	2013	742	3.32	3.55	0.23
5	2012	780	3.53	3.89	0.35
	2013	713	4.01	4.21	0.20
6	2012	262	4.22	4.48	0.26
	2013	384	4.14	4.39	0.25
7	2012	191	4.43	4.75	0.32
	2013	352	4.83	5.04	0.21
8	2012	175	4.77	5.08	0.31
	2013	266	5.47	5.84	0.37
ALL	2012	4506	3.05	3.38	0.33
	2013*	3323	3.72	3.98	0.26
900-1799 Minutes					
Grade	School Year	N	Starting Level	Ending Level	Gain
1	2012	18	1.52	2.34	0.83
2	2012	43	2.15	2.85	0.70
3	2012	163	2.81	3.39	0.58
	2013	649	2.33	3.00	0.67
4	2012	94	3.40	3.93	0.54
	2013	437	3.15	3.71	0.56

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5	2012	56	3.50	4.17	0.67
	2013	386	3.75	4.24	0.49
6	2012	32	4.65	5.27	0.62
	2013	175	3.91	4.48	0.56
7	2012	36	4.62	5.24	0.62
	2013	162	4.77	5.27	0.50
8	2012	35	5.38	6.21	0.83
	2013	142	5.16	5.86	0.70
ALL	2012	477	3.35	3.98	0.63
	2013*	1958	3.35	3.94	0.59
<b>1800+ Minutes</b>					
<b>Grade</b>	<b>School Year**</b>	<b>N</b>	<b>Starting Level</b>	<b>Ending Level</b>	<b>Gain</b>
3	2013	152	2.28	3.38	1.10
4	2013	101	2.92	3.84	0.92
5	2013	92	3.40	4.17	0.77
6	2013	90	3.87	4.97	1.10
7	2013	66	4.41	5.57	1.16
8	2013	61	5.22	6.58	1.37
ALL	2013	562	3.40	4.45	1.05

\*All – 25 had no grade identified (18 in the 300-899 category and 7 in the 900-1799 category)

\*\* 2012 is not included, since only 4 students had completed over 1800 minutes



STUDY ISLAND**Evaluation Design – Study Island**

In order to evaluate the effectiveness of the Study Island Reading and Math Programs, a file containing all students that used the program during the school year 2011-2012 and 2012-2013 was compiled. Using these files a control group was computer generated that matched students based on the following criteria: grade, previous reading/mathematics score (KCCT 2011, KPREP 2012), gender, race, free/reduced lunch status, and school. To ensure the strongest matches possible, the test and control students had to match on a minimum of 4 of the 6 variables used. Additionally, the test group, those that used Study Island, must have had a minimum of 300 minutes using the Study Island Program being evaluated. These files also only contained students in 4<sup>th</sup> – 8<sup>th</sup> grades for 2012 and 3<sup>rd</sup>-8<sup>th</sup> grade for 2013. Growth scores from the Kentucky Accountability Model will be used for 4<sup>th</sup> – 8<sup>th</sup> grade.

For this evaluation, 300 minutes is considered the minimum number of minutes necessary on the program to be considered properly implemented. There were too few students that used Study Island for over 900 minutes to disaggregate findings by time on program.

*Table 14: Test and Control Group Percent Match – Study Island* shows the percent of students that matched on each particular variable.

*Table 14: Test and Control Group Percent Match – Study Island*

	<b>Reading 300+ Minutes 2012</b>	<b>Reading 300+ Minutes 2013</b>	<b>Math 300+ Minutes 2012</b>	<b>Math 300+ Minutes 2013</b>
<b>Grade</b>	63.98%	85.38%	97.90%	91.07%
<b>Race</b>	75.78%	78%	85.66%	77.61%
<b>Gender</b>	67.08%	87.4%	72.03%	88.74%
<b>Previous RD/MA Level</b>	100%	100%	100%	100%
<b>Free/Reduced Lunch</b>	82.61%	93.15%	85.66%	93.23%
<b>Location</b>	100%	99.8%	100%	99.64%
<b>AVG # of Matches</b>	4.89	5.44	5.41	5.50

To determine the effectiveness of Study Island Reading and Math Programs, the dependent variable was the Kentucky Accountability Model's growth score. This measure was determined to be the best measure of effectiveness since the growth score is calculated by comparing students that started at approximately the same reading or mathematics level respectively.

