Georgia Striving Reader Comprehensive Literacy Grant Program

Longitudinal Evaluation, 2012-2017

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Contents

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Longitudinal Evaluation, 2012-2017

The goal of the Striving Readers Comprehensive Literacy Initiative (SRCL) was to increase student literacy achievement for students from birth to grade 12. The SRCL Program ran grant competitions and awarded funding for schools to implement their unique Literacy plans. Funds were used to equip classrooms with rich literacy materials (including technology-based materials), to provide open access to professional learning modules designed by the project's professional learning architects, and to fund school- and district-level professional learning activities. The initiative was only open to Georgia schools with persistently low performance and/or high levels of students living in poverty. Schools were required to address nine key components from research: (1) clearly defining and using learning/curriculum standards, (2) developing components unique to birth-to-five, (3) using ongoing formative and summative assessments, (4) adopting or improving response to intervention frameworks, (5) integrating best practices in instruction, (6) training high-quality teachers, (7) creating an atmosphere that fosters engaged leadership, (8) developing a clearly articulated plan for transitions and alignment, and (9) intentional strategies for maintaining student and staff engagement. Schools were able to craft plans to address each of these components locally. For this reason, the initiatives looked very different across schools and districts, and provided the opportunity to examine how different program choices and instructional practices related to literacy growth.

Purpose

The purpose of this report is to report on patterns in achievement and growth by cohort, district, and school. Additionally, a central purpose is to examine the programs, practices and teaching strategies SRCL schools reported using during grant implementation. Importantly, this evaluation examined how organizational and instructional factors related to literacy achievement and development across elementary, middle and high schools. To that aim, three questions were explored:

1) What is the relationship between core ELA curriculum and program choices on literacy development? Specifically, teachers described whether they used *Bookworms,* guided reading with instructional-level matching, commercially available ELA or phonics programs, and/or computer-based reading and writing programs.

2) What is the relationship between specific reading and writing practices, strategies, and activities on reading development? Specifically, teachers rated the frequency in which they used particular reading and writing practices during instruction on several questionnaires.

3) What is the influence of a school's organizational structure on reading development? Specifically, how do teacher-reported levels of school leadership, continuity of instruction, use of formative and summative assessments, and use of evidence-based literacy practices relate to performance and growth across elementary, middle, and high schools?

Methods

Participants

The SRCL grant operated by expanding each year to include new cohorts of districts and/or schools. In the first year of the grant (2012/2013 academic year), there were 9 districts and 65 schools. The following year, 6 new districts and 69 new schools joined SRCL. For the 2014/2015 academic year, 11 new districts and 63 new schools joined SRCL. In the following year, 13 new districts and 71 new schools joined SRCL. In the final year, 2 new districts and 30 schools joined the SRCL grant. In total, 41 districts and 298 schools participated in the SRCL grant.

Table 1. Number of districts and schools in the five SRCL cohorts

Cohort	Start Year	Districts	Schools
1	2012/13	9	65
2	2013/14	6	69
3	2014/15	11	63
4	2015/16	13	71
5	2016/17	2	30
Total		41	298

Measures

Teacher Questionnaire

Each year, all grade-level teams were required to complete a series of questionnaires that tapped into different aspects of curriculum choices and implementation. Specifically, teachers reported on what literacy programs were used, what instructional strategies teachers used most often, and rated the organizational structure at their school.

Throughout the project's years of 2014-17, teachers indicated their ELA curriculum and program choices each year. Grant requirements stipulated that teachers complete a questionnaire rating the organizational structure of a particular setting. This questionnaire was fully administered in 2014-15 and 2015-16. Results from these two years showed a high degree of convergence. Therefore, in the final year, 2016-17, a shortened version was administered, and additional reading and writing questionnaires (adapted from Kiuhara, Graham, & Hawken, 2009; Rissman, Miller, & Torgesen, 2009; Appendix A & B) were added to provide more explicit information regarding literacy activities and practices that were being used by teachers.

Core English Language Arts Curriculum Choices

Teachers described what program choices and resources were chosen for English Language Arts (ELA) instruction particular grades. Teachers rated their choices in two ways: (1) Who used it? Where responses could range from 1 (no one) to 4 (everyone) in a grade-level at a particular school, and (2) the frequency at which the program or strategy was used, which could range from 1 (never) to 8 (multiple times/day). Teachers specifically reported the specific curriculum choices and rated their adoption of: (1) a commercial ELA curriculum, (2) a commercial phonics program, (3) a computer-based reading intervention, (4) a computer-based writing intervention, (4) *Bookworms,* and (5) guided reading with instructional-level matching.

Reading and Writing Instructional Strategies

Teachers also described what instructional strategies, practices and activities were used for ELA instruction. Teachers rated the frequency at which the strategy, practice or activity was used, which could range from 1 (never) to 8 (multiple times/day). An extensive list of reading

practices were adapted from the Adolescent Literacy Walk-through for Principals (Rissman, Miller, & Torgesen, 2009), and can be found in Appendix A. Teachers reporting of writing practices was adapted from a published measure (Kiuhara, Graham, & Hawken, 2009), and can be found in Appendix B.

Organizational Structure

Teachers rated the organizational structure of a school by using a 7-point Likert scale to indicate the degree to which specific statements ranged from *not operational (1)* to (7) *fully operational*. Questions were organized into 4 categories:

1) Engaged Leadership. There were 30 items about leadership (Cronbach's alpha = 0.93). The following is a sample item: "A school culture exists in which teachers across grade levels or content areas accept responsibility for literacy instruction."
2) Continuity of Instruction. There were 14 items about continuity of instruction (Cronbach's alpha = 0.83). Following is a sample item: "Active collaborative teams ensure a consistent literacy focus across the curriculum."
3) Assessment-based Practices. There were 19 items about assessment-based practices (Cronbach's alpha = 0.93). Following is a sample item: "A system for ongoing formative and summative assessments is in place to determine the need for and the intensity of interventions; and to evaluate the effectiveness of instruction."
4) Evidence-based Practices. There were 20 items about using evidence-based practices (Cronbach's alpha = 0.91). The following is a sample item: "All students receive direct, explicit instruction in reading and writing."

Student Achievement Data

Birth-to-five. Participating pre-schools collected student achievement data from the Peabody Picture Vocabulary Test (PPVT-4, Dunn and Dunn, 2007). PPVT was administered in the fall and winter. The PPVT is a normed reference task; it has a standardized mean of 100 and standard deviations of 15.

Elementary (K-5). The Dynamic Assessment of Basic Early Literacy Skills (DIBELS) was used to measure reading skills for elementary students. Information on subtests and benchmark levels are located in the following reference (Dynamic Measurement Group, 2010). The composite score for Kindergarten, nonsense word fluency for Grade 1, and oral reading fluency for children in Grades 2 through 5 were used in analyses. Based on DIBELS scores, children were classified according to three levels: (1) at or above benchmark, (2) below benchmark, (3) well below benchmark.

Elementary (Grades 3-5), Middle and High. The Reading Inventory (RI, Houghton Mifflin Harcourt, formerly *Scholastic Reading Inventory, RI*) was used as an assessment of reading comprehension and was used across elementary, middle and high schools. The text complexity demands outlined by the Common Core State Standards (CCSS) are presented in Table 2.

Table 2. Text Complexity Grade Bands based on the Lexile Framework

Grade Bands	Lexile
Gr 2-3	420-820
Gr 4-5	740-1010
Gr 6-8	925-1185
Gr 9-10	1050-1335
Gr 11-CCR	1185-1385

Is the parenthetical citation the source for this Lexile chart? If not, what is the source?

DIBELS and RI were administered in the fall, winter and spring. For cohort 1 schools, RI was collected for Grades 9 through 12. An amended requirement for Cohorts 2 and beyond was to administer RI for grades 3 -12. For the following analyses, only RI data was used because it presents a reliable and valid metric for examining differences in literacy performance and growth across elementary, middle, and high schools.

Lexile Growth by Cohort, 2013-2017

The report will first describe descriptive trends in growth; grouping schools by cohort. Lexile scores from Fall of 2013 to Spring of 2017 are displayed for elementary, middle and high schools in Figures 1, 2, and 3, respectively, and the descriptive table is in Appendix C.

Elementary School Lexile Scores

Figure 1 displays the average Lexile scores by cohort for fall, winter, and spring across 2013-2017 in grades 3 to 5. Cohort 1 schools were not required to administer the RI assessment in 2012-2013, hence the figure starting at Fall 2013. The figure clearly depicts that exceptional growth occurred. The on-target Lexile range for elementary schools (grades 3 to 5) is 740 to 1010. Cohort 1 and 2 schools started in Fall 2013 with average Lexile scores of 400 and 450, respectively. Considering these are children in grades 3 to 5, these scores suggest that at the beginning of the project, children were, on average, reading around a first-to-second grade level. However, by Spring '17, the average Lexile scores for Cohorts 1 and 2 were 680 and 700, respectively. This significant jump puts average performance in the two cohorts within the lower-end of grade-level expectations for 4th and 5th grade. Cohorts 3, 4, and 5 had initial reading performance higher than the Cohort 1 and 2 schools, which was expected given the State's recruitment strategy pointed towards helping the most struggling schools and districts first. However, these schools were still performing below grade-level expectations at their start in the project. Cohorts 3, 4, and 5 made significant and substantial gains across their years involved in the grant.

Another interesting trend is noted in Figure 1. There is significant 'summer slide,' or regression in reading performance, from spring to fall (Borman & Boulay, 2004). Interestingly,

Cohort 2 appears to have a large summer slide after the first year of the project, and Cohorts 1-4 experience a very similar regression from spring 16 to fall 16. Across all cohorts, there was very little regression from spring 15 to fall 15. Further investigation is critical to identify what summer strategies teachers engaged in, and how many children participated in summer reading programs. Addressing drops in reading performance over the summer and in communities are necessary steps to ensure that the gains children made during the academic year stick.

Middle School Lexile Scores

Figure 2 displays the average Lexile scores by cohort for fall, winter, and spring across 2012-2017 in grades 6 to 8. The on-target Lexile range for middle schools (grades 6-8) is 925 to 1185. All cohorts fell within the range of approximately 750-850 at their start in the grant. By the end of the grant (spring 17), average Lexile scores ranged from approximately 900 to 960. Furthermore, it was Cohorts 1-3 who saw the largest gains, suggesting that long-term involvement in SRCL was essential towards achieving a stable increase in reading achievement.

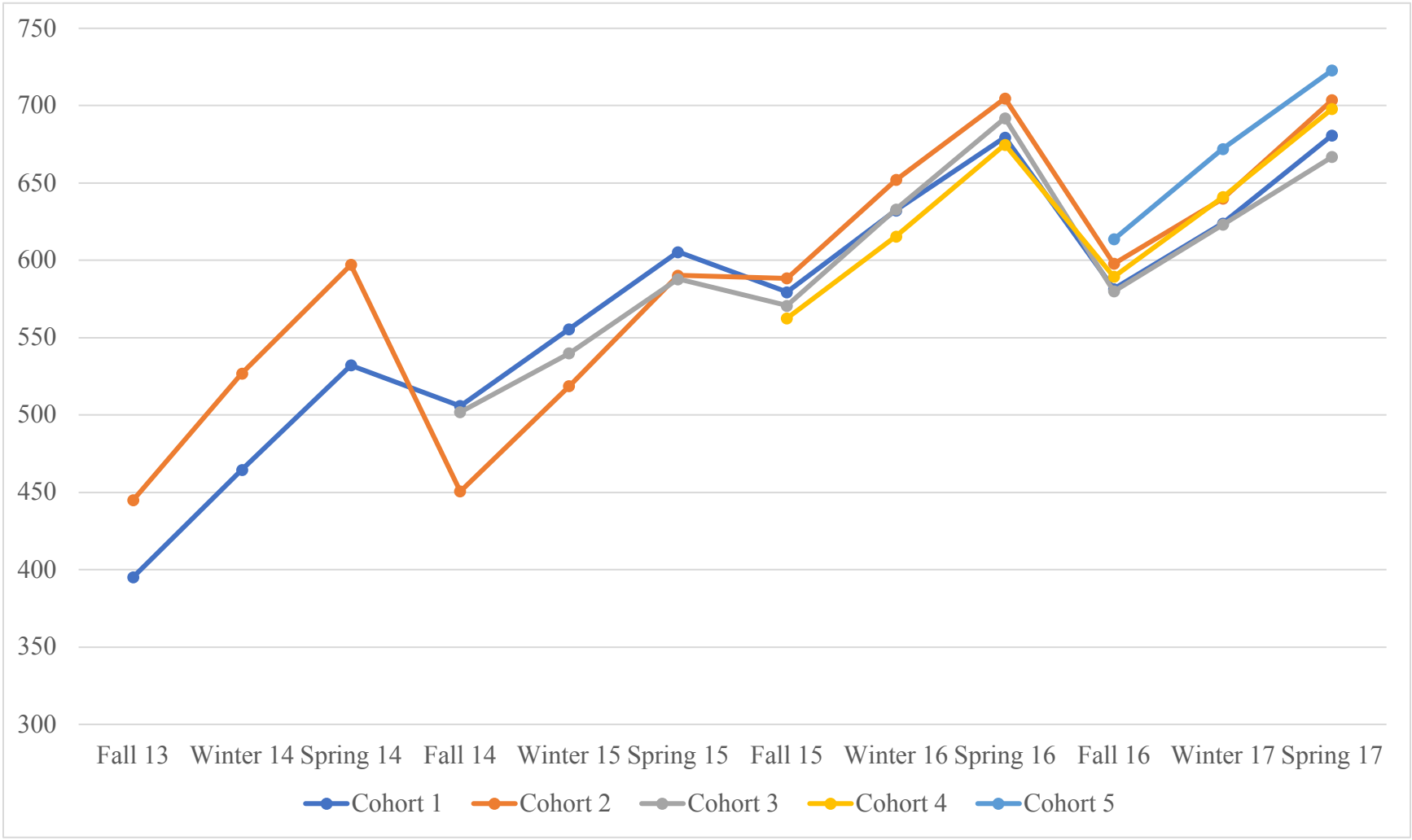
Summer slide was also evident in middle schools, as it appeared all cohorts consistently regressed each summer over the duration of the program. Interestingly, Cohort 2 did not appear to experience a summer slide, from spring 15 to fall 15, but there was a significant slide in the following year. Further investigation is critical to identify what summer strategies teachers engaged in, how many children participated in summer reading programs, and how school or community-based initiatives may be leveraged to help improve (or maintain) literacy performance over the summer.

