



Evidence of Efficacy: The Family Literacy Project

A review of data from Summer and Spring Semester Implementations

Research Report (2022)

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Executive Summary

Purpose

This report analyzes recently collected reading achievement gains data from three separate implementations of the Family Literacy Project or the FLiP program for short. A primary element of FLiP is a sing-to-read software program called Tune into Reading (TiR). Students who use TiR for 900 minutes or more are considered to have completed the program.

The three implementations were done with struggling readers (ages 7 – 9) from Title 1 schools. The implementations took place in Summer 2020, Summer 2021 and Spring 2021. The questions examined were:

1. What is the impact on a child's reading levels of the FLiP program? And, to what extent are the changes in reading achievement above and beyond what might normally be expected of students during the periods of implementation?
2. Are these reading gains consistent with the gains that were documented by Dr. Susan Homan and Dr. Robert Dedrick (from the University of South Florida) during their studies which were conducted from 2005 – 2011?

Findings – Summer 2020 and Summer 2021

In both Summer implementations, children who finished 2nd grade and were expected to start 3rd grade in the fall (i.e. rising 3rd graders) were recruited. All of the children met the definition of struggling reader. The assessment that was used to determine reading gains is the Oral Reading Fluency Score (ORF) which is expressed in Words Correct Per Minute (WCPM). The children were assessed at the beginning and end of the summer.

In both cases the students who completed the FLiP program gained more than 20 WCPM over the three-month summer period. This is a very large increase over three months, given that one full year's gain for struggling readers at this grade level is 19 WCPM. Said another way, these children gained more than a full year in reading level in three months' time. This gain is remarkable for another reason. Normed data shows that the expectation for these children is to actually lose approximately 13 WCPM over the Summer.

Findings – Spring '21

A group of 45 students (3rd graders) used the FLiP program from February through April of 2021. All students came from Title 1 schools and were significantly behind in reading. The assessment that was used was the MAP Reading Test (from NWEA). The assessments were administered in December and May of the 2020/2021 school year.

Executive Summary (continued)

Per the norms published by NWEA, struggling readers are expected to increase 2 points on the MAP score during the Spring semester. Children who completed the FLiP program gained 7.5 points or nearly 4 times the expected amount. When compared to the expectation for these students over a 12-month period, the FLiP children gained $\frac{3}{4}$ of a year (75%) during the Spring Semester.

Recommendations

The findings of these three different implementations of FLIP, at separate times and sites, with different grade levels of students, and using different but highly respected and valid measure of reading achievement provide strong support for the use of the Family Literacy Project and the Tune into Reading software.

The need for effective reading interventions for students from less advantaged backgrounds is as important as ever. Moreover, the need for innovative solutions for reading difficulties that go beyond “Business as Usual” need to be explored. The Family Literacy Project is one of those innovations that has great potential for helping more students become proficient and life-long readers.

The Body of the Research Report Begins on the following pages

Introduction

In an ideal literacy development world, all students should be at or above grade level expectations in reading by the end of each school year. The fact of the matter, however, is that many students struggle in gaining proficiency in reading. The 2019 report of the National Assessment of Educational Progress (2019) indicates that over a third of American 4th grade students are reading at a level considered *below* a basic level of proficiency. Other research suggests that a large segment of students who struggle in overall proficiency manifest difficulties in foundational reading competencies – word recognition and reading fluency (Buly & Valencia, 2002; Valencia & Buly, 2004). Compounding this problem of achieving proficient levels of reading for all students is the fact that many students lose ground in their reading performance over the summer when reading instruction is generally not offered and many students do not read (Allington & Anne McGill-Franzen, 2017; Mraz & Rasinski, 2007). Allington and McGill-Franzen provide evidence that the total difference in reading achievement between more and less advantaged students is due to summer reading loss. In their own study of first, second, and third grade students in a school in a middle-class neighborhood, Mraz and Rasinski (2007) found that the decoding skills of nearly 45% of the participants and the fluency levels of 25% declined between May and September. Lower achieving students exhibited a sharper decline than students who were more advanced readers. Thus, helping at-risk primary grade students maintain or even improve their reading proficiency through summer instruction/intervention that is focused on foundational reading skills offers great potential for improving literacy outcomes for all children, but especially those who are considered most at-risk in reading.

