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## **An Evaluation of Kansas City Reading Programs for Turn the Page Kansas City**

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## **An Evaluation of Kansas City Reading Programs for Turn the Page Kansas City**

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### **Kansas City Area Education Research Consortium (KC-AERC) Overview**

In April of 2009, the Ewing Marion Kauffman Foundation awarded initial funding to social science, economics and education researchers at the University of Kansas, University of Missouri, Kansas State University and University of Missouri-Kansas City to establish the Kansas City Area Education Research Consortium (KC-AERC). KC-AERC conducts rigorous research using student achievement and teacher quality data to inform elementary and secondary education practice and policy, and to enhance postsecondary matriculation in the KC metro area. Thirty-two regional school districts, various private and charter schools, foundations, community colleges, economic development organizations, and the state Departments of Education in Kansas and Missouri are collaborating with KC-AERC in this effort. KC-AERC aspires is a national laboratory for educational research as it studies education in a region that spans two states, includes rural, urban and suburban environments, and serves a diverse student population. Our shared goal is to provide *all* regional educational stakeholders, including school districts, community organizations, and private sector partners, with powerful tools for building a culture of data-driven educational policy research, evaluation, and implementation.

## EXECUTIVE SUMMARY

Turn the Page Kansas City (TTPKC) began as Kansas City Mayor Sly James' 2013 education initiative to have all the city's children reading at grade level by 3<sup>rd</sup> grade. In order to better assess the work that needs to be done, the Mayor and the Board of Turn the Page KC sought evidence of outcomes associated with both school and out-of-school initiatives directed at improvements in K-12 reading education. The focus of this phase of Turn the Page KC was on summer reading programs provided by eight participating out-of-school summer reading programs and five participating school districts in 2013.

KC-AERC was contracted to determine:

- The types of reading assessments used by summer programs and school districts
- The impact summer reading programs have on student reading scores

The following steps were taken to answer these questions.

### Data Collection, Data Audit, Data Cleaning and Matching

#### Prepare, Issue & Collect Memoranda of Understanding (MOUs) for Data Sharing

- ✓ 5 of 5 School Districts Signed MOUs
- ✓ 7 of 8 Summer Programs Signed MOUs, with 6 having collected reading data for summer of 2013

#### Data Collection

- ✓ 4 of 8 summer programs shared complete datasets for summer 2013
- ✓ 4 of 5 school districts shared complete datasets for summer 2013

#### Data Audit and Matching

- ✓ Cleaning, organizing, and matching the datasets provided by summer reading programs against the data provided by participating school districts
- ✓ Finding the demographic and assessment records of summer program participants in the datasets provided by school districts
- ✓ Observing program participants twice, once in spring 2013, before attending a summer reading program, and once in fall 2013, after attending the program

Table 1 below, shows an audit of the data provided by each district, including the count of students in kindergarten through 4<sup>th</sup> grade, the type of reading assessment used and the availability of pre-test and post-test scores.

**Table 1. Audit of School District Data**

2013			
District Name	Student Count K-4	Reading Assessment	Pre & Post Test
KC Public Schools	4186	DRA	Yes
Hickman Mills School District	2995	STAR, Early STAR	Yes
Center School District	1283	SRI; Acuity	Yes
North Kansas City Schools	6724	F&P; SRI	Yes
Park Hill School District	3911	N/A	Yes*
*Data are incomplete at this time			

### Methodology

#### Converting School District Reading Assessments to a Common Measure

- ✓ KC-AERC first developed a common measure for all reading assessments by converting the scores to Lexile-equivalent categories using the table in Appendix A of the full report.
- ✓ Using the common Lexile measure , KC-AERC then converted all reading assessment scores to percentile rankings by applying following steps:
  - Taking fall scores for each district and grade, and determining how many people in each grade achieved each possible score.
  - Converting SRI Lexile ranges to percentile rankings using the national norm.