High School Lexile Scores

Figure 3 displays the average Lexile scores by cohort for fall, winter, and spring across 2012-2017 in grades 9 to 12. The on-target Lexile range for high schools (grades 9-12) is 1050 to

1385. Four of five districts scored between 960 and 1010 at their start in the project, and one other cohort scored 1042. By the end of the grant (spring 17), average Lexile scores ranged from approximately 1019 to 1096. Trends between years looked different in high schools than in elementary and middle schools. In high school, summer slide seemed to occur every second year, opposed to yearly. Furthermore, Cohort 3 appeared to experience very little summer regression throughout their time in the project. Similar to elementary and middle school, cohorts who spent more time in the project experienced more gains, suggesting that multi-year supports and commitments led toward more stable improvements in a school's reading performance and growth.

Figure 1. Growth in Lexile by Cohort from Elementary School (Grades 3-5); Fall 2013 – Spring 17



Notes. SRCL did not require Cohort 1 schools to collect RI data prior to Fall 2013, therefore data could not be reported for that year.

Figure 2. Growth in Lexile by Cohort for Middle School; Fall 2012 – Spring 17

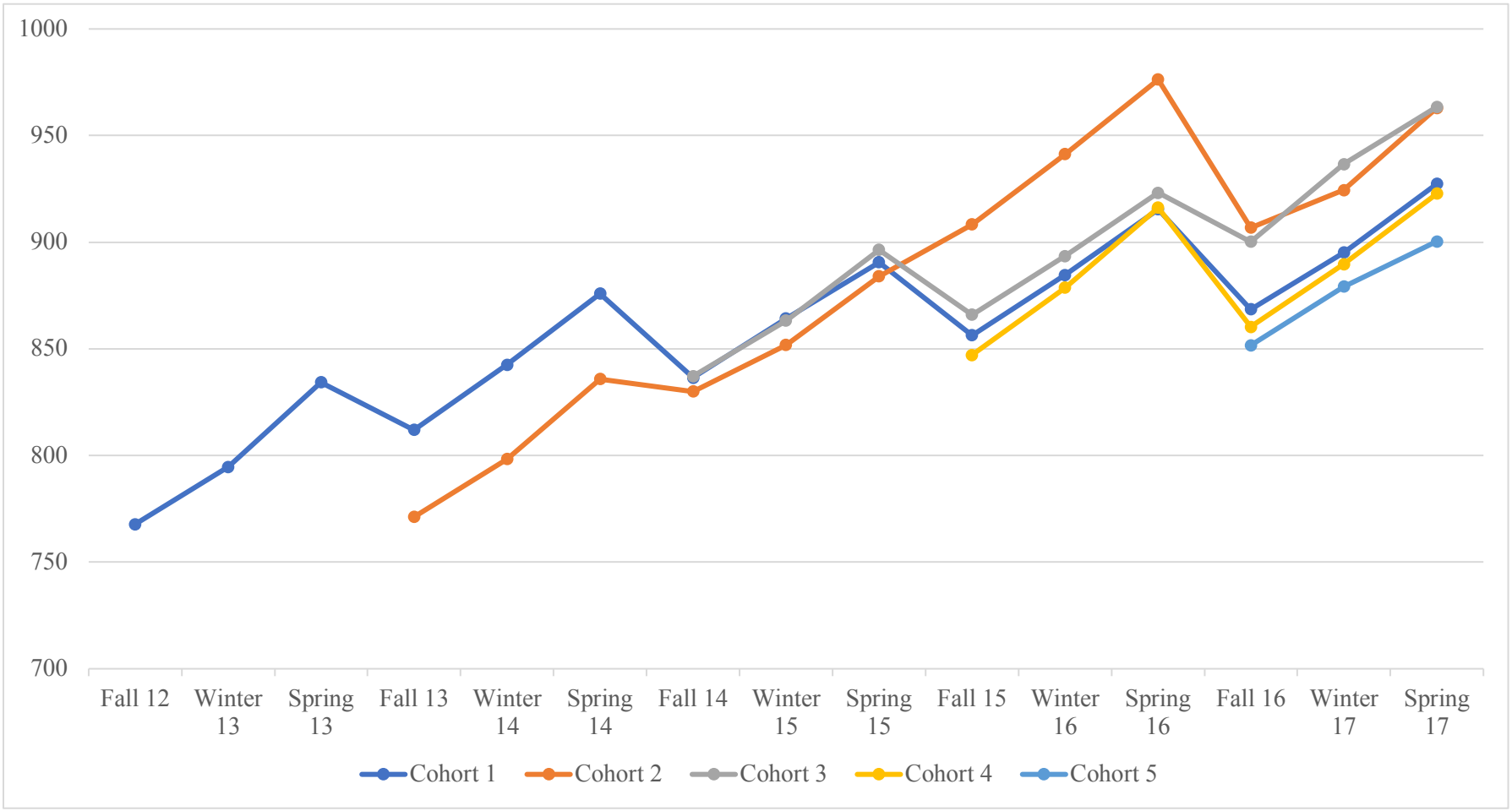
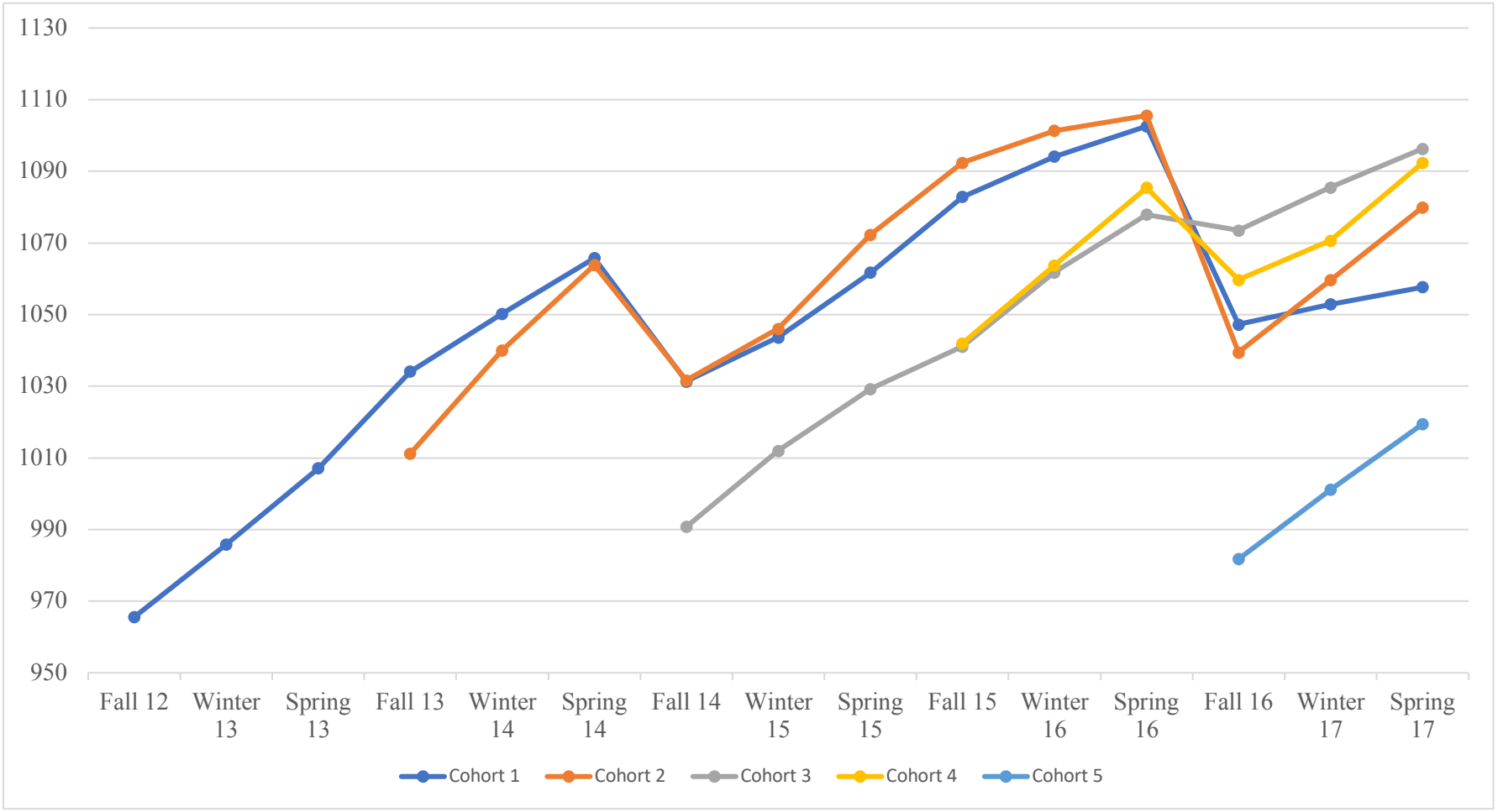


Figure 3. Growth in Lexile by Cohort for High School; Fall 2012 – Spring 17



District-level Effect Sizes of Literacy Growth

Tables 3, 4 and 5 present descriptive information on effect sizes of literacy growth at the level of the district, for elementary, middle, and high schools, respectively. Effect sizes (Cohen's *d*) were calculated based on each student's difference on the reading measure from fall to spring of each year. Effect sizes were calculated for each school, across the years of grant implementation. The effect sizes for the minimum and maximum year of growth were reported, and yearly grade-level effect sizes by school were pooled together to provide a district's average effect size. Effect sizes of 0.2, 0.5, and 0.8 are considered small, medium, and large, respectively (Cohen, 1988). Appendix D contains tables that report descriptive statistics, Lexile growth, and the associated effect size, for each project year, organized by schools within districts.

Elementary School

Table 3 presents descriptive information for the yearly effect sizes in elementary schools for districts in the grant. The majority of districts experienced medium effects, with only three districts falling in the small range, whereas no district experienced average large effect over the course of the grant. However, several districts approached large effect sizes, when looking at their best year. Examining differences between the minimum and maximum yearly effect size demonstrates there were differences in how a particular district performed year to year. Several districts experienced at least a year of relatively little to no growth. On the other hand, there were several districts who reported medium effect sizes as their minimum year of growth suggesting that while some districts experienced large changes in growth patterns from year to year, other districts were far more consistent in how their students developed literacy skills.

Middle School

Table 4 presents descriptive information for the yearly effect sizes in middle schools for districts in the grant. The majority of districts experienced small effects, with only one district approaching the medium range, and no district experienced average large effect over the course of the grant. One district reported a medium effect size, when looking at their best year. Examining differences between the minimum and maximum yearly effect size demonstrates there were a lot of differences in how a particular district performed year to year. Most districts experienced at least a year of relatively little to no growth. However, several districts consistently reported effect sizes in the .2 to .3 range as their minimum, maximum, and overall average growth. Some districts experienced large changes in growth patterns from year to year; there are other districts far more consistent in how their students developed literacy skills. Overall, there was far more consistency in year-to-year effect sizes of growth in middle than elementary schools.

High School

Table 3 presents descriptive information for the yearly effect sizes in high school for the districts. Only four districts reported an overall small effect size in literacy growth; the other districts fell between a range of 0.0 – 0.17 as their effect size. However, several more districts approached small effect sizes, when looking at their best year. Conversely, when looking at their lowest, there were many districts who experienced regression during the school year. Achieving stable and enhanced literacy growth in high school is a clear challenge, outlined by this data, when compared to elementary and middle schools. More efforts should be geared to identify and implement the best supports for high school teachers and administrators.

Table 3. Descriptive Statistics of Effect sizes (ES) for Elementary Schools

District	Minimum ES	Maximum ES	Mean ES
605	0.49	0.63	0.56
608	0.27	0.75	0.43
612	0.45	0.53	0.49
613	0.13	0.55	0.30
624	0.32	0.55	0.45
629	0.16	0.65	0.40
634	0.22	0.65	0.49
635	0.13	0.68	0.43
640	0.24	0.50	0.41
651	0.54	0.61	0.58
657	0.52	0.58	0.55
659	0.29	0.51	0.41
660	-0.18	0.37	0.16
661	0.25	0.25	0.25
664	0.28	0.66	0.50
680	0.26	0.61	0.39
681	0.44	0.64	0.55
698	0.70	0.70	0.70
705	0.36	0.59	0.48
712	0.29	0.38	0.33
713	0.25	0.55	0.44
720	0.04	0.22	0.13
722	0.36	0.36	0.36
738	0.30	0.63	0.51
744	0.37	0.47	0.42
745	0.34	0.75	0.51
753	0.30	0.55	0.40
755	0.37	0.53	0.43
757	0.58	0.74	0.66
759	0.37	0.48	0.43
767	0.52	0.52	0.52
784	0.32	0.46	0.39
785	0.29	0.56	0.42

Table 4. Descriptive Statistics of Effect sizes (ES) for Middle Schools

District	Minimum ES	Maximum ES	Mean ES
608	0.13	0.33	0.22
612	0.14	0.21	0.18
613	0.32	0.37	0.35
624	0.31	0.36	0.34
629	0.03	0.31	0.18
634	0.21	0.28	0.24
635	0.17	0.31	0.24
640	0.11	0.14	0.13
651	0.34	0.34	0.34
657	0.33	0.39	0.36
659	0.14	0.21	0.18
660	-0.03	0.07	0.04
664	0.20	0.62	0.41
680	0.10	0.30	0.20
681	0.19	0.44	0.29
683	0.26	0.32	0.29
698	0.27	0.27	0.27
704	0.21	0.23	0.22
705	0.21	0.32	0.25
712	0.20	0.25	0.23
713	0.18	0.18	0.18
722	0.08	0.17	0.13
738	0.15	0.25	0.20
744	0.20	0.24	0.22
745	0.25	0.25	0.25
750	0.31	0.31	0.31
755	0.20	0.31	0.26
757	0.27	0.27	0.27
759	0.25	0.40	0.33
767	0.12	0.24	0.19
784	0.07	0.26	0.17
785	0.17	0.35	0.27
793	0.19	0.43	0.27

Table 5. Descriptive Statistics of Effect sizes (ES) for High Schools

District ES	Minimum ES	Maximum ES	Mean ES
608	-0.13	0.32	0.07
612	0.08	0.18	0.13
613	0.14	0.17	0.15
624	-0.01	0.27	0.13
629	0.09	0.15	0.12
634	0.03	0.21	0.09
640	-0.06	0.01	-0.02
657	0.18	0.23	0.21
659	0.08	0.12	0.10
660	-0.05	0.13	0.01
680	0.00	0.23	0.08
681	-0.01	0.17	0.09
683	0.08	0.18	0.13
698	0.03	0.03	0.03
704	0.17	0.17	0.17
705	-0.04	0.32	0.14
712	0.06	0.06	0.06
713	0.12	0.34	0.23
722	0.14	0.14	0.14
738	0.07	0.15	0.11
744	0.11	0.13	0.12
745	0.08	0.25	0.16
750	0.23	0.23	0.23
753	0.10	0.43	0.22
755	0.06	0.18	0.12
757	0.07	0.07	0.07
759	0.08	0.14	0.11
767	-0.05	0.14	0.05
785	0.10	0.29	0.17
793	-0.21	0.13	0.02

Examining Teacher Factors Related to Reading Growth

The descriptive information presented previously demonstrates that many schools and districts experience significant growth in reading skills over the duration of the grant. Furthermore, there is exceptional variation or differences in the rate of reading growth reported across schools and districts in elementary, middle, and high schools. Unpacking how these differences in reading growth relate to specific aspects of a school's organizational structure, curriculum, and program choices provides direct evidence towards high leverage practices that should be fostered and nurtured moving forward.