Learning to read is the essential work of elementary schools. In the primary grades (K-2) it is essential that students develop a strong foundation for further growth in reading. Foundational reading skills include learning to read words accurately (also known as word decoding or phonics) and learning to read the words in texts fluently, with automaticity (also known as oral reading fluency) and appropriate expression. Automaticity refers to the ability to read words effortlessly or with minimal cognitive attention so that readers' cognitive resources can be devoted to the most important task in reading – comprehension. Research has consistently found that accuracy and automaticity in reading is essential for proficient reading and good comprehension (National Reading Panel, 2000; National Assessment of Educational Progress, 2019). Students who have not developed sufficiently in these areas often struggle in reading in general and comprehension in particular (Valencia & Buly, 2004; White et al., 2018).

Word recognition accuracy and automaticity are commonly assessed in students using a curriculum-based assessment (Deno, 1985) in which students read a grade appropriate text for 60 seconds. The number of words correctly in that 60 second period is then compared to norms (Appendix A) that have been established through scientific research (Hasbrouck & Tindal, 2017). The resulting score is typically referred to as the Oral

Reading Fluency (ORF) or Words Correct Per Minute (WCPM) scores. Research has shown that ORF/WCPM scores are reliable and valid measures of reading proficiency, highly correlated with and predictive of overall reading performance through the elementary grades (Fuchs, et al., 1993, 2001).

Teaching Foundational Reading

Several instructional approaches have been identified for developing accurate and automatic reading fluency (Rasinski, Reutzel, Chard, & Linan-Thompson, 2011), especially among struggling readers (Stevens, Walker, & Vaughn, 2017). These include modeling fluent reading for students, assisted reading, and repeated reading. Modeling largely involves students listening to a text read aloud in a fluent manner, often with the students following along in the text silently. In assisted reading students read a text orally while simultaneously hearing a fluent reading of the text. The fluent reading could be from a more fluent partner or a pre-recorded version of the text. Repeated reading, as the name implies, involves students reading a text several times until the student achieves a level of independent reading that approaches the level of performance of a more proficient reader. Research has demonstrated that when engaged in these forms of fluency instruction students not only demonstrate accuracy, automaticity, and comprehension improvements on the texts practiced, but their improvements also generalize to new texts not previously read.

Texts for Developing Fluent Reading

The consideration of texts used for foundational reading instruction is an important issue. Traditionally, the texts recommended for such instruction has been narrative and informational texts. More recently, it has been recommended that rhythmical texts be used for foundational reading instruction. Poetry, rhymes, and songs are the most common forms of rhythmical texts. Such texts offer certain advantages over narrative and informational texts especially for students experiencing difficulty in reading (Rasinski & Zimmerman, 2013). First, poetry, rhymes, and songs are generally short thus allowing students to read such texts multiple times (repeated readings) in short time periods. The rhythm and rhyming found in poetry, rhymes, and song lyrics provide a scaffold that allows students to achieve success in their reading. Finally, poetry, rhymes, and song lyrics are meant to be performed orally. Oral performance of a text is usually preceded by rehearsal – rehearsal is another name for repeated readings. These characteristics of rhythmical texts make them well-suited for foundational-fluency instruction for students who struggle in reading. Research on instructional interventions for younger and struggling readers employing poetry and song lyrics as the primary texts have demonstrated substantial levels of efficacy (Iwasaki, et al., 2013; Zimmerman, et al., 2013; Zimmerman, et al., 2019).

Tune Into Reading (TIR)

Tune into Reading (TIR) is an instructional software program that teaches users to sing in tune and in rhythm while providing real-time pitch tracking. Originally intended as a tool to help people learn to sing on key, “carry a tune,” because it involved a person reading the lyrics to a song while simultaneously hearing it sung to the person it was felt that it had potential as an instructional intervention. TIR is a game-like application that feels a bit like karaoke but has embedded reading pedagogy. The “song library” contains more than 200 songs which are grouped by difficulty level from K – 8th grade. The “difficulty level” refers to the song’s lyrics not the singing difficulty level. Students are recommended to do sessions on the program of 20 – 30 minutes three or four days per week. The primary unit of reading instruction and practice in TIR is called a “Song Lesson”. Each Song Lesson takes about 20 – 30 minutes to complete and is comprised of four distinct activities:

1. Active Listening

The student listens to the song being sung to them three times so they learn the tune and the words that they will be singing later in the lesson. The repetition is important as they become a bit more familiar with the text (song lyrics) with each repetition. The syllables of the song “light-up” by being turned red, as the song is sung. This helps the students embed the sound of each syllable into their mind and their ears as they follow along. There is a Tempo control on the left side of the lower screen frame that allows students to adjust the speed of the song so that it goes neither too slow nor too fast for them.

2. Vocabulary Word “Look-up”

The 2nd activity of a Song Lesson is where the student “looks up” the vocabulary words. Here this means the student clicks on the underlined, and bold green words in order to see a picture and hear an audio definition of the word. The student may listen to the definition as many times as they wish in order to be sure they learn the meaning of the word. The student may not progress to the 3rd activity of the Song Lesson until they have “looked-up” and listened to each vocab word’s definition.

3. Singing/Reading

In the “Singing” activity, repetition plays a very important role as well. The student sings (and reads) the song a total of five times (repeated readings), earning a “singing star” after each try. The software is not intended to make students into great singers, but rather cause the students to practice “reading out loud” which is “disguised” as singing. As a result, no student ever receives a star “lower than” bronze color. This is the part of the program that feels most like a game since the children “see their voice on the screen” as the blue “pitch tracking line” indicates if they are singing to high, to low, or right in tune.

The TIR program does not contain, “speech recognition” software but rather pitch and rhythm recognition algorithms. The children learn the pronunciation of the song lyrics through the Active Listening activity (Activity 1) where they hear a native speaker of English sing the songs to them.

4. Quiz

Each song lesson’s fourth and final activity is a quiz over the meanings of the vocabulary words and the content of the short narratives that are found in the songs’ lyrics. The student must achieve an 80% score or better in order to earn points toward their goal for the grade level they are working on. Once they have earned enough points to pass their level, they are “promoted” to the next level.

Initial Research on the effectiveness of Tune into Reading (2005 – 2011)

Reading researchers at the University of South Florida’s, College of Education performed a series of experimental (treatment and control studies under the leadership of Dr. Susan Homan and Dr. Robert Dedrick during the period from 2005 – 2011. In total, over 1,400 struggling readers’ gains were assessed in the course of these research studies. (<https://www.tuneintoreading.com/research-aa/>) The intervention periods varied from as few as 6 weeks to as long as 12 weeks (3 months). Documented reading gains made by the students in these studies ranged from 7 months to 1.5 years.

Additionally, peer-reviewed articles on this body of research were published in the following journals: *Reading Psychology* (2008), *Middle Grades Research Journal* (2009), and *Reading and Writing Quarterly* (2009).

Family Literacy Project (FLiP)

In December of 2018, the literacy non-profit Sing Out and READ (SOAR) was founded to bring the “sing-to-improve-reading” strategy (i.e., Tune into Reading) directly to at-risk kids who struggle with reading. The first program of Sing Out and Read is *The Family Literacy Project* (FLiP). FLiP was designed and developed as a way to “deliver” this non-standard approach to reading intervention directly into the homes of low-income families via digital tablets. The tablets are configured (or locked) so that TIR is the only program/app that the participants can use these tablets for.

FLiP is targeted at struggling readers aged 6-12 and can be delivered in one of three ways:

1. Through a loaner tablet when the family does not have access to reliable internet access. Under this scenario, a cellularly enabled tablet is loaned to a family in exchange for fidelity of usage and care of the equipment. When

the child completes the program successfully, the loaner tablet is exchanged for a high-quality tablet that is the child's to keep – helping to bridge the digital divide.

2. Due to the advent of distance learning under COVID, a substantial number of families now have reliable access to the internet. Under this scenario, a new, high-quality Wi-Fi tablet is given to the child where the FLiP program is “locked down,” meaning that the child can only access the FLiP program on the tablet and nothing else. When the child completes the program, he/she gets to keep the tablet and an unlocking ceremony takes place so that the device functions like a normal computer.
3. Some school districts have provided their students with devices through which they can access the internet. Under the scenario where a child has his/her own device, the FLiP program can be downloaded through a portal as an App.

