

# Raz-Kids and Reading A-Z:

## A REPORT ON THE 2013 SUMMER READING FIELD STUDIES

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January 2014



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### EXECUTIVE SUMMARY

*“[Raz-Kids Student] completed all of her books by the middle of July and she asked for more books (without quizzes but just to read). She grew a whole level over the two months and her reading rate improved. I believe she demonstrated that a self-motivated student with the proper tools and support can achieve goals and grow.”*  
**Raz-Kids Teacher Coordinator**

Throughout their educational careers how students define themselves as readers has far-reaching impacts on their development as learners, and more importantly on their future success in life. Those who excel at reading are not guaranteed future success, but they are further on their way than their peers who struggle with reading and related skills. High-quality reading programs can assist students in developing important literacy skills. Two promising programs are Learning A-Z’s Raz-Kids and Reading A-Z supplemental reading programs. These customizable, flexible K-6 reading programs are aligned to Common Core State Standards and state language arts curriculum standards, and were “created to mirror best practices as defined by years of classroom research.”

This report presents the results from two field studies designed to examine the extent to which these programs help at-risk elementary students gain important literacy skills. Conducted during the summer of 2013, the goal of these field studies was to determine whether “summer slide” could be mitigated through the use of Reading A-Z and Raz-Kids. “Summer slide” refers to the loss in reading skills that can occur when students are not exposed to quality reading materials during the summer. Data was collected by Learning A-Z, through cooperation with the three participating elementary schools. One school participated in the Reading A-Z field study ( $n=24$  students) and two schools participated in the Raz-Kids field study ( $n=53$  students). The following presents a summary of findings by evaluation question.

- ***Do Reading A-Z and Raz-Kids help prevent summer reading loss? What reading gains, if any, are observed?***

Results showed that 85% of students demonstrated gains in reading performance (either by showing increases in their independent reading level or increases in their test performance when tested at the same level). Thus, the vast majority of students were able to avoid “summer slide.”

Further analyses to determine whether gains were statistically significant<sup>1</sup> showed that, on average, students were able to grow by one reading level from pre to post-testing. Such findings are noteworthy given the limited duration of the summer studies (approximately 8 weeks) – indeed, oftentimes gains of one level *during the school year* occur every two months. Thus, the fact that a one level gain was observed within the 8 week time period, and with no additional instruction from a teacher, is notable. Moreover, these gains were consistent across programs (Raz-Kids and Reading A-Z), communities (WA, CA, and AZ), and grade levels (K-5). Furthermore, students who did not show gains in independent reading levels (which is not atypical), showed gains in the areas of accuracy rate, words per minute, and comprehension<sup>2</sup>.

Analyses were also conducted to determine whether student usage of these programs (i.e., number of books read within each program) was related to gains in reading skills. Results showed that this was the case: students who read the prescribed number of books or more demonstrated greater gains than students who read less than what was prescribed.

- ***What did the users of Reading AZ and Raz-Kids think about these programs?***

The majority of study participants reported that the Reading A-Z and Raz-Kids programs had a positive impact on student reading skills, especially in comprehension, fluency, and vocabulary. In general, students and parents reported that they enjoyed reading the Raz-Kids and Reading A-Z books and stated that the variety of stories allowed them to “learn something new.” They noted that for the most part, the text was interesting, and viewing their progress via the programs’ website was motivating. Parents also liked the ability to monitor their student’s progress and the fact that students were able to work independently within the program. The majority of students and parents also reported that they liked the programs “as is” and did not have suggestions for improvement.

In summary, the results of this study provide support for a positive relationship between the Reading A-Z and Raz-Kids programs and summer reading skill growth. Students were able to avoid “summer slide” and instead showed increases in their reading performance.

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<sup>1</sup> A “significant” difference means that we can be 95% or more confident that the observed differences are real and not likely the result of random error.

<sup>2</sup> While these gains were not statistically significant, the small sample sizes involved in these analyses reduces the likelihood of detecting significant differences.

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## PROJECT BACKGROUND

*“Educators can help prepare our children to meet the challenges of tomorrow by making reading a key component of everyday activities. Our Nation’s young people rely on the critical thinking and analytical skills gained from reading to build other areas of knowledge, including the subjects of science, technology, engineering, and mathematics. The next generation’s ability to excel in these disciplines is crucial to America’s strength and prosperity in the 21st century.” - President Barack Obama, “Presidential Proclamation – Read Across America Day 2011”*

In recent years it has become increasingly apparent that children are not learning to read at a rate that will adequately sustain them if they are to succeed in future academic pursuits or the workforce. The 2000 National Reading Panel Report indicates that early intervention is paramount for students struggling with reading; students who fall behind in the first three years of their schooling may never become fluent readers and will continue to fall behind over the course of their educational career. Results from the most recent National Assessment of Education Progress (2013) indicated that only 34% percent of public school students at grades 4 and 8 performed at or above proficient in reading. In order for our nation’s children to lead lives that allow them the

freedom to pursue their highest academic and social aspirations they must be given the skills to be proficient, if not advanced, readers.

Throughout their educational careers how students define themselves as readers has far-reaching impacts on their development as learners, and more importantly on their future success in life. Those who excel at reading are not guaranteed future success, but they are further on their way than their peers who struggle with reading and related skills. Students who lack basic reading skills are more likely to be reluctant readers throughout their educational careers, the repercussions of which put them at increased risk for personal and educational hardship. The importance of closing the gap between struggling readers and their grade level peers as early as possible is best illustrated by the well-known “Matthew effects” in reading (Cunningham & Stanovich, 1998); specifically these findings show that the gap between advanced and struggling readers widens as deficient readers avoid reading, while skilled readers seek out additional opportunities to read. Indeed lack of reading and language arts proficiency hinders more than academic attainment.

*“The bottom line is that if we don’t get dramatically more children on track as proficient readers, the United States will lose a growing and essential proportion of its human capital to poverty, and the price will be paid not only by individual children and families, but by the entire country.” - A KIDS COUNT Special Report from the Annie E. Casey Foundation*

To help address the gap in students’ reading skills, Learning A-Z developed two customizable, flexible supplemental reading programs to help K-6 students achieve important literacy skills – Reading A-Z and Raz-Kids. Reading A-Z consists of K-6 dynamic classroom resources and learning tools to create and monitor individualized solutions, including over a thousand of leveled readers, projectable books, Reader’s Theatre scripts, and lesson plans. Aligned to Common Core State Standards and state language arts curriculum standards, this research-based program was “created to mirror best practices as defined by years of classroom research” as described in the National Reading Panel’s 2000 report. Raz-Kids is an interactive online solution designed to improve student literacy skills. It includes leveled books that students can listen to anytime and anywhere they have internet access. Teachers can assign appropriate leveled books and monitor progress via interactive quizzes.