As such, the remainder of the evaluation will address multiple aspects and components of a school's organizational structure, curriculum, and program choices. Structural equation modelling was used to measure students' reading achievement at the beginning of the analysis, and growth in reading performance over the last three years. Specific aspects of a school's literacy plan, which was measured through the different teacher questionnaires, was then related to initial reading achievement and reading growth to identify how these practices specifically influenced growth, controlling for differences in performance at start. Importantly, growth can be influenced and interpreted in two specific ways: (1) A practice can have a positive, or accelerative, influence on reading development; meaning that relative to other children in the sample, the children experiencing a certain practice had significantly more growth in reading; (2) A practice can have a negative, or decelerative, influence; meaning that relative to other children, the children experiencing a certain practice had significantly less growth in reading.

Analyses were done separately for elementary, middle, and high schools. The RI (Lexile) was used as the measure to calculate student achievement and growth. Table 5 displays the descriptive statistics regarding the number of children, average performance and standard

deviation across project years included in the analysis (i.e., 2014-15, 2015-6, 2016-17). Years prior to 2014-15 were not included in this analysis because not all grades collected RI data in these years, more than half of the schools had not joined the grant yet, and the teacher questionnaires were not administered. Therefore, to minimize missing data, maximize statistical power, reliability, validity, and interpretation of the analysis, data was included for only the years from 2014-2017.

Table 5. Descriptive statistics of reading performance (Lexile) from Fall 2014 to Spring 2017 for elementary, middle and high schools

	Elementary			Middle			High		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Fall 2014	22,108	484	307	18,441	834	288	26,137	1020	291
Winter 2015	23,076	536	304	18,988	859	292	25,810	1036	289
Spring 2015	22,216	594	300	18,105	889	293	22,203	1057	284
Fall 2015	20,636	579	287	22,313	869	272	22,949	1066	267
Winter 2016	20,156	637	275	21,661	900	271	21,964	1082	266
Spring 2016	18,851	689	267	19,886	934	268	19,353	1094	265
Fall 2016	14,909	590	257	16,422	876	267	13,024	1052	270
Winter 2017	15,636	638	256	15,894	901	268	12,904	1063	272
Spring 2017	15,091	690	254	14,686	933	267	12,010	1077	273

ELA Program Choices and Reading Development

Research Question

The guiding question was: what is the relationship between curriculum and program choices on literacy achievement development? Specifically, teachers described whether they used *Bookworms,* guided reading with instructional-level matching, commercially available ELA or phonics programs, and computer-based reading and writing programs.

The questions where teachers indicated their curriculum and program choices produced six factors (Eigenvalue range 1.12 – 2.99) which explained 85.46% of variance. The factors have been interpreted to represent adopting: (1) Bookworms, (2) Commercially available ELA programs (3) Commercially available phonics programs, (4) Computer-based program focused on reading, (5) Computer-based program focused on writing, (6) Guided reading with instructional-level matched book selection. Counts and percentages of students who received the ELA curriculum choices is presented in Appendix E.

1) *Bookworms (BW):* An open-source curriculum shared through Open-up Resources, that included extensive professional development, curriculum implementation support, and scripted lesson plans. *BW* is a high-intensity, wide-reading ELA program based on authentic texts, that uses explicit routes for robust vocabulary and writing instruction for whole-class instruction. In addition, an assessment and differentiation toolkit provides targeted small-group instruction. Approximately 7000 children received Bookworms as the core ELA program, on a daily basis.

2) Commercial ELA (C ELA): Textbooks, workbooks, and teachers' manuals, levelled reader kits offered from major educational publishing companies. Approximately 6000 children

received instruction based on commercial ELA programs. Common program choices were *Imagine It*, *iRead*, *Journeys* and *Reading Wonders*.

3) Commercial phonics (Phon): Materials focused on teaching foundational word reading skills, decoding, letter knowledge and letters sounds. Approximately 1,300 children received a commercial phonics program. Common program choices were *Imagine It*, *iRead*, *Saxon Phonics*, *System 44*.

4) Computer-based reading program (CPU-R): Software programs designed to assess and differentiate reading activities and instruction. Practically all children experienced some time with computer-based reading programs. Approximately 10,000 children were using computers from weekly to daily. Common software choices were *Classworks*, *Fast ForWord*, *iRead*, *Lexia*, *Moby Max*, *Read 180*, *Reading Eggs*, *Read Naturally*.

5) Computer-based writing programs (CPU-W): Software programs designed to assess and provide differentiated reading activities and instruction. Approximately 1,800 children were using computer-based writing program, on a weekly to daily basis. Common software choices were: *Achieve 3000*, *Write Score*, *Keyboards Without Tears*.

6) Guided reading (GR) with instructional-level matched book selection (e.g., Fountas and Pinnell, 1996, 2012; Richardson & Walther, 2019) was used with approximately 8000 children, on a daily basis. In GR, teachers used level books matched to children's reading ability for small group reading instruction and practice.

Analysis was constructed to look for the unique or direct influence of an ELA program on children's reading development. Structural Equation Modeling (SEM) was used to measure latent growth curve models to capture children's reading achievement at start and growth over

three-years in grades 3 to 5. The teacher-level factors that emerged from the previous Exploratory Factor Analysis were used in the SEM models to examine how teacher-level factors explained growth in students' reading; controlling for students' initial reading skill, and school-level differences. All ELA program choice factors were entered into the model to examine interrelationships among practices and choices, as well as to investigate the unique contribution of a particular ELA choice, controlling for the other choices. The results should be interpreted as an examination of the influence of a particular program, strategy, or activity that enhanced or suppressed reading growth relative to average student growth. Results should not be interpreted as the direct comparison of one program against another. More specifically, gains or losses can be understood in terms of how a particular program influenced Lexile change, in that, unstandardized coefficients are represented as the influence per 100 Lexiles of growth, while standardized coefficients are represented as the influence per 1 Lexile of growth per year.

Findings

Results demonstrate (see Appendix G, Table 23) that some programs accelerated reading development, while other programs decelerated reading development. On average, each classroom saw an average Lexile increase of 112.60 from fall to spring for a given year (Standard Deviation = 32.64), the average growth rate range was from -46.90 to 213.12 Lexiles.

Bookworms had the largest influence on accelerating reading development. There was a moderate effect ($\beta = 0.17$, $p < .001$), of *Bookworms* on annual growth. On average, children in *Bookworms* made an additional 17% growth per year. Which translates to an average Lexile gain of +51 for children in *BW* compared to the average, controlling for the different program choices. Teacher ratings of using *BW*s were not correlated with using any other program, strongly suggesting that *BW* teachers were using that program exclusively. Additionally, children who

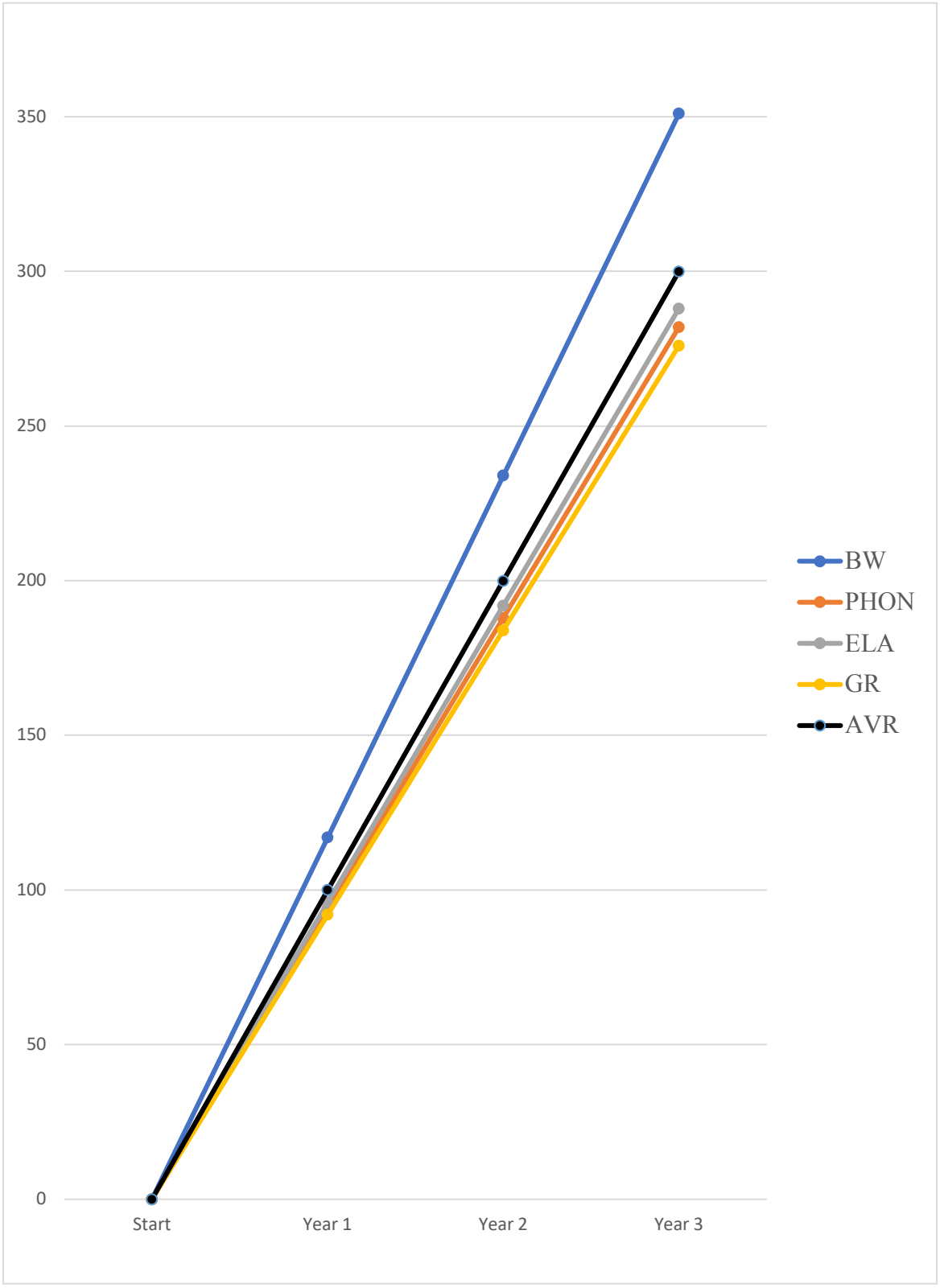
spent time with computer-based programs that focused on writing (CPU-W) also experience accelerated reading development. Specifically, there was a moderate effect ($\beta = 0.15$, $p < .001$) on annual growth. However, significantly fewer children used CPU-W programs than any other program. On average, children using CPU-W made an additional 15% growth per year. This translated to an average Lexile gain of +45 for children using CPU-W compared to children not using those programs. Interestingly, use of computer-based reading programs (CPU-R) was not significantly related to growth in reading ($p = .083$).

The results also demonstrated that several programs decelerated reading development, compared to the other children in the study. Teachers who reported using guided reading with instructional-level matching (GR) had a small-medium negative effect on reading growth ($\beta = -0.081$, $p < .001$) on annual growth. On average, children experiencing GR made approximately 8% less than average reading growth, per year. This translates to an average Lexile loss of -24 Lexiles for children using GR, compared to the average. Teacher ratings of using GRs was not correlated with using any other program, strongly suggesting that GR teachers were using that program exclusively.

Commercial ELA, commercial phonics programs and CPU-R programs were all significantly correlated with one another, suggesting that teachers were using a combination of these resources during ELA. Commercial ELA ($\beta = -0.041$, $p < .014$) and commercial phonics ($\beta = -0.061$, $p < .001$) were both weakly, and negatively, related to reading growth, suggesting a slight deceleration in growth compared to average growth. On average, there was 4% and 6% less growth, respectively for ELA and phonics programs in grades 3 to 5. This translated to an average Lexile loss of approximately -12 and -18 for teachers using ELA and phonics programs, respectively. Figure 4 displays the cumulative influence of the different program choices on

reading growth over the duration of the analysis. Computer-based reading and writing programs were not included in the figure as these are used as an additional resource and not a stand-alone ELA curriculum. The average (AVR) represents the average standardized growth children experienced. The figure clearly displays that teachers using BW experience significantly more growth from their students, than the average, and all other options ELA. Teachers using Commercial ELA and phonics (PHON) or Guided Reading experience significantly less growth than the average.

Figure 4. Average reading growth by ELA program choice



Reading and Writing Practices on Reading Development

Research Question

The guiding research aim was to investigate the relationship between specific reading and writing practices, strategies, activities on reading development. Specifically, teachers responded to several questionnaires that rated the frequency at which they used particular reading and writing practices during instruction.

Teachers' responses to the questionnaires were used to conduct exploratory factor analysis (EFA) to synthesize the data into interpretable factors. EFA were conducted separately for reading instruction and the writing instruction measures, and separately across elementary, middle, and high school teachers. Then Structural Equation Modelling (SEM) was used to conduct a Latent Growth Model (LGM) and to examine how the instructional factors related to reading growth. Latent Growth Modelling is the preferred analysis because it can accurately estimate growth trajectories and the influence of other factors on the growth trajectories. Specifically, a factor (or variable) can be described as accelerating growth when the relationship is positive and decelerating growth when the relationship is negative, relative to the average growth rate. The main goal of the following analysis was to identify factors that accelerated or decelerated growth in reading. The factor solutions are discussed, followed by the SEM results, separately for elementary (grades 3-5), middle school, and high school.