FLiP's sing-to-read program is 12 weeks in duration with a recommended usage of 90 minutes per week (or about two songs per day). Dedicated FLiP coaches establish relationships with parents and troubleshoot any difficulties. Regular check-ins with FLiP coaches ensure maintenance of usage. FLiP uses the Tune into Reading (TIR) software which contains a library of over 200 song lessons in Grades K-8. Through repetition and visual learning, including explicit vocabulary instruction, children progress through levels with comprehension quizzes and incentives. Regular incentives ensure fidelity of use and maintain the children's motivation.

Primary Goal of FLiP:

- Rapid and significant gain in reading proficiency levels that comes with sufficient and appropriate use of TIR.

Secondary Goals:

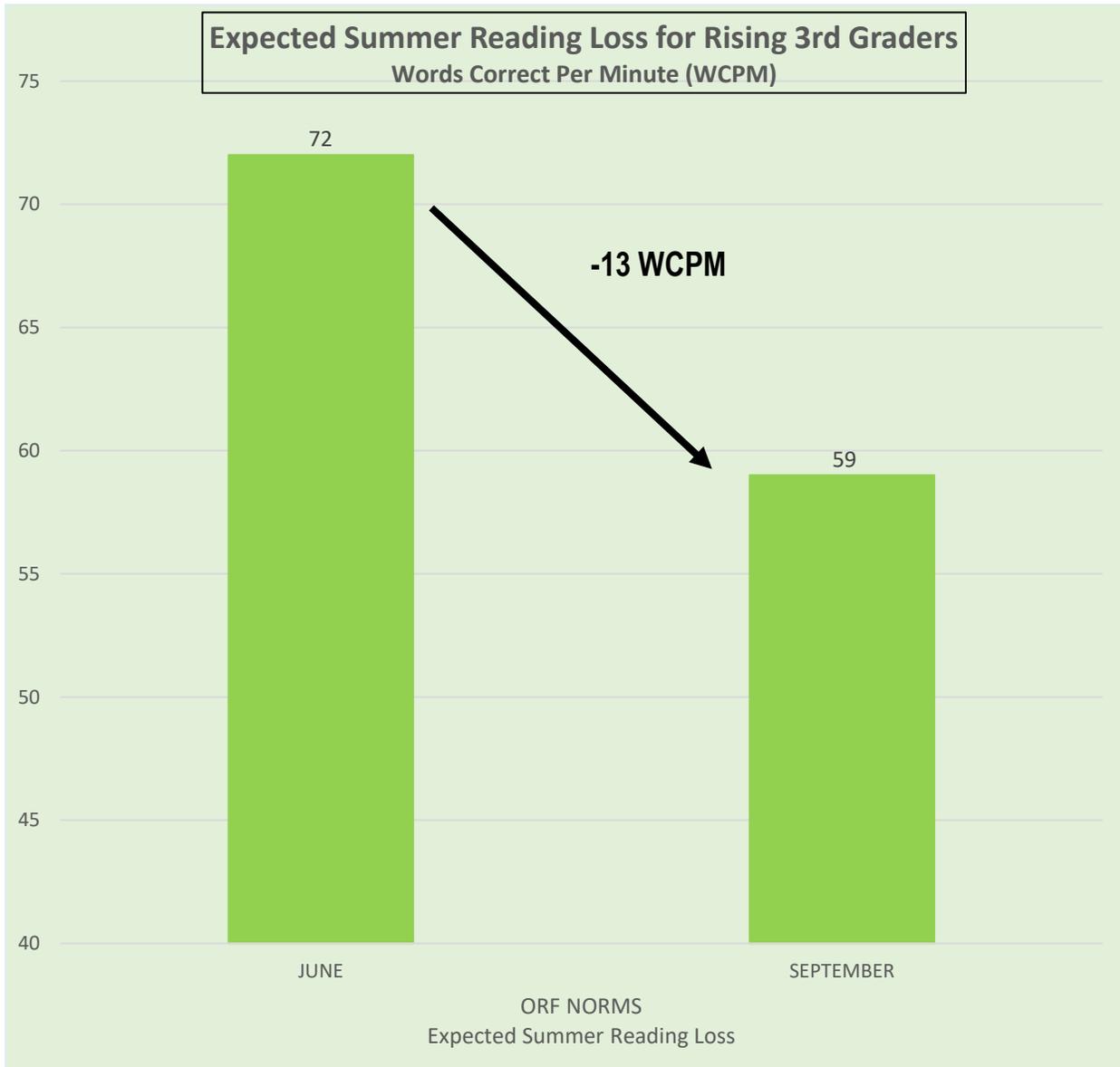
- Parents/guardians enabled to help their child make rapid progress in reading without having to do the daily reading with the child that can be challenging in many households, especially low-income, single-parent homes.
- Children learn how to operate and care for the digital tablet.
- Parent/guardians are encouraged and praised for setting a schedule of usage for the child and ensuring it occurs.
- Siblings develop an interest in using the program and in some cases engage in the program in addition to the targeted child which also motivates the primary child to engage even more fully in the program.