In order to investigate the extent to which these programs assist students’ literacy skills, two field studies were conducted

during the summer of 2013. The goal of these field studies was to determine whether “summer slide” could be mitigated through the use of Reading A-Z and Raz-Kids. “Summer slide” refers to the loss in reading skills that can occur when students are not exposed to quality reading materials during summer break. Research has shown that early development of summer reading habits helps provide a strong foundation for later literacy success. Indeed, Secretary of Education Arne Duncan (2009) described summer learning loss as “devastating.” It is estimated that the average student will lose up to one month of instruction during summer breaks and that disadvantaged students will be affected to greater degrees (Cooper, Nye & Linsey, 1996). In order to bridge the summer literacy gap children need access to high quality, supplemental, reading materials.

Given the importance of preventing “summer slide,” it is important to investigate the extent to which programs such as Raz-Kids and Reading A-Z can prevent summer reading loss and instead help students gain reading skills. In an effort to provide preliminary information on the impact of these programs, PRES Associates<sup>3</sup> conducted analyses to examine the relationship between use of Reading A-Z and Raz-Kids on student summer reading skills.

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<sup>3</sup> PRES Associates is an external, independent, educational research firm with more than 20 years of experience in applied educational research and evaluation.

## PROJECT OVERVIEW

The overarching purpose of these field studies was to explore the extent to which the Reading A-Z and Raz-Kids programs help elementary students avoid summer reading loss and attain literacy skills. Specifically, this study was designed to address the following research questions:

- Do Reading A-Z and Raz-Kids help prevent summer reading loss? What reading gains, if any, are observed?
- What did the users of Reading AZ and Raz-Kids think about these programs?

The remainder of this report includes: 1) a description of the methodology of the study, including a more detailed description of the sample, Reading A-Z and Raz-Kids programs and their use; 2) results of the analyses performed organized by evaluation questions; and 3) overall conclusions as well as recommendations for future research.

## METHODOLOGY

The observational studies consist of a single-group pre-post design<sup>4</sup>. Data was collected by Learning A-Z, through cooperation with the three participating elementary schools. One school participated in the Reading A-Z field study and two schools participated in the Raz-Kids field study. Given the similarity in the procedures employed and data collected, this report combines information from both studies; that said, study-specific methods are described where applicable and results for each program are presented separately in addition to being aggregated across both programs.

Participation in the study occurred one month prior to the end of the 2012-13 school year (approximately end of May) to the first month of the 2013-14 school year (approximately end of September). Of note, students were not attending summer school and all participating students had to have access to a computer or other device with internet connectivity so that they could read Raz-Kids or Reading A-Z leveled books and complete program activities during the summer break.

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<sup>4</sup> This study is descriptive in nature and as such, can provide preliminary information on the relationship between *Reading A-Z and Raz-Kids* and student reading ability; however, it does not allow for causal inferences to be made concerning the effectiveness of these programs.



Data collected included pre- and post-tests from the Reading A-Z and Raz-Kids program and administered by teacher coordinators. In addition, program usage information was obtained from reading logs completed by students/parents over the course of the summer and additional usage data available from the online system. Teacher, parent, and student surveys were also collected at the end of the study to obtain information on perceived impacts of the programs as well as programmatic feedback. These data were subsequently provided to PRES Associates in order to examine the relationship between Reading A-Z and Raz-Kids use and student reading skills.

### Sample

As previously noted, three schools participated in the field studies; two in Raz-Kids and one in Reading A-Z. The final sample<sup>5</sup> consisted of 77 students in grades K-5 (24 for Reading A-Z and 53 for Raz-Kids), see Table 1.

**Table 1. Sample Size (Students) by School/Grade**

		Prince Elementary (AZ) – Reading A-Z	Monte Gardens Elementary (CA) – Raz-Kids	Cherry Crest Elementary (WA) – Raz-Kids
Grade Level	1	5	6	5
	2	4	4	8
	3	4	5	5
	4	3	4	5
	5	4	3	2
	K	4	5	1
% ELL		36%	10%	10%
% Receiving Reading Intervention		11%	65%	45%
Total		24	27	26

What follows is a brief description of each of the participating schools.

#### Amphitheatre School District - Prince Elementary, Tucson, AZ

Prince Elementary participated in the Reading A-Z field study. The school is located in an urban Arizona neighborhood. During the 2011-2012 school year, enrollment was 575 in grades K-5. In 2013, Arizona used the Arizona’s Instrument to Measure Standards (AIMS) to test students in grades 3-5 in reading. The AIMS is a standards-based test, measuring how well students are mastering the specific skills defined for each grade by the state of Arizona. Results for 2013 show that 64% of 3rd grade students at Prince Elementary were proficient in reading, which is lower than the state average of 75%, 64% of 4th grade students at Prince Elementary were proficient in reading, which is lower than the state average of 77%, and 63% of 5th grade students at Prince Elementary were proficient

<sup>5</sup> Data from 10 students were excluded because they either dropped out of the study or moved.

in reading, which is lower than the state average of 79%. The student population is predominantly Hispanic (59%), followed by 19% White and 13% African American. Approximately 20% of the students at the school were eligible for free or reduced-price lunches.

### **Mt. Diablo Unified SD - Monte Gardens Elementary, Concord, CA**

Monte Gardens Elementary participated in the Raz-Kids field study. This public elementary school (K-5) is located in a middle class, suburban neighborhood in California. During the 2011-2012 school year, enrollment was 551. In 2013, California used the California Standards Tests (CSTs) to test students in grades 2-5 in English Language Arts (ELA). The CSTs is a standards-based test, measuring how well students are mastering the specific skills defined for each grade by the state of California. Results for 2013 results show that Monte Gardens Elementary students (83%, 78%, 93%, and 84%) had higher proficiency levels in ELA than the state average (56, 46%, 65%, and 60%) for grades 2-5 respectively. The student population is predominantly White (55%) followed by Hispanics (20%) and Asian (18%). Approximately 15% of the students at the school were eligible for free or reduced-price lunches.

