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Using the SRI to Predict Reading Performance Levels in California

An Alignment Guide to the
California Standards Test

Kimberly A. Knutson, Ed.D.



INTRODUCTION

While teachers typically have a good understanding of what students are expected to know and be able to do in order to demonstrate basic grade-level reading proficiency and to prepare their students for high-stakes achievement tests in reading, they may not always have timely or accurate information to help individual students develop their reading skills. Moreover, because teachers may differ in their approach to reading instruction—both basic reading instruction and remedial interventions—they are often in need of a measure that provides precise, useful information about reading ability that is aligned with end-of-year measures and is more or less neutral with respect to their chosen approach to reading instruction.

This paper examines the relationship between such a measure of student reading level, the Scholastic Reading Inventory (SRI), and the measure of California reading standards, the California Standards Test (CST) English-Language Arts. Specifically, this paper describes a study conducted to determine if Lexile scores from the SRI could predict CST English-Language Arts scores at varying levels of proficiency. The study was done in order to provide grounded, statistically sound information that will enable California teachers to identify, early in the fall semester, students in danger of failing to achieve proficiency on the CST English-Language Arts test. As a result of the study, a model of fall to spring growth was developed that can be used to inform instructional practice over the school year. This model can be thought of as a tool for calibrating student reading level with the difficulty of classroom materials in order to tailor effective interventions based on specific growth “targets” at the individual student level.

Indeed, the results of the study point to a classroom assessment that is statistically “aligned” to high-stakes state test results and that can be used to identify students in need of assistance, effectively guiding instructional interventions early in the school year. With access to an effective *classroom* assessment tool that produces a metric that describes both the complexity of text and student reading comprehension, and that is known to be related to high stakes state test results, teachers can:

1. Align instructional materials to state standards and scaffold student comprehension instruction.
2. Establish realistic, informed student achievement growth goals based on students’ initial reading comprehension levels.
3. Monitor an instructional plan to help students at all levels demonstrate proficiency in meeting reading standards.

In other words, teachers using the SRI will be able to obtain the data they need throughout the year to monitor student progress, set goals according to reading level, and adjust instruction appropriately.

For teachers charged with ensuring that students achieve grade-level reading proficiency and perform well on state achievement tests, it is essential to have precise, ongoing information about students’ reading development and their progress toward meeting state standards. This paper demonstrates how one measure of student reading level, the Scholastic Reading Inventory (SRI), is statistically aligned to the California Standards Test (CST) English-Language Arts and can be used to set realistic, standards-related growth goals in reading for individual students.

Scholastic Reading Inventory™ (SRI) is an objective assessment of a student’s reading comprehension level. The computer adaptive assessment can be administered to students in Grades K–12 and is based on The Lexile Framework® for Reading. The results of the SRI are reported on a developmental scale that is interpretable across grade levels, making it a useful tool for accurately establishing students’ initial reading comprehension levels and monitoring their growth throughout the year.

Using linear regression analysis, this paper describes how SRI scores can be used to predict proficiency levels on the CST. This information will allow teachers to set growth goals and create an appropriate instructional plan early in the school year, as well as to keep track of students’ progress toward those goals and adjust instruction as necessary. Thus, by following the model outlined here, teachers can use the SRI to individualize students’ learning experiences and help ensure that they become motivated and successful readers.

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METHOD

Participants

During the 2006–07 school year, SRI and CST English-Language Arts data were collected from all students attending Grades 2–10 in San Rafael City Schools (SRCS), California. Table 1 shows the demographic characteristics by grade level of the students included in the study.

Brief Description of the Measures: CST English-Language Arts and SRI

CST English-Language Arts

The CST English-Language Arts is a criterion-referenced assessment intended to measure selected California English-Language Arts content standards (Standardized Testing and Reporting Program, 2007). Test items for grades 2–11 are multiple choice. An additional writing component is administered in Grades 4 and 7. The score on the writing task is combined with the results of the multiple-choice questions to produce an overall score and performance level. The CST English-Language Arts test reports scale scores ranging from 150 to 600 points and five performance levels (California Standards Test, 2007). Performance levels 1–3 are below proficient, performance level 4 is the minimum level for a student to be classified as having attained proficiency at his or her grade level, and performance level 5 is advanced.

