

# SylvanSync: Academic Update

Submitted to

**Sylvan Learning**

1001 Fleet Street  
Baltimore, MD 21202

by

**Rockman et al**

595 Market Street, Suite 2570  
San Francisco, CA 94105

3825 Hagan Street, Suite 301  
Bloomington, IN 48401

March 2015

# Table of Contents

Overview	3
Study Design and Samples	3
Results	5
<i>What can we tell by looking at overall trends?</i>	5
<i>How does the number of sessions received affect performance in <b>READING</b>?</i>	5
<i>How does the number of sessions received affect performance in <b>MATH</b>?</i>	6
<i>What do Student Outlook Survey responses tell us about the impact of the SylvanSync?</i>	7
Summary	9
List of Tables	
Table 1. Numbers of Students and Assessments in the Study, by Grade Band and Subject	4
Table 2. Numbers of Assessments in the Analyses, by Session Band and Subject	4
List of Figures	
Figure 1. <b>READING</b> Gains	5
Figure 2. <b>MATH</b> Gains	6
Figure 3. % of Students with a Favorable Academic SELF-CONFIDENCE Scale Score	8
Figure 4. % of Students with a Favorable Academic PERSEVERANCE Scale Score	8
Appendix: Expected vs. Actual Gains by Grade Band	10
Figure 5: <b>READING</b> Gains	11
Figure 6: <b>MATH</b> Gains	11

# SylvanSync: Academic Update

---

March 2015

## OVERVIEW

2013–2014 saw the full deployment of SylvanSync to nearly 700 national and international Sylvan Learning Centers and to more than 60,000 K–12 students. Each of these students received a personal learning plan, which Sylvan teachers used to tailor reading and math instruction to students' individual needs. What makes this personalized approach possible is SylvanSync's robust, adaptive capability. The digital system gauges where students should start their instructional journey and what content teachers should use to support and challenge them along the way. A set of reading and math learning progressions, a critical underpinning of the SylvanSync approach, determines the organization of the content and conditions for mastering each concept. Building on learning progressions initially validated by Renaissance Learning through STAR test results from tens of thousands of students nationwide, Sylvan has used its own data and analyses to refine these progressions and chart the most efficient paths toward competency.

To date, research shows that SylvanSync works, helping thousands of students improve their math and reading skills. This report summarizes two aspects of that research—the academic gains made by students based on the sessions they receive and their related growth in what are frequently called non-cognitive factors. These are factors such as self-confidence and perseverance, which can affect students' performance. Sylvan measures these with the Student Outlook Survey, an instrument specifically designed to gauge changes in these non-cognitive factors and their link to students' academic success.

To learn more about the background research on [SylvanSync](#), and the [Student Outlook Survey](#), consult the [Sylvan Research Institute](#).

## STUDY DESIGN AND SAMPLES

This study was based on assessment data from approximately 25,000 first through twelfth graders—approximately 40% of the students served by Sylvan—who began receiving reading or math instruction at Sylvan Centers from September 1, 2013 through September 30, 2014. We looked at the scaled score growth of these students from their Initial assessment to their latest assessment through the end of September 2014. During this timeframe, students may have been tested up to three times, depending upon the date of their enrollment (e.g., more recently enrolled students may have only been tested once prior to September 30, 2014). To put the scaled score gains in context, there are 1400 possible scaled score points from Kindergarten through grade 12 on in each of the Renaissance tests.

Table 1 shows the numbers of students included in the study and the numbers of assessments taken by these students, by grade band and subject. Overall, the sample contained more reading students (n=16,373) than math students (n=12,261), and this pattern generally held true across grade bands (with the exception of the 6th–8th grade where math students outnumbered reading students). Both reading and math sample sizes were smaller for the upper grade bands than for the lower grade bands. These trends mirror the historical enrollment patterns typically seen for Sylvan.