### **Bellevue School District - Cherry Crest Elementary, Bellevue, WA**

Cherry Crest Elementary participated in the Raz-Kids field study. This public K-5 elementary school is located in a suburban neighborhood in Washington. During the 2011-2012 school year, enrollment at Cherry Crest Elementary was 669. In 2013, Washington used the Washington Measurements of Student Progress (MSP) to test students in grades 3-5 in Reading. The MSP is a standards-based test, measuring how well students are mastering the specific skills defined for each grade by the state of Washington. Results for 2013 show that 96% of 3rd grade students at Cherry Crest Elementary were proficient in reading, which is higher than the state average of 73%, 96% of 4th grade students at Cherry Crest Elementary were proficient in reading, which is higher than the state average of 73%, and 99% of 5th grade students at Cherry Crest Elementary were proficient in reading, which is higher than the state average of 73%. The student population is predominantly Asian (51%) and White (39%). Furthermore, only 3% of the students at the school were eligible for free or reduced-price lunches.

In summary, the sample contained students from a mix of urban and suburban schools with an ethnically diverse student populations (one school was predominantly Hispanic, another White, and the third Asian). Of note, while two schools had students who showed high reading levels (in comparison to statewide reading performance), as part of the field study requirements, teacher coordinators had to identify students who were struggling readers for study participation.

## Study Procedures

One teacher coordinator from each school was contracted to identify and guide students and their parents throughout the study. Specifically, coordinators worked with school staff to identify approximately 30 students from kindergarten through fifth grade, five per grade level, who were reading below the expected level for their grade. A requirement for participation was that students have access to the internet via a computer or another compatible device.

Prior to participation, students and parents received written study information<sup>6</sup> and guidelines for the summer reading program. These consisted of the following:

- Read with your child or ensure that another adult or older sibling is reading with them to provide support during the first reading of every book.
- Ensure that your child reads the book a second time, independently.
- Give your child the printed quiz for a book after that book has been read twice; you may help your child read the text on the page of the quiz if necessary, but please do NOT help your child answer the question in any way.
- Closely monitor your child's reading and use the reading log to accurately report reading and quiz information.
- Communicate with the Teacher Coordinator when she contacts you every two weeks, and contact her if you have any question or concerns.
- Meet with the Teacher Coordinator one time in the middle of the summer.
- Return reading logs and quizzes to the Teacher Coordinator at the mid-summer meeting and again at the end of the summer.

Parents and students were asked to attend a study orientation with the teacher

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<sup>6</sup> Consent forms were obtained from parents to approve the participation of their children and to obtain commitment that they will maintain the integrity of the data. Students signed assent forms that included an agreement to adhere to the reading program.

coordinators prior to the end of the school year to ensure they understood requirements of the summer field studies, however attendance was not high.

Teacher coordinators were also tasked with testing students at the end of the Spring 2013 semester (pre) and in the beginning of the Fall 2013 semester (post) via the embedded benchmark running records available in the Reading A-Z/Raz-Kids programs in order to identify each student’s independent reading level. At pre-testing, the students’ scores on the running record and the comprehension quiz were used to determine level placement as follows:

- Any student scoring 95% or above on both the running record and the comprehension quiz were advanced a level and tested again.
- If the student scored 90-94% on the running record and 80% or more on the quiz, he or she was placed at the level at which they were tested.
- Any student scoring below 90% or below 80% on a comprehension quiz, were tested again at a lower level.

The coordinators also assigned the leveled readers for students to read over the course of the summer and monitored student progress. Monitoring activities consisted of contacting parents by phone or email every 2 ½ weeks, and meeting with parents one time in the middle of the summer.

During eight of the ten weeks of the summer break, students read books from the

Raz-Kids/Reading A-Z program at their independent reading level as assessed by their benchmark running record.

Additionally, they were asked to read additional books from one level above and one below their reading level. The following guidelines were provided on the number of books to read over the summer, according to their pre-independent reading level.

**Table 2. Guidelines for Number of Books to Read by Initial Independent Reading Level**

Reading Level	Number of Books/Quizzes			Total
	Below Level	At Level	Above Level	
aa-J	5	17	6	28
K-T	5	14	5	24
U-Z	6	12	4	22

Over the course of the summer, parents completed student reading logs and returned these to the coordinators in the middle and end of the summer. Parents noted the names of each book that was read, the dates, initial quiz scores, and their initials confirming that the student completed the three activities for each book. At the conclusion of the study, parents and students were asked to complete a short survey on their perceptions of the summer reading program and perceived impacts of the program.

## Intervention

Reading A-Z and Raz-Kids deliver supplemental reading resources designed for students in grade K-6. These customizable, flexible websites are research-based, drawing on best practices to assist students in achieving important reading skills.

Reading A-Z books span many genres and formats that can be downloaded and printed for students to use anywhere. In addition to the readers, there are passages for timed reading, customizable worksheets, poetry, theater scripts and Spanish resources. The program also includes a variety of teacher resources and assessment tools.

Reading A-Z features include the following:

- Library of readers and 27 difficulty levels.
- Downloadable and printable student resources.
- Teacher resources, including systematic phonics, high-frequency and alphabet books, vocabulary resources, and serial books.
- Projectables that can be used with or without an interactive whiteboard.
- Assessment tools to establish benchmarks and track individual student progress.

Raz-Kids interactive leveled books span 27 levels of difficulty and cover a wide range of subjects to engage students in their area of interest. Students have 24/7 web access that allows them to select their own books from the virtual bookroom, choose their own reading space and record themselves reading. Students complete online comprehension quizzes to move from level to level. Raz-Kids allow teachers to monitor students' progress online, maintain rosters and running records. As well, teachers can adjust student assignments for maximum effectiveness. Raz-Kids features include:

- Library of readers and 27 difficulty levels.
- Virtual bookroom for students.
- Online quizzes.
- Online teacher resources including progress monitoring, roster building, running records, and customizable assignments.
- "Raz Rocket" game that gives students virtual rewards (stars) to "spend" customizing their very own rocket.