Table 1

| Demographic Characteristics of Students Enrolled in San Rafael City Schools in the Fall 2006 by Grade Level | | | | | | | | | | | | |
|---|-----|----------------------------------|-------|----------------------------------|----------|--------------------------|---------------------|-------|------------------------------|---------------------------|------|--------|
| | | Am. Indian/ Alaskan Native | Asian | Black or African- American | Filipino | Hispanic or Latino | Pacific Islander | White | Other or Not Specified | Free/ Reduced Lunch | ELL | Female |
| Grade | N | % | % | % | % | % | % | % | % | % | % | % |
| 2 | 390 | 0 | 6.4 | 1.5 | 0.5 | 59.7 | 0 | 29.5 | 0.8 | 55.9 | 61 | 53.6 |
| 3 | 359 | 0 | 3.1 | 4.5 | 0.6 | 55.4 | 0 | 34.8 | 0.8 | 52.9 | 57.7 | 51.8 |
| 4 | 352 | 0.6 | 5.4 | 1.4 | 1.1 | 56.5 | 0.3 | 33.5 | 0.6 | 52.6 | 59.1 | 51.4 |
| 5 | 324 | 0 | 7.4 | 2.5 | 0.3 | 57.1 | 0.3 | 31.5 | 0.9 | 56.8 | 60.5 | 48.8 |
| 6 | 338 | 0.3 | 7.7 | 5 | 0.6 | 59.5 | 0 | 26 | 0.9 | 82 | 65.7 | 51.8 |
| 7 | 302 | 0.3 | 5.6 | 2.3 | 1 | 61.3 | 0.3 | 28.2 | 0.3 | 89.1 | 65.6 | 43.4 |
| 8 | 336 | 0.3 | 5.7 | 3.6 | 1.5 | 56.3 | 0 | 32.1 | 0 | 91.7 | 62.2 | 43.2 |
| 9 | 554 | 0.2 | 8.3 | 2.7 | 0.9 | 42.2 | 1.3 | 43 | 1.3 | 27.1 | 48.7 | 46.9 |
| 10 | 510 | 0.2 | 5.7 | 3.1 | 1.4 | 37.3 | 0.6 | 49.8 | 2 | 24.5 | 43.3 | 47.1 |

SRI

The SRI is a computer adaptive test that measures reading comprehension. Reading comprehension is operationally defined on the SRI as being able to: “paraphrase information in the passage; draw logical conclusions based on information in the passage; make an inference; identify a supporting detail; or make a generalization based on information in the passage” (Scholastic Reading Inventory Technical Guide, 2001, p. 5). Test items are based on authentic passages taken from textbooks, literature, and periodicals and consist, for each passage, of multiple-choice items with a fill-in-the-blank format. Because the several alternatives for each item could correctly fit in the blank when the item is considered separate from the passage, students must understand the material they have read in order to respond correctly.

SRI results are reported on a Lexile® scale, which is a developmental scale interpretable across grade levels. The Lexile score that a student receives indicates the most difficult text a student can comprehend with 75% or greater accuracy. In addition to being a measure of reading level, the Lexile scale is also used to characterize text. When applied to text, the Lexile scale serves as an index of the level of complexity of written materials, where variations in complexity result from such things as the frequency of the words that occur in the text as well as the length of the sentences (Lennon & Burdick, 2004). As a result of this “dual purpose of Lexiles,” the two related scores—Lexiles as a measure of reading level and Lexiles as an index of text difficulty—can be easily used to form a natural bridge between reader and text.

Sample Test Item From SRI

“I leaned back for a moment and let my eyes wander down below. We were way out over the ocean. I looked at my watch—a little more than thirty minutes from Orlando so far. The sea looked choppy, even with the bright, sunny weather. An occasional cloud cast its shadow down on the stony-looking water surface. The wavering outline of the plane appeared and disappeared.”

I had a good _____.

- nap
- view
- idea
- lunch

Table 2

| Correlation of 2006–07 SRI Fall and Winter and Fall and Spring Scores ¹ | | | | |
|--|----------------------------|-----|----------------------------|-----|
| Grade | Fall and Winter SRI Lexile | | Fall and Spring SRI Lexile | |
| | r | N | r | N |
| 2 | .80 | 112 | .76 | 152 |
| 3 | .95 | 226 | .90 | 257 |
| 4 | .95 | 253 | .92 | 281 |
| 5 | .95 | 251 | .90 | 238 |
| 6 | .95 | 257 | .93 | 281 |
| 7 | .95 | 222 | .94 | 250 |
| 8 | .95 | 232 | .90 | 160 |
| 9* | | | .92 | 329 |
| 10* | | | .87 | 324 |

(*9th & 10th-grade students did not complete a Winter SRI.)

Table 2 shows that SRI test-retest correlations administered in the fall and winter for San Rafael City Schools (SRCS) test takers in Grades 2–8 ranged from .80 to .95 for 2006–07. The test-retest correlations administered in the fall and spring for test takers in Grades 2–10 ranged from .76 to .94. The SRI was first administered to students in Grades 2–10 in fall 2006; students in Grades 2–8 completed a second administration in winter 2006; and students in Grades 2–10 completed a third administration in spring 2007.