Results

Elementary School

The reading instruction measure produced 7 factors (Eigenvalue range 1.2 – 9.5) which explained 72.59% of variance in teachers' responses across all items (See Appendix F: Table 17-

22 for factor loadings). The factors have been interpreted to represent instructional time spent towards: (1) teaching higher-order (metacognitive) reading and writing strategies (RWS), (2) explicit decoding and word-level work (D), (3) targeted academic and domain vocabulary (V), (4) engagement with text-based discussions (TXD), (5) engagement with reading aloud (RA), (6) teaching background knowledge (facts and concepts) (BK), (7) engagement with audio assisted reading and reader's theater (ARA).

The writing instruction measure retained three factors (Eigenvalue range 1.0 – 8.567) which explained 68.11% of the variance in teachers' responses (See Table 18 for factor loadings). The factors have been interpreted to represent instructional time spent towards (1) engaging students in writing process (WP), (2) direct instruction at sentence and text-level writing (DI-W), (3) direct instruction in planning and revising (DI-P).

The reading and writing instructional factors were combined into one LCM to examine how these factors related to student growth. Table 24 (Appendix G) displays that engaging students in the writing process (WP), engaging students in reading aloud (RA), and teaching reading and writing strategies (higher-order thinking) were factors that were positively associated with, or accelerated, reading development. Engaging students with audio-assisted reading (ARA), direct instruction about the writing process (DI-P), or targeting academic vocabulary (V) were not significantly related to reading development. On the other hand, teaching background knowledge (BK), direct instruction on decoding (D), and text-based discussions (TXD) appeared to share a slightly decelerative effect on reading development.

Middle School

The reading instruction measure retained 3 factors (Eigenvalue 7.09, 2.83, 1.00) which explained 68.11% of the variance in teachers' responses (See Table 18 for factor loadings). The factors have been interpreted to represent instructional time spent towards (1) Academic vocabulary and background knowledge (V), (2) teaching text structure (TS), (3) text-based discussions (TXD).

The writing instruction measure retained two factors (Eigenvalues 10.15, 1.33) which explained 71.75% of the variance in teachers' responses (See Table 20 for factor loadings). The factors have been interpreted to represent instructional time spent towards (1) engaging students in the writing process (WP), (2) Direct Instruction (DI),

The reading and writing instructional factors were combined into one LCM to examine how these factors related to student growth. Table 24 demonstrates that engaging students in the writing process (WP) and focusing on explicit vocabulary instruction (V) was significantly related to growth, in that, these factors acted to accelerate reading development. Direct instruction of the writing process and mechanics (WP) was not significantly related to reading growth. However, explicitly and directly teaching text structure was a marginally significant predictor that was negatively related to reading growth, suggesting a slight deceleration in student reading growth. Furthermore, engaging students in text-based discussions (TXD) was negatively related to reading growth, suggesting that this instructional strategy decelerated reading growth.

High School

The reading instruction measure retained 5 factors (Eigenvalue 1.16 – 5.4) which explained 79.12% of the variance in teachers' responses (See Table 21 for factor loadings). The factors have been interpreted to represent instructional time spent towards (1) teaching higher order reading and writing strategies (RW), (2) background knowledge and domain-specific vocabulary (BK), (3) concepts and facts (CF), (4) goal-directed instruction and direct-reading instruction (DI), (5) academic vocabulary (V).

The writing instruction measure retained 3 factors (Eigenvalues 1.07 – 9.49) which explained 79.12% of the variance in teacher's responses (See Table 22 for factor loadings). The factors have been interpreted to represent instructional time spent towards (1) direct instruction in planning and revising (DI-P), (2) engaging students in the writing process (WP), (3) direct instruction at sentence and text-level writing (DI-W).

The reading and writing instructional factors were combined into one LCM to examine how these factors related to student growth. Table 24 demonstrates that explicitly teaching background knowledge (BK), academic vocabulary (V), and engaging students in the writing process was significantly related to reading growth, suggesting that these teacher-level factors significantly accelerated reading development. Furthermore, teaching reading and writing strategies (RW) and direct instruction of the writing process (WP) were not significantly related to reading growth. Finally, explicitly teaching concepts and facts (CF), goal-directed instruction and direct-reading instruction (DI), and direct instruction of sentence and text-level writing was

negatively related to reading growth, suggesting that these teacher factors has a decelerative effect on reading growth.

Discussion

Bookworms emerged as the core ELA program that produced the largest gains in reading development in Elementary schools. Teachers that implemented *Bookworms* saw an average additional increase of 17% in reading development. Teachers implementing *Bookworms* had students who increased their reading performance more than any other ELA program. On the other hand, teachers who implemented *Guided Reading* as the core ELA curriculum had the lowest increases in reading growth. Additionally, using commercial core and phonics programs was also related to significant decreases in literacy growth, compared to average growth of students receiving *Bookworms* instruction. Within the context of a population of students who are persistently struggling with reading achievement, *Bookworms* appears to support teachers and students the most, and produces the most gains in reading achievement. Engaging children in language, reading and writing activities centered around authentic grade level texts appears to have the strongest impact on literacy development.

Regarding reading and writing practices, one important consistency found across elementary, middle, and high school teachers was that engaging students in the writing process was related to accelerations in reading development. This finding strongly suggests that reading and writing are connected developmentally, and instruction and practice with writing can improve reading. The influence of writing on reading development is echoed in a meta-analysis, supporting the important influence of engaging students in writing activities to support literacy development (Graham & Hebert, 2011).

While a common factor related to reading growth across grades was a connection with writing, there were also some differences in how reading and writing strategies related to reading development across elementary, middle, and high school. In elementary, teachers who reported higher levels of engagement with read alouds, and teaching higher-level thinking strategies for comprehension and writing were significantly related to reading growth. Taken together, programs and strategies that focus on increasing students' engagement with authentic texts, that model and encourage students to use higher-level thinking when reading and writing, and that provide children scaffolded and supportive opportunities to read aloud and to write extensively provide the best conditions for children to development reading skills in grades 3-5.

In middle school, in addition to engaging students in the writing process, focusing on explicit vocabulary instruction also significantly enhanced reading development. As children progress through the grades, the demands on comprehension increase, and there is more reliance on having well-developed academic vocabulary knowledge. This finding demonstrates that this is especially important across grades 6-8. High school results demonstrated a similar picture as middle school. In addition to engaging students in the writing process as being a significant predictor of reading development, explicitly teaching background knowledge and academic vocabulary were related to enhancements in reading growth.

The Influence of a School's Organizational Structure on Reading Development

Research Question

A central question to understanding the conditions and climate that support reading development is to examine the influence of a school's organizational structures on reading development. Specifically, how do teacher-reported levels of school leadership, continuity of instruction, use of formative and summative assessments, and use of evidence-based literacy practices relate to reading growth across elementary, middle, and high schools?

Results & Discussion

Teachers' responses to the questionnaires were used to examine how aspects of a school's structure related to reading development. Multiple questions were used to create composite scores of (1) school leadership (L), (2) continuity of instruction (CI), (3) the use of formative and summative assessments (A), and (4) the use of evidence-based literacy practices (EBP) (See Appendix A). Structural Equation Modelling (SEM) was used to conduct Latent Growth Models (LCM)and to examine how these 4 areas related to reading growth. LCM is the preferred analysis because it can accurately estimate growth trajectories, and the influence of other factors on the growth trajectories. Specifically, a factor (or variable) can be described as accelerating growth when the relationship is positive and decelerating growth when the relationship is negative, relative to the average growth rate. The main goal of the following analysis was to identify how these areas accelerated or decelerated growth in reading. The SEM results are discussed separately for elementary (grades 3-5), middle school, and high school, and displayed in Table 25.

In elementary schools, the use of formative and summative assessments (A) and the use of evidence-based literacy practices (EBP), as well as continuity of instruction were all positively related to reading growth, suggesting that these aspects of a schools' environment accelerated reading development. On the other hand, leadership (L) was negatively related, suggesting a slight decelerative effect on reading growth.

In middle schools, continuity of instruction (C) and the use of assessments (A) were significantly and positively related to reading growth, suggesting these areas accelerated reading development. Leadership (L) was not significantly related to reading growth, whereas, evidence-based practices were negatively related to reading growth, suggesting a slight deceleration in growth. This finding points towards a challenge of identifying and investing in the evidence-based practices, especially as children mature and academic demands increase. Further research is needed to understand the connection between assessment options and the identification of the ideal best-practices to use as children mature and develop more advanced literacy skills.

In high schools, engaged leadership (L), continuity of instruction (C), and EBP were all significantly, and positively, related to reading growth, suggesting that these areas accelerated reading development in high schools. However, assessment-based practices were negatively related to reading development, suggesting a decelerative effect on reading growth. The identification of accurate, reliable, and valid assessments that could be integrated across content areas and informative to all teachers is an important area of future work.

Across all grades, continuity of instruction was consistently related to reading development suggesting a central importance on creating a school atmosphere where teachers within and across grade-levels work together to articulate shared goals and common strategies and approaches to teaching. Interestingly the role of assessment varied across groups. It enhanced

growth in elementary and middle, but not in high school. This finding may point towards the increased challenge of developing and implementing valid assessments as children get older. Furthermore, identifying how to integrate these assessments to be informative across content areas, and over the years, would help increase the utility of how assessment-based practices can be integrated into the organizational structure inherent to schools and cultivate a climate and culture that fosters reading achievement.

The use of evidence-based practices (EBP) was also an inconsistent predictor of reading growth across grades. EBP accelerated reading development in elementary and high school, but not in middle school. It is unclear about the specific practices teachers were using and the role of professional development and support in ensuring that practices are used effectively. Understanding connections between professional development, curriculum choices, and daily routines is central to identify the conditions that best support reading development and the particular challenges and needs of teachers and students across the grades.

General Conclusions

SRCL provided incredible opportunities for schools to engage in a comprehensive school reform effort towards improving literacy skills. The diversity of Georgia Literacy Plans, gathering comprehensive information about teachers' practices, and connecting with student achievement data identified what factors related to enhanced literacy development in historically underperforming districts and schools, across elementary, middle, and high schools.

Regarding program choices for ELA instruction, *Bookworms* produced the largest enhancement towards literacy growth. In addition, instructional practices focused on engaging students' in the writing process, modeling and teaching higher-level thinking skills during reading and writing tasks were the factors positively related to literacy growth. Additionally, explicitly teaching vocabulary and background knowledge, in the context of reading and writing lessons, were central towards increasing gains in reading, especially as students grow older.

Regarding the organizational structure of schools, implementing a system to assess student skills, monitor progress, and differentiate instruction was centrally important. Providing professional development and integrating evidence-based practices into daily routines, especially across the curriculum, were major components of the school setting that related to accelerated reading growth.

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Appendix A

Teacher reported use of these reading practices:

Teach background knowledge related to the topic or text
Teach domain-specific vocabulary
Teach all-purpose academic words
Teach multi-syllabic word reading strategies
Teach content concepts
Teach content facts
Teach comprehension monitoring
Teach/model the use of organizers (e.g., graphic, semantic)
Teach/model summarization/paraphrasing
Teach/model question generation
Teach/model knowledge of text structure
Teach/model knowledge of text features
Teach/model making inferences
Provide opportunities for discussion oriented instruction
Have student focus on important and interesting learning goals
Provide texts at multiple reading levels
Provides opportunities for student collaboration in discussion and assignments
Engage students in repeated readings
Engage students in partner reading
Engage students in choral or unison reading
Engage students in audio-assisted reading
Engage children in readers' theater
Engage students in reading connected text with corrective feedback
Explicitly teach consonant sounds and spelling
Explicitly teach vowel sounds and spellings
Explicitly teach segmenting words into syllables
Explicitly teach 6 syllable types
Explicitly teach word parts including base words, prefixes, and suffixes

Appendix B

Teacher reported use of these writing practices:

Teach strategies for planning how or what to write

Teach strategies for revising written material

Teach strategies for editing written material

Teach strategies for summarizing what has been read

Establish specific goals for what students are to include in their written assignments

Engage students in peer collaborations when writing (students work together to plan, draft, revise, and edit)

Provide students opportunities to compose text on computers

Teach student how to write more complex sentences using sentence combining procedures

Engage students in prewriting activities (e.g., reading and completing a graphic organizer) to help them gather and organize possible writing ideas

Engage students in inquiry/research activities that result in a writing product, where they gather, organize, and analyze information they collect

Use a process approach to writing instruction

Encourage students to study and emulate/imitate models of good writing

Allow students to use writing as a tool for subject-matter learning

Provide students rubrics or checklists to monitor their writing performance

Provide students verbal praise and positive reinforcement when they write

Use direct instruction methods (modeling, guided practice, and review) to teach writing

Appendix C

Average Lexile scores by cohort for elementary, middle and high schools from Fall 2012 to Spring 2017.