## PROGRAM IMPLEMENTATION

As previously noted, students were given a pretest to determine their independent reading level in Raz-Kids/Reading A-Z. Based on this information, students were assigned to read a series of books (as noted in Table 1, guidelines were to read 22-28 books). Coordinators had control over which books the students read. Initially, students were assigned books that were one level below their independent reading level. Once those had been read, students were given access to books at their independent reading level. Around mid-summer, students were assigned books from one level above their independent reading level.

### Raz-Kids

For each book read, students completed three activities. First, students listened to the book ("Listen" version of book). This version allows students to listen to a reading of the book by a fluent adult as they follow along with the highlighted words on each page. Second, students read the book by themselves using the "Read" version of the book. After completing the "Listen" and "Read" versions, students took a comprehension quiz independently (approximately 3-10 items). Students who completed all three activities for all of their assigned readings were awarded a prize at the end of the study.

Table 3 shows the data on student usage of the Raz-Kids program over the course of the summer<sup>7</sup>. For Raz-Kids, students read levels ranging from B to Z. On average, they logged in 51 times, listened to 55 books, read 50 books and took 115 quizzes (students may have taken quizzes more than once until they achieved a satisfactory score). In addition, on average students completed one level over the 8 week period.

**Table 3. Implementation of Raz-Kids**

	Mean	Minimum	Maximum	Sum
Logins	51	16	164	2710
Books Listened To	55	6	411	2921
Books Read	50	7	388	2632
Quizzes Taken	115	22	1614	6097
Number of Levels Completed	1	0	9	68

Given the variation among Raz-Kids students in terms of their participation in reading activities, analyses were run by level of usage. Students reading below the thresholds established within the aforementioned guidelines (i.e., less than 22-28 books) were classified as low implementers ( $n=10$ ). Students who read at and up to five books above the guidelines (i.e., 27-33 books) were classified as implementers ( $n=12$ ), and students who read

<sup>7</sup> Only students who fully participated in the study (i.e., completed logs and were administered assessments) are included.

over five books above the threshold were classified as high implementers ( $n=31$ ).

## Reading A-Z

For the Reading A-Z study, students were shown book lists for the three reading levels (low, independent, high), from which they selected books to read. Each book was read twice by the student: 1) with support from a parent or other person, and 2) independently. Reading logs were completed by parents. However, approximately 50% of students had implementation information missing. As a result, limited data on usage is available for the Reading A-Z field study. Among Reading A-Z study participants who provided usage information ( $n=11$ ), students read levels ranging from B to W. They read, on average, 25 books and took 20 quizzes during the summer. They also completed one level on average (with a range of 0 to 6), see Table 4.

was prescribed (19% of the sample), however half of these missed the threshold by only 1 to 2 books. Nevertheless, data was examined by implementation level to determine the relationship between program usage and changes in reading skills.

**On average, Raz-Kids study participants read 50 books and completed one reading level during the summer, for a total of over 2,600 books read by all students. Implementation data from the Reading A-Z students was limited to 11 students (out of 24). These students read an average of 25 books and completed one reading level over the course of the summer.**

**Table 4. Implementation of Reading A-Z**

	Mean	Minimum	Maximum
Books Read	25	22	29
Quizzes Taken	20	13	28
Number of Levels Completed	1	0	6

In summary, students did well in following the usage guidelines and read on average 50 Raz-Kids books and 25 Reading A-Z books. There was a small proportion of Raz-Kids students who read less than what

## RESULTS

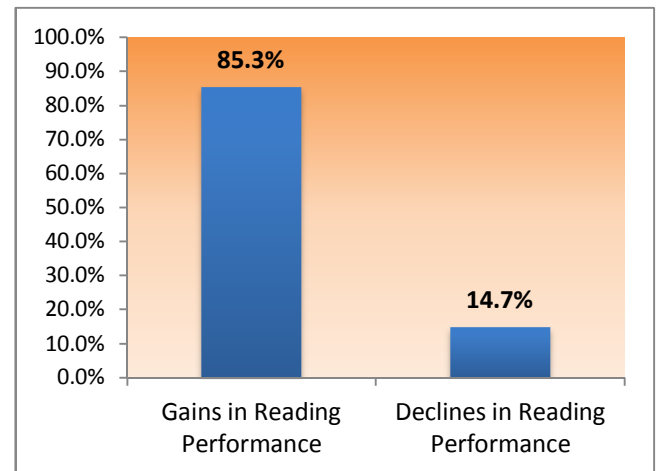
### Do Reading A-Z and Raz-Kids help prevent summer reading loss?

Analyses were performed to examine changes in student reading performance on the Reading A-Z/Raz-Kids pre- and post-tests. Specifically, K-5<sup>th</sup> grade students who were administered benchmark assessments at the end of the Spring 2013 semester (pre) and beginning of the Fall 2013 semester (post) were examined via paired sample-t-tests. As a reminder, approximately 50% of Reading A-Z students had implementation information missing, and therefore, it is unknown how they used the program over the summer. However, as a preliminary field study, such attrition was to be expected.

Results showed that the majority of students ( $n=39$ , 52%) were tested at the same independent reading level in the beginning and end of the summer studies. The remaining students ( $n=36$ , 48%) were tested at 1-6 reading levels higher at post-testing. Of note, a lack of increase in reading level is not a negative outcome. In fact, depending on a student's grade level, gains in the Reading A-Z/Raz-Kids reading levels are not expected over the 8 week period in which this study occurred. For these students who read at the same level over the course of the study, analyses were run to determine if these

students showed gains in their accuracy rates, words per minute, and quiz scores<sup>8</sup>. Results showed that overall, 85.3% students ( $n=64$ ) were observed to show gains in reading skills, see Figure 1. Thus, these students not only avoided the “summer slide” that can hinder future literacy proficiency, but were able to continue their growth during the summer.