**Table 1. Numbers of Students and Assessments in the Study, by Grade Band and Subject**

Grade Band	Subject	Number of Students	Number of Assessments
All Grades	Reading	16,373	23,875
	Math	12,261	16,645
Kdg–2nd	Reading	2,918	4,219
	Math	1,399	1,821
3rd–5th	Reading	7,980	11,792
	Math	5,186	7,079
6th–8th	Reading	3,841	5,600
	Math	4,262	5,875
9th–12th	Reading	1,634	2,264
	Math	1,414	1,870

The study examined the scaled score gains these students made on the STAR Reading or Math assessment, based on the numbers of sessions they attended *at the time of an assessment*—a proxy for the amount of instruction they received. The mean number of sessions completed by students was 35.6 for reading and 32.7 for math. Students’ individual needs and plans in part determine the numbers of sessions they receive, but family schedules and circumstances can also affect those numbers, as can students’ perseverance.

Table 2 shows the number of assessments included in our sample within each session band. The greatest number of assessments occurred between 21 and 30 sessions, with fairly large concentrations in the 16–20 and 31–35 bands. In general, assessments in those session bands would represent students’ first progress assessment. Assessments taken after 40 sessions generally represent students’ second progress assessment.

**Table 2. Numbers of Assessments in the Analyses, by Session Band and Subject**

Number of Sessions	Assessments Per Session Band, MATH	Assessments Per Session Band, READING
≤15	858	858
16–20	1,382	1,463
21–25	5,270	6,978
26–30	3,232	4,810
31–35	1,193	1,686
36–40	920	1,273
41–45	684	990
46–50	1,175	2,182
51–55	625	1,129
56–60	414	703
61–65	211	413
66–70	204	346
71–75	221	425
76–80	108	267
≥81	148	352

When students take their initial and progress assessments, they also complete the Student Outlook Survey. Their responses allowed us to look not only at academic gains but also at changes in the non-cognitive factors that can affect academic achievement—and at any links between the two. There are two versions of the survey, one for younger students in grades 1–5, and another for those in grades 6–12. The findings shared here are based on responses to the survey from approximately 14,000 first through fifth graders and 9,000 sixth through twelfth graders.

As part of ongoing research conducted to continuously improve its programs, Sylvan also looked at students' expected vs. actual growth, based on Renaissance Learning's growth norms. These results are included in Appendix A., p. 10.

## RESULTS

### ***What can we tell by looking at overall trends?***

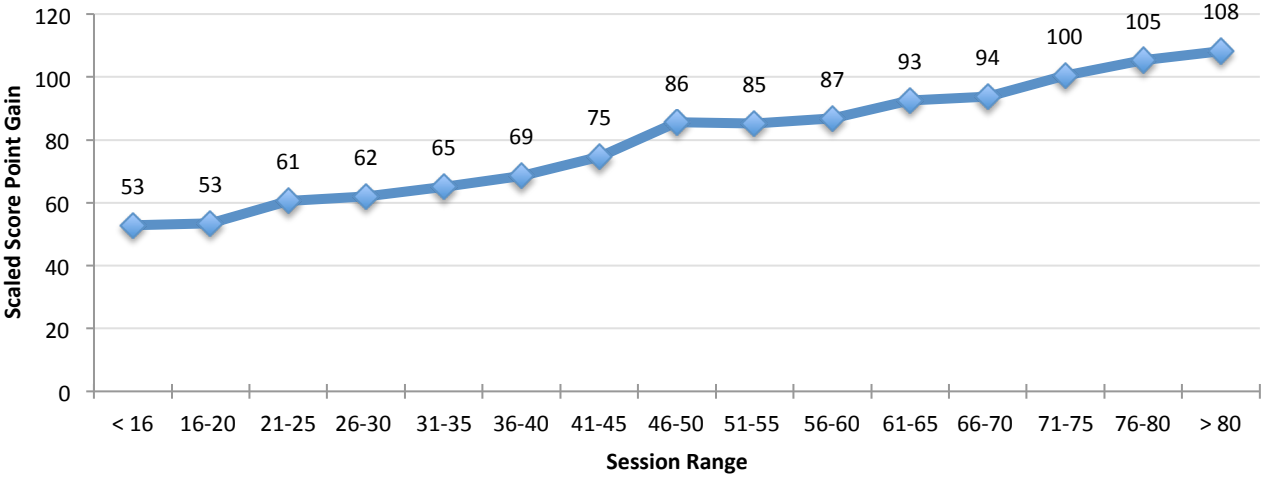
The upward trends for both reading and math (Figures 1 and 2) show that with SylvanSync instruction, students' academic performance improves. Even a few sessions can have a positive impact: at 15 sessions, students gain an overall average of 53 points in reading and 26 points in math. Although the trend lines or learning curves vary, reflecting the pace at which students typically acquire reading and math skills, the more instruction students receive the more progress they make.