#### Constructing a Matched Comparison Group

- ✓ There were 7224 students with reported pre-test and post-test scores in the data set provided by district partners.
- ✓ KC-AERC was able to find 1122 of the students who participated in summer reading programs.
- ✓ KC-AERC generated a matching algorithm to construct a matched comparison group of non-participants from the students represented in the school districts’ datasets.
- ✓ Students were matched as closely as possible on pre-test score, gender, race and ethnicity, free and reduced lunch status, and summer school attendance.

**Table 2. Number of Participants from Each School District**

	KCPL	Upper Room	Freedom Schools	MCPL	Sum
Center	14	14	N/A	29	57
KCPS	121	467	44	4	636
NKC	N/A	14	N/A	415	429
Sum	135	495	44	448	1122

**Statistical Analysis**

KC-AERC conducted a t-test to determine whether there was a statistically significant difference between the participating group and the matched comparison group, as well to observe the difference among students when grouped by demographic information

**Findings and Results**

- **All Students Pooled:** Program participants’ reading scores increased more from spring 2013 to fall 2013 ( $p < 0.05$ ), using both the Lexile scores as well as percentile rankings, compared to students in matched comparison group.
- **Male Participants:** Male participants experienced more growth in reading skills from spring 2013 to fall 2013 than their matched comparison group ( $p < 0.01$ ), using both Lexile scores and percentile rankings.
- **Female Participants:** Although we observed an increase in Lexile scores as well as percentile ranking for females in summer programs, the results revealed a non-significant trend in predicted direction. In other words, the observed impact may have happened by a chance.
- **Students with Free and Reduced Lunch Status:** The participating group showed greater increases in their reading assessment scores, looking both at Lexile scores and percentile rankings ( $p < 0.05$ ), when compared to students in the matched comparison group.
- **White Students:** Similar to female participants, we observed growth in reading skills (Lexile scores as well as percentile rankings) for white student participants. However, the results revealed a non-significant trend in predicted direction, meaning that the observed impact may have happened by a chance.

- **Non-White Students:** Students of color who participated in summer reading programs experienced positive growth in reading skills from spring 2013 to fall 2013 ( $p < 0.01$ ). The growth is observable using both approaches (Lexile scores and percentile rankings). The score difference between the participant and matched comparison group is statistically significant.

## Conclusion

In sum, the results indicate improvements in reading skill for the students who participated in summer reading programs. While the impact is small, it is meaningful in light of academic literature that shows student reading achievement scores tend to decline over summer break, and that the decline is particularly pronounced for low-income students.<sup>1</sup>

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<sup>1</sup> Cooper, H., Nye, B., Charlton, K., Lindsay, J., and Greathouse, S., "The Effects of Summer Vacation on Achievement Test Scores: A Narrative and Meta-Analytic Review," *Review of Educational Research*, 66 (3), pp. 227-68, 1996.

## INTRODUCTION

The aim of Mayor Sly James' Turn the Page Kansas City (TTPKC) initiative is to have all the city's children reading at grade level by 3<sup>rd</sup> grade. Kansas City, Missouri is home to multiple public school districts, and more than 20 charter schools. In addition to the efforts of the K-12 public school system, Kansas City also has several active out-of-school initiatives attempting to address the reading education needs of area students.

The Mayor and the Board of Turn the Page KC partnered with the Kansas City Area Education Research Consortium to obtain evidence of outcomes associated with participation in reading programs provided by the following project partners in summer 2013: Boys & Girls Club of Kansas City, Greater Kansas City YMCA, Kansas City Public Library, Kansas City Freedom Schools Initiative, Local Investment Commission of Kansas City, Mid-Continent Public Library, The Upper Room, United Way Quality Matters, and YMCA of Greater Kansas City. In addition to the eight participating out-of-school summer reading programs, there were also five participating school districts in 2013: Center, Park Hill, Hickman Mills, Kansas City Missouri, and North Kansas City.

KC-AERC was contracted to evaluate the effectiveness of these summer reading initiatives. The central questions of interest were:

- What, if any, reading assessments are being used by summer reading programs?
- What reading assessments are being used by school districts?
- What, if any, impact do summer learning programs have on students reading levels?