**Figure 1. Percent of Reading A-Z/Raz-Kids Students Who Demonstrated Gains and Declines in Reading Performance from Pre to Post**



*“They were excited about their success. I was amazed at how much reading many students did.”* Raz-Kids Teacher Coordinator

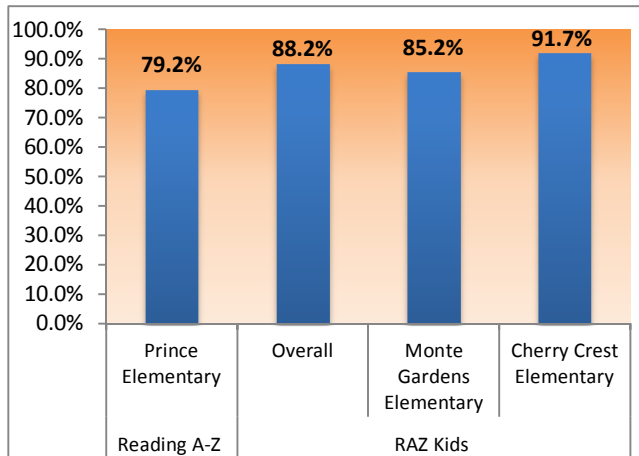
<sup>8</sup> Such analyses are only possible with this group of students because the accuracy rate, words per minute, quiz, and retelling scores are tied to the reading level in which the student was tested. Comparisons of these scores across *different* levels is not possible since, by design, the higher the level the more difficult the reading selection. For example, an accuracy rate of 96% on a level E test demonstrates a higher level of skill than a 98% on a level B test (because Level E is more difficult). If the level is the same, however, direct comparisons can be made.



**85.3% of Reading A-Z/Raz-Kids students were able to avoid “summer slide,” showing gains in reading performance from pre to post-testing.**

This data was also examined by program and site which are shown in Figure 2. As shown, over ¾ of students in both Raz-Kids and Reading A-Z summer programs demonstrated gains and were able to boost their reading skills, as opposed to the decrease that is typically observed over the summer.

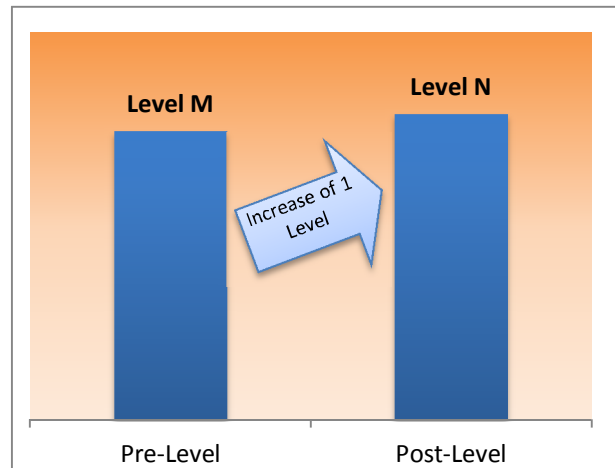
**Figure 2. Percent of Reading A-Z/Raz-Kids Students Who Demonstrated Reading Gains from Pre to Post: By Program and Site**



Further analyses were conducted to determine if changes in independent reading levels, as measured by the benchmark

assessments, were statistically significant<sup>9</sup>. Results showed that across both Reading A-Z and Raz-Kids summer programs, students demonstrated a gain of one reading level<sup>10</sup> which was statistically significant,  $t(74)=5.75, p<.05$ . These findings are illustrated in Figure 3.

**Figure 3. Overall Pre-Post Gains in Reading A-Z/Raz-Kids Levels**



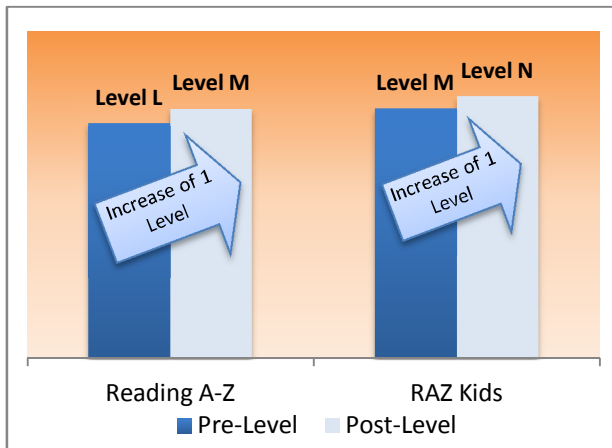
Analyses by program also showed that students showed statistically significant gains in reading levels from pre- to post-testing. On average, Reading A-Z and Raz-Kids showed gains of one reading level as depicted in Figure 4,  $t(23)=2.56, p<.05$  and  $t(50)=5.51, p<.05$ , respectively.

<sup>9</sup> For the majority of these analyses, a “significant” difference means that we can be 95% or more confident that the observed differences are real and not likely the result of random error. If the significance level is less than or equal to .05, then the differences are considered statistically significant. If this value is greater than .05, this means that any observed differences are not statistically significant and may be interpreted as inconclusive.

<sup>10</sup> These analyses were conducted by assigning a numerical value for each test level (e.g., Level A = 1, Level B = 2, etc.), which increased by 1 point for each level.

*“It keeps students from regressing over the summer... Without an ‘official’ program, I think most of these students would not have read much/if at all, over the summer.”* Raz-Kids Teacher Coordinator

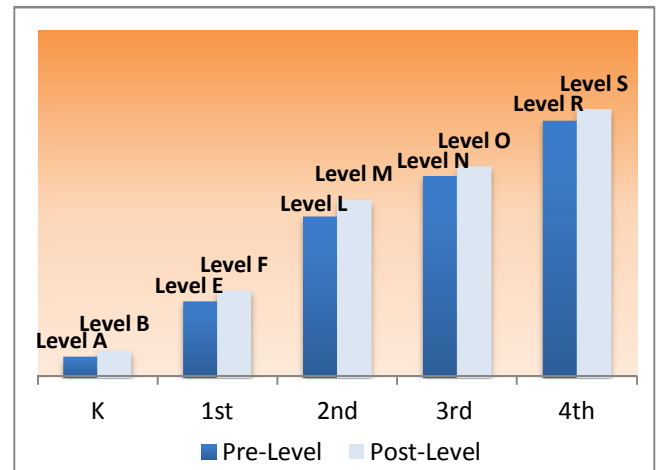
**Figure 4. Pre-Post Gains in Levels By Program**



On average, students who used Raz-Kids and Reading A-Z within an 8 week period in the summer demonstrated statistically significant gains of one independent reading level. Thus, instead of observing typical “summer loss” in reading skills, students showed significant gains in reading.