### ***How does the number of sessions received affect performance in READING?***

- In **reading**, students see real progress fairly quickly—with scaled score gains of 53 points after 15 sessions—then growth slows, to a relatively steady, incremental pace.

- Gains tick up and the curve steepens between 40 and 50 sessions.
- After 50 sessions, gains level off, but increase again around session 61 and the curve continues as students begin a modest climb to 100+ points.

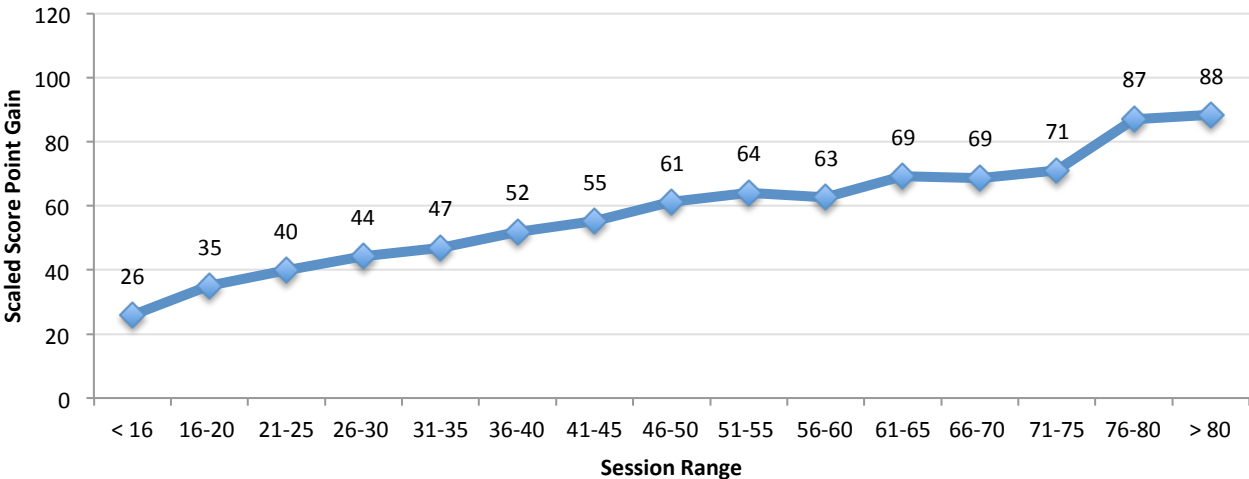
**Figure 1. READING GAINS**



**How does the number of sessions received affect performance in MATH?**

- In **math**, students’ growth is initially modest—with a 26-point scaled score gain after 15 sessions, but then picks up, with, on average, an additional 9-point gain after 20 sessions.
- The learning curve is relatively steady, and students achieve about a 60-point gain around the 48-session mark.
- At the 46–50-session point, the scaled score gains more than double from those seen at the lowest session range—from a 26 to 64 point gain.
- Performance seems to levels off around 55 sessions. While the number of students is small, those who received more than 75 sessions gained more than 20 additional scaled score points (64-point gain at 51–55 session range vs. a 87-point gain at 76–80 sessions range).

**Figure 2. MATH GAINS**



## ***What do Student Outlook Survey responses tell us about the impact of SylvanSync?***

The Student Outlook Survey, which is administered to all students with their initial assessment and again after approximately 24 sessions, was based on a growing body of research on the importance of non-cognitive factors in students' learning and achievement. The research also includes studies of the role of out-of-school programs in building positive attitudes toward learning and the ways technology can motivate students and bolster the effect of these programs. Results from the survey help Sylvan determine where to provide attitudinal as well as academic support to ensure that students experience success.