Criterion-related validity of the 2006–07 SRI scores was established by correlating fall, winter, and spring SRI scores to the spring 2007 CST English-Language Arts scale score. The fall-to-spring correlations for Grades 2–10 range between .60 to .87 while the winter-to-spring correlations for Grades 2–8 range from .72 to .88. The spring-to-spring correlations for Grades 2–10 range between .70 and .89. The correlations by grade level are presented in Table 3 (see p. 7).

Test Administration Procedures

Results from the SRI and the CST English-Language Arts test were collected during the 2006–07 school year through the SRCS district-wide assessment program. The SRI was administered three times. Students in Grades 2–10 completed the fall administration between September 15 and November 1, 2006. Students in Grades 2–8 completed the winter administration between January 15 and February 15, 2007. Students in Grades 2–10 completed the spring administration between April 15 and May 15, 2007. Students in Grades 2–10 completed the CST English-Language Arts test in April 2007.

¹ Correlations are significant at $p < .05$.

School testing coordinators followed the California Department of Education test administration guidelines when administering the CST English-Language Arts test. The SRI was administered at each school site during the above testing administration windows set by the SRCS. Elementary students completed the SRI with their homeroom teacher while secondary students tested in their reading or language arts class. All students were tested in the school computer lab. Although the SRI was not timed, all students were scheduled to complete the test during a 45-minute class period.

Prior to the fall SRI testing session, the district technology department populated the SRI database, located on the district Scholastic file server, with a data file extracted from Aeries, the student information system. The data file contained names, student identification numbers, grade levels, and student passwords. Prior to the winter and spring testing sessions, the district SRI database was updated with information for students new to the district.

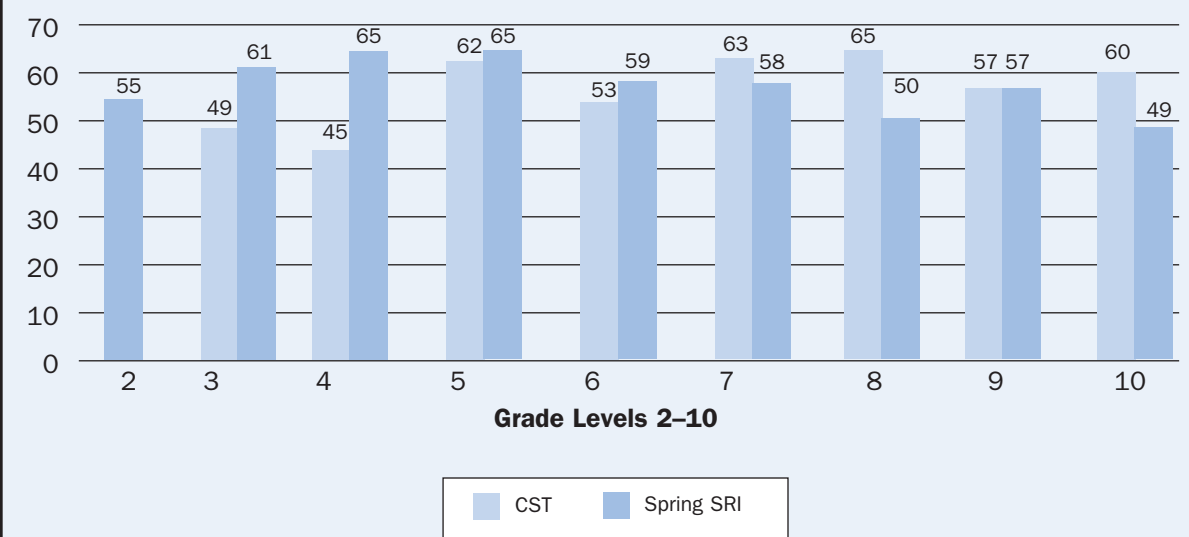
Statistical Relationship Between the SRI and the CST English-Language Arts

Standard statistical regression techniques were used to examine the predictive relationship between the SRI and the CST English-Language Arts scores. Results of this analysis were used to establish the SRI scores equivalent to the CST English-Language Arts scale scores that define the cut-points that demarcate performance levels (1 through 5) for Grades 2–10. Regression was chosen because, unlike other methods, the regression equation was most successful at accurately predicting proficient grade-level performance (Knutson, 2002). Performance level 4 is the CST English-Language Arts performance level that the state defines as proficient, and is taken as defining grade-level performance within the SRCS.

Graph 1 (see p. 6) shows a comparison of the accuracy of predicting spring CST English-Language Arts performance levels from 1) spring SRI scores from the same academic year as the predicted results, and 2) previous year's CST English-Language Arts performance level. Accuracy was established by comparing the performance level “predicted” from the spring SRI score to the actual performance level. The percent of spring SRI scores accurately predicted was compared to the percent of CST English-Language Arts scores that maintained the same CST performance level as the year prior. As the table shows, the spring SRI scores were nearly as accurate predictors as were CST English-Language Arts scores from the previous spring.