## DATA COLLECTION, DATA AUDIT, DATA CLEANING, AND MATCHING

KC-AERC worked closely with all participating entities to assess the impact of summer reading programs and achieve the goals of the study. The work of program evaluation involved collecting data, running analyses, and delivering the results. These steps are explained in further detail in the subsequent sections of this report.

### Memoranda of Understanding

The initial step involved preparing, issuing and collecting the Memoranda of Understanding for each participating organization and school district in 2013, the pilot year. There were five school districts as well as eight summer reading initiatives that were involved in this project; all are listed below.



**Five Participating School Districts**

- Center School District
- Park Hill School District
- Hickman Mills School District
- Kansas City Missouri School District (KCPS)
- North Kansas City School District (NKC)

**Eight Participating out-of-school Initiatives**

- Boys and Girls Club of Kansas City
- Kansas City Freedom Schools Initiative
- Kansas City Public Library (KCPL)
- Local Investment Commission of Kansas City
- Mid-Continent Public Library (MCPL)
- The Upper Room
- United Way Quality Matters (up to 5 identified sites)
- YMCA of Greater Kansas City (up to 5 identified sites)

Five school districts and seven out-of-school initiatives signed the Memoranda of Understanding to participate in 2013. By the time the data had to be shared for purposes of analyses for this report, there were five school districts who had shared data, with three of those having shared complete datasets that were usable for the analyses. In the same vein, six of the out-of-school initiatives had data to share in 2013, with five of those having data that was robust enough to be matched and used for the purposes of this project. All of the school districts and community partners providing summer programs have stayed engaged with the project, regardless of the data status, and all are working to align their data collection processes for 2014 with what is needed to conduct future analyses.

**Data Collection, Data Audit, and Matching**

The data collection phase involved gathering data from participating school districts as well as summer out-of-school reading initiatives. The subsequent step, which represents the bulk of the work on this project, was the time-intensive task of cleaning, organizing, and matching the datasets provided by summer reading programs against the data provided by participating school districts. The purpose of the matching task was to find the demographic and assessment records of summer program participants in the datasets provided by school districts. Doing so, KC-AERC could observe program participants twice, once in spring 2013, before attending a summer reading program, and once in fall 2013, after attending the program and returning to school. For instance, students in the Mid-Continent Public Library (MCPL) summer reading program came from several school districts in summer 2013, including Center School District,

North Kansas City School District, and Kansas City Public Schools. Therefore, to obtain pre-test and post-test scores, KC-AERC had to match the MCPL participant data against the spring 2013 and fall 2013 reading assessment data supplied by these districts.

### Converting Assessment Scores to a Common Measure

Different school districts use different types of reading assessments to measure the performance of their students. Table 1 shows an audit of the data provided by school districts, including counts of students in kindergarten to fourth grade, as well as the reading assessment being used in each district. In order to obtain a consistent measure of student performance across all school districts, KC-AERC converted the various assessment scores provided by the districts into a percentile ranking associated with each score. Further detail about the approach for this conversion can be found in the Methodology section.

**Table 1. Audit of School District Data**

2013			
District Name	Student Count K-4	Reading Assessment	Pre & Post Test
KC Public Schools	4186	DRA	Yes
Hickman Mills School District	2995	STAR, Early STAR	Yes
Center School District	1283	SRI; Acuity	Yes
North Kansas City Schools	6724	F&P; SRI	Yes
Park Hill School District	3911	N/A	Yes*
*Data are incomplete at this time			

### Overview of Summer Reading Initiatives

In summer 2013, four out of seven summer program affiliated with Turn the Page Kansas City adopted a reading assessment tool to use with participants. Table 2 displays an audit of the data for summer reading programs, including counts of students in each program, the reading assessment used (if any), and the number of participating students matched to school district data.

**Table 2. Audit of Summer Reading Initiatives**

2013					
Program Name	Student Count K-4	Assessment Type in Summer Program	Pre Assessment in Summer Program	Post Assessment in Summer Program	Number Matched to School District Data
Boys & Girls Club	132*	STAR Literacy	Y	Y	—
KC Public Library	2017	N/A	N/A	N/A	231
Mid Continent Public Library	7878	N/A	N/A	N/A	761
The Upper Room	2430	STAR Literacy	Y	Y	966
YMCA Greater Kansas City	37	STAR Literacy	Y	Y	0
Freedom Schools	438	STAR Early Literacy & STAR Literacy	Y	Y	113
*data are incomplete at this time.					