### **Background on *Success in 60* and *We Succeed* Study Island Programs**

In 2011-2012, both the *Success in 60* and *We Succeed* Programs utilized the web-based Study Island program after-school as an enrichment/tutoring activity for targeted Tier 2 students (e.g., students scoring Apprentice in Reading or Math). In the after-school program, students receive individualized and small-group instruction from certified teachers in addition to using the web-based Study Island program. Study Island's program was developed to be directly aligned with Kentucky's Core Academic Standards, including the new Common Core standards. It provides lessons and assessments to students in a user-friendly format with immediate feedback, while also providing data to teachers in how to better tailor their instruction to student needs.

*Success in 60*: The after-school Study Island implementation began on November 28, 2011 for Tier 2 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders. A total of 15 schools funded by the district and 1 school funded by the elementary office comprise this group for a total of 16 schools. In addition to Study Island, these schools receive transportation, 2 certified teachers, snacks, and Gheens funded resource teachers. Interventions occurred every Monday or Tuesday and Thursday from 4-5:30. Schools received 30 slots for the program. Some schools elected to use their own funds to purchase additional licenses in order to provide services to more students.

*We Succeed*: This after school program started on January 19<sup>th</sup>, 2012 (Phase 1) with seven schools and then a second set of three schools started in the middle of February (Phase II). The program targeted 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> graders and ideally Tier 2 students, but this was not exclusively followed due to transportation constraints. The students selected had to be on certain bus routes, walkers, or able to provide their own transportation. The program sessions occurred twice a week and varied in amount of time allowed (typically around an hour).

Because the *Success in 60* program funded transportation for students, a broader group of students were eligible for the program. The *We Succeed* schools targeted students who were already on the existing bus routes at the school which meant there was not an additional bus needed to implement the program.

In 2012-2013, the vast majority of elementary schools adopted the *We Succeed* model.

## Study Island – Reading

When examining the Study Island Reading data, several observations are:

- The Study Island group consistently outscored the control group (with the exception of 2012 8<sup>th</sup> graders, which had a very low sample size, and 2013 6<sup>th</sup> graders – neither of which were statistically significant), but for 2012 none of the differences was statistically significant and for 2013, 4<sup>th</sup> grade, 7<sup>th</sup> grade, and “All” were statistically significant.
- For 2012, the students who participated in the We Succeed and Success in 60 outscored the control group by a greater margin than those who did not participate in the program, but this difference was not statistically significant. This may be attributable to the intentionality and teacher support provided by these two programs.
- In 2012, comparatively, very few Novice students used Study Island which was the recommendation to the schools. In 2013, the Novice students using Study Island (at least 300 minutes) had a statistically significant higher average growth scores than the students that did not use Study Island. The Apprentice and the Proficient/Distinguished Study Island groups both had larger growth scores than the students not using Study Island, but the difference did not reach the level of statistical significance.
- The overall effect size is .14 ( $\sqrt{\frac{4.709^2}{4.709^2 + 1052}}$ ), which would be classified as small.

*Table 15: Comparison of Study Island Reading Users to Control Group* shows the complete table for the Study Island Reading group.

Table 15: Comparison of Study Island Reading Users to Control Group

GRADE	Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
4 <sup>th</sup>	2012	65	59.40	53.00	6.40	n.s.
	2013	284	56.47	44.06	12.41	p<.001
5 <sup>th</sup>	2012	86	64.33	63.28	1.05	n.s.
	2013	338	50.94	47.83	3.10	n.s.
6 <sup>th</sup>	2012	1	*	*	*	*
	2013	61	43.38	46.20	-2.82	n.s.
7 <sup>th</sup>	2012	6	63.83	47.00	16.83	n.s.
	2013	213	54.59	47.35	7.24	p<.05
8 <sup>th</sup>	2012	3	21.67	38.33	-16.67	n.s.
	2013	157	50.11	48.13	1.98	n.s.
All	2012	161	61.60	57.84	3.76	n.s.
	2013	1053	52.61	46.67	5.94	p<.001
Success In 60						
ALL	2012	31	54.58	47.26	7.32	n.s.
We Succeed						
ALL	2012	6	56.67	49.33	7.33	n.s.
Success in 60 or We Succeed						
ALL	2012	37	54.92	47.59	7.32	n.s.
Students Not in Success in 60 or We Succeed						
ALL	2012	124	63.60	60.90	2.69	n.s.
KCCT (2011)/KPREP(2012) Novice						
ALL	2012	5	46.80	34.80	12.00	n.s.
	2013	308	52.21	39.23	12.98	p<.001
KCCT (2011)/KPREP(2012) Apprentice						
ALL	2012	46	59.15	55.15	4.00	n.s.
	2013	287	50.11	46.23	3.89	n.s.
KCCT (2011)/KPREP(2012) Proficient or Distinguished						
ALL	2012	110	63.30	60.02	3.28	n.s.
	2013	458	54.44	51.94	2.50	n.s.