	Fall 12	Winter 13	Spring 13	Fall 13	Winter 14	Spring 14	Fall 14	Winter 15	Spring 15	Fall 15	Winter 16	Spring 16	Fall 16	Winter 17	Spring 17
							Elementary								
Cohort 1				395	465	532	506	556	605	580	632	680	581	624	681
Cohort 2				445	527	597	451	519	590	588	652	705	598	640	704
Cohort 3							502	540	588	571	633	692	580	623	667
Cohort 4										563	615	675	589	641	698
Cohort 5													614	672	723
							Middle								
Cohort 1	768	795	834	812	843	876	836	864	891	856	885	915	868	895	927
Cohort 2				771	798	836	830	852	884	908	941	976	907	924	963
Cohort 3							837	863	896	866	894	923	900	937	963
Cohort 4										847	879	916	860	890	923
Cohort 5													852	879	900
							High								
Cohort 1	966	986	1007	1034	1050	1066	1031	1044	1062	1083	1094	1103	1047	1053	1058
Cohort 2				1011	1040	1064	1032	1046	1072	1092	1101	1106	1039	1060	1080
Cohort 3							991	1012	1029	1041	1062	1078	1074	1086	1096
Cohort 4										1042	1064	1085	1060	1071	1092
Cohort 5													982	1001	1019

Appendix D

Lexile Growth by District and School for Elementary, Middle and High

Table 1. Lexile Growth by District and School for Middle Schools in Fall 2012 and Spring 2013

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	190	95	810	278	851	301	41.74	0.14
608	195	218	784	257	860	282	76.22	0.28
608	Total	317	794	263	859	286	64.65	0.24
629	196	116	626	273	633	303	7.76	0.03
629	296	13	634	237	636	269	2.08	0.01
629	5058	13	445	269	450	321	5.08	0.02
629	Total	144	609	271	618	302	8.41	0.03
680	111	174	813	257	845	267	32.22	0.12
680	Total	174	813	257	845	267	32.22	0.12
681	296	188	645	227	752	263	107.8	0.44
681	396	126	689	238	774	238	85.56	0.36
681	Total	314	662	232	761	253	98.88	0.41
767	277	221	931	206	976	216	45.23	0.21
767	Total	221	931	206	976	216	45.23	0.21
785	293	90	810	254	900	268	90.44	0.35
785	Total	90	810	254	900	268	90.44	0.35

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 2. Lexile Growth by District and School for High Schools in Fall 2012 and Spring 2013

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	114	688	1017	263	1048	257	31.25	0.12
608	198	43	856	307	845	315	-10.63	-0.03
608	Total	733	1007	268	1036	264	29.02	0.11
629	102	342	809	347	855	330	45.49	0.13
629	Total	342	809	347	855	330	45.49	0.13
680	199	704	947	266	1006	256	59.38	0.23
680	Total	704	947	266	1006	256	59.38	0.23
681	196	624	874	290	918	291	44.27	0.15
681	Total	624	874	290	918	291	44.27	0.15
767	2050	756	1085	239	1117	240	32.64	0.14
767	Total	756	1085	239	1117	240	32.64	0.14
785	193	69	879	277	959	267	80.09	0.29
785	Total	69	879	277	959	267	80.09	0.29

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 3. Lexile Growth by District and School for Elementary 2013-2014

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
629	2062	117	321	296	386	297	64.94	0.22
629	Total	137	307	290	375	290	67.75	0.23
634	100	170	530	267	651	241	120.24	0.47
634	102	99	510	233	653	224	143.77	0.63
634	182	163	416	230	510	255	94.55	0.39
634	191	67	526	244	651	239	125.72	0.52
634	282	146	513	260	622	254	108.88	0.42
634	291	102	361	299	476	290	114.44	0.39
634	3052	95	509	265	650	265	140.81	0.53
634	5050	133	582	232	713	227	130.84	0.57
634	Total	975	494	262	613	260	119.85	0.46
680	175	400	411	279	506	290	95.31	0.33
680	Total	400	411	279	506	290	95.31	0.33
681	1050	47	415	242	574	258	159.74	0.64
681	1550	123	415	266	561	266	145.84	0.55
681	3550	130	365	271	528	274	162.92	0.6
681	Total	300	394	265	549	268	155.42	0.58
705	104	284	480	280	599	297	118.54	0.41
705	195	222	470	287	619	274	148.76	0.53
705	198	211	466	275	602	258	135.88	0.51
705	1050	239	443	288	553	309	109.31	0.37
705	1052	228	373	290	546	300	173.71	0.59
705	5050	172	450	274	599	273	148.95	0.54
705	Total	1356	448	284	586	288	137.69	0.48
785	105	220	380	298	508	299	127.16	0.43
785	173	284	348	303	469	300	120.26	0.4
785	275	236	559	343	705	320	145.65	0.44
785	1054	121	307	272	406	289	98.9	0.35
785	2054	356	482	340	627	326	144.69	0.43
785	3052	93	336	276	455	259	118.96	0.44
785	4052	80	367	312	478	295	111.19	0.37
785	Total	1390	420	326	550	322	129.45	0.4

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 4. Lexile Growth by District and School for Middle 2013-2014

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
629	196	335	693	270	745	281	52.82	0.19
	296	329	746	277	801	285	54.53	0.19
	1058	322	826	323	898	347	72.07	0.22
	5058	355	750	308	773	342	23.39	0.07
	Total	1341	753	298	803	320	50.07	0.16
634	108	1379	803	258	863	266	59.86	0.23
	Total	1379	803	258	863	266	59.86	0.23
680	111	581	782	263	810	283	28.16	0.10
	Total	581	782	263	810	283	28.16	0.10
681	296	297	726	276	837	270	111.13	0.41
	396	200	748	266	820	267	72.05	0.27
	Total	497	735	272	830	268	95.40	0.35
705	204	461	782	284	859	316	77.48	0.26
	4050	469	745	273	806	286	61.31	0.22
	Total	930	763	279	833	302	69.33	0.24
785	293	679	862	257	950	251	87.26	0.34
	Total	679	862	257	950	251	87.26	0.34
608	195	439	847	265	893	299	45.71	0.16
	190	296	844	277	912	271	67.51	0.25
	301	13	752	351	804	392	52.38	0.14
	Total	748	844	272	899	290	54.45	0.19
660	189	257	762	263	776	293	13.60	0.05
	391	379	853	256	863	270	9.89	0.04
	803	205	696	298	687	326	-9.16	-0.03
	Total	841	787	276	794	300	6.38	0.02
767	277	499	927	254	959	272	32.21	0.12
	Total	499	927	254	959	272	32.21	0.12
793	173	470	794	250	843	265	49.78	0.19
	Total	470	794	250	843	265	49.78	0.19

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 5. Lexile Growth by District and School for High 2013-2014

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
629	102	371	821	320	871	324	49.03	0.15
	Total	371	821	320	871	324	49.03	0.15
634	195	1067	1100	234	1121	237	20.58	0.09
	308	411	943	278	1000	276	57.24	0.21
	Total	1478	1056	257	1087	255	30.77	0.12
680	199	640	1024	245	1058	241	33.05	0.14
	Total	640	1024	245	1058	241	33.05	0.14
681	196	578	976	275	1021	271	45.47	0.17
	Total	578	976	275	1021	271	45.47	0.17
705	112	786	1018	239	1082	244	64.04	0.27
	108	56	773	266	763	325	-9.50	-0.03
	190	656	957	277	1045	274	87.20	0.32
	Total	1498	983	262	1054	267	71.43	0.27
785	193	1204	1091	245	1135	243	44.48	0.18
	Total	1204	1091	245	1135	243	44.48	0.18
608	105	5	1042	245	1105	171	62.60	0.30
	198	94	929	296	998	279	68.47	0.24
	114	876	1045	265	1063	260	17.42	0.07
	Total	975	1034	270	1057	262	22.58	0.08
660	291	588	1011	266	1024	261	12.44	0.05
	176	111	860	230	851	272	-8.51	-0.03
	383	5	1081	118	1085	110	4.40	0.04
	691	478	1041	246	1027	264	-13.68	-0.05
	Total	1182	1009	259	1009	268	-0.12	0.00
767	2050	660	1126	255	1137	258	10.58	0.04
	Total	660	1126	255	1137	258	10.58	0.04
793	273	539	1035	260	1070	258	34.97	0.13
	Total	539	1035	260	1070	258	34.97	0.13

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 6. Lexile Growth by District and School for Elementary 2014-2015

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	104	215	503	305	639	294	136.19	0.45
	106	183	524	270	638	274	113.74	0.42
	107	270	406	300	619	271	213.12	0.75
	115	291	544	295	690	266	146.23	0.52
	175	154	551	284	677	286	125.23	0.44
	177	424	278	283	416	281	138.14	0.49
	186	194	610	270	682	266	71.97	0.27
	196	173	479	291	618	262	139.21	0.50
	296	245	220	256	301	264	81.35	0.31
	377	201	523	305	652	303	129.18	0.42
	396	221	600	288	709	253	109.33	0.40
	2052	158	514	316	684	270	169.47	0.58
	Total	2729	458	314	591	303	132.99	0.43
612	197	440	639	262	752	244	113.07	0.45
	Total	440	639	262	752	244	113.07	0.45
613	110	253	723	288	758	279	35.43	0.13
	294	73	796	245	849	280	53.52	0.20
	2050	71	819	217	943	234	124.37	0.55
	Total	397	753	271	808	281	54.66	0.20
629	105	102	451	281	497	302	45.93	0.16
	112	216	446	269	523	258	77.27	0.29
	178	243	618	300	740	288	121.57	0.41
	205	171	361	293	442	290	80.57	0.28
	291	134	346	291	493	268	147.66	0.53
	1062	301	532	268	591	267	58.65	0.22
	2056	194	549	352	664	345	114.56	0.33
	2062	164	421	315	502	310	80.36	0.26
	3058	147	438	276	499	280	61.07	0.22
	Total	1673	479	306	566	304	87.58	0.29
634	100	378	507	318	666	307	159.05	0.51
	102	224	462	316	631	275	168.57	0.57
	182	272	500	254	653	236	152.39	0.62
	191	149	461	315	633	283	171.80	0.57
	282	378	427	307	615	274	188.11	0.65
	291	141	529	299	717	276	187.33	0.65
	3052	203	466	325	617	303	150.82	0.48
	5050	305	507	322	675	281	167.59	0.56

	Total	2050	481	309	649	282	167.89	0.57
635	178	113	430	301	526	261	95.87	0.34
	187	254	416	281	542	272	126.77	0.46
	278	210	390	253	517	229	127.43	0.53
	2052	132	472	260	525	267	53.18	0.20
	2056	218	536	280	637	275	100.17	0.36
	3050	118	312	246	345	255	33.05	0.13
	3054	178	518	271	593	266	74.51	0.28
	4050	191	362	249	456	249	94.86	0.38
	4052	108	493	263	621	248	128.25	0.50
	5054	234	399	278	500	265	101.01	0.37
	Total	1756	433	277	530	269	97.62	0.36
640	115	2	413	154	498	124	85.00	0.61
	2052	545	645	233	704	249	58.12	0.24
	Total	547	645	233	703	249	58.22	0.24
660	114	80	670	241	623	284	-46.90	-0.18
	192	139	485	290	547	307	61.77	0.21
	276	151	494	282	523	287	28.92	0.10
	290	123	396	268	495	264	98.82	0.37
	503	278	508	283	574	297	65.92	0.23
	3064	164	411	267	440	253	28.66	0.11
	5052	145	472	312	570	303	97.17	0.32
	Total	1080	483	288	537	291	54.14	0.19
680	105	215	162	207	300	246	137.73	0.61
	175	632	491	299	588	306	96.93	0.32
	Total	847	408	313	515	317	107.28	0.34
681	1050	92	470	267	632	265	161.64	0.61
	1550	206	499	276	623	284	123.71	0.44
	3550	254	478	262	630	240	152.48	0.61
	Total	552	484	268	628	261	143.27	0.54
705	104	530	376	295	516	306	140.08	0.47
	195	462	346	301	490	310	144.16	0.47
	198	438	373	292	517	298	143.98	0.49
	1050	503	366	297	477	322	110.49	0.36
	1052	436	292	285	457	308	165.19	0.56
	5050	322	329	297	500	303	171.51	0.57
	Total	2691	349	296	493	309	143.71	0.48
713	112	204	621	264	691	287	69.94	0.25
	297	319	517	273	660	267	142.40	0.53
	4050	178	586	279	733	258	147.22	0.55
	Total	701	565	275	688	272	122.54	0.45
720	2050	31	588	295	601	277	12.42	0.04

	Total	31	588	295	601	277	12.42	0.04
738	204	393	499	272	582	281	83.27	0.30
	4050	182	510	277	660	262	150.24	0.56
	Total	575	502	273	607	277	104.47	0.38
744	103	570	638	298	772	265	133.36	0.47
	Total	570	638	298	772	265	133.36	0.47
745	105	308	389	253	476	248	86.40	0.35
	295	557	620	245	703	246	83.69	0.34
	Total	865	538	271	622	270	84.65	0.31
753	1052	208	585	261	666	269	80.67	0.30
	Total	208	585	261	666	269	80.67	0.30
755	199	276	602	268	721	262	118.82	0.45
	2052	228	584	266	703	260	118.54	0.45
	3052	233	522	306	681	296	158.45	0.53
	Total	737	571	282	703	273	131.26	0.47
757	105	228	347	210	499	203	152.52	0.74
	205	198	562	211	685	212	123.38	0.58
	Total	426	447	236	586	227	138.98	0.60
785	105	260	542	303	658	276	115.73	0.40
	173	336	478	301	602	281	123.78	0.43
	275	279	726	307	813	287	87.10	0.29
	1054	143	439	293	543	274	104.27	0.37
	2054	391	645	326	765	296	120.29	0.39
	3052	99	504	257	633	231	129.23	0.53
	4052	99	515	274	627	259	112.33	0.42
	Total	1607	573	319	686	294	113.15	0.37

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 7. Lexile Growth by District and School for Middle 2014-2015

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	195	892	763.96	261.4	824.22	286.29	60.26	0.22
	190	541	773.85	269.65	836.54	279.74	62.69	0.23
	301	684	849.96	251.21	936.45	274.76	86.49	0.33
	Total	2117	794.27	263.05	863.63	285.32	69.36	0.25
612	112	460	934.11	259.31	990.01	264.01	55.91	0.21
	Total	460	934.11	259.31	990.01	264.01	55.91	0.21
613	194	457	922.86	290.66	1014.28	276.45	91.42	0.32
	Total	457	922.86	290.66	1014.28	276.45	91.42	0.32
629	196	532	748.18	278.12	802.95	271.38	54.77	0.20
	296	526	776.37	302.84	821.94	301.58	45.57	0.15
	1058	510	918.31	340.86	967.42	355.54	49.11	0.14
	5058	580	818.81	307.92	881.48	311.65	62.67	0.20
	Total	2148	814.55	314.14	867.85	317.15	53.31	0.17
634	108	1395	882.12	254.95	935.27	250.31	53.15	0.21
	Total	1395	882.12	254.95	935.27	250.31	53.15	0.21
640	197	811	841.32	269.97	872.43	276.92	31.11	0.11
	Total	811	841.32	269.97	872.43	276.92	31.11	0.11
660	189	419	732.29	288.88	754.24	312.33	21.95	0.07
	391	732	801.75	268.65	816.14	285.23	14.39	0.05
	803	451	687.23	287.17	707.18	300.95	19.95	0.07
	Total	1602	751.35	283.43	769.27	300.37	17.93	0.06
680	111	589	806.25	297.9	881.48	294.28	75.23	0.25
	Total	589	806.25	297.9	881.48	294.28	75.23	0.25
681	296	348	818.57	271.92	888.7	252.39	70.13	0.27
	396	250	820.42	269.15	889.05	254.8	68.64	0.26
	Total	598	819.34	270.54	888.85	253.19	69.50	0.27
705	204	526	779.44	290.05	856.02	318.28	76.58	0.25
	4050	543	738.29	285.68	803.15	298.53	64.86	0.22
	Total	1069	758.54	288.44	829.16	309.39	70.63	0.24
713	197	704	870.04	286.24	923.03	291.23	52.99	0.18
	Total	704	870.04	286.24	923.03	291.23	52.99	0.18
738	103	579	812.97	276.41	856.92	290.87	43.95	0.15
	Total	579	812.97	276.41	856.92	290.87	43.95	0.15
744	108	561	980.8	255.77	1031.92	264.51	51.12	0.20
	Total	561	980.8	255.77	1031.92	264.51	51.12	0.20
755	106	521	887.74	250.39	961.77	247.87	74.03	0.30
	775	419	877.57	288.08	957.86	275.27	80.29	0.29
	Total	940	883.21	267.75	960.03	260.3	76.82	0.29