## METHODOLOGY

Different school districts use diverse reading assessment tools, with different scaling, to measure reading skills. In order to make a comparison across all the districts and assess the effect of summer programs on students’ reading performance, KC-AERC needed to convert all types of assessment scores to a common measure for all students. A summary of the assessments used by school districts and their scaling methods is as follows:

1. Fountas & Pinnell (F&P): being used by North Kansas City School District for younger students (Kindergarten through 5<sup>th</sup> grade). The scores vary between A to Z for different grade levels.
2. Developmental Reading Assessment (DRA): being used by Kansas City Public Schools. The scores vary between A for kindergartners to 80 for 8<sup>th</sup> graders.
3. Scholastic Reading Inventory (SRI) Lexile: being used by Center School District. The scores vary from 99 to 1300 and above for different grade levels.

4. STAR Early Literacy and STAR Reading: being used by Hickman Mills. The scores vary from 59 to 1345 and above. Note: The analysis for Hickman Mills School District is not included in this version of the report due to late data delivery.

After discussions with the Board of Turn the Page KC, the participating school districts, and the summer reading programs, KC-AERC developed two methods for converting the various assessment scores to a common score type.

## Converting School District Reading Assessments to a Common Measure

### Approach I: Lexile Scores

KC-AERC first developed a common measure for all reading assessments by converting the scores to Lexile-equivalent categories using the table in Appendix A.

### Approach II: Percentile Ranking

Using the common Lexile measure, KC-AERC converted all reading assessments to percentile rankings, applying following steps:

- ❖ **Step 1:** We could not find national norms for the F&P and DRA tests. Instead, we took fall scores for each district and grade, and determined how many people in each grade achieved each possible score. If, for example, 40% of children taking the F&P test in the fall of second grade achieved a score of 375 (K on F&P or 20 on DRA), then 375 would correspond to the 40th percentile.
- ❖ **Step 2:** There exists a national standard for converting Lexile ranges to percentile rankings for the various grade levels. We converted SRI Lexile ranges to percentile rankings using the national norm. For charts showing the conversion standard, see Appendix B.

## Constructing a Matched Comparison Group

The primary goal of this evaluation was to assess the impact of summer reading programs on reading performance. Using the new percentile measures, KC-AERC aimed to observe any changes between the associated percentiles for pre- and post-test scores for students who participated in any summer program, and then compare the change in scores for non-participating students. There were 7224 students with reported pre-test and post-test scores in the data set provided by district partners. Among these, KC-AERC was able to find 1122 participating students. Table 3 illustrates the demographic distribution for participating students and non-participating students with matching pre- and post-test scores.

**Table 3. Demographic Distribution of Participating Group and School Districts**

Groups	Counts	Race/Ethnicity		Gender		FRL	
		White	Non-White	Female	Male	Yes	No
Participating Group	1122	30%	70%	52%	48.00%	49%	51%
Non-Participating Group	7224	65%	35%	48%	52%	46%	54%

Table 4 displays the number of students in each summer reading program from each school district.

**Table 4. Number of Participants from Each School District**

	KCPL	Upper Room	Freedom Schools	MCPL	Sum
Center	14	14	N/A	29	57
KCPS	121	467	44	4	636
NKC	N/A	14	N/A	415	429
Sum	135	495	44	448	1122

KC-AERC constructed a matched comparison group of non-participants from among the 7224 students represented in the data set. The matched comparison group included the same number of students from each district as the participating group. Students were matched as closely as possible on gender, race and ethnicity, free and reduced lunch status, and summer school attendance. In many cases we were able to get exact matches. More importantly, we matched by the pre-test score (and associated percentile), so that we could compare students with the same initial reading scores.

KC-AERC then performed statistical analysis to assess the impact of participating in summer programs. KC-AERC conducted a t-test to determine whether there was a statistically significant difference between the participating group and the matched comparison group, as well to observe the difference among students when grouped by demographic information<sup>2</sup>.

