Kansas Reading Roadmap Annual Report

2017-18 School Year

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Executive Summary

Reading at grade level by the end of third grade is essential for future academic success. Yet, only 42% of third-grade students are reading above standards in the State of Kansas, and for low-income students, only 27% are reading above standards (Kansas State Department of Education, 2017). Research shows the achievement gap between high and low-income children exist before they begin school (Chmielewski & Reardon, 2016; Reardon & Portilla, 2015). Therefore, any extra support to low-income students, specifically during the early years of schooling, is critical.

The income achievement gap can be ameliorated during the school day, but to catch up to their peers, students who are behind their peer need to make more growth over the year. Additional learning opportunities during out-of-school time can help close the achievement gap. Research shows afterschool and summer programs have positive effects on academic achievement for students at-risk (Lauer et al., 2006; Vandell, Reisner, & Pierce, 2007). Moreover, programs that use small groups or individualized supports demonstrate stronger effects (Cooper, Charlton, Valetine, & Muhlenbruck, 2000).

The Kansas Reading Roadmap (KRR) is a whole-school approach to literacy intervention. KRR modeled its out-of-school programs to align with in-school instruction. KRR works with schools that are implementing the Kansas Multi-Tier System of Supports and Alignment (MTSS), a response-to-intervention approach, for in-school instruction. Based on assessment and progress monitoring data, students are placed into intervention groups that fit their needs in the afterschool and summer programs. The family engagement component, Literacy-Integrated Family Engagement (LIFE), focuses on teaching families home-based literacy skills and socioemotional learning.

This report provides information on program participation and fidelity, and assesses program impacts on student reading achievement and family outcomes. In this analysis, data from 2016-17 and 2017-18 school years of KRR schools that implemented the model during this entire time and assed with inschool and afterschool fidelity measures were used. Program participation and implementation fidelity data were collected by KRR staff. Reading achievement was measured by Curriculum-Based Measurement (CBM) scores collected by the schools and publicly-available State of Kansas standardized reading assessment scores.

We used various methods to analyze the data and answer evaluation questions. First, effect sizes were used to estimate typical growth from first to second and second to third grade in the KRR sample. In addition, the percentage of students in each tier was calculated along with the individual rate of transition into core instruction (Tier 1) and out of intensive support (Tier 3). Finally, we assessed if there was a statistically significant change between the first and last LIFE session on family outcomes.

The key findings were:

- A total of 3,231 students were enrolled in the afterschool program across 61 sites and more than 70% were retained. In the summer program, there was 2,480 students across 45 sites, and 97% of students were retained throughout the summer. In the LIFE program, a total number of 1,318 children and 1,539 families attended from 54 sites.
- KRR offered more than 590,000 hours of out-of-school learning opportunities in the afterschool and summer programs. Kansas communities benefited with more than 1,300 part- and full-time jobs created through the program across the state. An expected 7.5 million dollars worth of economic opportunities were created in both rural and urban

areas of the state where the majority of the neighborhoods are inhabited by low-income.

- By the end of the school year, the average in-school fidelity score of KRR sites was 70%, and the average afterschool fidelity score was 80%. This suggests a majority of KRR sites were implementing the program as intended.
- Over time, KRR schools showed a smaller decrease (1%) in the percentage of students reading proficiently compared to the state (3%). This is significant considering KRR schools serve a larger proportion of students who are economically disadvantaged (68%) compared to the state (52%).
- KRR afterschool students begin the fall semester with lower achievement, fewer students in Tier 1, compared to their non-afterschool peers. But the achievement gap was closed over time. By the spring, kindergarten students caught up to their peers, and the gap for older students was closed by 4-14 percentage points.
- KRR afterschool students transitioned to Tier 1 at higher rates compared to non-afterschool students. Kindergarten, second-grade, and third-grade students transitioned into Tier 1 at 9-11% percentage points higher. In addition, KRR afterschool students transitioned out of Tier 3 three times and two times higher compared to their peers, in second- and third-grade, respectively.
- Parents reported a small, but significant increase in home reading behavior, including child reading aloud independently, child reading to family members, and family members reading to child. Parents also reported LIFE activities helped them connect to each other through eating together, reading aloud, sharing stories, and playing one-on-one. They also developed social and emotional skills through Attuned Listening.

KRR partners with schools that serve a large population of low-income students and targets struggling readers. KRR extends literacy opportunities by providing individualized supports aligned with school-day instruction. Findings show that KRR programs are demonstrating a positive impact at the whole-school level, affecting third-grade outcomes as well as individual-level achievement, by closing the achievement gap between afterschool and non-afterschool students.

Reading Roadmap
Data Analytics & Program Evaluation Team

Background

Reading at Grade Level

In the United States, only 36% of fourth-grade students are reading proficiently (National Assessment for Educational Progress, 2017). For low-income students, only 21% are reading proficiently by fourth grade. In the State of Kansas, 42% of students are reading above standards and only 27% of low-income students are reading above standards (Kansas State Department of Education, 2017). These numbers are alarming given the importance of reading proficiency for future success.

Grade-level reading by the end of third grade is a predictor of academic success. Children who are not proficient readers by third grade are less likely to graduate from high school (Hernandez, 2011) and enroll in college (Lesnick, Goerge, & Smithgall, 2010). Among children who are not proficient readers and experience poverty, 26% do not graduate from high school, compared to 9% who are not proficient but do not experience poverty (Hernandez, 2011). Children who are struggling readers and economically disadvantaged, thus, are at higher risk for poor academic outcomes.

Closing the Achievement Gap

The academic achievement gap between high- and low-income children exists even before formal schooling. National and international data show the income reading achievement gap averages around 1.0 standard deviation (Chmielewski & Reardon, 2016; Reardon & Portilla, 2015). There is also some evidence that the income achievement gap has grown over the past 25 years, but the reasons for the increase are not clear (Reardon, 2011).

Student reading growth over time has also been investigated, and growth between grades tend to be largest in the early years (K-3), compared to later years (Hill, Bloom, Black, & Lipsey, 2007). An achievement gap of 1.0 standard deviation, then, is equivalent to roughly one year of schooling in grades K-2 and half a year in grades 2-3. Low-income children entering kindergarten are typically performing behind their peers by roughly one school year.

This inequality needs to be addressed. While traditional in-school learning can help close the achievement gap, out-of-school time and the summer are additional opportunities to provide children with intensive supports needed for academic success.

Research shows afterschool and summer programs have positive effects on academic achievement for at-risk students (Lauer et al., 2006; Vandell, Reisner, & Pierce, 2007), with stronger effects for programs that use small group or individualized supports (Cooper, Charlton, Valetine, & Muhlenbruck, 2000). High-quality out-of-school programs that are research-based and have strong implementation can have a positive impact on children's outcomes and help close the achievement gap.

TANF Funding for Educational Opportunities

The purpose of the Temporary Assistance for Needy Families (TANF) program is to 1) provide assistance to needy families, 2) end the dependence of needy parents by promoting job preparation, work and marriage, 3) prevent and reduce out-of-wedlock pregnancies, and 4) encourage the formation and maintenance of two-parent families. States are given flexibility in how TANF funds are used, as long as services and benefits aim at achieving program goals (Department of Health and Human Services, 1999).

In Kansas, TANF provides resources to help needy families through various programs and services, including early childhood programs (Four Year-Old At Risk, Kansas Early Head Start), child care assistance, family preservation, as well as academic intervention (Kansas Reading Roadmap). Similarly, Georgia and Connecticut, have also invested TANF funds into programs that are offered after school or over the summer with the goal of enhancing academic opportunities for children.

The Kansas Reading Roadmap (KRR) is a program aimed at achieving the purposes of TANF through high-quality afterschool and summer programming and parental educational programming. KRR partners with low-income schools to provide structured, out-of-school reading interventions and family engagement programming focused on home literacy and socioemotional learning.

Kansas Reading Roadmap Model

The Kansas Reading Roadmap is a whole-school approach to literacy intervention. KRR is an inclusive model that aligns out-of-school learning opportunities with in-school instruction. KRR works with schools that are implementing the Kansas Multi-Tier System of Supports and Alignment (MTSS), a response-to-intervention approach, during the school day. Based on assessment and progress monitoring data, students are placed into intervention groups that fit their needs in the afterschool and summer programs. The family engagement component focuses on teaching families home-based literacy skills and socioemotional learning.

In-school MTSS

The Kansas MTSS framework is a model for implementing evidence-based practices necessary for addressing individual student needs. MTSS is a prevention model that aims to provide early intervention based on a system of ongoing assessment, supplemental instruction, and data-driven decision making. All students, regardless of their ability, receive the instruction they need to be successful readers.

Universal screening occurs three times a year and identifies where students are at academically. Based on the data, students are placed into different systems of support: Tier 1 (meeting benchmark, needs core instruction), Tier 2 (near benchmark, needs supplemental instruction), and Tier 3 (below benchmark, needs intensive support). Ongoing progress monitoring assessments are used to chart individual growth and make instructional decisions, including grouping students into appropriate interventions and adjusting teaching strategies.