757	210	342	821.02	264.8	887.5	231.6	66.47	0.27
	Total	342	821.02	264.8	887.5	231.6	66.47	0.27
785	293	759	941.01	265.75	986.21	251.62	45.19	0.17
	Total	759	941.01	265.75	986.21	251.62	45.19	0.17
704	5050	646	840.91	297.19	909.01	282.64	68.10	0.23
	Total	646	840.91	297.19	909.01	282.64	68.10	0.23
767	277	776	958.65	261.26	1002.71	263.7	44.06	0.17
	Total	776	958.65	261.26	1002.71	263.7	44.06	0.17
793	173	545	781.93	261.15	832.44	276.02	50.50	0.19
	Total	545	781.93	261.15	832.44	276.02	50.50	0.19

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 8. Lexile Growth by District and School for High 2014-2015

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	105	806	933	295	1024	276	91.29	0.32
	114	1401	977	286	1006	286	29.64	0.10
	198	1316	1063	273	1100	260	37.19	0.14
	Total	3523	999	288	1045	277	46.56	0.16
612	105	549	1061	282	1084	275	23.20	0.08
	Total	549	1061	282	1084	275	23.20	0.08
613	1050	835	1085	273	1130	268	44.68	0.17
	Total	835	1085	273	1130	268	44.68	0.17
629	102	72	674	223	702	247	28.76	0.12
	Total	72	674	223	702	247	28.76	0.12
634	195	916	1123	233	1129	233	6.48	0.03
	308	392	1016	241	1046	243	30.47	0.13
	Total	1308	1091	240	1104	239	13.67	0.06
640	196	908	1008	284	991	298	-17.21	-0.06
	Total	908	1008	284	991	298	-17.21	-0.06
660	291	1086	1002	275	1037	264	35.55	0.13
	176	506	912	261	910	279	-2.84	-0.01
	383	71	980	225	975	234	-4.72	-0.02
	691	799	1034	242	1030	266	-4.35	-0.02
	Total	2462	993	264	1007	272	13.55	0.05
680	199	557	1060	251	1073	262	12.39	0.05
	Total	557	1060	251	1073	262	12.39	0.05
681	196	533	1001	276	1016	276	15.08	0.05
	Total	533	1001	276	1016	276	15.08	0.05
705	112	959	1006	257	1071	264	64.97	0.25
	108	131	707	360	693	371	-14.06	-0.04
	190	811	958	283	1041	289	82.78	0.29
	Total	1901	965	286	1032	298	67.12	0.23
713	182	784	1061	260	1092	246	30.69	0.12
	Total	784	1061	260	1092	246	30.69	0.12
738	192	700	951	322	975	325	23.62	0.07
	Total	700	951	322	975	325	23.62	0.07
744	101	639	1188	251	1216	244	27.97	0.11
	Total	639	1188	251	1216	244	27.97	0.11
745	195	1265	935	313	1011	293	76.79	0.25
	Total	1265	935	313	1011	293	76.79	0.25

753	3052	419	932	295	969	294	37.42	0.13
	Total	419	932	295	969	294	37.42	0.13
755	175	1052	1071	263	1118	267	47.49	0.18
	Total	1052	1071	263	1118	267	47.49	0.18
757	110	360	1047	261	1066	261	18.86	0.07
	Total	360	1047	261	1066	261	18.86	0.07
785	193	1296	1112	276	1141	277	28.17	0.10
	Total	1296	1112	276	1141	277	28.17	0.10
704	1050	763	1116	236	1155	225	39.11	0.17
	Total	763	1116	236	1155	225	39.11	0.17
767	2050	505	1161	234	1150	243	-11.13	-0.05
	Total	505	1161	234	1150	243	-11.13	-0.05
793	273	644	1015	276	1049	276	33.68	0.12
	Total	644	1015	276	1049	276	33.68	0.12

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 9. Lexile Growth by District and School for Elementary 2015-2016

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	104	199	568	270	661	251	93.37	0.36
	106	161	563	290	681	272	118.00	0.42
	107	209	606	271	721	254	115.47	0.44
	115	256	564	272	681	254	116.89	0.44
	175	197	583	282	708	268	125.06	0.45
	177	309	609	267	708	253	99.75	0.38
	186	203	638	257	737	252	99.10	0.39
	196	165	567	279	679	258	112.68	0.42
	296	167	613	268	683	233	70.28	0.28
	377	175	604	292	710	281	105.88	0.37
	396	198	646	251	751	238	105.11	0.43
	2052	143	606	275	700	263	93.42	0.35
	Total	2382	597	273	702	257	105.06	0.40
612	197	458	613	284	752	243	138.71	0.53
	Total	458	613	284	752	243	138.71	0.53
613	110	199	706	251	798	250	91.18	0.36
	294	85	821	199	855	249	33.93	0.15
	2050	69	763	268	875	278	111.93	0.41
	Total	353	745	247	826	257	81.45	0.32
624	199	91	380	262	500	243	120.36	0.48
	4050	62	712	277	798	257	86.66	0.32
	Total	153	514	313	621	288	106.71	0.35
629	105	112	490	253	592	259	102.26	0.40
	112	217	456	251	596	240	139.74	0.57
	178	217	639	301	768	291	128.75	0.43
	191	146	535	271	637	277	102.03	0.37
	205	145	461	268	580	245	118.79	0.46
	291	139	398	259	539	245	141.04	0.56
	1062	328	555	288	645	271	90.01	0.32
	2056	211	536	328	635	337	98.80	0.30
	2062	191	442	283	496	266	54.78	0.20
	3056	189	690	308	799	309	108.67	0.35
	3058	180	422	257	557	235	135.21	0.55
	4060	204	499	305	594	299	94.48	0.31
	Total	2279	518	296	626	289	108.13	0.37
634	100	275	655	262	784	240	129.64	0.52
	102	174	568	271	650	250	81.93	0.31
	182	245	561	235	616	228	54.42	0.24
	191	96	632	246	729	239	96.92	0.40
	282	243	599	250	652	235	52.42	0.22
	291	123	597	289	718	251	121.16	0.45

	3052	149	596	281	726	259	130.57	0.48
	5050	206	611	272	738	251	126.31	0.48
	Total	1511	603	263	699	249	96.40	0.38
640	115	37	324	267	457	263	132.76	0.50
	2052	289	711	235	826	230	114.83	0.49
	Total	326	668	268	784	261	116.87	0.44
657	199	578	534	270	669	247	135.70	0.52
	Total	578	534	270	669	247	135.70	0.52
659	1052	257	619	265	726	251	107.04	0.42
	5050	225	626	231	692	228	66.20	0.29
	Total	482	622	250	710	241	87.98	0.36
664	110	288	595	282	735	238	139.86	0.54
	176	212	516	286	690	238	173.87	0.66
	190	378	631	328	718	285	87.11	0.28
	274	191	552	267	665	247	113.16	0.44
	1050	180	572	313	734	259	162.31	0.57
	Total	1249	583	302	711	258	128.82	0.46
680	175	659	547	289	618	263	71.19	0.26
	Total	659	547	289	618	263	71.19	0.26
681	1050	83	517	231	648	222	130.48	0.58
	1550	196	521	248	650	240	128.82	0.53
	3550	229	534	254	665	224	130.51	0.55
	Total	508	526	248	656	230	129.85	0.54
705	104	396	585	292	733	261	147.43	0.53
	195	370	550	322	682	286	132.26	0.44
	198	308	587	326	724	282	137.15	0.45
	1050	373	592	308	720	273	128.71	0.44
	1052	315	512	313	636	276	124.36	0.42
	5050	246	589	328	745	266	156.32	0.53
	Total	2008	569	315	706	276	137.05	0.46
712	103	254	590	281	682	293	92.37	0.32
	203	239	556	308	669	287	113.44	0.38
	303	156	541	293	624	277	82.90	0.29
	Total	649	566	294	663	287	97.85	0.34
720	2050	174	473	249	526	242	53.19	0.22
	Total	174	473	249	526	242	53.19	0.22
738	204	428	489	292	640	267	151.09	0.54
	4050	167	562	265	719	233	157.54	0.63
	Total	595	510	286	663	260	152.90	0.56
744	103	585	631	299	732	251	100.46	0.37
	Total	585	631	299	732	251	100.46	0.37
745	105	261	360	241	488	237	128.31	0.54
	295	552	654	244	796	223	142.02	0.61
	Total	813	559	279	697	269	137.62	0.50
753	1052	147	714	210	784	192	69.79	0.35

	Total	147	714	210	784	192	69.79	0.35
755	199	273	627	292	750	265	123.10	0.44
	2050	126	618	274	730	285	111.33	0.40
	2052	210	549	281	670	260	120.83	0.45
	3052	165	676	270	780	254	103.85	0.40
	Total	774	615	285	731	267	116.46	0.42
759	111	699	523	265	617	247	94.08	0.37
	Total	699	523	265	617	247	94.08	0.37
784	3050	284	497	247	576	235	78.36	0.32
	Total	284	497	247	576	235	78.36	0.32
785	105	207	606	268	690	271	84.69	0.31
	173	265	547	281	695	255	147.78	0.55
	275	208	752	269	830	265	77.41	0.29
	2054	314	708	293	804	269	95.48	0.34
	3052	106	534	250	643	212	108.87	0.47
	4052	85	564	233	652	203	88.55	0.41
	Total	1185	636	286	739	265	102.82	0.37

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 10. Lexile Growth by District and School for Middle 2015-2016

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	190	557	852	280	889	292	36.82	0.13
	195	505	868	290	913	301	44.77	0.15
	301	696	936	251	1005	241	68.94	0.28
	Total	1758	890	274	942	280	51.82	0.19
612	112	481	949	251	984	245	34.94	0.14
	Total	481	949	251	984	245	34.94	0.14
613	194	399	927	277	1026	253	99.22	0.37
	Total	399	927	277	1026	253	99.22	0.37
624	112	320	759	272	841	260	81.93	0.31
	Total	320	759	272	841	260	81.93	0.31
629	196	559	757	281	821	269	63.68	0.23
	296	522	775	299	844	291	69.12	0.23
	1058	534	955	327	1016	329	60.73	0.19
	5058	602	830	308	890	312	60.24	0.19
	Total	2217	829	313	892	310	63.31	0.20
634	108	1393	920	228	984	226	63.07	0.28
	Total	1393	920	228	984	226	63.07	0.28
640	197	793	844	266	882	266	37.65	0.14
	Total	793	844	266	882	266	37.65	0.14
657	273	626	839	283	948	271	108.98	0.39
	Total	626	839	283	948	271	108.98	0.39
659	105	743	926	234	975	237	48.93	0.21
	Total	743	926	234	975	237	48.93	0.21
664	292	573	874	247	925	252	51.02	0.20
	Total	573	874	247	925	252	51.02	0.20
680	111	573	830	283	889	274	59.00	0.21
	Total	573	830	283	889	274	59.00	0.21
681	296	339	845	246	902	239	57.19	0.24
	396	246	832	255	899	246	66.93	0.27
	Total	585	839	250	901	242	61.29	0.25
705	204	467	936	270	991	248	55.41	0.21
	4050	500	865	277	950	263	85.14	0.32
	Total	967	899	276	970	257	70.78	0.27
712	189	421	924	256	976	273	52.21	0.20
	403	522	926	269	993	277	67.37	0.25
	Total	943	925	263	986	275	60.60	0.23
738	103	567	842	256	905	246	63.28	0.25
	Total	567	842	256	905	246	63.28	0.25
744	108	555	972	260	1034	246	61.93	0.24
	Total	555	972	260	1034	246	61.93	0.24

755	106	537	916	246	976	246	59.34	0.24
	575	753	911	227	959	251	48.27	0.20
	775	432	931	253	1007	233	76.18	0.31
	Total	1722	918	240	976	246	58.72	0.24
759	193	617	812	279	918	251	105.16	0.40
	Total	617	812	279	918	251	105.16	0.40
784	201	283	854	253	872	259	17.99	0.07
	Total	283	854	253	872	259	17.99	0.07
785	293	721	913	264	983	251	69.84	0.27
	Total	721	913	264	983	251	69.84	0.27
635	111	1139	782	264	827	267	45.00	0.17
	Total	1139	782	264	827	267	45.00	0.17
683	101	247	813	261	882	271	69.24	0.26
	Total	247	813	261	882	271	69.24	0.26
704	5050	635	866	261	920	258	54.18	0.21
	Total	635	866	261	920	258	54.18	0.21
750	199	589	802	255	881	262	79.13	0.31
	Total	589	802	255	881	262	79.13	0.31
793	173	440	885	255	948	246	63.33	0.25
	Total	440	885	255	948	246	63.33	0.25

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 11. Lexile Growth by District and School for High 2015-2016

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
608	105	674	1091	278	1054	308	-36.70	-0.13
	198	854	1109	273	1085	284	-23.73	-0.09
	114	1206	1096	258	1082	274	-13.74	-0.05
	Total	2734	1099	268	1076	286	-22.52	-0.08
612	105	535	1087	253	1132	247	45.58	0.18
	Total	535	1087	253	1132	247	45.58	0.18
613	1050	741	1133	245	1167	232	34.19	0.14
	Total	741	1133	245	1167	232	34.19	0.14
624	287	353	1051	248	1048	258	-3.24	-0.01
	Total	353	1051	248	1048	258	-3.24	-0.01
629	5556	951	1028	315	1073	294	44.51	0.15
	Total	951	1028	315	1073	294	44.51	0.15
634	195	993	1109	236	1118	254	8.48	0.03
	308	323	1023	247	1045	252	21.87	0.09
	Total	1316	1088	241	1100	255	11.77	0.05
640	196	872	1011	277	1013	283	1.42	0.01
	Total	872	1011	277	1013	283	1.42	0.01
657	107	760	1033	268	1079	259	46.39	0.18
	Total	760	1033	268	1079	259	46.39	0.18
659	3050	909	1099	230	1126	234	27.05	0.12
	Total	909	1099	230	1126	234	27.05	0.12
680	199	668	1045	246	1045	276	0.32	0.00
	Total	668	1045	246	1045	276	0.32	0.00
681	196	571	1003	262	1024	265	20.65	0.08
	Total	571	1003	262	1024	265	20.65	0.08
705	112	790	1069	267	1102	253	32.26	0.12
	190	695	1082	230	1098	228	15.68	0.07
	108	72	849	343	863	324	14.87	0.04
	Total	1557	1065	260	1089	251	24.06	0.09
712	198	869	1105	249	1121	264	16.15	0.06
	Total	869	1105	249	1121	264	16.15	0.06
738	192	646	979	279	1020	276	40.32	0.15
	Total	646	979	279	1020	276	40.32	0.15
744	101	616	1190	238	1221	222	31.02	0.13
	Total	616	1190	238	1221	222	31.02	0.13
745	195	942	1085	241	1124	233	38.44	0.16
	Total	942	1085	241	1124	233	38.44	0.16
753	3052	312	1039	205	1059	210	20.09	0.10
	Total	312	1039	205	1059	210	20.09	0.10
755	175	993	1106	254	1136	260	29.60	0.12