## FINDINGS AND RESULTS

The t-test assesses whether the difference between the two groups, participants and non-participants, is statistically significant for the score difference variable:

- Post-test – pre-test
- Post-test percentile – pre-test percentile

In other words, the t-test shows whether the change in reading scores over summer vacation differs meaningfully between the two groups. Tables 5.a and 5.b illustrate the difference between the group of students who participated in summer reading programs and the matched comparison group of students who did not participate.

**Table 5.a. Participating Group vs. Matched Comparison Group:  
All Students Pooled (Lexile Points)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	1122**	7.8913	86.9598	2.5961	-395.0	475.0
Matched comparison group	1122**	-1.0517	78.6664	2.3485	-450.0	425.0
Difference		8.9430	82.9169	3.5008		

(\*\*P<0.05)

Tables 5.a and 5.b show that program participants’ reading scores increased, both in terms of Lexile scores points and percentile ranking, from spring 2013 to fall 2013 ( $p < 0.05$ ); students in the matched comparison group did not improve their readings skills to the same extent.

<sup>2</sup> The t-test assessed whether the means of the two groups are statistically different from each other. The variable was the difference between percentiles for each student (post percentile-pre percentile).

**Table 5.b Participating Group vs. Matched Comparison Group:  
All Students Pooled (Percentile Ranking)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	1122**	3.1687	14.8228	0.4500	-58.0000	69.0000
Matched comparison group	1122**	1.5806	14.2262	0.4319	-69.0000	66.0000
Difference		1.5880	14.5275	0.6237		

(\*\*P<0.05)

KC-AERC also examined subgroups of the total population of participants and matched non-participants, sorting by gender, race, FRL status, etc. However, dividing the sample into groups reduces the effective sample size and makes it less likely to find statistically significant results.

Table 6.a and 6.b display the results of the t-test for the male participants in summer reading programs and their matched comparison group. The t-test was performed for the difference between pre-test and post-test scores and percentiles. The participating group showed an increase in Lexile points, as well as a percentile ranking, from pre-test to post-test ( $p < 0.01$ ). Students in matched comparison group did not have a similar experience.

**Table 6.a. Participating Group vs. Matched Comparison Group:  
Boys (Lexile Points)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	532***	10.0019	88.5005	3.8370	-345.0	475.0
Matched comparison group	532***	-4.8722	81.2405	3.5222	-450.0	275.0
Difference		14.8741	84.9481	5.2085		

(\*\*\*P<0.01)

**Table 6.b. Participating Group vs. Matched Comparison Group:  
Boys (Percentile Ranking)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	532***	3.9436	15.5929	0.6760	-51.0000	69.0000
Matched comparison group	532***	1.2237	14.2262	0.4319	-64.0000	67.0000
Difference		2.7199	15.1624	0.9297		

(\*\*\*P<0.01)

Tables 7.a and 7.b show the results of the t-test for female participants in summer reading programs and their matched comparison group. Although we observed an increase in Lexile points and percentile ranking for the participant group, the results revealed a non-significant trend in predicted direction ( $p=0.44$  and  $p=0.53$ , respectively). In other words, the observed impact may have happened by a chance. Therefore, we fail to reject our hypothesis of the difference between the two groups.

**Table 7.a. Participating Group vs. Matched Comparison Group:  
Girls (Lexile Points)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	590	5.9881	85.5773	3.5232	-395.0	382.0
Matched comparison group	590	2.3932	76.1759	3.1361	-400.0	425.0
Difference		3.5949	81.0131	4.7168		



**Table 7.b. Participating Group vs. Matched Comparison Group:  
Girls (Percentile Ranking)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	590	2.5946	14.2017	0.5847	-58.0000	54.0000
Matched comparison group	590	2.0814	14.2262	0.4319	-67.0000	66.0000
Difference		0.5136	14.1537	0.8241		

Tables 8.a and 8.b exhibit the results of the t-test comparing participating students with Free and Reduced Lunch status to their matched comparison group. The t-test was performed for the difference between pre-test and post-test Lexile scores and percentiles. The participating group showed an increase, both in Lexile scores and percentile ranking ( $p < 0.01$  and  $p < 0.05$ , respectively), from pre-test to post-test. The matched comparison group did not experience similar growth.