The goal is to move and keep students in core instruction (Tier 1), and out of Tier 2 (supplemental instruction) and Tier 3 (intensive support). KRR helps accomplished this through structured, out-of-school interventions that are aligned with school data and instruction.

Afterschool and Summer

Afterschool Components

Individual Skills Reinforcement (ISR). This session is for students who are learning phonological awareness or phonics skills. KRR schools use either Benchmark's Start Up, Build Up, and Spiral Up curriculum kits or the 95% Group curriculum to focus on early reading skills. Tutors provide interactive lessons to help engage students and small groups provide students with individualized supports.

Individual Independent Reading (IIR). This session is for students who are working on fluency and comprehension. Students working on fluency use the *One Minute Reader* curriculum and those working on comprehension can use the *One Minute Reader* or read independently. For all students, tutors engage students in "book talks" to assess comprehension.

Structured Read-Aloud and Vocabulary (SRA-V). This session is focused on building comprehension and vocabulary through structured read-alouds. Younger students will be placed in a read-aloud group where tutors engage students in book reading and discussion and teach new vocabulary. Older students will be placed in BookNook, a technology-based curriculum, that guides students and tutors through comprehension and vocabulary activities.

Healthy Kids. This session promotes physical activity. Students receive a healthy, USDA-approved snack and engage in structured, moderate-to-vigorous physical activity that can include fun games and nutrition lessons.

Summer Components

The summer program includes all the afterschool components, along with math sessions and elective activities.

Math instruction and enrichment. These sessions provide math instruction followed by enrichment activities to support math concepts. Kindergarten students use the *ETA Hand2Mind* curriculum that helps students develop number concepts with real-world applications. Students in grades 1-3 use the *Do the Math* curriculum that helps students develop computation, number sense, and problem solving.

Elective activities. KRR sites can select from a variety of different sessions to incorporate into their summer programs, including community service, enrichment, field trips, STEM, and team building.

Literacy-Integrated Family Engagement (LIFE)

The LIFE program brings families together for an evening of activities that promote positive parenting, facilitate family interactions, and teach literacy development and socioemotional learning.

Family Bonding

While the entire LIFE night is about family interactions, the following activities are designed specifically to promote family bonding:

- *Family Meal:* Families sit together and eat dinner without screens and other distractions. This helps establishing a habit of eating together that is an essential building block of a constructive family environment
- *Child-Led Play:* Parents play with their children one-on-one, with the child leading, to help develop their relationships. This is also opportunity for parents to practice the communication and interaction skills they learn in LIFE nights.

Socioemotional Learning

LIFE teaches and promotes families' emotional awareness, attunement, and expression through Attuned Listening. This activity is designed to help parents connect to their children on a deeper level by practicing listening, communication, and emotional expressive skills.

Literacy Development

The following activities help parents develop home literacy practices:

- *Doorways to Literacy:* This includes three different types of activities: LIFE Read-Aloud, Book Circle, and Family Read-Aloud. These activities are designed to engage parents and children with books and provide opportunities for reading together.
- *Literacy Night:* Parents are introduced to how their children are being assessed at school. This includes an introduction of MTSS and provides definitions with examples of progress monitoring and interventions.

Social Bonding

LIFE is not only about family members interacting with each other, but also about interactions between families.

- *Parent Groups:* Parents are given opportunities to share experiences and provide support to one another. Parent groups create a community of support that transfers to ongoing networking through Friends for LIFE.
- *Recreation Time:* Children have time to engage in play with each other. This includes outdoor activities, gym playtime, art, and other developmentally appropriate activities.

Annual Evaluation

This annual evaluation report provides information on program participation and fidelity, as well as addresses the following questions:

Evaluation Questions

1. How are KRR schools performing on standardized assessments compared to the state and nation? How do KRR student growth compare to a typical year of growth?
2. From fall to spring, are KRR schools showing whole-school change in tier performance? Is there Tier 1 growth and Tier 3 reduction for KRR afterschool students?
3. What is the tier transition rate for KRR schools? How do non-afterschool and afterschool students compare?
4. What impact does LIFE programming have on home reading behavior? What learning experiences and benefits are parents reporting from attending LIFE?

Method

Sample

The longitudinal data set includes data from the 2010-11 to 2017-18 academic year from 68 schools. This data set includes historical data from before the KRR program (2010-11 to 2013-14) and KRR intervention years (2014-15 to 2017-18). For this analysis, the previous two years of data, 2016-17 and 2017-18, were used.

Inclusion criteria. To be included in the data analysis, schools need to have (1) afterschool attendance data, which excludes one site, (2) in-school fidelity data, which excludes six sites, and (3) a full-year of implementation, which excludes 10 sites that implemented in spring 2017 and summer 2017. A total of 48 sites met these criteria and are included in the analysis. One site did not submit reading achievement data, and, therefore, reduced the total sample size to 47.

Measures

Program attendance and intervention. The number of days students attended and the intervention type was recorded at every site. For the purposes of this report, the minimum dosage was 60 sessions of afterschool programming, and students meeting this criterion were considered KRR afterschool students. Non-afterschool students were enrolled in the KRR schools but did not attend afterschool programming.

Program fidelity. The benefits of the afterschool program are maximized once sites have implemented fidelity requirements. In partnership with the Kansas Technical Assistance System Network (TASN), KRR staff developed measures to evaluate whether sites have met key requirements. These measures cover the in-school and afterschool components. The LIFE fidelity assessment tool was developed by program staff with independent evaluators.

Program Managers conducted site visits where they assessed the extent to which programs followed KRR requirements for program fidelity. Program fidelity was monitored twice a semester for afterschool programming and three times a semester for in-school structuring. The LIFE program fidelity was monitored at each site, for each session by LIFE staff.

Reading achievement. Schools use three different Curriculum-Based Measurement (CBM) to assess student reading achievement: AIMSweb, DIBELS, and FastBridge. For each assessment type, predictive indicators are used to assess student performance (see Appendix Table D1). Students' CBM scores were collected for the 2017-18 academic year at three time points: fall, winter, spring. Students' scores placed them into three categories: Tier 1 (meeting benchmark), Tier 2 (near benchmark), and Tier 3 (below benchmark).

The State of Kansas English Language Arts standardized assessment is given in the spring of each academic year, starting in third grade. Results were retrieved from the Kansas State Department of Education website (ksreportcard.ksde.org). Scores put students into four levels:

- **Level 1** (limited ability to understand and use (insert content area here) skills and knowledge needed for college and career readiness),
- **Level 2** (basic ability to understand and use (insert content area here) skills and knowledge needed for college and career readiness),
- **Level 3** (effective ability to understand and use (insert content area here) skills and knowledge needed for college and career readiness), and
- **Level 4** (excellent ability to understand and use (insert content area here) skills and knowledge needed for college and career readiness)

LIFE family survey. Parents who attended the LIFE program filled out surveys at the beginning and end of the program. They reported on the frequency of home reading behavior, emotional awareness, parent-child closeness, and provided general feedback.

Statistical Analysis

Effect size. Effect size provides a quantitative measure of differences between groups and can be used to compare relative performance. Cohen's (1992) rule of thumb for interpreting effect size is d = .10 (small), d = .30 (medium), d = .50 (large). For this analysis, the mean level of growth between grades were calculated as a standardized effect size, using methodology in Hill et al. (2007). Because FastBridge was introduced in 2017-18, there is only one year of data; therefore, only schools using AIMSweb or DIBELS were included, and only students who have data from both the 2016-17 and 2017-18 academic years were included (see Appendix Table C3 for descriptives).

Tier percentage and transition. The percentage of students in each tier was calculated for each semester and each grade. Tier 1 growth is demonstrated when students move from Tiers 2 and 3 into Tier 1. The Tier 1 transition rate is the proportion of the target group (Tiers 2 and 3) who moved into Tier 1 from fall to spring. Similarly, Tier 3 reduction is demonstrated when students move from Tier 3 into Tiers 2 and 1. The Tier 3 transition rate is the proportion of the target group (Tier 3) who moved into Tiers 1 or 2 from fall to spring. (See Appendix A for equations.)

LIFE survey. Families who filled out both the pre- and post-surveys were matched to conduct paired-sample *t*-tests on home reading behavior items and scale items (emotional awareness, parent-child closeness). Open-ended items were analyzed using thematic analysis to identify major, reoccurring concepts across respondents.

Program Participation

The KRR program targets economically-disadvantaged and low-achieving students in grades K-3. To partner with KRR, schools or sites need to enroll a minimum of 50% low-income students. In the 2017-18 school year, KRR had partnerships with 61 schools and two Boys & Girls Clubs. The average percentage of student who received free- or reduced-price lunch was 68% in KRR schools, compared to the state average of 52%.