Graph 1

Percent of Students Whose Performance Level on 2006–07 CST English-Language Arts (Spring 2007) Was Accurately Predicted From a) Previous Year’s CST English-Language Arts Performance Level vs. b) 2006–07 Spring SRI Scores.



A Brief Digression on Regression

There are two important reasons for establishing the predictive relationship between the SRI and the CST English-Language Arts test. By doing so, the SRI can be used as a tool to 1) identify early in the fall of the academic year those students requiring help to develop their reading skills, and 2) measure progress in reading throughout the year. The easiest way to establish this predictive relationship is to use a simple yet powerful statistical technique known as linear regression. In simplest terms, this technique reveals the linear, mathematical relationship between the values of two variables. In this case, regression can be used to predict CST English-Language Arts scores for any student using their SRI scores.

Without going into the actual details of this statistical technique, it is important to know the two key values that regression analyses typically yield. These two values are the correlation between the two variables and the slope of the relationship between these two variables. The correlation shows how strong the relationship is and whether it is positive or negative. A strong directional correlation (in this case, positive) between the fall SRI scores and the CST English-Language Arts scores supports our confidence to predict (with some degree of accuracy) a certain score on the CST English-Language Arts test. The slope gives information about how much change on one variable (here, the predictor, or SRI) is necessary to yield a unit change on the other (here, the CST English-Language Arts test). Both of these pieces of information are

important. The next section details the correlational strength and the slope of the relationship between SRI scores and CST English-Language Arts scores for students in Grades 2–10. These two pieces of information can be used to aid identification of students, instructional planning, and progress monitoring throughout the school year.

Regression Results

Table 2 (see p. 4) shows the correlation between the 2006–07 fall-spring and winter-spring SRI scores. Predictably, this relationship is positive and strong and acts as a measure of the reliability of the SRI.

The correlations between fall, winter, and spring SRI scores and the spring CST English-Language Arts scores are presented in Table 3 below. As expected, the correlation is slightly higher between the spring SRI scores and the CST English-Language Arts scores than between the fall and winter SRI scores and the English-Language Arts results. The average of the correlations between the scores is .82 in the spring and winter, while it is slightly lower in the fall at .79. Also as expected, these correlations are lower than the correlation between the fall and spring SRI scores (the average of which is .89) and the fall and winter SRI scores (the average of which is .93). It is evident, however, at least for these samples and grades that the average correlations between the spring SRI and the CST English-Language Arts, and the fall and spring SRI scores, are nearly equivalent.

Table 3

| Correlations of 2006–07 Fall, Winter and Spring SRI Scores With Spring 2007 CST Language Arts Scale Scores by Grade ² | | | | | | |
|--|-----------------|-----|-------------------|-----|-------------------|-----|
| Grade | Fall SRI Lexile | | Winter SRI Lexile | | Spring SRI Lexile | |
| | r | N | r | N | r | N |
| 2 | .60 | 157 | .72 | 179 | .75 | 262 |
| 3 | .80 | 265 | .83 | 263 | .84 | 304 |
| 4 | .83 | 286 | .85 | 272 | .86 | 309 |
| 5 | .87 | 286 | .88 | 268 | .89 | 257 |
| 6 | .83 | 296 | .82 | 260 | .86 | 303 |
| 7 | .84 | 262 | .85 | 237 | .87 | 274 |
| 8 | .83 | 284 | .82 | 246 | .81 | 171 |
| 9 | .79 | 422 | | | .78 | 359 |
| 10 | .69 | 370 | | | .70 | 370 |

² Correlations are significant at $p < .05$.

Each of these pieces of evidence taken together provides a strong argument that the SRI can be effectively used to identify students in the fall for intervention. **This follows from the simple fact, now established, that low or high scores on the SRI in the fall are related with low or high scores on the high stakes CST English-Language Arts test.**

The next question to ask is: What is the incremental increase on the CST English-Language Arts test that one gains for each unit increase on the SRI? The reason for asking this question is that the answer will indicate, when compared to standard fall to spring growth on the SRI, the amount that students will have to actually improve (as measured by the SRI) in order to achieve successful (i.e., level 4 proficiency) scores on the CST English-Language Arts test. The answer is provided in Table 4, which includes results from the regression analysis described above. Two specific pieces of information are included: 1) the rate of change (or slope) between the predictor variable and the predicted variable, and 2) the intercept, which is the value of the predicted variable when the value of the predictor is zero.