**Table 8.a. Participating Group vs. Matched Comparison Group:  
Students with Free and Reduced Lunch Status<sup>3</sup> (Lexile Points)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	237***	19.2658	92.3755	6.0004	-206.0	436.0
Matched comparison group	237***	-4.7417	79.8854	5.1566	-323.0	240.0
Difference		24.0075	86.3172	7.9045		

(\*\* $P < 0.01$ )

<sup>3</sup> The small number of participating students with FRL status is due to the fact that FRL information was not available for some districts.

**Table 8.b. Participating Group vs. Matched Comparison Group: Students with Free and Reduced Lunch Status<sup>4</sup> (Percentile Ranking)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	237**	5.0591	15.8995	1.0328	-48.0000	66.0000
Matched comparison group	237**	1.6307	14.8046	0.9536	-40.0000	46.0000
Difference		3.4284	15.3572	1.4049		

(\*\*P<0.05)

Table 9.a and 9.b show the results of the t-test for white participants in summer reading programs and their matched comparison group. Once again, we observe a result that is not statistically significant (p= 0.249 and p=0.807, respectively). In other words, the effect may have happened by a chance. Therefore, we fail to reject the hypothesis of difference between the two groups.

**Table 9.a. Participating Group vs. Matched Comparison Group: White Students (Lexile Points)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	345	2.7623	77.7004	4.1833	-345.0	340.0
Matched comparison group	345	9.4058	73.7597	3.9711	-325.0	267.0
Difference		-6.6435	75.7557	5.7679		

<sup>4</sup> The small number of participating students with FRL status is due to the fact that FRL information was not available for some districts.

**Table 9.b. Participating Group vs. Matched Comparison Group:  
White Students (Percentile Ranking)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	345	2.4522	13.7428	0.7399	-49.0000	43.0000
Matched comparison group	345	2.7188	15.0321	0.8093	-67.0000	67.0000
Difference		0.5136	14.1537	0.8241		

Tables 10.a and 10.b display the results of the t-test for students of color who participated in summer reading programs and their matched comparison group. The t-test was performed for the difference between pre-test and post-test Lexile points as well as percentile ranking. The participating group experienced positive growth in reading skills from pre-test to post-test ( $p < 0.01$ ), while the matched comparison group did not see similar results. This difference is statistically significant.

**Table 10.a. Participating Group vs. Matched Comparison Group:  
Black, Hispanic, Asian, and other students of color (Lexile Points)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	777***	10.1686	90.7234	3.2547	-395.0	475.0
Matched comparison group	777***	-5.6950	80.3599	2.8829	-450.0	425.0
Difference		15.8636	85.6985	4.3479		

(\*\*\* $p < 0.01$ )

**Table 10.b. Participating Group vs. Matched Comparison Group: Black, Hispanic, Asian, and other students of color (Percentile Ranking)**

Group	Number of Students	Mean	Standard Deviation	Standard Error	Minimum	Maximum
Participating group	777***	3.5817	15.3623	0.5511	-58.0000	69.0000
Matched comparison group	777***	1.2111	14.0949	0.5057	-64.0000	66.0000
Difference		2.3707	14.7422	0.7479		

(\*\*\*P<0.01)

### CONCLUSIONS

Summer reading loss has been well-documented in the literature. Commonly known by summer learning experts, are the findings of a meta-analysis conducted by Cooper et al. examining the effects of summer vacation on student achievement scores on standardized reading and mathematics assessments.<sup>5</sup> The Turn the Page KC initiative seeks evidence of outcomes associated with both school programs and out-of-school initiatives that aim to improve the reading skills of participating students. KC-AERC conducted data analysis based on records collected in 2013 from Kansas City summer reading programs that were matched to demographic and assessment data provided by participating school districts. The primary goal of this effort was to assess the impact of summer reading initiatives on students’ reading skills. To this end, KC-AERC converted scores from a variety of reading assessments used by districts to Lexile-equivalent scores and then to percentile rankings, in order to compare changes in students’ reading ability from pre-test to post-test.