Program participation is voluntary and open to any student, regardless of their socioeconomic status. However, the program targets students in Tiers 2 and 3 who are considered at-risk or struggling readers.

Afterschool Attendance

During the school year of 2017-18, a total of **3,231 students** were enrolled across 61 afterschool programs. This roughly represents 30% of the student population in the KRR sites.

- *Program Days:* Each KRR site offered **108 afterschool programming days**.
- *Student Retention:* More than **70% of these students were retained** in the program until the end of the school year.
- *Attendance Rate:* The average attendance rate for students in the afterschool programs was above 80%. Afterschool students received, on average, **90 days of afterschool support**. This is roughly half of the total school days in Kansas; students are spending at least half an academic year receiving individual support after school in the KRR program.

Summer Attendance

In addition to afterschool support during the school year, KRR also offered literacy support to students in the summer. During the summer of 2018, a total of **2,480 students** were enrolled in the summer programs across 45 sites.

- *Program Days:* Each KRR site offered **20 full days** of summer programming.
- *Student Retention:* More than **97% of these students were retained in the summer program** until the end.
- *Attendance Rate:* The average attendance rate of summer students was over 90%. Students received, on average, **18 days of summer programming**, which included literacy activities, math enrichment, as well as community service and field trips.

LIFE Attendance

The LIFE program is offered each semester during the school year to help children and families learn socioemotional skills and literacy development. During the 2017-18 school year, KRR served **1,318 children** and **1,539 families** across 54 sites.

- *Program Days:* Each LIFE program offered **eight LIFE sessions** per semester in the evenings.
- *Attendance Rate:* LIFE families had more than 75% program attendance rate, which is an **average of six LIFE nights**. At roughly two hours per night, families spent an average of 12 hours each semester learning about literacy development and building healthy family relationships.

Program Benefits

More than 5,500 students and 1,500 families actively participated in at least one of the KRR components in the 2017-18 school year. Their participation contributed to children's literacy development and families' social and emotional development. In addition to these outcomes, the KRR program also provided economic and financial benefits to schools, families, and communities.

- *Meals:* KRR served more than **60,000 meals and over 340,000 servings of healthy snacks**.
- *Jobs:* KRR helped the socioeconomic development of Kansas communities by providing more than **1,300 part- and full-time jobs**. For the jobs created, KRR paid over **$5.4 million of salary and benefits**[1]. This is a significant contribution to the communities where KRR contracted schools are located, especially, when a significant portion is from rural areas.
- *Child Care:* Based on the number and attendance of students participating in afterschool and summer programs, we estimated that KRR offered over **945,000 hours of free child care services** in a high-quality, out-of-school setting. From there, an **estimated minimum of $2.1 million salary benefit** was potentially provided to the parents and guardians of students who attended KRR programs[2].

Program Fidelity

In-School Fidelity

In the 2017-18 school year, KRR's partner in the implementation of MTSS, TASN, indicated that the in-school fidelity measures should be used for advisory purposes only. KRR staff took this advice and used the in-school fidelity measures only for that purpose and not for guiding or directing schools.

The overall average in-school fidelity score in KRR sites was 66% in the fall semester and 70% in the spring. These scores can be used by program staff to target areas for continuous program development. (See Appendix B for a complete list of fidelity requirements.)

[1] This represents 85% of the total budget of $6.8 million for all KRR contracted schools during the 2017-18 school year.

[2] The financial benefit of the program was calculated with an assumption of two students per family participating in the KRR afterschool program and the assumption of one parent having an opportunity of working during the program time, in a job that offers only as much as the minimum wage in the state, $7.25.

In addition, KRR staff selected specific key indicators that promote Tier 1 growth and Tier 3 reduction. Tables 1 and 2 show the average program implementation fidelity scores for fundamental indicators that promote Tier 1 growth and Tier 3 reduction in KRR schools. The average fidelity score that promote Tier 1 growth increased from 71% to 76% from fall to spring. A similar increase was also observed for Tier 3 reduction with an increase from 57% to 65%. **Overall, these results show there is ongoing improvement of program implementation from fall to spring.**

Table 1. Fundamental indicators that promote Tier 1 growth in school.

Indicator	Fall 2017	Spring 2018
A research-based core curriculum is identified (Curriculum Protocol)	81%	83%
Use CBM accuracy and fluency data to complete MTSS/DIBELS Grouping worksheets to determine student need (SharePoint/Worksheet)	97%	90%
90 minutes uninterrupted core reading block (Master Schedule)	54%	51%
90 minutes uninterrupted core reading block is ALL-INCLUSIVE (All students in grade included)	64%	66%
K-2 = 30 additional minutes for Tier 2 (Schedule)	78%	83%
For Tier 2 in grades K-2, intervention group size is 3-5 (intervention form)	39%	44%
Tier 2: progress monitoring occurs biweekly for students on appropriate CBM predictive indicator (PM Graph)	73%	93%
Tier 2 students are progress monitored on grade level (PM Graph)	85%	98%

Note. N=59 schools.

Table 2. Fundamental indicators that promote Tier 3 reduction in school.

Indicator	Fall 2017	Spring 2018
Curriculum Protocol is used to align interventions with the Grouping worksheets (intervention form) (Collaborative Team Workbook)	95%	93%
90 minutes uninterrupted core reading block (Master Schedule)	54%	51%
K-2 = 60 additional minutes for Tier 3 (Schedule)	46%	54%
For Tier 3 in grades K-2, intervention group size is 3 or less (intervention form)	39%	49%
Tier 3: progress monitoring occurs weekly for students on appropriate CBM predictive indicator (PM Graph)	73%	81%
Instructional adjustments are documented on progress monitoring graphs (PM Graph)	36%	63%

Note. N=59 schools.

Afterschool Fidelity

The overall average fidelity score of KRR sites was consistent at 80% in both semesters. A small increase, however, was observed in the average score of fundamental indicators (Table 3). The average fundamental afterschool indicator score increased from 79% to 84% from fall to spring. **This suggests an improvement in afterschool program implementation, in regards to the fundamental key indicators of the program.**

Table 3. Fundamental indicators that promote Tier 1 growth and Tier 3 reduction in the afterschool program.

Indicator	Fall 2017	Spring 2018
30 minutes for PA/Phonics skills	87%	87%
Tutors use Benchmark/95% Group (Lesson Plans)	82%	75%
EITHER: If groups consist of different skill levels, activities are differentiated to meet individual student needs (Lesson Plans/Questioning) OR: If groups are one independent skill (best practice), appropriate skill level is being reinforced, as directed by in-school intervention.	78%	84%
Group 2 students work on fluency (Intervention Worksheet)	80%	87%
PCs collect in-school PM levels to determine One Minute Reader Placement (PM Graph/Intervention Worksheet)	76%	93%
Tutors monitor and listen to students reading (Observation)	75%	76%
Tutors will check students' accuracy rates periodically and always on the last story before moving them to a different book. (Fluency Logs)	69%	73%
Cross-check grouping (quadrant) worksheets with screener data (grouping worksheets)	85%	95%
Check for alignment of in-school and after-school interventions (intervention worksheet and after school schedule)	81%	87%

Note. N=55 schools.

LIFE Fidelity

The LIFE fidelity assessment tool was developed to assess the implementation in each component and each session. Initial review of the data showed low variation across items and a high ceiling effect (e.g., high ratings for most items). The fidelity assessment tool is being revised in the 2018-19 year.

Reading Outcomes

Standardized Assessments

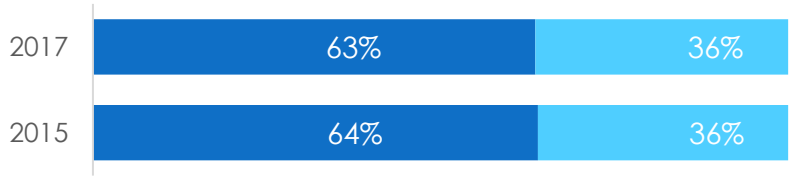
National and state standardized assessments results can be used to place student achievement in context. **How are students in KRR schools performing in comparison to others in the state and the nation?**

In the previous academic year, 2016-17, national data showed roughly one-third of fourth graders in the U.S. were reading at proficient or above. In the State of Kansas, about 40% of third-grade students were reading at or above standards. Similarly, for KRR schools, about 40% of third-grade students were reading at or above standards.

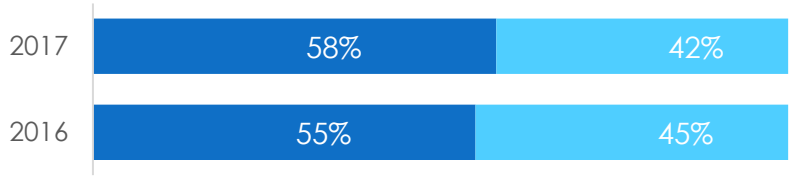
Comparatively, from one academic year to the next, there was a slight decline in the percentage of students reading proficiently nationally, state-wide, and in the KRR sample. KRR schools, however, showed a *smaller decrease* compared to the state.