The concept of the slope can be more easily understood if one remembers that the simple algebraic formula for a line can be expressed as $y = mx + b$, where m is the slope, x is the independent variable, b is the value of y when x is equal to zero, and y is the dependent variable. In our case, y is the predicted variable and x is the predictor. The slope yields an index of the expected change in the predicted variable for each unit change in the predictor variable. For example, for Grade 2 the increase is about .15 units on the CST English-Language Arts scale for each unit increase on the SRI.

Table 4

| Regression Coefficients for Grades 2–10 for CST English-Language Arts and Fall SRI ³ | | | | | | |
|---|-----------------------------|--------------|------------------|--------------|----------|--------------------------|
| Y Predicted Variable | X Predictor Variable | Grade | Intercept | Slope | N | Adj R² |
| CST Language Arts | SRI Lexile | 2 | 345.68 | 0.1471 | 157 | 0.36 |
| CST Language Arts | SRI Lexile | 3 | 276.9 | 0.1608 | 265 | 0.63 |
| CST Language Arts | SRI Lexile | 4 | 268.21 | 0.1721 | 286 | 0.69 |
| CST Language Arts | SRI Lexile | 5 | 226.99 | 0.1745 | 286 | 0.76 |
| CST Language Arts | SRI Lexile | 6 | 208.54 | 0.1763 | 296 | 0.69 |
| CST Language Arts | SRI Lexile | 7 | 210.99 | 0.1678 | 262 | 0.70 |
| CST Language Arts | SRI Lexile | 8 | 196.52 | 0.1633 | 284 | 0.69 |
| CST Language Arts | SRI Lexile | 9 | 195.56 | 0.1655 | 422 | 0.62 |
| CST Language Arts | SRI Lexile | 10 | 187.62 | 0.1486 | 370 | 0.49 |

Table 5

| Regression Coefficients for Grades 2–8 for CST English-Language Arts and Winter SRI ³ | | | | | | |
|--|-----------------------------|--------------|------------------|--------------|----------|--------------------------|
| Y Predicted Variable | X Predictor Variable | Grade | Intercept | Slope | N | Adj R² |
| CST Language Arts | SRI Lexile | 2 | 315.33 | 0.1574 | 179 | 0.51 |
| CST Language Arts | SRI Lexile | 3 | 254 | 0.176 | 263 | 0.69 |
| CST Language Arts | SRI Lexile | 4 | 255.52 | 0.1765 | 272 | 0.72 |
| CST Language Arts | SRI Lexile | 5 | 222.95 | 0.1679 | 268 | 0.78 |
| CST Language Arts | SRI Lexile | 6 | 209.88 | 0.1682 | 260 | 0.67 |
| CST Language Arts | SRI Lexile | 7 | 209.59 | 0.165 | 237 | 0.72 |
| CST Language Arts | SRI Lexile | 8 | 187.85 | 0.1698 | 246 | 0.68 |

Table 6

| Regression Coefficients for Grades 2–10 for CST English-Language Arts and Spring SRI ³ | | | | | | |
|---|-----------------------------|--------------|------------------|--------------|----------|--------------------------|
| Y Predicted Variable | X Predictor Variable | Grade | Intercept | Slope | N | Adj R² |
| CST Language Arts | SRI Lexile | 2 | 302.77 | 0.1569 | 262 | 0.55 |
| CST Language Arts | SRI Lexile | 3 | 248.35 | 0.1738 | 304 | 0.71 |
| CST Language Arts | SRI Lexile | 4 | 250.54 | 0.1746 | 309 | 0.74 |
| CST Language Arts | SRI Lexile | 5 | 220.74 | 0.1649 | 257 | 0.79 |
| CST Language Arts | SRI Lexile | 6 | 210.89 | 0.1629 | 303 | 0.74 |
| CST Language Arts | SRI Lexile | 7 | 207.53 | 0.1631 | 274 | 0.76 |
| CST Language Arts | SRI Lexile | 8 | 198.73 | 0.1471 | 171 | 0.66 |
| CST Language Arts | SRI Lexile | 9 | 191.6 | 0.1629 | 359 | 0.61 |
| CST Language Arts | SRI Lexile | 10 | 196.13 | 0.1427 | 376 | 0.56 |

³ Correlations are significant at $p < .01$.

Expected Growth

As noted on the previous pages (see pp. 8–9), fall, winter, or spring SRI scores can be used to predict CST English-Language Arts scores. Thus, we can identify the fall and spring SRI scores that correspond to the CST English-Language Arts cut-off scores for each performance level. Using these SRI scores, we can develop a model of expected, or necessary growth.

In other words, if we assume that the fall SRI score that corresponds to the CST English-Language Arts level 4 cut score is the starting point, and the correlative spring SRI score defines the end point—that is, the point where a student must be to maximize the likelihood that they will be in (or remain in) achievement level 4 at the time of spring CST testing—then we can use these two points to define a trajectory for fall to spring growth, as explained below.