In order to examine whether these findings were consistent across different grade levels, analyses were conducted by grade. Analyses were run on all grade levels with the exception of grade 5 due to limited sample size (less than 10). Of note, since data was not available by grade level for Reading A-Z students, analyses were only conducted on Raz-Kids students. Results showed significant gains of approximately one reading level for all grades K – 4,  $t(10)=3.00, p<.05$ ,  $t(15)=3.31, p<.05$ ,  $t(13)=2.45, p<.03$ ,  $t(13)=3.12, p<.05$ ,  $t(11)=2.97, p<.05$  respectively. These findings are illustrated in Figure 5.

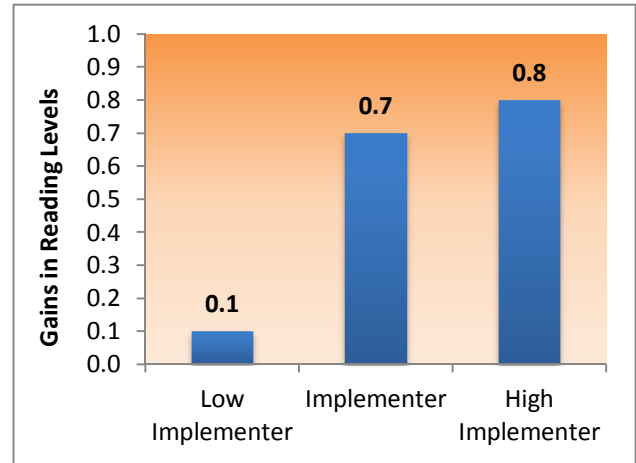
**Figure 5. Pre-Post Gains in Raz-Kids Levels By Grade**



Results were consistent across the different grade levels. At each grade level from 1<sup>st</sup> to 4<sup>th</sup>, Raz-Kids students showed a significant gain of one independent reading level.

As previously noted, there was some variation in student usage of Reading A-Z and Raz-Kids. While the majority of students (81%) read books according to provided guidelines (implementers) or exceeded the required amount (high implementers), there was a small proportion of students who did not reach prescribed thresholds (low implementers). In order to determine whether implementation was related to changes in reading levels, gain scores<sup>11</sup> were analyzed by the three implementation levels. Results showed two significant differences; high implementers and implementers who met guidelines both showed greater gains than low implementers,  $t(40)=2.80, p<.05$  and  $t(28)=1.98, p=.05$ , respectively. Specifically, while both high implementers and implementers who met guidelines showed a gain of approximately one reading level, low implementers showed relatively no change (read at same level at pre and post-testing). Thus, there is a positive relationship between the number of books read over the summer and student reading gains.

Figure 6. Reading A-Z/Raz-Kids Reading Level Gain Score by Implementation Level

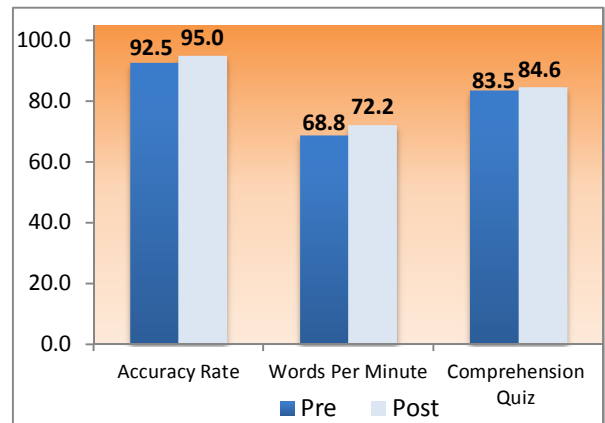


**Results showed a significant relationship by implementation status. Reading A-Z and Raz-Kids students who read the prescribed number of books or exceeded the amount during the summer study showed greater gains than those that did not read the prescribed amount.**

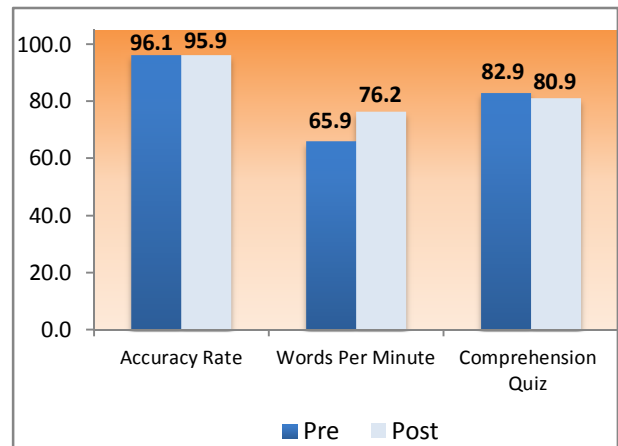
<sup>11</sup> This consists of the difference in the post reading level and pre reading level (e.g., 2(Level B) minus 1(Level A)).

As previously noted, there was a subset of students who did not show a gain in independent reading levels. For this group, analyses were conducted to determine if statistically significant gains were observed on each of the three scores available from the benchmark assessments: accuracy rate, words per minute, and comprehension quiz percent correct. Results showed that while gains were observed across the three areas, these were not statistically significant, see Figure 7. Results by program are also presented in Figures 8-9. When results were broken out by program, no significant differences emerged (that said, there is a more limited sample size available in the disaggregated analyses).

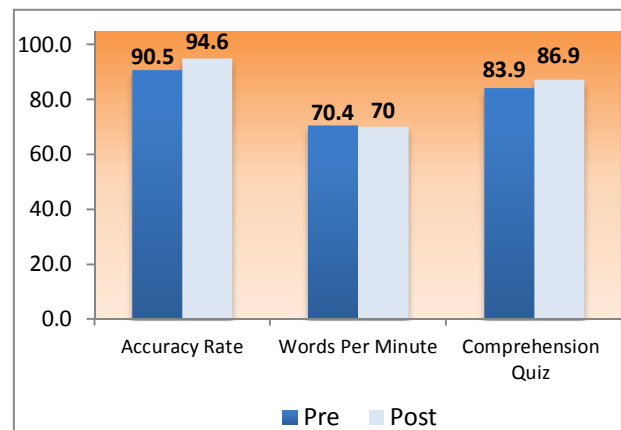
**Figure 7. Pre-Post Scores on Reading A-Z/ Raz-Kids Benchmark Assessments (Same Level)**