In sum, these findings show KRR schools are performing close to state levels on standardized reading assessments but demonstrated a smaller decrease in performance over time. **Considering the percentage of free- or reduced-lunch students in KRR schools is 68% compared to the state average of 52%, these results are promising and suggest some program impacts on third-grade reading achievement for economically-disadvantaged schools.**

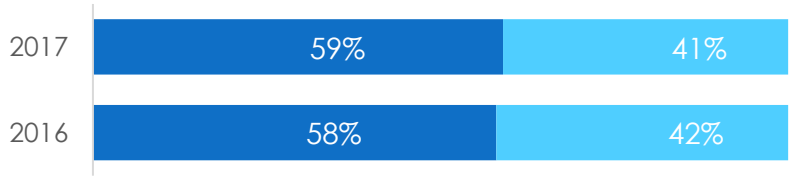
National Assessment for Educational Progress (NAEP) – 4th Grade



State of Kansas Reading Assessment – 3rd Grade



KRR Schools Reading Assessment – 3rd Grade



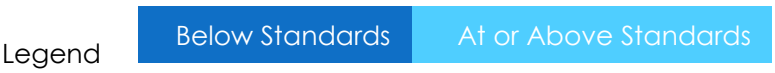


Figure 1. Standardized assessment results for national, state, and KRR schools.

Normative Expectations for Growth

Research data show students make the most reading growth during the early elementary grades and growth rates decline steadily through high school years (Hill et al., 2007). Based on this data, **how do KRR student growth compare to a typical year of growth?**

Results showed growth gains in effect size from grades 1-2 in KRR schools was 1.06 SD, which is comparable to the national norms. Gains in grades 2-3 was slightly below the national norms at 0.46 SD, but estimates are within the margin of errors. In sum, these results show students in KRR schools are performing similar to their peers at the national level.

Together with the findings from standardized assessments, the findings show KRR schools are performing similarly to state and national levels. But the achievement gap for KRR schools is smaller compared to what is reported in the literature between high- and low-income students. **Findings suggest some program impacts on maintaining normal student growth in economically-disadvantaged schools.**

Table 4. Effect size for grade transition for KRR sample.

	National Norm		KRR Schools	
Grade Transition	Mean	Margin of error	Mean	Margin of error
Grade K-1	1.52	±0.21	N/A	N/A
Grade 1-2	0.97	±0.10	1.06	±0.05
Grade 2-3	0.60	±0.10	0.46	±0.05

Note. N/A = Not available. National norm data from Hill et al. (2007). KRR schools (*N*=48) data from 2016-17 and 2017-18 academic year.

Percentage Change in Tier

Overall, results for the whole school showed kindergarten students made the most growth from fall to spring, with most kindergartners reading at benchmark by the spring (86%). For first-grade students, there was a drop in the percentage of students in Tier 1, which was observed in both non-afterschool and afterschool samples. For second- and third-grade students, there was smaller Tier 1 growth and Tier 3 reductions from fall to spring.

KRR Non-Afterschool Students

Non-afterschool students enrolled in KRR schools started the fall semester with roughly 60% of students in Tier 1 for all grades. From fall to spring, the largest gains in Tier 1 was seen in kindergarten, with the lowest gains (reduction) in first grade. A similar pattern was seen for Tier 3 reduction. Overall, results showed non-afterschool start the year at higher achievement levels and make some growth over time.

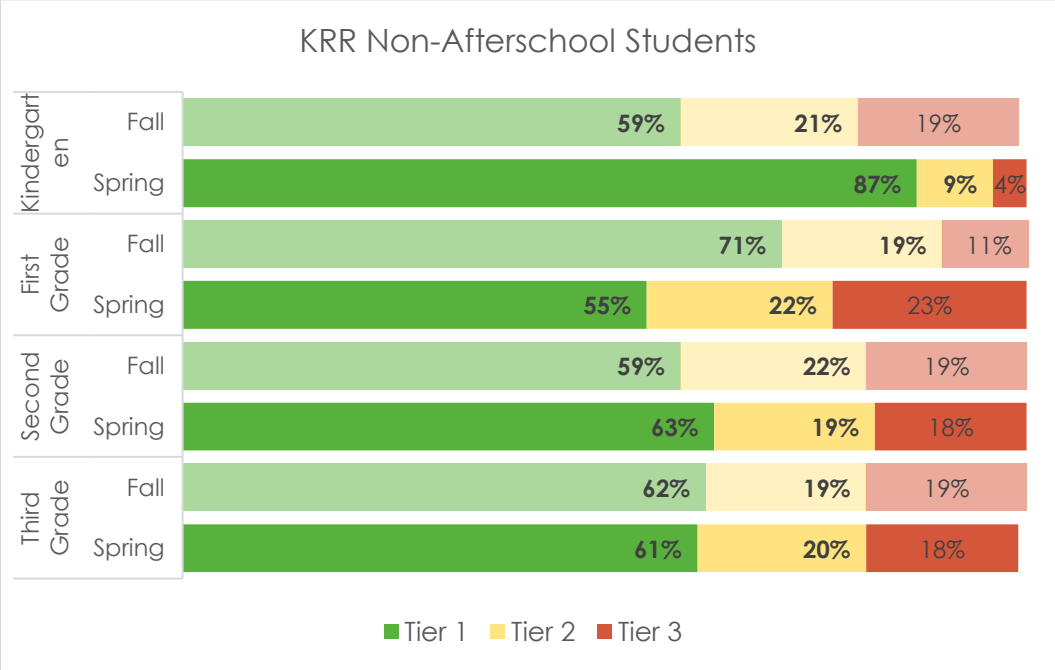


Figure 2. Percentage change in tier from fall to spring for KRR non-afterschool students.

KRR Afterschool Students

KRR afterschool students started the fall semester below their non-afterschool peers: across all grades, the percentage of students in Tier 1 was smaller and the percentage of students in Tier 3 was higher. From fall to spring, there was higher Tier 1 increases for afterschool students, compared to non-afterschool students, in all grades. Kindergarten afterschool students make enough growth to catch up to their peers by spring. In all other grades, the achievement gap was closed over time. Even though older afterschool students did not reach the same performance as their peers, they have demonstrated a growth over time and closed the achievement gap.

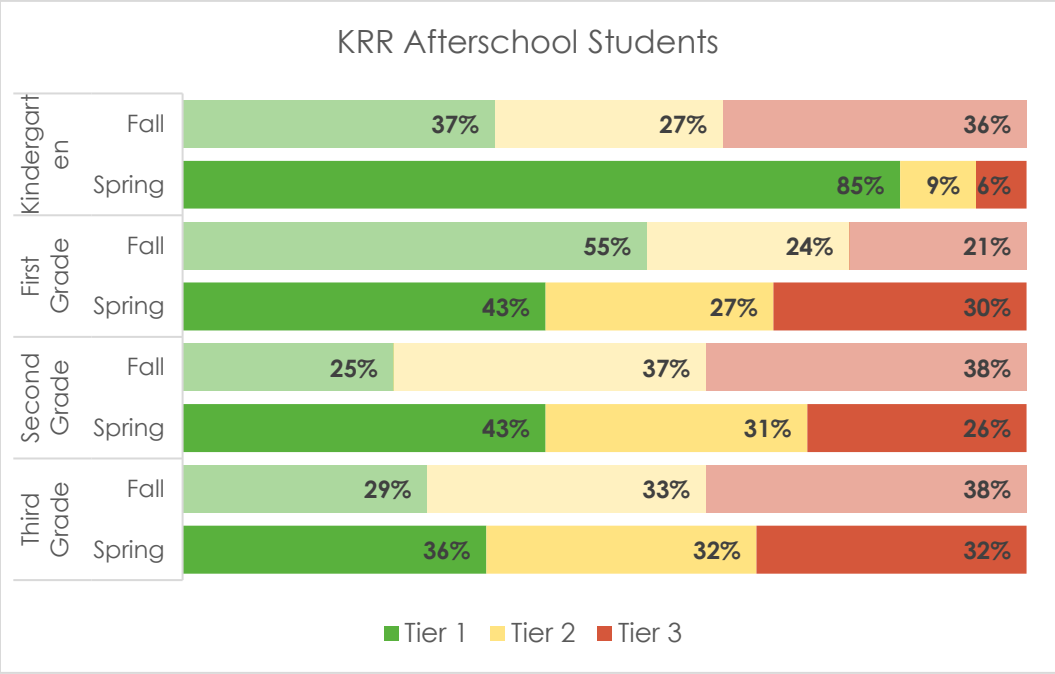


Figure 3. Percentage change in tier from fall to spring for KRR afterschool students.