Table 7 shows the SRI values for fall, winter, and spring that correspond to the CST English-Language Arts performance level cut-points. These correspondences were derived in several steps: first, for each grade, the grade-level CST scores (ranging from 150–600) were regressed on fall, winter, and spring SRI scores. This produced the regression coefficients shown in Tables 4–6 (see pp. 8–9). Using these equations, SRI scores could be used to predict CST scores on the grade-level scale. Based on these predicted scores, the SRI scores that corresponded to the cut-points on each grade-level scale were identified. These are the values in the column labeled “English-Language Arts SS.”

The central virtue of the information in Table 7 is that we can identify, using fall SRI scores for students at any “predicted” CST performance level, how much growth a student will need to show on the SRI from fall to spring to 1) stay at the current predicted level, or 2) increase levels, for example, to go from a predicted performance level 3 to performance level 4.

Table 8 (see p. 12) shows the actual increases from fall to spring on the SRI that are needed for students to maintain their current predicted spring CST performance level at the same level. Also shown are the spring-to-spring SRI increases that would be necessary to stay at the same predicted CST performance level from one grade to the next one, say Grade 4–5 or Grade 5–6.

Table 7

| Fall, Winter, and Spring SRI Scores Equivalent to Spring CST English-Language Arts Performance Achievement Level-Cut Points—School District of San Rafael, 2006–07 | | | | | |
|--|---------------------------|----------------------|-----------------|-------------------|-------------------|
| Grade | Student Performance Level | CST Language Arts SS | SRI Fall Lexile | SRI Winter Lexile | SRI Spring Lexile |
| 2 Proficient | 5 | 402 | 385L | 552L | 635L |
| | 4 | 350 | 102 | 222 | 308 |
| | 3 | 300 | . | 105 | 112 |
| | 2 | 262 | . | . | . |
| | 1 | 150 | . | . | . |
| 3 Proficient | 5 | 402 | 778 | 846 | 886 |
| | 4 | 350 | 455 | 550 | 587 |
| | 3 | 300 | 160 | 265 | 301 |
| | 2 | 259 | 100 | 100 | 116 |
| | 1 | 150 | . | . | . |
| 4 Proficient | 5 | 393 | 727 | 780 | 817 |
| | 4 | 350 | 478 | 536 | 572 |
| | 3 | 300 | 175 | 256 | 291 |
| | 2 | 269 | 101 | 111 | 109 |
| | 1 | 150 | . | . | . |
| 5 Proficient | 5 | 395 | 966 | 1026 | 1060 |
| | 4 | 350 | 708 | 762 | 789 |
| | 3 | 300 | 423 | 459 | 490 |
| | 2 | 271 | 254 | 294 | 326 |
| | 1 | 150 | 100 | 100 | 100 |
| 6 Proficient | 5 | 394 | 1056 | 1098 | 1125 |
| | 4 | 350 | 804 | 836 | 855 |
| | 3 | 300 | 527 | 544 | 551 |
| | 2 | 268 | 338 | 359 | 351 |
| | 1 | 150 | 100 | 100 | 100 |
| 7 Proficient | 5 | 401 | 1136 | 1155 | 1184 |
| | 4 | 350 | 830 | 856 | 874 |
| | 3 | 300 | 542 | 553 | 569 |
| | 2 | 263 | 348 | 351 | 342 |
| | 1 | 150 | 100 | 100 | 100 |
| 8 Proficient | 5 | 395 | 1218 | 1220 | 1338 |
| | 4 | 350 | 940 | 955 | 1030 |
| | 3 | 300 | 636 | 677 | 689 |
| | 2 | 266 | 426 | 497 | 466 |
| | 1 | 150 | 100 | 100 | 100 |
| 9 Proficient | 5 | 397 | 1219 | . | 1265 |
| | 4 | 350 | 934 | . | 976 |
| | 3 | 300 | 643 | . | 668 |
| | 2 | 265 | 429 | . | 489 |
| | 1 | 150 | 100 | . | 100 |
| 10 Proficient | 5 | 392 | 1376 | . | 1374 |
| | 4 | 350 | 1093 | . | 1082 |
| | 3 | 300 | 757 | . | 741 |
| | 2 | 263 | 537 | . | 483 |
| | 1 | 150 | 100 | . | 100 |