\* Less than 30 students

### Study Island – Mathematics

When examining the Study Island Mathematics data, several observations are:

- In 2012, The Study Island group consistently outscored the control group (with the exceptions of 6<sup>th</sup> and 8<sup>th</sup> graders which had a relatively low sample size), but none of the differences were statistically significant. In 2013, with an increased sample size, the Study Island students had a statistically significant higher growth score than the control group students for all grade levels.
- In 2012, there were much higher numbers of the We Succeed students that met the minimum of 300 minutes in math than in reading (51 compared to 6).
- In 2012, the students who participated in the We Succeed and Success in 60 outscored the control group by a greater margin than those that did not participate in the program, but this difference was not statistically significant.
- In 2012, students from all levels of KCCT performance outscored the control group by nearly the same margin (ranging from 3.27 to 5.09), but this was not statistically significant. In 2013, the Study Island students outperformed the control students in growth scores for all levels of KPREP performance.
- The effect size is .21 ( $\sqrt{\frac{8.487^2}{8.487^2 + 1517}}$ ), which would be classified as small.

*Table 16: Comparison of Study Island Mathematics Users to Control Group* shows the complete table for Study Island Reading group.

Table 16: Comparison of Study Island Mathematics Users to Control Group

GRADE	Year	Number	Test Avg. Growth	Control Avg. Growth	Test – Control	Significance
Test Group 300+ Minutes						
All	2012	286	52.24	47.92	4.32	n.s.
	2013	1518	54.54	45.91	8.63	p<.001
4 <sup>th</sup>	2012	111	51.06	45.21	5.86	n.s.
	2013	536	54.69	48.10	6.59	p<.001
5 <sup>th</sup>	2012	133	54.72	49.90	4.82	n.s.
	2013	465	55.96	46.23	9.27	p<.001
6 <sup>th</sup>	2012	14	34.93	37.36	-2.43	n.s.
	2013	237	48.62	40.25	8.37	p<.01
7 <sup>th</sup>	2012	13	47.08	46.54	0.54	n.s.
	2013	130	55.36	43.93	11.43	p<.01
8 <sup>th</sup>	2012	15	59.60	61.53	-1.93	n.s.
	2013	150	58.24	47.73	10.51	p<.01
Success In 60						
ALL	2012	73	52.45	47.12	5.33	n.s.
We Succeed						
ALL	2012	51	51.02	41.35	9.67	n.s.
Success in 60 or We Succeed						
ALL	2012	124	51.86	44.75	7.11	n.s.
Students Not in Success in 60 or We Succeed						
ALL	2012	162	52.53	50.35	2.18	n.s.
KCCT Novice						
ALL	2012	49	51.90	47.39	4.51	n.s.
	2013	341	54.99	43.94	11.05	p<.001
KCCT Apprentice						
ALL	2012	106	53.39	50.11	3.27	n.s.
	2013	686	52.22	46.08	6.14	p<.001
KCCT Proficient or Distinguished						
ALL	2012	131	51.44	46.35	5.09	n.s.
	2013	490	57.38	46.97	10.42	p<.001

**Cost Estimates for SuccessMaker and Study Island**

Costs Estimates for 2011-2012: SuccessMaker and Study Island

	2011-2012 SuccessMaker	2011-2012 Study Island	2012-2013 SuccessMaker	2012-2013 Study Island	2013-2014 SuccessMaker	2013-2014 Study Island
Cost of Licenses	\$1,299,500.00	\$101,400.00* (est. \$33,800 for semester)	\$113,000	* (est. \$67,600 for year)	\$418,000	\$219,000
Number of students who logged on at least once	13,998	12,906	23,718	15,929	NA	NA
Cost per user	\$92.83	\$2.61**	\$4.76	\$4.24**	NA	NA

\*This purchase cost covered from February 2012-June 2013. Some schools purchased their own licenses (not included in cost).

\*\*Cost per user is estimated based on 2011-2012 being used for only 1 semester and 2012-2013 based on the full school year.