**Figure 8. Pre-Post Scores on Benchmark Assessments (Same Level): Reading A-Z**



**Figure 9. Pre-Post Scores on Benchmark Assessments (Same Level): Raz-Kids**



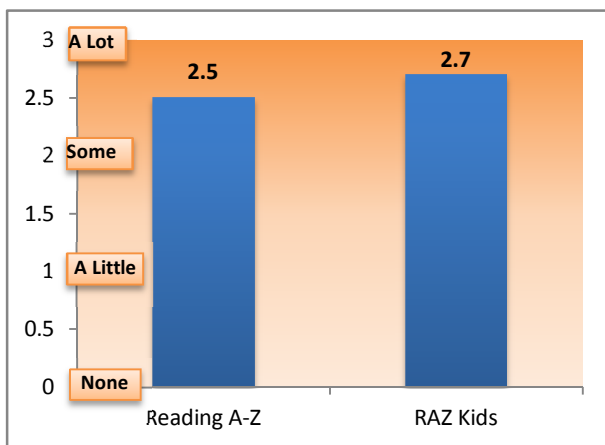
## What did the users of Reading AZ and Raz-Kids think about these programs?

### Perceived Impact of Programs

Students, parents, and teacher coordinators were surveyed at the conclusion of the summer reading studies. Surveys were collected from 51 students and 20 parents. The two Raz-Kids teacher coordinators also completed surveys.

Parents were asked the extent to which the summer reading programs helped their student’s reading improve. As shown in Figure 10, on average, parents reported that the Raz-Kids and Reading A-Z programs helped their students reading improve “a lot.”

**Figure 10. Parent Perceptions on the Extent to Which Reading Programs Helped Their Student**



Qualitative feedback revealed that Reading A-Z parents felt the books themselves and the variety of stories available helped their children to read better and learn new things.

*“The short stories were perfect and they were very helpful and had lots of information that my daughter loved.”*  
**Reading A-Z Parent**

*“His expression and tone of voice corresponded more with punctuation. His vocabulary increased some too!”*  
**Reading A-Z Parent**

*“My child had more practice reading. It was a nice family activity for us! Some of the books had new things to learn about, which made them more interesting!”*  
**Reading A-Z Parent**

Parents of Raz-Kids students further commented that the format of students listening to the story, reading the story then taking the quiz was the most helpful part of the program. Additional comments of the Raz-Kids program included the ease of use of computer and technology access, and the motivating factor of the goals outlined within the program.

*“Loved the repetition of listening, reading and taking the quiz made him focus more.”*  
**Raz-Kids Parent**

*“[Student] enjoyed knowing every week he could log on at any time to read.”*  
**Raz-Kids Parent**

*“[Student] benefited from being able to see results immediately. Her confidence has improved.”*  
**Raz-Kids Parent**

Raz-Kids teacher coordinators also commented that the program was effective in helping both maintain and increase reading skills over the summer months. One teacher also noted that the program was particularly impactful on comprehension and fluency skills.

*“Students who completed the program improved in either fluency or comprehension. A few even improved in both. The fluency was the component that stood out the most to me. Even students who did not increase their rate were reading smoother and with more expression.”* Raz-Kids Teacher Coordinator

When student participants of the summer field studies were asked how the program helped with their reading, students using the Raz-Kids program reported that it helped them with their comprehension and fluency skills, and to learn sight words. The ability to listen to a story before reading it was also cited as a helpful component of the Raz-Kids program. This is further illustrated by the following student comments:

*“It helped me learn sight words, and boosted comprehension.”* Raz-Kids Student

*“It helps me with my reading and it helped me understand a lot.”* Raz-Kids Student

*“Reading faster, better comprehension and more confidence.”* Raz-Kids Student

Similarly students who used the Reading A-Z program reported that the program helped with comprehension, fluency and vocabulary words. These students also cited the quizzes as being a helpful component of the program as it encouraged them to look back and recall story elements.

*“The Reading A-Z books help me to make sure that I look back at the story and find my answer to my questions.”* Reading A-Z Student

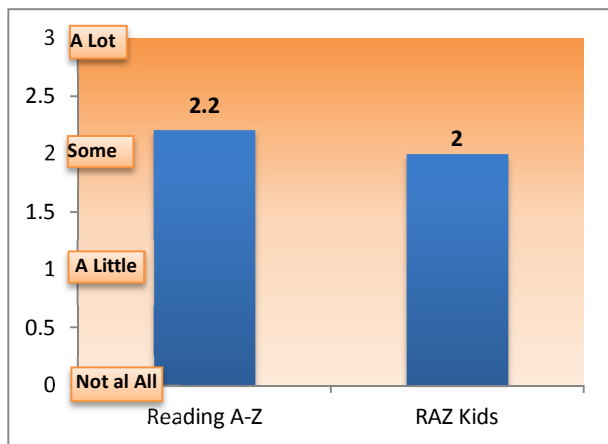
*“It helps with my fluency and reading skills.”* Reading A-Z Student

**In general, students, parents, and teacher coordinators agreed that the Raz-Kids and Reading A-Z programs helped to improve upon student reading skills, especially comprehension, fluency, and vocabulary.**

**Perceptions of the Reading Program**

As shown in Figure 11, when students were asked to rate the extent to which they liked the books from their summer program, the average response was “some.” This was consistent across both the Reading A-Z and Raz-Kids programs.

**Figure 11. Student Ratings on the Extent to Which They Liked Reading Program**



Students were also asked to describe the best part about their reading program. Students reading the Raz-Kids books stated that the variety of stories, quizzes, and the ability to listen to a book before reading it were the best parts of the program. Additionally, students reported that they liked learning something new from the stories, and that the stories were interesting and motivated them to read more.

*“The best part was taking the quizzes, and listening to the story.”* Raz-Kids Student

*“It helps me learn stuff I did not know.”* Raz-Kids Student

*“The books inspire me to read books.”* Raz-Kids Student

Students that used the Reading A-Z program also reported that they learned something new from reading the stories and that variety of stories and quizzes were the best parts of the program.

*“The best part was reading different kind of books.”* Reading A-Z Student

*“The best part about the Reading A-Z is that some of the books are interesting.”* Reading A-Z Student

Parents were also asked to describe what they liked best about the reading program their children used. Parents again cited the books, variety of stories and program goals as being some of their favorite parts of the Raz-Kids and Reading A-Z programs.