Table 8

| Amount of SRI Lexile Gain Needed to Maintain Equivalent CST English-Language Arts Performance Levels (2006–07) | | | | | | | | | | | |
|--|------------------------|-----|-----|-----|---------------|-------------------------|------------------------|-----|-----|-----|---------------|
| Fall to Spring Growth | | | | | | Spring to Spring Growth | | | | | |
| Grade | CST Performance Levels | | | | Median Lexile | Grade to Grade | CST Performance Levels | | | | Median Lexile |
| | 2 | 3 | 4 | 5 | | | 2 | 3 | 4 | 5 | |
| 2 | . | . | 206 | 250 | 228 | | | | | | |
| 3 | 16 | 141 | 132 | 108 | 120 | 2–3 | . | 189 | 279 | 251 | 251 |
| 4 | 8 | 116 | 94 | 90 | 92 | 3–4 | -7 | -10 | -15 | -69 | -13 |
| 5 | 72 | 67 | 81 | 94 | 77 | 4–5 | 217 | 199 | 217 | 243 | 217 |
| 6 | 13 | 24 | 51 | 69 | 38 | 5–6 | 25 | 61 | 66 | 65 | 63 |
| 7 | -6 | 27 | 44 | 48 | 36 | 6–7 | -9 | 18 | 19 | 59 | 19 |
| 8 | 40 | 53 | 90 | 120 | 72 | 7–8 | 124 | 120 | 156 | 154 | 139 |
| 9 | 60 | 25 | 42 | 46 | 44 | 8–9 | 23 | -21 | -54 | -73 | -38 |
| 10 | -54 | -16 | -11 | -2 | -14 | 9–10 | -6 | 73 | 106 | 109 | 90 |

Using the Tables to Set Reading Growth Goals

Let us consider a few examples of how teachers and other professionals involved in the improvement of student reading performance can begin to set reading growth goals based on the SRI scores of their students. Let us assume that a teacher wants to find out the increase in SRI scores that is required for an incoming fourth-grade student to stay at the same predicted achievement level as third grade. Table 8 shows that the fourth-grade CST performance levels are actually slightly lower than the third-grade performance levels. As a result, the difference between the third- and fourth-grade CST performance levels (as well as between the eighth- and ninth-grade levels) results in a negative number. An incoming fourth-grade student would not have to demonstrate an increase in her SRI score to remain at the same predicted achievement level in the spring of fourth-grade as she had achieved in the spring of third grade.

Next, let's assume another fourth-grade student has just completed fall SRI testing and, based on his fall SRI score, is predicted to achieve a performance level 3 on the CST at the end of the year. The teacher wants to find out the increase in SRI scores that is required for that student to maintain the same predicted achievement level through the spring of the school year. Table 8 can be used to estimate this amount: A fourth-grade student with a fall SRI score corresponding to CST level 3 would have to grow 116 Lexile units to remain at the same predicted performance level in the spring.

The information for Grade 4 in Table 4 (see p. 8) can then be used to calculate the corresponding predicted increase in the CST English-Language Arts score from the year before. Table 4 shows that the slope coefficient in Grade 4 is .1721, meaning that the increase in CST performance level in the spring scores is approximately .17 CST points per unit increase on the SRI. Thus, a fourth grader who gained 116 Lexile points over the year would gain (.17 X 116), or approximately 20 points, on the CST.

Let us consider one more example, again for Grade 4, only this time looking at the projected SRI score increase necessary to move from predicted CST level 3 to level 4. We will use the spring SRI score that is equivalent to the predicted CST performance level 4 (in fourth grade) as the end point. Table 7 (see p. 11) shows that 175 is equivalent to level 3 in the fall and 572 is equivalent to level 4 in the spring. The difference between these two scores (i.e., 175 in the fall for level 3 and 572 in the spring for level 4) is 397 Lexile units. This translates into an increase of approximately 67 CST units (using the slope coefficient from Table 4: .17 x 397 = 67).

One important question to ask for any reading goal is if it is reasonable to expect such growth in the period of time being considered (usually from early fall to the time just before the administration of the CST in the spring). Recall that the ultimate aim is not necessarily to affect SRI scores, but rather to affect student reading level and CST English-Language Arts scores. In the absence of information about specific approaches to reading that a reading teacher may take to improving reading comprehension, we can, as a proxy, look at the typical increases that occur on the SRI from spring to spring. These increases can provide a sense of the typical growth that occurs in one school year period. Further, if we look at these increases across different portions of the normative distribution, we can gain a clearer sense of how typical growth on the SRI varies depending on a student's starting point in the score distribution. Data relevant to this issue are presented in Table 9.

Table 9

| Spring-to-Spring Change in SRI Scores for Selected Percentiles | | | | | | | |
|--|---|-----|-----|-----|-----|-----|------|
| Percentile | Changes in SRI Scores (Lexiles) Grades 3–10 | | | | | | |
| | 3–4 | 4–5 | 5–6 | 6–7 | 7–8 | 8–9 | 9–10 |
| 25th | 115 | 130 | 65 | 85 | 50 | 45 | 50 |
| 50th | 110 | 110 | 70 | 75 | 45 | 45 | 35 |
| 75th | 115 | 105 | 65 | 60 | 50 | 35 | 25 |

Many parents, teachers, and administrators want to know if a student is making enough progress to keep up with or catch up to state standards. Lexiles are developmental scale scores—a student’s score can be interpreted across grade levels. Therefore, a score of 220L means the same thing whether the student is in second grade or high school.