	Total	993	1106	254	1136	260	29.60	0.12
759	176	750	1064	233	1097	242	32.83	0.14
	Total	750	1064	233	1097	242	32.83	0.14
785	193	1246	1119	266	1151	263	32.19	0.12
	Total	1246	1119	266	1151	263	32.19	0.12
683	201	268	955	301	981	312	25.49	0.08
	Total	268	955	301	981	312	25.49	0.08
750	1052	744	1007	230	1060	237	53.39	0.23
	Total	744	1007	230	1060	237	53.39	0.23

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 12. Lexile Growth by District and School for Elementary 2016-2017

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
605	195	245	512	230	651	212	138.78	0.63
	199	410	627	255	750	242	122.52	0.49
	Total	655	584	252	713	236	128.60	0.53
624	199	92	452	221	574	225	122.77	0.55
	4050	10	891	332	1011	217	119.90	0.44
	Total	102	495	267	617	259	122.49	0.47
629	105	122	448	246	590	242	142.09	0.58
	112	219	519	229	595	222	76.21	0.34
	178	231	676	276	810	243	133.39	0.51
	191	130	544	291	675	256	131.28	0.48
	205	148	461	234	607	223	146.37	0.64
	291	121	493	240	640	210	146.78	0.65
	1062	332	609	277	723	233	113.48	0.44
	2056	205	627	321	729	304	101.50	0.32
	2062	168	508	241	596	236	88.23	0.37
	3056	195	716	335	832	317	115.61	0.35
	3058	179	505	221	640	207	135.40	0.63
	4060	206	521	272	661	258	140.10	0.53
	Total	2256	566	282	686	261	119.80	0.44
630	204	18	335	158	460	178	124.94	0.74
	Total	18	335	158	460	178	124.94	0.74
634	100	306	643	251	773	230	129.83	0.54
	102	175	618	236	738	212	120.81	0.54
	182	251	567	218	684	210	116.50	0.54
	191	141	706	244	797	230	90.89	0.38
	282	280	627	218	724	216	96.50	0.44
	291	129	617	244	763	227	146.33	0.62
	3052	143	630	266	740	241	109.91	0.43
	5050	207	596	231	726	236	130.30	0.56
	Total	1632	622	239	740	226	117.35	0.50
635	178	115	545	234	626	221	80.95	0.36
	187	201	514	246	658	217	144.15	0.62
	278	201	513	239	667	211	153.94	0.68
	2052	116	525	243	648	215	122.51	0.53
	2056	242	654	228	753	219	98.90	0.44
	3050	91	458	196	566	212	108.30	0.53
	3054	147	513	231	618	228	105.36	0.46
	4050	152	463	203	558	213	95.32	0.46
	4052	121	618	231	705	208	86.83	0.39
	5054	186	513	231	641	198	128.41	0.60
	Total	1572	538	238	654	221	115.52	0.50
651	105	344	679	232	802	226	122.86	0.54
	186	372	741	227	875	209	134.03	0.61

	190	314	614	241	752	220	138.01	0.60
	Total	1030	681	238	813	224	131.51	0.57
657	199	564	592	256	737	242	145.23	0.58
	Total	564	592	256	737	242	145.23	0.58
659	1052	180	702	232	797	213	95.78	0.43
	5050	139	671	232	786	211	114.25	0.51
	Total	319	688	232	792	212	103.83	0.47
661	3058	159	606	235	664	222	57.69	0.25
	Total	159	606	235	664	222	57.69	0.25
680	175	649	596	244	706	244	110.24	0.45
	Total	649	596	244	706	244	110.24	0.45
681	1050	89	617	220	713	217	95.98	0.44
	1550	200	554	226	683	220	128.48	0.58
	3550	217	570	239	687	232	117.82	0.50
	Total	506	572	232	690	225	118.19	0.52
698	175	293	534	227	688	215	153.94	0.70
	Total	293	534	227	688	215	153.94	0.70
722	102	111	534	236	620	243	86.22	0.36
	194	4	484	326	624	237	139.75	0.50
	2052	123	548	217	625	219	77.53	0.36
	Total	238	540	227	623	230	82.63	0.36
745	105	220	430	228	589	198	159.16	0.75
	295	382	643	238	748	232	105.58	0.45
	Total	602	565	256	690	233	125.16	0.51
753	1052	47	418	204	523	177	104.38	0.55
	Total	47	418	204	523	177	104.38	0.55
755	199	285	648	264	755	251	107.96	0.42
	2050	117	650	288	750	250	100.00	0.37
	2052	171	610	237	703	223	92.87	0.40
	3052	158	681	264	794	232	113.51	0.46
	Total	731	646	262	751	242	104.35	0.41
759	111	682	603	249	715	219	112.88	0.48
	Total	682	603	249	715	219	112.88	0.48
767	191	818	627	246	754	244	126.82	0.52
	Total	818	627	246	754	244	126.82	0.52
784	3050	271	519	254	629	227	110.41	0.46
	Total	271	519	254	629	227	110.41	0.46
785	105	56	561	256	694	219	133.21	0.56
	173	148	581	232	694	240	113.05	0.48
	275	113	658	280	778	274	119.74	0.43
	2054	103	696	240	818	243	121.95	0.50
	4052	63	564	207	670	202	105.86	0.52
	Total	483	619	250	737	248	117.92	0.47

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 13. Lexile Growth by District and School for Middle 2016-2017

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
624	112	186	831	253	919	234	88.30	0.36
	Total	186	831	253	919	234	88.30	0.36
629	196	615	775	262	847	247	71.59	0.28
	296	596	828	270	909	255	81.74	0.31
	1058	602	995	298	1025	322	30.31	0.10
	5058	524	834	317	919	295	85.23	0.28
	Total	2337	858	298	925	288	66.60	0.23
630	104	4	712	208	745	253	32.75	0.14
	Total	4	712	208	745	253	32.75	0.14
634	108	1295	938	227	993	221	54.22	0.24
	Total	1295	938	227	993	221	54.22	0.24
635	111	1148	806	251	884	251	78.71	0.31
	Total	1148	806	251	884	251	78.71	0.31
651	290	744	912	265	1000	251	88.27	0.34
	Total	744	912	265	1000	251	88.27	0.34
657	273	649	887	264	970	248	83.58	0.33
	Total	649	887	264	970	248	83.58	0.33
659	105	760	956	239	988	229	32.11	0.14
	Total	760	956	239	988	229	32.11	0.14
664	292	48	670	177	774	154	103.50	0.62
	Total	48	670	177	774	154	103.50	0.62
680	111	610	852	268	931	254	78.81	0.30
	Total	610	852	268	931	254	78.81	0.30
681	296	297	871	243	916	229	44.13	0.19
	396	242	842	258	895	239	52.69	0.21
	Total	539	858	250	906	234	47.98	0.20
698	275	270	854	231	917	230	63.06	0.27
	101	26	535	168	575	173	40.50	0.24
	Total	296	826	244	887	245	61.08	0.25
722	278	287	804	272	828	289	23.66	0.08
	378	454	830	259	874	272	44.13	0.17
	Total	741	820	265	856	280	36.20	0.13
745	395	756	913	247	974	244	61.03	0.25
	Total	756	913	247	974	244	61.03	0.25
755	575	515	898	254	950	254	52.16	0.21
	775	424	966	245	1031	223	64.93	0.28
	Total	939	929	252	987	244	57.93	0.23
759	193	570	873	242	933	242	60.30	0.25
	Total	570	873	242	933	242	60.30	0.25
767	277	904	963	265	1026	267	62.99	0.24
	Total	904	963	265	1026	267	62.99	0.24

784	201	269	810	245	874	251	64.00	0.26
	Total	269	810	245	874	251	64.00	0.26
785	293	657	862	253	916	259	53.77	0.21
	Total	657	862	253	916	259	53.77	0.21
612	112	10	787	112	771	103	-16.30	-0.15
	Total	10	787	112	771	103	-16.30	-0.15
683	101	237	860	270	947	269	87.16	0.32
	Total	237	860	270	947	269	87.16	0.32
793	173	94	681	155	746	143	64.69	0.43
	Total	94	681	155	746	143	64.69	0.43

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Table 14. Lexile Growth by District and School for High 2016-2017

			Fall		Spring			
D	S	N	Mean	SD	Mean	SD	Growth	ES
624	287	30	725	285	801	269	75.87	0.27
	Total	30	725	285	801	269	75.87	0.27
629	102	1074	1005	277	1033	280	27.90	0.10
	5556	936	1050	300	1077	298	27.60	0.09
	Total	2010	1026	289	1054	289	27.76	0.10
634	195	1119	1110	238	1123	249	13.34	0.05
	308	395	1062	226	1080	227	17.44	0.08
	Total	1514	1097	236	1112	244	14.41	0.06
657	107	785	1076	252	1133	248	57.25	0.23
	Total	785	1076	252	1133	248	57.25	0.23
659	3050	929	1113	231	1132	240	18.83	0.08
	Total	929	1113	231	1132	240	18.83	0.08
680	199	802	1035	249	1037	279	1.96	0.01
	Total	802	1035	249	1037	279	1.96	0.01
681	196	468	1019	243	1016	241	-2.37	-0.01
	Total	468	1019	243	1016	241	-2.37	-0.01
698	104	205	980	273	989	294	9.13	0.03
	Total	205	980	273	989	294	9.13	0.03
722	192	275	1018	237	1049	226	31.40	0.14
	Total	275	1018	237	1049	226	31.40	0.14
745	195	1050	1093	223	1110	225	16.93	0.08
	Total	1050	1093	223	1110	225	16.93	0.08
753	3052	42	518	215	604	185	85.50	0.43
	Total	42	518	215	604	185	85.50	0.43
755	175	1005	1104	247	1121	255	16.27	0.06
	Total	1005	1104	247	1121	255	16.27	0.06
759	176	678	1068	243	1087	251	18.88	0.08
	Total	678	1068	243	1087	251	18.88	0.08
767	2050	800	1139	248	1157	259	17.43	0.07
	Total	800	1139	248	1157	259	17.43	0.07
785	193	6	978	295	998	257	20.67	0.07
	Total	6	978	295	998	257	20.67	0.07
683	201	308	975	285	1028	287	52.31	0.18
	Total	308	975	285	1028	287	52.31	0.18
793	273	27	639	169	598	219	-40.63	-0.21
	Total	27	639	169	598	219	-40.63	-0.21
705	108	4	906	267	843	164	-63.00	-0.29
	Total	4	906	267	843	164	-63.00	-0.29
713	182	47	602	265	687	244	85.87	0.34
	Total	47	602	265	687	244	85.87	0.34

Notes. D = District Identification Number, S = School Identification Number, SD = Standard Deviation, ES = Effect Size

Appendix E: Student counts by ELA programs

Table 15. Counts and percentages of children received different core ELA program choice by grade-level team implementation

	Grade-level Implementation	C ELA		PHON		CPU-R		CPU-W		BW		GR	
1	No teachers	5625	36.4	11438	74	2229	14.4	12291	79.5	5794	37.4	2931	19
2	Some teachers	2602	16.8	2412	15.6	4808	31.1	903	5.8	2275	14.7	2507	16.2
3	Most teachers	807	5.2	264	1.7	1407	9.1	471	3	695	4.5	1852	12
4	All teachers	6431	41.6	1351	8.7	7021	45.4	1800	11.6	6701	43.3	8175	52.9
	Total	15465	100	15465	100	15465	100	15465	100	15465	100	15465	100

Notes. C ELA = Commercial Core ELA program, Phon = Comperical Phonics program, CPU-R = Computer-based Reading program, CPU-W = Computer-based Writing Program, BW = Bookworms, GR = Guided Reading with Instructional Matching

Table 16. Counts and percentages of the frequency at which children received core ELA program choices

		C ELA		PHON		CPU-R		CPU-W		BW IRA		BW SR		GR	
		Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
1	Never	5913	40.9	9922	73.6	1534	10.5	11400	81.1	4299	29.7	4209	31.7	2528	16.9
2	Several Times/Day	394	2.7	0	0	306	2.1	319	2.3	610	4.2	430	3.2	177	1.2
3	Monthly	280	1.9	66	0.5	0	0	74	0.5	60	0.4	1	0	0	0
4	Several Times/Week	117	0.8	107	0.8	380	2.6	342	2.4	395	2.7	272	2	176	1.2
5	Weekly	688	4.7	161	1.2	1191	8.2	835	5.9	420	2.9	56	0.4	1113	7.4
6	Several Times/Day	1033	7.1	916	6.8	4655	32.1	715	5.1	979	6.8	859	6.5	2735	18.3
7	Daily	4037	27.9	1892	14	6212	42.8	370	2.6	6570	45.5	6290	47.3	7334	49
8	Several Times/Day	2024	14	417	3.1	246	1.7	0	0	1120	7.7	1168	8.8	910	6.1
	Total	14486	100	13481	100	14524	100	14055	100	14453	100	13285	100	14973	100

Notes. C ELA = Commercial Core ELA program, Phon = Comperical Phonics program, CPU-R = Computer-based Reading program, CPU-W = Computer-based Writing Program, BW = Bookworms, GR = Guided Reading with Instructional Matching