Achievement gap. Overall, afterschool students start the academic year with lower levels of achievement compared to non-afterschool students. Figure 4 shows the change in the percentage of students in Tier 1 from fall 2017 to spring 2018 for non-afterschool and afterschool students[3]. The figure shows a higher percentage of non-afterschool student population started the fall semester at the grade reading level compared to their peers in the afterschool program, across all grade level. This gap between the two groups had been diminished over time during the school year at each grade level. This performance of KRR afterschool participants were particularly significant among kindergartners and first graders while the assessment type remined the same. Kindergarten student groups has almost the same percentage of students at grade level reading at the end of the school year.

[3] The dashed lines between semesters indicate that the reading assessments in these semesters are different. Therefore, a better comparison between the two groups will be seen through the trends shown with straight lines.

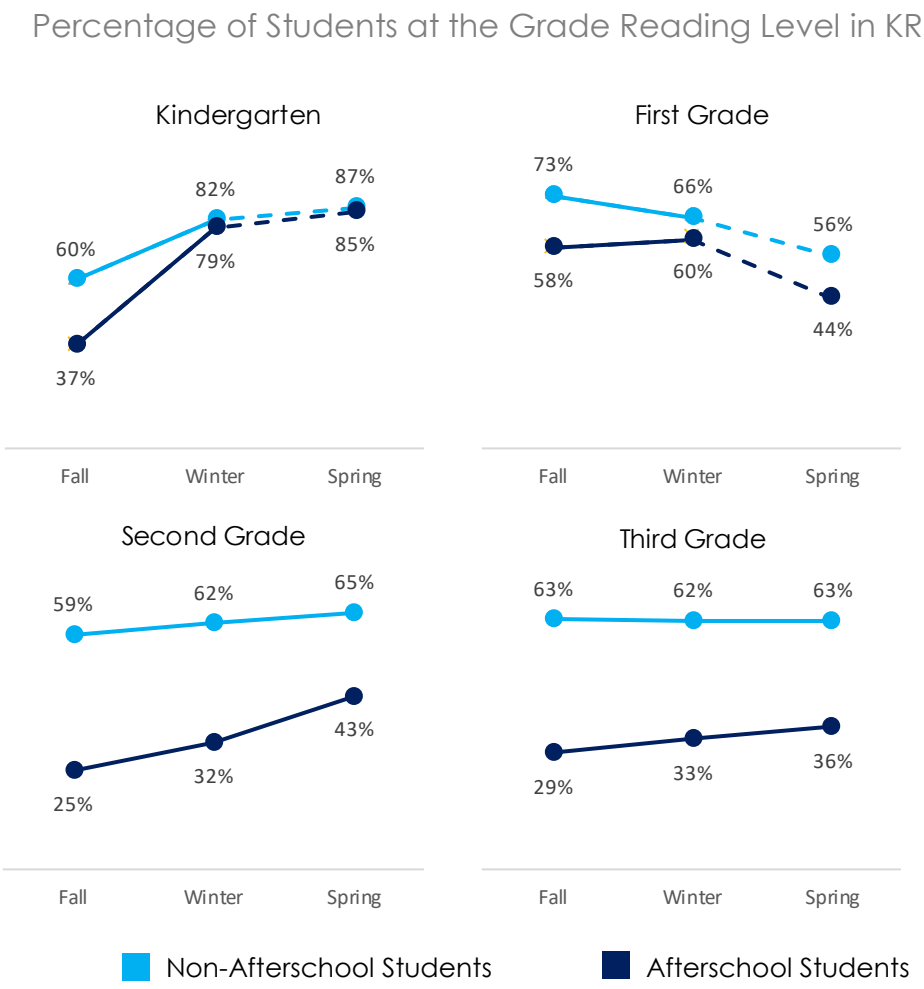


Figure 4. Percentage of students in Tier 1 from for KRR afterschool and non-afterschool students.

Table 5 shows the Tier 1 achievement gap between KRR afterschool and non-afterschool students for all grades. From fall to spring, the gap was closed for kindergarten students. A similar trend was observed for each grade level, with different magnitudes. For older students, the gap between non-afterschool and afterschool students shrunk by 25%, 41%, and 21%, respectively for first, second, and third grade.

Table 5. Achievement gap in Tier 1 between non-afterschool and afterschool students.

	Tier 1 Gap	
Grade	Fall 2017	Spring 2018
Kindergarten	22%	2%
First Grade	16%	12%
Second Grade	34%	20%
Third Grade	33%	26%

Tier Transition

KRR afterschool students closed the Tier 1 achievement gap over time. To provide a better understanding of the trend in each tier group, we looked at the rates of students transitioning between tiers.

Figure 5 shows the Tier 1 net transition rates for non-afterschool and afterschool students. A high transition rate was observed in both groups among kindergartners: 7 out of every 10 afterschool kindergarteners transitioned from Tier 2 or Tier 3 to Tier 1 by the end of the school year. This rate was 6 out of 10 for non-afterschool students.

A larger difference in the Tier 1 transition rate was observed among the students in grades 2 and 3. For second graders, 1 out of every 4 afterschool students moved up to Tier 1 compared to less than 1 out of every 7 students among non-afterschool students. Among third graders, the Tier 1 transition rate was 9% for afterschool students, and non-afterschool showed no Tier 1 transition.

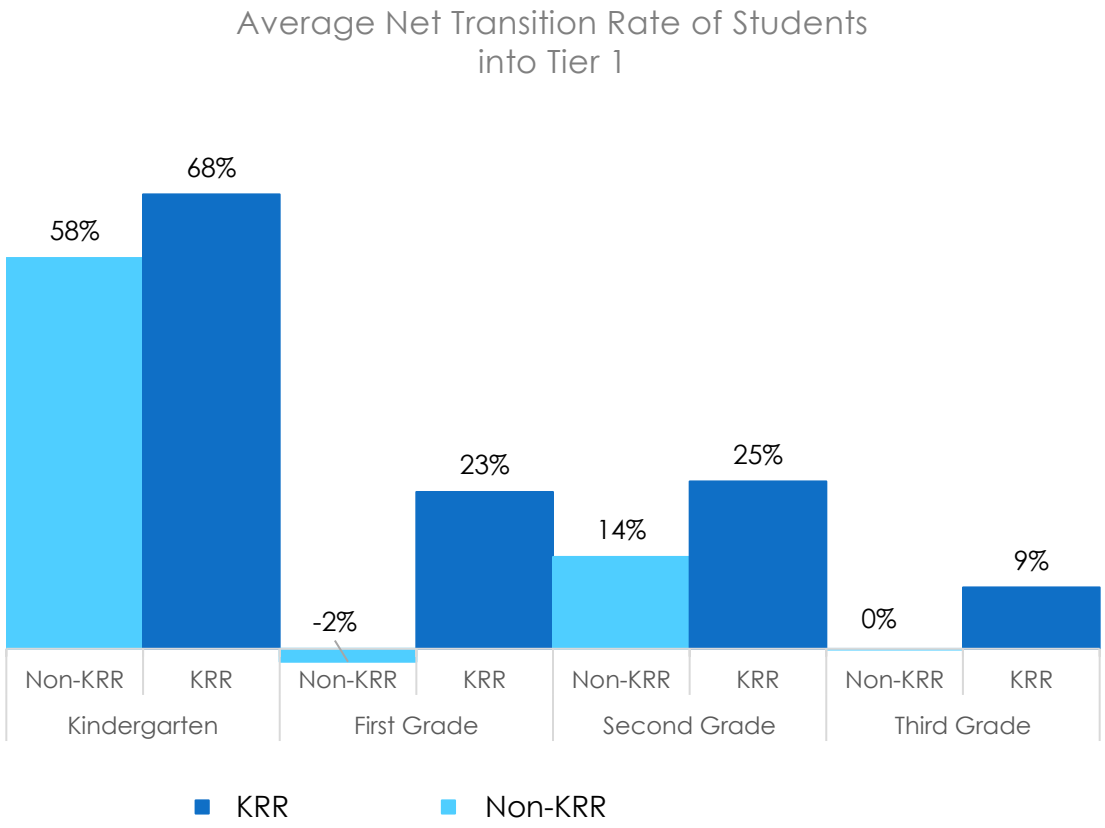


Figure 5. Tier 1 net transition rates for KRR afterschool (KRR) and non-afterschool students (non-KRR).

One goal of the KRR program is to reduce the number of students in Tier 3. For kindergarten and first grade, the Tier 3 net transition rate was similar for both non-afterschool and afterschool students. However, a large difference between afterschool and non-afterschool students was observed in grades 2-3.