Typically, students performing below grade level make greater gains than students performing above grade level. We can use this predictable pattern in student gain data to create one set of growth goals that correlate to state expectations. The growth goals in Table 10 can be applied to all students regardless of their CST Performance Level.

To determine if a student made a year’s growth relative to the state standards, compare the student’s growth to the type of growth expected from groups of students with the same SRI Lexile, *not at the same grade level*. Find the value in the “SRI Spring Lexile” column that most closely matches the student’s performance. For example, if a sixth-grade student has an SRI Lexile of 320L, then her score would need to increase by 206L to show one year’s growth and by 485L (206 + 279) to show two years’ growth. If the student’s end-of-year Lexile is 526L, the student will have completed one year’s growth. If the student’s end-of-year Lexile is 846L, the student will have completed two years’ growth. If the student’s Lexile is 1,046L by the end of the seventh-grade school year, the student will have made two years’ growth again and be performing at the eighth-grade standard. The same process can be used to calculate growth goals for all students, regardless of their grade level. Students who are below grade level may need to make two years’ growth for two to three consecutive years to catch up.

Note that your state’s standards may require students to demonstrate more than one year’s growth each year in order to maintain proficiency from the spring of one grade level to the fall of the next grade level. For example, students who score 308L in the spring of second grade demonstrate reading performance equivalent to performance level of 4. However, students who score 308L in the fall of third grade, just months later, are demonstrating reading performance predicted to be equivalent to performance level of 3.

Table 10

| SRI Student Growth Goals | | | | | |
|--------------------------|-----------------------------------|-----------------|-------------------|---------------------------------------|--|
| Grade | CST English-LA Performance Levels | SRI Fall Lexile | SRI Spring Lexile | Gain Needed to Show One Year’s Growth | Additional Gain Needed to Show Two Years’ Growth |
| 2 | 4 (Proficient) | 102 | 308 | 308 – 102 = 206 | 587 – 308 = 279 |
| 3 | 4 (Proficient) | 455 | 587 | 587 – 455 = 132 | 572 – 587 = -15 |
| 4 | 4 (Proficient) | 478 | 572 | 572 – 478 = 94 | 789 – 572 = 217 |
| 5 | 4 (Proficient) | 708 | 789 | 789 – 708 = 81 | 855 – 789 = 66 |
| 6 | 4 (Proficient) | 804 | 855 | 855 – 804 = 51 | 874 – 855 = 19 |
| 7 | 4 (Proficient) | 830 | 874 | 876 – 830 = 46 | 1030 – 874 = 156 |
| 8 | 4 (Proficient) | 940 | 1030 | 1030 – 940 = 90 | 976 – 1030 = -54 |
| 9 | 4 (Proficient) | 934 | 976 | 976 – 934 = 42 | 1082 – 976 = 106 |
| 10 | 4 (Proficient) | 1093 | 1082 | 1082 – 1093 = -11 | . |

CONCLUSION

The information presented in this paper demonstrates how the Scholastic Reading Inventory (SRI) can be administered in a systematic way to improve instruction in the context of the California Standards Test (CST). The results of this study reveal that the SRI statistically correlates to end-of-year CST results.

Due to this strong correlation, teachers can obtain the reading comprehension data they need throughout the year to monitor student progress, set goals, and adjust instruction appropriately. Principals and teachers alike can use these tools in this guide for parent conferences and other meetings that require clear presentation of the progress of an individual student or group of students. Most importantly, implementing the SRI can support a school district’s goal of ensuring that all students achieve reading success.

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ABOUT THE AUTHOR



Kim Knutson, Ed.D., is a test development and evaluation specialist for the School District of Palm Beach County, Florida. Dr. Knutson completed her doctorate in Educational Leadership at Florida Atlantic University where she was awarded the Melby Fellow in Community Education. Prior to joining the School District of Palm Beach County, she was program director at the South Florida Annenberg Challenge where she facilitated grants to sustain school improvement initiatives.

A frequent presenter at national conferences, Dr. Knutson has published articles on community education, self-directed learning, and leader social interest. At Florida Atlantic University and Barry University, Dr. Knutson has taught testing and evaluation, applied research methodology, and leadership theory to undergraduate and graduate students, and also serves as evaluation consultant. She has consulted with districts and schools in Florida, Massachusetts, and California on the subject of aligning SRI results to state reading achievement levels and monitoring student growth in relation to state standards.