The results show that although the changes from pre-test to post-test are small, they are suggestive of positive growth.

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<sup>5</sup> Cooper, H., Nye, B., Charlton, K., Lindsay, J., and Greathouse, S., "The Effects of Summer Vacation on Achievement Test Scores: A Narrative and Meta-Analytic Review," *Review of Educational Research*, 66 (3), pp. 227-68, 1996.

## Appendix A: Comparison of DRA and F & P Scores with Lexile Scores

F_P	Lexile
A	40
B	60
C	80
D	120
E	140
F	160
G	180
H	225
I	275
J	325
K	375
L	425
M	475
N	550
O	625
P	675
Q	720
R	750
S	780
T	820
U	850
V	880
W	920
X	950
Y	980
Z	1050

DRA	Lexile
A	40
1	60
2	80
3	100
4	120
6	135
8	150
10	160
12	180
14	225
16	275
18	325
20	375
24	425
28	475
30	550
34	625
38	675
40	750
50	850
60	950
70	1025
80	1075

## Appendix B: Conversion of SRI Lexile Ranges to Percentile Rankings<sup>6</sup>



PERCENTILE RANK	LEXILE RANGE	PROFICIENCY LEVEL
<b>BELOW GRADE LEVEL</b>		
0–39%	BR–100L	BASIC
<b>ON GRADE LEVEL</b>		
40–55%	100L–200L	LOW PROFICIENT
56–69%	200L–300L	PROFICIENT
70–80%	300L–400L	HIGH PROFICIENT
<b>ABOVE GRADE LEVEL</b>		
AT 80% & ABOVE	ABOVE 400L	ADVANCED

<sup>6</sup> Charts reproduced from Student Placement Guide: Determining Placement with Grade Level Proficiencies. Scholastic Reading Counts. Online at: [scholastic.com/src](http://scholastic.com/src).

Appendix B, continued: Conversion of SRI Lexile Ranges to Percentile Rankings

GRADE **2**

PERCENTILE RANK	LEXILE RANGE	PROFICIENCY LEVEL
<b>BELOW GRADE LEVEL</b>		
1–10%	BR–100L	AT RISK
11–17%	100L–200L	BASIC 1
18–26%	200L–300L	BASIC 2
<b>ON GRADE LEVEL</b>		
27–34%	300L–400L	LOW PROFICIENT
35–55%	400L–500L	PROFICIENT
56–70%	500L–600L	HIGH PROFICIENT
<b>ABOVE GRADE LEVEL</b>		
AT 70% & ABOVE	ABOVE 600L	ADVANCED

Appendix B, continued: Conversion of SRI Lexile Ranges to Percentile Rankings

GRADE 3

PERCENTILE RANK	LEXILE RANGE	PROFICIENCY LEVEL
<b>BELOW GRADE LEVEL</b>		
1–13%	<250L	AT RISK
14–26%	250L–400L	BASIC 1
27–38%	400L–500L	BASIC 2
<b>ON GRADE LEVEL</b>		
39–52%	500L–600L	LOW PROFICIENT
53–67%	600L–700L	PROFICIENT
68–81%	700L–800L	HIGH PROFICIENT
<b>ABOVE GRADE LEVEL</b>		
AT 82% & ABOVE	ABOVE 800L	ADVANCED



Appendix B, continued: Conversion of SRI Lexile Ranges to Percentile Rankings

GRADE **4**

PERCENTILE RANK	LEXILE RANGE	PROFICIENCY LEVEL
<b>BELOW GRADE LEVEL</b>		
1–11%	BELOW 350L	AT RISK
12–25%	350L–500L	BASIC 1
26–36%	500L–600L	BASIC 2
<b>ON GRADE LEVEL</b>		
37–50%	600L–700L	LOW PROFICIENT
51–64%	700–800L	PROFICIENT
65–79%	800–900L	HIGH PROFICIENT
<b>ABOVE GRADE LEVEL</b>		
AT 80% & ABOVE	ABOVE 900L	ADVANCED



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