Students could choose one of four responses to show how much they agree with statements about learning and their performance in school, designed to gauge factors such as engagement, self-confidence, perseverance, and the value students attach to school. A score of 3 or better indicated positive attitudes “favorable” to success, which we consider a success “benchmark.”

1 = strongly disagree

2 = disagree

3 = agree

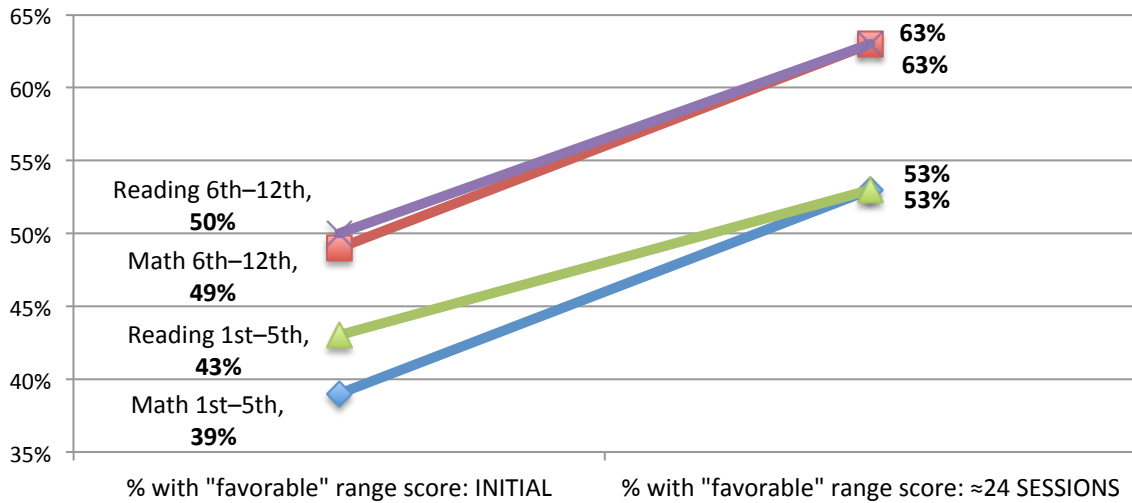
4 = strongly agree

Responses showed that Sylvan had the greatest effect on students' self-confidence and perseverance, and that these two factors were most closely related to academic growth. The discussion below describes how close to the success benchmark students came on these two factors before and after receiving Sylvan instruction.