The Tier 3 net transition rate was three times larger for afterschool students, compared to non-afterschool students. For third graders, the rate was more than two times larger for afterschool

students, compared to non-afterschool students. **Overall, these results suggest the KRR afterschool program is moving older students out of Tier 3, the intensive intervention support group.**

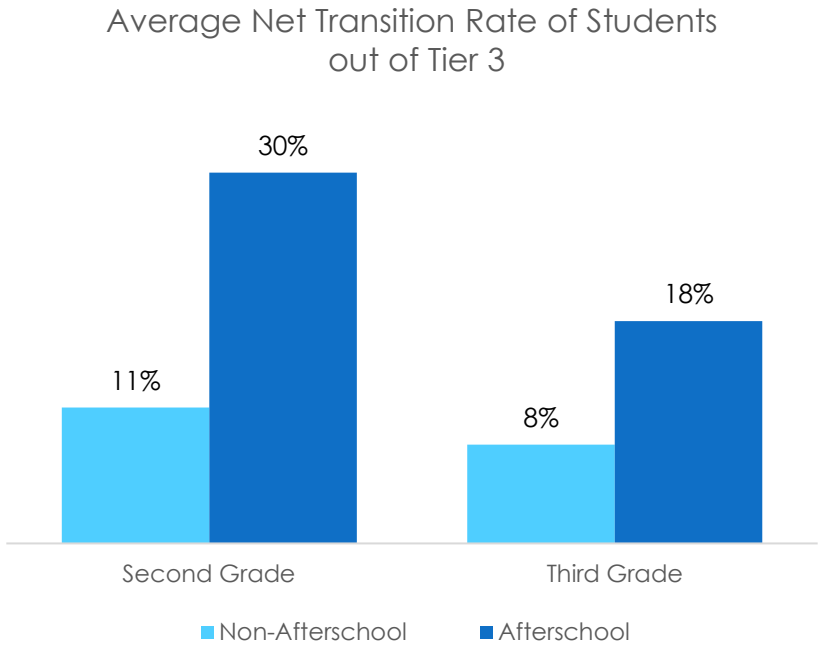


Figure 6. Tier 3 net transition rate for KRR afterschool and non-afterschool students in grades 2-3.

LIFE Outcomes

Home Reading Behavior

Results showed a small, but significant increase in home reading behavior, including child reading aloud to himself/herself, child reading to family members, and family members reading to child. Findings suggest that parents are not only learning the lessons taught in LIFE, but also applying them at home to increase home reading behavior.

Family Experiences

At the end of the LIFE program, parents provided feedback on their experiences and what they learned.

Family Bonding – 58% of respondents

> *"This program brought us closer together. We do more together, we talk more together, we spend much more time together, and I couldn't be any happier."*

LIFE nights provide families with opportunities to spend time together, without screens and other distractions. Families reported that LIFE activities helped them connect to each other through eating together, reading aloud, sharing stories, and playing one-on-one. Families' bonds were strengthened within and with other families as parents connected and shared stories with each other.

Socioemotional Learning – 35% of respondents

> *"I was able to spend time with each of my children and they slowed down long enough to have a face to face conversation with me each week and to work on their focus and listening skills. It's important to me that they know what they think and feel."*

Families reported learning about their emotions and how to listen and talk to their children. Attuned Listening provided the structure and model for how families can engage in one-on-one communication that deepens bonds. Parents and children learned and practiced identifying, expressing, and responding to emotions.

Early Literacy and Reading – 21% of respondents

> *"We learned how to help our kids read better with games and teaching techniques."*

The LIFE program introduces parents to the importance of reading at home with their children. Families practiced reading activities in LIFE nights and learned how they can do bring those activities home. In addition, MTSS literacy nights introduced families to how their children are assessed in schools.

Conclusion

The Kansas Reading Roadmap provides structured, out-of-school opportunities for students to develop and sustain literacy skills in grades K-3. KRR partners with schools and aligns intervention supports with school instruction and practices. In this way, KRR is working to extend children's access to literacy opportunities beyond the school hours. And by using school assessment data and diagnostics, KRR provides individualized supports for each child that is aligned with school-day instruction. This partnership with the schools helps children become successful readers.

Key Findings

Program Participation

KRR partners with schools that serve a large population of low-income students: KRR schools enroll 68% low-income students compared to the state average of 52%. Within these schools, KRR targets struggling readers, students who are not reading at grade level. **The population KRR serves is students who are most at risk due to the compound effects of being low-income and academically behind**. To meet their needs, KRR provides individualized supports aligned with in-school data and instruction.

In the 2017-18 school year, KRR served over **5,500 students** in the afterschool and summer programs and offered over **590,000 hours of out-of-school time** learning opportunities. In addition, the LIFE program served more than **1,500 families** with over **800 hours of family engagement** programming. The KRR program also contributed to economic opportunities in Kansas communities by creating more than **1,300 part- and full-time jobs** throughout the state.

Overall School Achievement

Findings show KRR schools are performing similarly to national and state trends in standardized assessments and growth rates. These results should be considered in context as the population served is low-income schools. Research has documented a significant gap between low- and

high-income students (Chmielewski & Reardon, 2016; Reardon & Portilla, 2015). **The achievement gap, however, is less pronounced in KRR schools and suggests program impacts on whole-school change.**

Student Reading Achievement

At the beginning of the 2017-18 school year, 35% of KRR afterschool students were at or above the targeted benchmark score (Tier 1), compared to 63% for non-afterschool students. By the end of the school year, the percentage of students in Tier 1 was 49% and 68%, for afterschool and non-afterschool students, respectively. **The KRR program helped about 21% of its student population move from below benchmark at the beginning to at or above benchmark by the end of the year.** Non-afterschool students in the same school achieved only 12% success rate in comparison.

This rate of transitioning into benchmark was the highest among the kindergartners for both afterschool and non-afterschool students. In kindergarten, afterschool students almost closed a 22% gap that existed in the fall. In second grade, afterschool students, compared to non-afterschool, had more than twice as much success in transitioning to Tier 1 and almost three times as much in transitioning out of Tier 3. Similarly, in third grade, 18% of the KRR afterschool students moved out of Tier 3, compared to non-afterschool students at 8%. In addition, 9% of third-grade afterschool students moved into Tier 1, compared to close to 0% of non-afterschool students. Overall, **the findings suggest that KRR afterschool students are closing the achievement gap by moving into benchmark and transitioning out of intensive support.**

Family Outcomes

Findings show parents who participated in LIFE reported a small increase in home literacy behavior (e.g., child read out loud). In addition, parents reported bonding experiences with their children, learning about home literacy development, practicing social and emotional skills, as well as networking with other families. Overall, the **findings suggest, in just eight weeks of programming, parents were not only able to learn home literacy skills, but also able to implement it at home.**

Limitations

There are several limitations that need to be considered. First, this evaluation study did not take into account student demographics or characteristics that may be related to achievement due to limitation in the data set. Second, this study focused only on schools that have one year or more of full implementation of the KRR program. Results for the whole sample can be found in Appendix C. Third, where possible, we tried to compare findings to data from state- or nation-wide sources, but information about tier transition rates are not available. Therefore, these results need to be followed up on to see if the same pattern emerges in different years of data.

Implications

Program participation data show roughly 28% of K-3 students in KRR schools were enrolled in the afterschool program, of which only about 20% received more than 60 sessions out of a total of 100 afterschool sessions. Considering the potential academic and family benefits, the first recommendation is to consider ways to make the program accessible to more students in current KRR schools and potential schools. Second, to maximize the academic benefits of the program, student need to be retained throughout the year. Program staff can continue to use and implement strategies for successful student retention. In addition, more low-income students and schools can also benefit from this educational opportunity.

By the end of the school year, 80% of afterschool programs fulfilled core afterschool program requirements. Fidelity to the model is important because it may be linked to outcomes. When we consider KRR as a whole-school change model for literacy development, the coordination of in-school and afterschool practices becomes even more important. Therefore, it is recommended that the in-school fidelity component continue to be worked on and be improved upon to augment the current average of 70%. Ongoing program fidelity is an important piece of the KRR model and program staff continue to develop the measure, collect data, and monitor progress.

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Appendices

Appendix A. Methods

Table A1. List of KRR schools and inclusion in analysis.