Appendix F: Factor Loadings

Table 17. Factor loadings for reading instruction in elementary

		RWS	D	V	TXD	RA	BK	ARA
1	Teach background knowledge related to the topic or text	.010	-.001	**.886**	-.052	-.047	.133	-.044
2	Teach domain-specific vocabulary	-.140	.016	**.740**	-.094	.188	.452	-.029
3	Teach all-purpose academic words	.017	-.002	**.875**	.164	-.102	-.025	-.171
4	Teach multi-syllabic word reading strategies	.148	.262	.203	.094	**.381**	-.125	-.113
5	Teach content concepts	-.031	-.006	.077	.079	.107	**.880**	.057
6	Teach content facts	-.020	.003	.077	.107	.041	**.893**	.069
7	Teach comprehension monitoring	.173	.143	-.030	**.466**	-.293	**.414**	-.043
8	Teach/model the use of organizers (e.g., graphic, semantic)	**.736**	-.069	-.048	.160	.005	.018	.075
9	Teach/model summarization/paraphrasing	**.824**	-.082	.055	.103	-.003	-.003	.028
10	Teach/model question generation	**.727**	-.128	-.025	-.303	.248	.215	-.006
11	Teach/model knowledge of text structure	**.865**	.115	.089	-.032	.027	-.153	-.044
12	Teach/model knowledge of text features	**.914**	.044	.018	-.084	.010	-.050	-.013
13	Teach/model making inferences	**.623**	.116	.032	.280	-.074	.014	-.050
14	Provide opportunities for discussion oriented instruction	.064	-.036	-.037	**.748**	-.007	.191	-.090
15	Have student focus on important and interesting learning goals	.369	-.020	**.580**	-.115	-.144	-.038	.168

16	Provide texts at multiple reading levels	-.071	-.062	.039	**.778**	-.063	.109	.148
17	Provides opportunities for student collaboration in discussion and assignments	-.048	-.088	.010	**.825**	.271	-.114	-.087
18	Engage students in repeated readings	.109	-.095	-.116	.058	**.868**	-.011	.001
19	Engage students in partner reading	.092	-.031	-.083	.120	**.784**	.142	.010
20	Engage students in choral or unison reading	-.073	.123	.020	-.104	**.785**	.064	.007
21	Engage students in audio-assisted reading	.081	-.015	-.165	-.032	-.061	.269	**.885**
22	Engage children in readers' theater	-.075	.102	.024	-.002	.048	-.079	**.736**
23	Engage students in reading connected text with corrective feedback	.050	-.124	**.484**	.070	.014	-.277	**.429**
24	Explicitly teach consonant sounds and spelling	-.016	**.971**	-.024	-.097	-.060	.078	-.023
25	Explicitly teach vowel sounds and spellings	.054	**.960**	-.031	-.134	-.061	.094	-.013
26	Explicitly teach segmenting words into syllables	.120	**.851**	-.113	.021	.084	-.027	-.035
27	Explicitly teach 6 syllable types	-.174	**.803**	.146	.067	.052	-.138	.131
28 29	Explicitly teach word parts including base words, prefixes, and suffixes	-.029	**.318**	-.060	.230	.202	-.043	.291

Notes. RWS = teaching higher-order (metacognitive) reading and writing strategies, D =explicit decoding and word-level work, V = targeted academic and domain vocabulary, TXD = engagement with text-based discussions, RA = engagement with reading out loud, BK = teaching background knowledge (facts and concepts), ARA = engagement with audio assisted reading and reader's theater.

Table 18. Factor loadings for writing instruction in elementary

		WP	DI-W	DI-P
1	Teach strategies for planning how or what to write	-.208	.329	**.815**
2	Teach strategies for revising written material	.036	-.064	**.968**
3	Teach strategies for editing written material	.047	-.055	**.951**
4	Teach strategies for summarizing what has been read	-.095	**.768**	.159
5	Establish specific goals for what students are to include in their written assignments	.060	**.693**	.104
6	Engage students in peer collaborations when writing (students work together to plan, draft, revise, and edit)	**.507**	-.027	**.423**
7	Provide students opportunities to compose text on computers	**.745**	-.004	.006
8	Teach student how to write more complex sentences using sentence combining procedures	.151	**.817**	-.185
9	Engage students in prewriting activities (e.g., reading and completing a graphic organizer) to help them gather and organize possible writing ideas	.216	**.570**	.145
10	Engage students in inquiry/research activities that result in a writing product, where they gather, organize, and analyze information they collect	**.851**	-.180	.089
11	Use a process approach to writing instruction	**.403**	-.133	**.572**
12	Encourage students to study and emulate/imitate models of good writing	**.612**	.106	.164
13	Allow students to use writing as a tool for subject-matter learning	**.793**	.272	-.266
14	Provide students rubrics or checklists to monitor their writing performance	**.718**	.077	.084
15	Provide students verbal praise and positive reinforcement when they write	-.096	**.828**	-.036
16	Use direct instruction methods (modeling, guided practice, and review) to teach writing	.035	**.379**	**.382**

Notes. WP = engaging students in writing process, DI-W = direct instruction at sentence and text-level writing, DI-P = direct instruction in planning and revising (DI-P).

Table 19. Factor loadings for reading in middle

		V	TS	TXD
1	Teach background knowledge related to the topic or text	**.652**	-.028	.283
2	Teach domain-specific vocabulary	**.716**	-.011	.223
3	Teach all-purpose academic words	**.500**	.242	.115
4	Teach multi-syllabic word reading strategies	-.130	.253	**.671**
5	Teach content concepts	**1.060**	-.086	-.226
6	Teach content facts	**1.003**	-.026	-.215
7	Teach comprehension monitoring	-.077	.552	.454
8	Teach/model the use of organizers (e.g., graphic, semantic)	.149	-.014	**.675**
9	Teach/model summarization/paraphrasing	.171	.384	.401
10	Teach/model knowledge of text structure	.019	**.997**	-.199
11	Teach/model knowledge of text features	.023	**1.051**	-.286
12	Teach/model making inferences	.232	**.527**	.235
13	Provide opportunities for discussion oriented instruction	**.503**	-.028	**.475**
14	Have student focus on important and interesting learning goals	-.153	-.019	**.653**
15	Provide texts at multiple reading levels	-.168	**.829**	.139
16	Provides opportunities for student collaboration in discussion and assignments	.003	-.327	**.924**

Notes. V = Academic vocabulary and background knowledge, TS = teaching text structure, TXD = text-based discussions (TXD)

Table 20. Factor loadings for writing instruction in middle

		WP	DI
1	Teach strategies for planning how or what to write	**.748**	.135
2	Teach strategies for revising written material	**.575**	.350
3	Teach strategies for editing written material	**.690**	.274
4	Teach strategies for summarizing what has been read	**.610**	.270
5	Establish specific goals for what students are to include in their written assignments	**.780**	.131
6	Engage students in peer collaborations when writing (students work together to plan, draft, revise, and edit)	**.649**	.281
7	Provide students opportunities to compose text on computers	**1.035**	-.418
8	Teach student how to write more complex sentences using sentence combining procedures	.376	**.518**
9	Engage students in prewriting activities (e.g., reading and completing a graphic organizer) to help them gather and organize possible writing ideas	-.081	**.982**
10	Engage students in inquiry/research activities that result in a writing product, where they gather, organize, and analyze information they collect	-.274	**1.030**
11	Use a process approach to writing instruction	.424	**.530**
12	Encourage students to study and emulate/imitate models of good writing	.289	**.657**
13	Allow students to use writing as a tool for subject-matter learning	**1.047**	-.247
14	Provide students rubrics or checklists to monitor their writing performance	**.571**	.248
15	Provide students verbal praise and positive reinforcement when they write	-.194	**.879**
16	Use direct instruction methods (modeling, guided practice, and review) to teach writing	.260	**.545**

Notes. WP = engaging students in the writing process, DI = Direct Instruction

Table 21. Factor loadings for reading in High

	Item	RWS	BK	CF	DI	AV
1	Teach background knowledge related to the topic or text	.146	**.840**	.159	-.148	-.010
2	Teach domain-specific vocabulary	.148	**.960**	-.106	-.532	.101
3	Teach all-purpose academic words	-.135	.191	.109	-.125	**.913**
4	Teach multi-syllabic word reading strategies	.263	.208	-.241	**.533**	-.084
5	Teach content concepts	-.076	-.128	**.999**	-.067	-.009
6	Teach content facts	-.148	-.024	**.867**	-.011	.328
7	Teach comprehension monitoring	**.753**	-.256	.098	-.048	.415
8	Teach/model the use of organizers (e.g., graphic, semantic)	**.650**	.202	.329	.003	-.051
9	Teach/model summarization/paraphrasing	.293	**.436**	.175	.315	.131
10	Teach/model knowledge of text structure	**.967**	.025	-.161	-.023	-.125
11	Teach/model knowledge of text features	**.818**	.026	-.249	.181	-.159
12	Teach/model making inferences	.042	.227	.153	**.434**	**.404**
13	Provide opportunities for discussion oriented instruction	-.477	**.821**	-.258	.233	.144
14	Have student focus on important and interesting learning goals	-.050	-.415	.070	**.977**	-.113
15	Provide texts at multiple reading levels	.191	-.117	-.168	**.663**	**.456**
16	Provides opportunities for student collaboration in discussion and assignments	-.046	.218	**.532**	.443	-.410

Notes. RW = teaching higher order reading and writing strategies, BK = background knowledge and domain-specific vocabulary, CF = concepts and facts, DI = goal directed instruction and direct reading instruction, V = academic vocabulary

Table 22. Factor loadings for writing instruction in High School

		DI-P	WP	DI-S
1	Teach strategies for planning how or what to write	**.997**	-.047	-.240
2	Teach strategies for revising written material	**.827**	.098	.055
3	Teach strategies for editing written material	**.818**	.084	.084
4	Teach strategies for summarizing what has been read	**.959**	-.133	-.036
5	Establish specific goals for what students are to include in their written assignments	**.938**	-.361	.251
6	Engage students in peer collaborations when writing (students work together to plan, draft, revise, and edit)	.051	**.748**	.195
7	Provide students opportunities to compose text on computers	**.732**	.341	-.306
8	Teach student how to write more complex sentences using sentence combining procedures	.167	-.036	**.805**
9	Engage students in prewriting activities (e.g., reading and completing a graphic organizer) to help them gather and organize possible writing ideas	-.200	-.282	**1.187**
10	Engage students in inquiry/research activities that result in a writing product, where they gather, organize, and analyze information they collect	-.033	**.982**	-.236
11	Use a process approach to writing instruction	-.209	**1.004**	-.049
12	Encourage students to study and emulate/imitate models of good writing	.279	**.345**	**.316**
13	Allow students to use writing as a tool for subject-matter learning	.343	**.369**	.304
14	Provide students rubrics or checklists to monitor their writing performance	.104	.480	.453
15	Provide students verbal praise and positive reinforcement when they write	.229	.296	.403
16	Use direct instruction methods (modeling, guided practice, and review) to teach writing	-.188	.352	**.790**

Notes. DI-P = direction instruction in planning and revising, WP = engaging students in writing process, DI-W = direct instruction at sentence and text-level writing

Appendix G

Table 23. Structural coefficients of core ELA programs on reading growth.

	Reading Growth			
	Unstandardized Estimate	S.E.	Standardized Estimate	*p*
Bookworms	17.115	1.580	0.170	<.001
Commercial Phonics	-6.224	1.698	-0.062	<.001
Computer-based Reading	14.831	1.709	0.147	<.001
Computer-based Writing	2.735	1.580	0.027	.083
Commercial ELA	-4.189	1.707	-0.042	.014
Guided Reading	-8.187	1.575	-0.081	<.001

Table 24. Structural coefficients of reading and writing factors on reading growth.

	Reading Growth			
	Unstandardized Estimate	S.E.	Standardized Estimate	*p*
		Elementary		
ARA	2.225	1.461	0.022	0.128
BK	-4.804	1.592	-0.048	0.003
D	-7.094	1.531	-0.071	<.001
DI-P	2.083	1.835	0.021	0.256
DI-W	-14.034	2.039	-0.140	<.001
RA	9.911	1.639	0.099	<.001
RWS	6.84	1.949	0.069	<.001
TXD	-4.66	1.689	-0.047	0.006
V	-2.321	1.746	-0.023	0.184
WP	8.437	2.141	0.084	<.001
		Middle		
DI	-8.107	1.47	-0.113	<.001
TS	-2.877	1.382	-0.040	0.037
TXD	-1.448	1.671	-0.020	0.386
V	4.027	1.354	0.055	0.003
WP	5.356	1.792	0.075	0.003
		High		
BK	10.189	1.327	0.101	<.001
CH	-2.798	1.235	-0.028	0.023
DI	-5.107	1.565	-0.051	0.001
DI-P	-2.043	2.112	-0.021	0.333
DI-W	-5.186	2.169	-0.052	0.017
RWS	2.016	1.609	0.020	0.21
V	12.354	1.171	0.124	<.001
WP	6.165	1.491	0.062	<.001

Notes. Elementary. RWS = teaching higher-order (metacognitive) reading and writing strategies, D =explicit decoding and word-level work, V = targeted academic and domain vocabulary, TXD = engagement with text-based discussions, RA = engagement with reading out loud, BK = teaching background knowledge (facts and concepts), ARA = engagement with audio assisted reading and reader's theater, WP = engaging students in writing process, DI-W = direct instruction at sentence and text-level writing, DI-P = direct instruction in planning and revising (DI-P).

Middle. V = Academic vocabulary and background knowledge, TS = teaching text structure, TXD = text-based discussions (TXD), WP = engaging students in the writing process, DI = Direct Instruction.

High. RWS = teaching higher order reading and writing strategies, BK = background knowledge and domain-specific vocabulary, CF = concepts and facts, DI = goal directed instruction and direct reading instruction, V = academic vocabulary, DI-P = direction instruction in planning and revising, WP = engaging students in writing process, DI-W = direct instruction at sentence and text-level writing

Table 25. Structural coefficients of organization factors on reading growth.

	Reading Growth			
	Unstandardized Estimate	S.E.	Standardized Estimate	*p*
	Elementary			
Leadership	-17.144	4.264	-0.062	<.001
Continuity of Instruction	9.737	4.646	0.033	0.036
Assessment	47.498	4.073	0.156	<.001
Evidence-based Practices	35.963	4.114	0.118	<.001
	Middle			
Leadership	7.762	4.653	0.025	0.095
Continuity of Instruction	12.854	4.408	0.047	0.004
Assessment	9.326	4.701	0.032	0.047
Evidence-based Practices	-11.545	5.331	-0.033	0.030
	High			
Leadership	12.323	3.024	0.056	<.001
Continuity of Instruction	9.435	3.668	0.044	0.010
Assessment	-9.723	3.178	-0.045	0.002
Evidence-based Practices	6.113	2.551	0.025	0.017