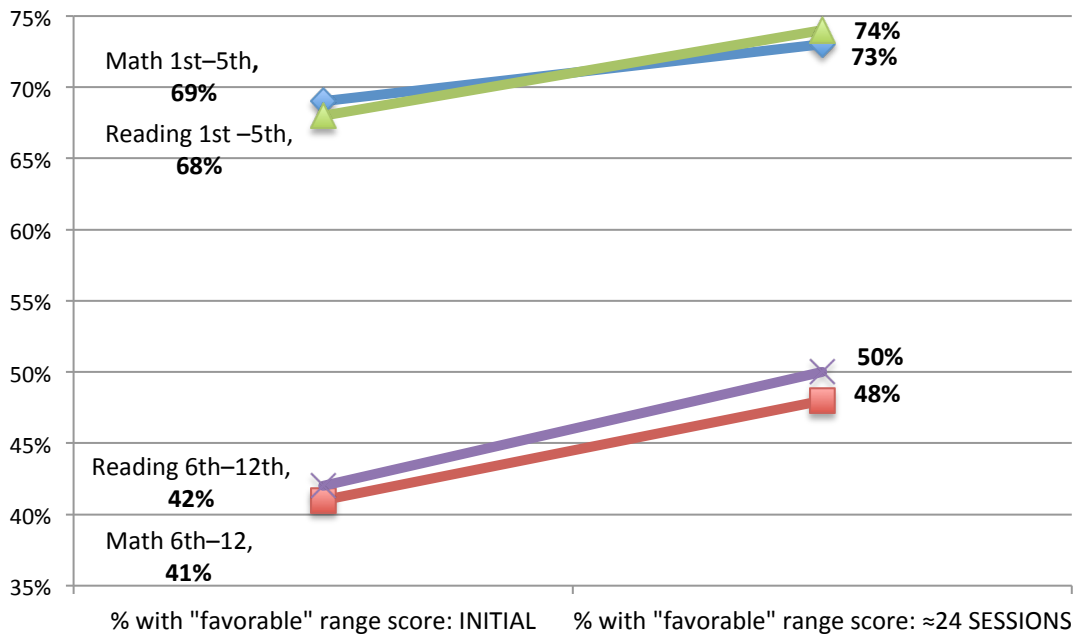
- Responses to surveys taken before instruction indicated that many students—across grade bands and subjects—lacked **self-confidence**. In response to items such as “It is easy to get good grades in school” or “I am a good student,” only 43% of the younger students (grades 1–5) and 50% of the older group (grades 6–12) met the “favorable” benchmark in **reading**. In **math**, those results were 39% and 49%, respectively (see Figure 3).
- After instruction, responses indicated a boost in **self-confidence**. In **reading**, there was an increase of 10 percentage points in the numbers of students in the lower grade bands meeting the “favorable” benchmark, and a 13 percentage-point increase for students in the upper grade bands. In **math**, students in both upper and lower grade bands saw a 14 percentage-point increase.
- Favorable scores for **self-confidence** continued to edge up as students received more SylvanSync instruction, for an overall increase of 15 percentage points in **reading**, for both grade bands (see Figure 10). In **math**, students in the lower grade bands showed a 21 percentage-point increase, and students in the upper grade bands, an increase of 18 percentage points.
- The second largest gain was in academic **perseverance**. Initial responses to statements such as: “I keep doing schoolwork even if it is hard or “I keep doing schoolwork even if I don’t like it” showed lower levels of **perseverance** among 6th–12th graders, compared to students in the lower grade bands (42% vs. 68% in **reading** and 41% vs. 69% in **math**). Subsequent responses showed increases of 9 percentage points in **reading**. In **math**, 1st–5th graders saw an increase of 7 percentage points, and 6th–12th graders, an increase of 9 percentage points (see Figure 4).

- Our correlational analyses showed some clear connection—and statistically significant links—between students' self-confidence and perseverance and their academic growth, especially in [reading](#).

**Figure 3. % of Students with a Favorable Academic SELF-CONFIDENCE Scale Score**



**Figure 4. % of Students with a Favorable Academic PERSEVERANCE Scale Score**





## Summary

The findings shared here indicate that SylvanSync has a positive impact on academic achievement, and that the numbers of instructional sessions students participate in can have a marked affect on their pace of growth and progress. It is also clear that Sylvan has a positive impact on students' attitudes or the non-cognitive skills related to academic success. With its centralized data system, Sylvan can continue to systematically gather and analyze data, make informed decisions about overall learning progressions, and pose new questions currently explored by the larger education community, including:

- How do adaptive digital technologies affect achievement?
- Just how malleable are skills such as perseverance?
- How is achievement related to factors such as attitude?

SylvanSync is about more than computer-adaptive systems, test data, and learning progressions. It is also about how to best use these tools and data to address the needs of real students in real Sylvan Centers. That is why, in addition to the analysis of system-wide testing data, Sylvan has also focused its research on the students, parents, teachers, and others in the Sylvan learning community who use SylvanSync. This research, together with research on the optimal number of sessions and the relationship between attitudes and academic growth, helps Sylvan Centers to create a truly individualized plan for each student.

In its commitment to ongoing research and continuous improvement, Sylvan will, in the coming year, continue its data analysis to:

- further enhance the educational experience of students.
- better understand the nonacademic traits that are so critical to long-term success in college and beyond, and the role that Sylvan can play in developing these traits.
- improve communication with Sylvan families and the education community at large.