USD Name	School Name	Inclusion
Morris	Prairie Heights Elementary	
Great Bend	Eisenhower Elementary	
Riverton	Riverton Elementary	
Pittsburg	Lakeside Elementary	N
Labette	Mound Valley Grade School	
Oswego	Neosho Heights Elementary	
Neosho Rapids	Neosho Rapids Elementary	
Madison Virgil	Madison Elementary	
Great Bend	Riley Elementary	
Great Bend	Jefferson Elementary	
Garden City	Gertrude Walker Elementary	
Chetopa	Chetopa Elementary	
Labette	Altamont Grade School	
Pittsburg	Westside Elementary	N
Hugoton	Hugoton Elementary	
Labette	Edna Grade School	
West Bourbon	West Bourbon Elementary	
Valley Heights	Blue Rapids Elementary	
Baxter Spring	Lincoln Elementary	
Wyandotte County	Wyandotte Boys and Girls Club	N
Columbus	Park Elementary	
Morris	Council Grove Elementary	
Manhattan	Bluemont Elementary	
Concordia	Concordia Elementary	
Humboldt	Humboldt Elementary	
Labette	Meadow View Grade School	
Central Heights	Central Heights Elementary	
Great Bend	Park Elementary	
Manhattan	Theodore Roosevelt Elementary	
Great Bend	Lincoln Elementary	
Garden City	Florence Wilson Elementary	
Cherokee	Southeast Elementary	
Pittsburg	Meadowlark Elementary	N
Manhattan	Marlatt Elementary	N
Garden City	Abe Hubert Elementary	
Elk Valley	Elk Valley Elementary	

Bentley	Bentley Primary	N
Garden City	Victor Ornelas Elementary	
Garden City	Buffalo Jones Elementary	
Oskaloosa	Oskaloosa Elementary	
Herington	Herington Elementary	
Onaga	Onaga Grade School	
Santa Fe Trail	Overbrook Attendance Center	
Pittsburg	George E. Nettels Elementary	N
Wichita	Mueller Elementary	
Fairfield	Fairfield Elementary	
Parsons	Lincoln Elementary	
Sedan	Sedan Elementary	
Manhattan	Lee Elementary	
Olathe	Olathe Boys and Girls Club	N
Columbus	Highland Elementary	
Labette	Bartlett Grade School	
Parsons	Garfield Elementary	
Wellington	Kennedy Elementary	N
Wellington	Lincoln Elementary	N
Wellington	Washington Elementary	N
Ogden	Ogden Elementary	N
Ogden	Northview Elementary	N
Wichita	Gordon Parks Academy	N
Wichita	Spaght Science and Communications Magnet	N
Cherryvale	Lincoln Central Elementary	N
Baxter Spring	Central Elementary	
Ogden	Frank V. Bergman Elementary	N
Valley Heights	Waterville Elementary	
Wichita	Martin Ortiz Elementary	N

Tier Transition Rate

We calculated the net proportion of the student population who achieved or exceed the benchmark (Tier 1) score in each grade and the net proportion of students who moved out of below benchmark (Tier 3). We defined the transition rate in net terms because the rates in our analysis accounts for the students who had an undesired tier movement (out of Tier 1 and in to Tier 3). This approach allowed us to interpret the transition rates as pure success rate of each group in Tier 1 growth and Tier 3 reduction.

$$\text{Into Tier 1 Net Transition Rate} = \begin{cases} \dfrac{T_{1s} - T_{1f}}{1 - T_{1f}}, T_{1f} < T_{1s} \\ \dfrac{T_{1s} - T_{1f}}{T_{1f}}, T_{1f} \geq T_{1s} \end{cases}$$

where T_{1f} is the percentage of student population who achieved the benchmark score in CBM reading assessment in the fall semester, and T_{1s} is the percentage of the same student population in the spring semester.

$$\text{Out of Tier 3 Net Transition Rate} = \begin{cases} \dfrac{T_{3f} - T_{3s}}{T_{3f}}, T_{3f} > T_{3s} \\ \dfrac{T_{3f} - T_{3s}}{1 - T_{3f}}, T_{3f} \leq T_{3s} \end{cases}$$

where T_{3f} is the percentage of student population who ranked in the Tier 3 group based on the CBM reading assessment results in the fall semester, and T_{3s} is the percentage of the same student population in the spring semester.

Effect Size Equations

$$d = \frac{(M_1 - M_2)}{s}$$

$$s^2 = \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}$$

$$t = d/\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$$

$$Cohen's\ d\ CI = ncp \times \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}$$

$$inverse\ weighted = \frac{2n_1n_2(n_1 + n_2)}{2(n_1 + n_2)^2 + n_1n_2d^2}$$

$$d^* = \frac{\sum(w_i d_i)}{\sum w_i}$$

Appendix B. Program Implementation

The KRR program extends the MTSS framework to out-of-school time, with the goal of moving students into core instruction (Tier 1) and out of Tier 2 (supplemental support) and Tier 3 (intensive support). KRR partners with school districts, individual schools, and Boys & Girls Clubs. The following lists show the requirements needed for full and effective implementation of the in-school and afterschool components. The fidelity requirements were developed in partnership with TASN. Among the items, fundamental indicators for in-school and afterschool programs that aim to increase the number of students in Tier 1 and to reduce the number of students in Tier 3 groups were selected (denoted with *Tier 1 and **Tier 3 and +afterschool).

List 1B. KRR Program Implementation In-school Fidelity Measures

Comprehensive Assessment Plan

CAP.1: Universal screenings with CBMs are conducted 3 times a year (fall, winter, spring) (assessment plan)

CAP.2: Shadow scoring is completed to ensure fidelity of benchmark assessment process (question)

CAP.3: School has completed a Comprehensive Assessment Plan with CBM and diagnostic (QPS, PAST) measure (assessment plan)

MTSS Procedures

MTSS.1: A research-based core curriculum is identified (Curriculum Protocol)*

MTSS.2: Required components of the core curriculum are implemented according to guidelines/manuals (checklist/guide)

MTSS.3: Use CBM accuracy and fluency data to complete MTSS/DIBELS Grouping worksheets to determine student need (SharePoint/Worksheet)*

MTSS.4: QPS data is used to group students in Q3 interventions

MTSS.5: AIMSweb schools use PAST data to only group kindergarten students for interventions in the fall. DIBELS schools use FSF to group kindergarten students in fall & winter (intervention worksheet)

MTSS.6: Curriculum Protocol is used to align interventions with the Grouping worksheets (intervention form) (Collaborative Team Workbook)**

MTSS.7: 90-minute uninterrupted core reading block (Master Schedule)* **

MTSS.8: 90-minute uninterrupted core reading block is ALL-INCLUSIVE (All students in grade included)*

MTSS.9: K-2 = 30 additional minutes for Tier 2 (Schedule)**

MTSS.10: K-2 = 60 additional minutes for Tier 3 (Schedule)

MTSS.11: For Tier 2 in grades K-2, intervention group size is 3-5 (intervention form)* **

MTSS.12: For Tier 3 in grades K-2, intervention group size is 3 or less (intervention form)

MTSS.13: Interventions occur during state assessments for K-2 (questioning)

MTSS.14: Communication of diagnostic information (QPS, PAST) to PC regularly (questioning)

Progress Monitoring

PM.1: Shadow scoring is completed to ensure fidelity of progress monitoring assessment process* (questioning)

PM.2: Short-term goals are used for students not making progress (PM Graph/log)

PM.3: MTSS Research-Based Practice Document is used for students not making progress* (form/document)

PM.4: Tier 2: progress monitoring occurs biweekly for students on appropriate CBM predictive indicator (PM Graph)*

PM.5: Tier 3: progress monitoring occurs weekly for students on appropriate CBM predictive indicator (PM Graph)**

PM.6: Tier 2 students are progress monitored on grade level (PM Graph)*

PM.7: Tier 3 students are backwards tested, and progress monitored on instructional level (BW testing form/PM Graph)

PM.8: Droplines are used when students have 3 consecutive data points below the aim line (PM Graph)

PM.9: Utilize universal screening software for PM Reporting (PM Graphs)

PM.10: Instructional adjustments are documented on progress monitoring graphs (PM Graph)**

Teams/Leadership Teams

T/LT.1: Building Leadership Teams (BLT) exist and meet once a month (Questioning - Schedule)

T/LT.2: BLTs uses the MTSS agenda to guide the process* (Agenda From Systems Guide)

T/LT.3: Collaborative Teams meet at least once a month (Questioning - Schedule)

T/LT.4: Collaborative Teams meet and use data for analysis and decision making

T/LT.5: Core Beliefs are documented and reviewed at least once a month* (Core Beliefs Form)

Program Coordinator

PC.1: Attend BLT meetings (Questioning)

Third Grade Initiative

TGI.1: Have 3rd Grade Tier 3 Students passed NWF (as a First Grader)? (Tier 3 Only)

TGI.2: Are group sizes for Tier 2 intervention groups in 3rd grade up to 5 students?

TGI.3: Are group sizes for Tier 3 intervention groups in 3rd grade up to 3 students?

TGI.4: Does third grade receive 30 mins of Tier 2 intervention time?

TGI.5: Does third grade receive 60 mins of Tier 3 intervention time?