*“The stories were fun and it was great to have a goal to go for.”* Reading A-Z Parent

*“It helped give us goals to reach and reminded us to keep up with reading over the summer.”* Raz-Kids Parent

Parents of Raz-Kids students also reported that they liked that their children could use the program independently and at their own pace, and liked that the program was easily accessible on a computer or tablet. Furthermore, parents liked that they could

monitor their child's progress in the program online.

*"My child was able to log on, listen, read and take quizzes all on his own."*  
Raz-Kids Parent

*"The variety of books the length of the books, the info available to parents/kids on progress."* Raz-Kids Parent

*"Access to the computer made it easy for her to read everywhere we went. We used our laptop! And she logged in and out on her own."* Raz-Kids Parent

*"In the beginning, and after the meeting mid-summer, she was very excited and motivated. She lost steam a bit, mainly because the time it took her to get through the reading. She would get discouraged when it got difficult for her answering the questions. BUT at the end, when was assessed I was very pleased to hear that she did make progress! Progress she wouldn't have made without the program that encouraged her to continue reading during the summer. She wouldn't have read without it I would venture."* Raz-Kids Parent

The majority of Reading A-Z and Raz-Kids students reported that they learned something new from the stories and the variety of stories and quizzes were the best parts of the program. Raz-Kids parents also liked that their student could easily access their books from the website and work independently, while monitoring their child's progress.

### Suggestions for Improvement

When asked about suggestions for making the programs better, the majority of students using Raz-Kids and Reading A-Z felt that they liked the program the way it is. That said, students using Raz-Kids commented that they would have liked online help and games included in the program, as well as more interesting books.

*"Nothing, it's great how it is!"* Raz-Kids Student

*"Keep more interesting books."* Raz-Kids Student



Similarly, the majority of parents reported that they liked the program the way it was and did not have suggestions for improvement. A few parents of students using the Raz-Kids program, however, did comment that they would like to see more stimulating books and more in depth reporting on student progress.

*“I like the program just the way it is!”*  
Reading A-Z Parent

*“I wish there was more in-depth reporting available to help me understand if there was improvement.”*  
Raz-Kids Parent

**In general, both parents and students like the Raz-Kids and Reading A-Z programs just the way they are.**

### **Participation in the Summer Reading Program**

Parents were also asked to report how students felt about participating in the summer reading program. For the most part, parents reported that their children enjoyed participating in the program and would like to participate again. A few parents, however, reported that their children were resistant to participate in the program and did not find it enjoyable. Other parents reported that while their children were not excited to participate at first they ended up enjoying the program.

*“Love it and eager to participate next year!”* Raz-Kids Parent

*“He seemed to really enjoy the books, and learn some new stuff. Since the books are interesting and fun, he was anxious to find out and/or learn what happened in the end.”* Reading A-Z Parent

*“She did not exactly feel excited due to her level of challenge but did enjoy it as a way to learn to read better.”* Raz-Kids Parent

*“He didn’t want to participate in the beginning, but it ended up to be a positive experience as he moved through the books online and reached new levels.”* Raz-Kids Parent

Raz-Kids teacher coordinators also reported that in general, students enjoyed participation in the summer reading program. In addition to the academic benefits, one coordinator also felt that the summer program helped parents connect with their children over the summer – an important and positive side effect.

*“I liked the engagement with the parents. I think the expectations and directions for the parents were very clear. Over the summer families tend to have more time and it is easier to focus on spending time reading.”* Raz-Kids Teacher Coordinator

*“Most [students] said they are glad they did it once they saw their progress or that they didn’t slide backwards.”*

*More complaints as kids' levels were higher, books too long or uninteresting. The younger they were the more they liked it.* " Raz-Kids Teacher Coordinator

*"The students all liked receiving books and having teacher contact over the summer. All the contact that I made, whether through phone calls or meeting at the library, was very positive and the students always seemed excited to talk about what they were reading."* Raz-Kids Teacher Coordinator

**Parents and teacher coordinators reported that, in general, students enjoyed participation in the summer reading program. In addition to the academic benefits, a side benefit was that parents and students learned and connected together over the summer.**

## CONCLUSION

Results from analyses presented in this report indicate that the Reading A-Z and Raz-Kids programs are associated with positive student outcomes. Approximately 85% of Reading A-Z/Raz-Kids students were able to avoid "summer slide," showing gains in reading performance from pre- to post-testing. Moreover, significant positive changes in independent reading levels were observed among at-risk elementary students as measured by the programs' benchmark assessments. Such findings are noteworthy because instead of the typical "summer loss" in reading achievement, Reading A-Z and Raz-Kids summer program participants were prevented from this loss and instead, showed statistically significant gains in reading levels. These findings were consistent across programs, sites, and grade levels. Furthermore, students who did not show gains in independent reading levels (which is not atypical), showed gains in the areas of accuracy rate, words per minute, and comprehension, however gains were not statistically significant.

These positive outcomes are also supported by comments from participating teacher coordinators, students, and parents. The majority of study participants reported that the Reading A-Z and Raz-Kids programs had a positive impact on student reading skills. They perceived gains in comprehension, fluency, and vocabulary. In

general, students and parents also reported that they enjoyed reading the Raz-Kids and Reading A-Z books, and stated that the variety of stories allowed them to “learn something new.” They also reported that the text was interesting and motivating. Parents also liked the ability to monitor their student’s progress and the fact that students were able to work independently within the program. The vast majority of students and parents also reported that they liked the program the way it was and did not have suggestions for improvement.

In summary, the results of this study provide support for a positive relationship between the Reading A-Z and Raz-Kids programs and summer reading skill growth. Given the limited duration of this study (8 weeks over the summer), the findings obtained are especially noteworthy. That said, strong causal conclusions cannot be made given the present research design (single group pre-post design). Therefore, it is recommended that future research include an experimental or quasi-experimental design (with a comparison group) to determine the *effects* of these two promising programs. To conclude, the following case study illustrates the growth observed over the summer reading program by one student.

**“The success story that I would like to share is about a 5th grade girl. She is a second language learner and her support at home was a little more limited than others. During an early conversation when I asked her if she was reading she told me “yes,” that her goal was to read a book a day. She took it upon herself to call me when she had questions. She completed all of her books by the middle of July and she asked for more books (without quizzes but just to read). She grew a whole level over the two months and her reading rate improved. I believe she demonstrated that a self-motivated student with the proper tools and support can achieve goals and grow.”** Raz-Kids Teacher Coordinator