## Appendix: Expected vs. Actual Gains by Grade Band

### ***How does SylvanSync students' actual academic growth compare to expected growth?***

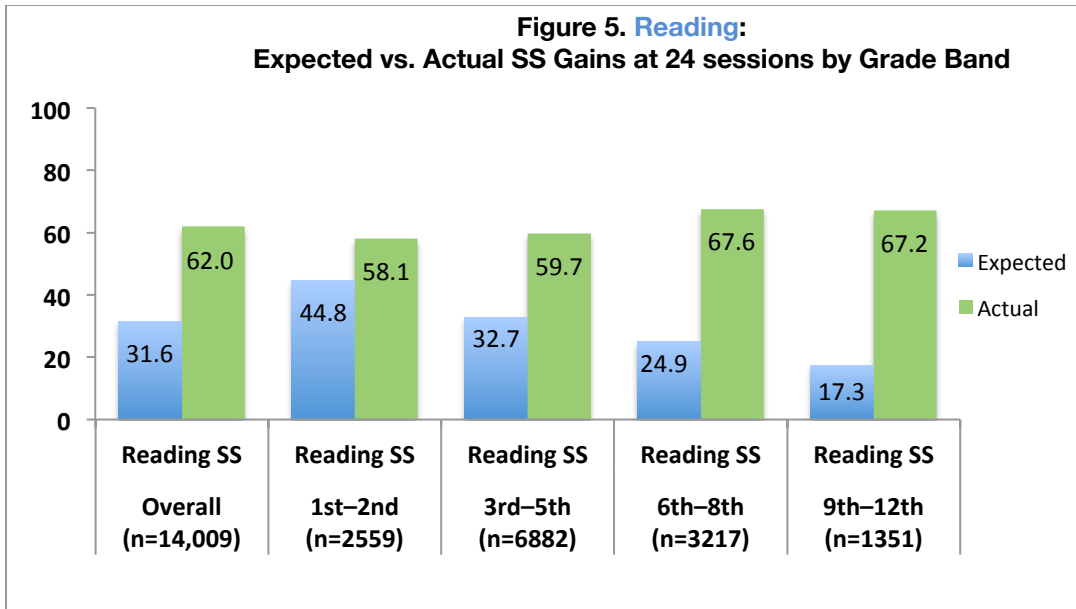
Access to Renaissance Learning's growth norms allows Sylvan to assess SylvanSync students' academic growth, as measured by the STAR tests, based on the growth made over similar periods of time by thousands of students who are in the same grade and at the same ability level but who have not had a Sylvan experience. Using Renaissance Learning's "moderate"<sup>1</sup> weekly growth estimates as the "expected" measure, we compared SylvanSync students' actual growth to their expected growth overall and by grade band. Growth norms are particularly meaningful scores because they provide both absolute and relative scores for students. Growth norms start with the number of scaled score points gained from one testing interval to another on the STAR tests scale,<sup>1</sup> and then compare these gains to those of similar students.

Analysis of actual versus expected gains revealed that SylvanSync students' *actual* growth consistently outpaced *expected* growth—across grade bands, in both **reading** and **math**. **Reading** scores were, overall, a little higher than **math** scores, and the differences between expected and actual growth, wider. *(Note: In looking at the math results it is important to remember that learning to read is different from learning to do math. They are very different skills sets. In addition the new math standards, upon which much of the math program is based, require new instructional strategies that are unfamiliar to many teachers, including those at Sylvan. Analysis of the SylvanSync math data over the past year has led to some significant changes in the math program and its support for teachers. These changes were released at the end of the analysis period and their impact is not reflected in this report.)*

- Actual **reading** scaled score (SS) gains at approximately 24 sessions were **nearly double expected gains**, at 62.0 vs. 31.6 scaled score points (see Figure 5). In **reading**, older students posted the largest scaled score gains: the 6th–8th grade group's actual scaled scores topped expected scores by 42.7 points at approximately 24 sessions, which was **more than double the expected growth for both periods**. The difference in 9th–12th graders' actual vs. expected scaled scores was 49.9 points, which is close to **three times the expected growth for the period**.

---

<sup>1</sup> The moderate growth rate reflects the rate of scaled score point increases average students (those at the 50<sup>th</sup> percentile) at each level (grade, month, and incoming ability level) were able to achieve in a typical week of school instruction.



- In **math**, students, overall, exceeded expectations by 13.3 points at approximately 24 sessions
- Students in grade 6-8 **math** saw actual growth that was **almost double the expected growth**
- Students in grades 9-12 **math**, saw gains that were over **four times the expected gains at approximately 24 sessions.**