TGI.6: Interventions occur during state assessments for Grade 3 (questioning)

TGI.7: Schools use ELA Claims and Targets to prepare for State Assessments (questioning)

List 2B. KRR Program Implementation Afterschool Fidelity Measures

Individualized Skill Reinforcement (ISR)

ISR.1: 30 minutes for PA/Phonics skills+

ISR.2: Tutors use Benchmark/95% Group (Lesson Plans)+

ISR.3: If groups consist of different skill levels, activities are differentiated to meet individual student needs (Lesson Plans/Questioning), OR: If groups are one independent skill (best practice), appropriate skill level is being reinforced, as directed by in-school intervention.+

ISR.4: Students are engaged in lessons/activities (Observation)

Individual Independent Reader (IIR)

IIR.1: Group 1 students work on comprehension (Observation)

IIR.2: Students read independently, with support as needed from the tutor and with books at the appropriate student reading level (Observation)

IIR.3: Students use reading logs to track progress (Logs)

IIR.4: Tutors use book talks to assess comprehension (Observation/Logs)

IIR.5: Group 2 students work on fluency (Intervention Worksheet)+

IIR.6: PCs collect in-school PM levels to determine One Minute Reader Placement (PM Graph/Intervention Worksheet)+

IIR.7: Tutors monitor and listen to students reading (Observation)

IIR.8: Tutors will check students' accuracy rates periodically and always on the last story before moving them to a different book. (Fluency Logs)+

Structured Read-Aloud (SRA-V)

SRA-V.1: 30 minutes are allotted for SRA-V (schedule)

SRA-V.2: Tutors select Tier 2 vocabulary words (3-5 words per week) as indicated on lesson plans

SRA-V.3: Tutors review words on the word wall (observation)

SRA-V.4: Students are engaged in read-aloud and vocabulary reinforcing activities* (observation)

SRA-V.5: Tutors follow the KRR provided SRA-V Lesson Plan (Observation)

Healthy Kids

HK.1: 30 minutes are allotted for Healthy Kids (schedule)

HK.2: Warm-up activity is low intensity (Observation)

HK.3: At least one physical activity is moderate to high intensity (come from CATCH curriculum) (Lesson Plan/Observation)

HK.4: All children actively participate in activities (Observation)

HK.5: Tutors actively engaged with students (Observation)

Program Coordinator

PC.1: Recruit students in Tier 2 and 3 (student list)

PC.2: Continue to recruit throughout the year (student list)

PC.3: Cross-check grouping (quadrant) worksheets with screener data (grouping worksheets)+

PC.4: Check for alignment of in-school and after-school interventions (intervention worksheet and after school schedule)+

PC.5: Assess alignment of after school curriculum with the curriculum protocol for after school interventions

PC.6: Keep SharePoint updated according to KRR requirements and deadlines (SharePoint)

PC.7: Regularly attend conference calls with Program Managers

PC.8: Collects lesson plans from tutors and use these plans to check fidelity (Lesson Plans)

PC.9: PC collects in-school data to correctly group students. (BGC - PCs complete diagnostic and assign groups when in-school data are not available.) (Intervention Worksheet)

PC.10: PCs use in-school phonics screener data to align after school groups for ISR. (Updated Intervention Sheet)

PC.11: PCs observes each tutor during a session at least once a semester (Fidelity tracker).

Appendix C. Results for Whole Sample

Table C1. Standardized assessments for whole sample.

	National 4th Grade		State of Kansas 3rd Grade		KRR Schools 3rd Grade	
Year	Below Proficient	Proficient or above	Below standards	Meet or above standards	Below standards	Meet or above standards
2016 (NAEP 2015)	64%	36%	55%	45%	59%	41%
2017	63%	36%	58%	42%	59%	41%

Note. Public data available from National Assessment for Educational Progress and Kansas State Department of Education; KRR schools (*N*=57).

Table C2. Effect size for grade transition for whole sample.

	National Norm		KRR Schools	
Grade Transition	Mean	Margin of error	Mean	Margin of error
Grade K-1	1.52	±0.21	N/A	N/A
Grade 1-2	0.97	±0.10	1.03	±0.04
Grade 2-3	0.60	±0.10	0.48	±0.04

Note. N/A = Not available. National norm data from Hill et al. (2007). KRR schools (*N*=48) data from 2016-17 and 2017-18 academic year.

Table C3. Descriptive statistics for oral reading scores for whole sample.

	Spring 2017			Spring 2018		
	n	Mean	SD	n	Mean	SD
R-CBM						
Grade 1-2	836	60.22	37.16	836	98.89	38.52
Grade 2-3	839	100.14	37.03	839	120.46	39.80
DORF						
Grade 1-2	289	66.55	32.57	289	101.71	35.10
Grade 2-3	356	99.73	35.22	356	112.44	35.53

Note. *SD* = standard deviation, *n* = sample size.

Appendix D. Supplemental Tables for KRR Sample

Table D1. Curriculum-Based Measurement predictors for each grade.

	Fall	Winter	Spring
Kindergarten	Letter Naming Fluency (LNF)—AIMSweb	Phoneme Segmentation Fluency (PSF)—AIMSweb, DIBELS	Phoneme Segmentation Fluency (PSF)—AIMSweb, DIBELS
	First Sound Fluency (FSF)—DIBELS	First Sound Fluency (FSF)—DIBELS	Word Segmentation (WS)—FastBridge
	Onset Sound (OS)—FastBridge	Word Segmentation (WS)—FastBridge	
First Grade	Nonsense Word Fluency (NWF)—AIMSweb	Nonsense Word Fluency (NWF)—AIMSweb	Oral Reading Fluency (R-CBM)—AIMSweb
	Nonsense Word Fluency-Correct Letter Sounds (NWF-CLS)—DIBELS	Nonsense Word Fluency-Correct Letter Sounds (NWF-CLS)—DIBELS	DIBELS Oral Reading Fluency-Words Correct (DORF)
	Nonsense Words (NW)—FastBridge	Nonsense Words (NW)—FastBridge	CBM Reading (CBM-R)—FastBridge
Second and Third Grade	Oral Reading Fluency (R-CBM)—AIMSweb	Oral Reading Fluency (R-CBM)—AIMSweb	Oral Reading Fluency (R-CBM)—AIMSweb
	DIBELS Oral Reading Fluency-Words Correct (DORF)	DIBELS Oral Reading Fluency-Words Correct (DORF)	DIBELS Oral Reading Fluency-Words Correct (DORF)
	CBM Reading (CBM-R)—FastBridge	CBM Reading (CBM-R)—FastBridge	CBM Reading (CBM-R)—FastBridge

Table D2. Standardized assessments for KRR sample.

	National 4th Grade		State of Kansas 3rd Grade		KRR Schools 3rd Grade	
Year	Below Proficient	Proficient or above	Below standards	Meet or above standards	Below standards	Meet or above standards
2016 (NAEP 2015)	64%	36%	55%	45%	58%	42%
2017	63%	36%	58%	42%	59%	41%

Note. Public data available from National Assessment for Educational Progress and Kansas State Department of Education; KRR schools (*N*=42).

Table D3. Descriptive statistics for oral reading scores for KRR sample.

	Spring 2017			Spring 2018		
	n	Mean	SD	n	Mean	SD
R-CBM						
Grade 1-2	652	61.84	35.99	652	100.88	36.94
Grade 2-3	642	101.69	35.91	642	120.95	38.66
DORF						
Grade 1-2	289	66.55	32.57	289	101.71	35.10
Grade 2-3	356	99.73	35.22	356	112.44	35.53

Note. *SD* = standard deviation, *n* = sample size.

Table D4. The percentage change in tier for non-afterschool and afterschool students in KRR schools.

KRR Schools

	Fall 2017			Spring 2018		
Grade	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
Kindergarten	54%	24%	22%	86%	10%	4%
First Grade	67%	20%	13%	50%	24%	25%
Second Grade	48%	27%	25%	56%	23%	21%
Third Grade	53%	23%	24%	55%	23%	22%

Non-Afterschool Students

	Fall 2017			Spring 2018		
Grade	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
Kindergarten	59%	21%	19%	87%	9%	4%
First Grade	71%	19%	11%	55%	22%	23%
Second Grade	59%	22%	19%	63%	19%	18%
Third Grade	62%	19%	19%	61%	20%	18%

Afterschool Students

	Fall 2017			Spring 2018		
Grade	Tier 1	Tier 2	Tier 3	Tier 1	Tier 2	Tier 3
Kindergarten	37%	28%	34%	85%	9%	6%
First Grade	55%	24%	21%	43%	27%	30%
Second Grade	25%	38%	37%	43%	31%	25%
Third Grade	29%	32%	38%	35%	32%	32%

Table D5. 2017-18 school year Tier 1 and Tier 3 transition rates by grade level.

	Kindergarten		First Grade		Second Grade		Third Grade		Overall K-3	
	Transition Rate in to Tier 1	Transition Rate Out of Tier 3	Transition Rate in to Tier 1	Transition Rate Out of Tier 3	Transition Rate in to Tier 1	Transition Rate Out of Tier 3	Transition Rate in to Tier 1	Transition Rate Out of Tier 3	Transition Rate in to Tier 1	Transition Rate Out of Tier 3
Non-Afterschool	66.3%	82.1%	-23.6%	-13.7%	13.7%	11.3%	-0.1%	7.8%	12.0%	13.5%
Afterschool	76.1%	82.1%	-24.3%	-14.0%	25.0%	29.9%	9.2%	17.7%	20.9%	25.0%

Note: KRR schools (*N* = 48). Non-afterschool students are not enrolled in the KRR afterschool program. Afterschool students are enrolled in at least 60 sessions.