The Challenge of Summer Reading Loss

It is well documented that struggling readers lose ground in their reading levels over the summer. A recently reported study (Kuhfeld, 2021) found that the average student lost **17-34%** of the prior year's learning gains during summer break, as well as that students who lose ground in one summer are more likely to also lose ground in subsequent summers. Moreover, this loss is considerably larger for at-risk students and students from disadvantaged backgrounds. This is frequently due to an absence of literacy focused activities including reading for pleasure and reading instruction during the months of June, July and August.

A widely used measure of general reading ability is an Oral Reading Fluency or "ORF" assessment. A child's ORF score is expressed in "Words Correct Per Minute" or WCPM. This type of assessment provides a valid and reliable way to quantify changes in reading achievement that many students experience over the summer. Using the updated (2017) ORF Norms Data authored by reading researchers Hasbrouck and Tindal, (Appendix A) we can calculate the expected loss, in words correct per minute (WCPM) for students at different grade levels and different ability levels. Figure 1, below, presents the Expected Summer Loss in reading fluency for struggling readers who have completed 2nd grade and will start 3rd grade in the Fall. We identify these students as "Rising 3rd graders."

Figure 1
Summer Reading Loss – Oral Reading Fluency Scores “ORF”



The loss of -13 WCPM roughly equates to 3 months of learning loss. This is equivalent to a struggling reader beginning their 3rd grade year, an additional 1/3rd of a year behind, from where they were at the end of 2nd grade.

Partnering with the Learning Alliance of Vero Beach, FL to combat Summer Reading Loss

The Learning Alliance (TLA) of Vero Beach is a non-profit organization that aspires “To build a moonshot community where 90% of students are reading at grade level by the end of 3rd grade.” The four-fold mission of TLA is to 1) Develop excellence in teaching; 2) Empowering parents; 3) Extended learning opportunities for students; and 4) Community leadership and engagement. TLA works very closely with Indian River County school district by providing professional development for teachers in literacy and operating after school and summer programs called the “Moonshot Academy.”

In the summers of 2020 and 2021, staff at The Learning Alliance decided to implement Sing Out and READ’s Family Literacy Project (FLiP program) to combat Summer Reading Loss. Targeted students were end-of-year 2nd graders (who are designated “rising third graders” over the summer.) It is significant to note that no other instruction or reading support was offered to students during the 12-week summer periods (both 2020 and 2021). Summaries of the impact of FLiP are presented below.

Note: ORF(Oral Reading Fluency) is the metric that the Learning Alliance staff chose to use to measure reading gains for the summer implementations. Teachers from the school district, that had been trained in proper administration of the ORF test, did the assessing of this valid and reliable measure of fluency and overall reading achievement

Summer 2020 - Vero Beach FLiP Implementation - Results

Pre-test and post-test mean Oral Reading Fluency (ORF) scores are presented in Table 1. Twenty-one students who were identified as at-risk or struggling in reading based on their pretest ORF scores participated in the summer program. Struggling in reading here means below the 50th percentile on the spring ORF assessment. Students spent, on average, 2.3 hours (150 minutes) per week using TIR.

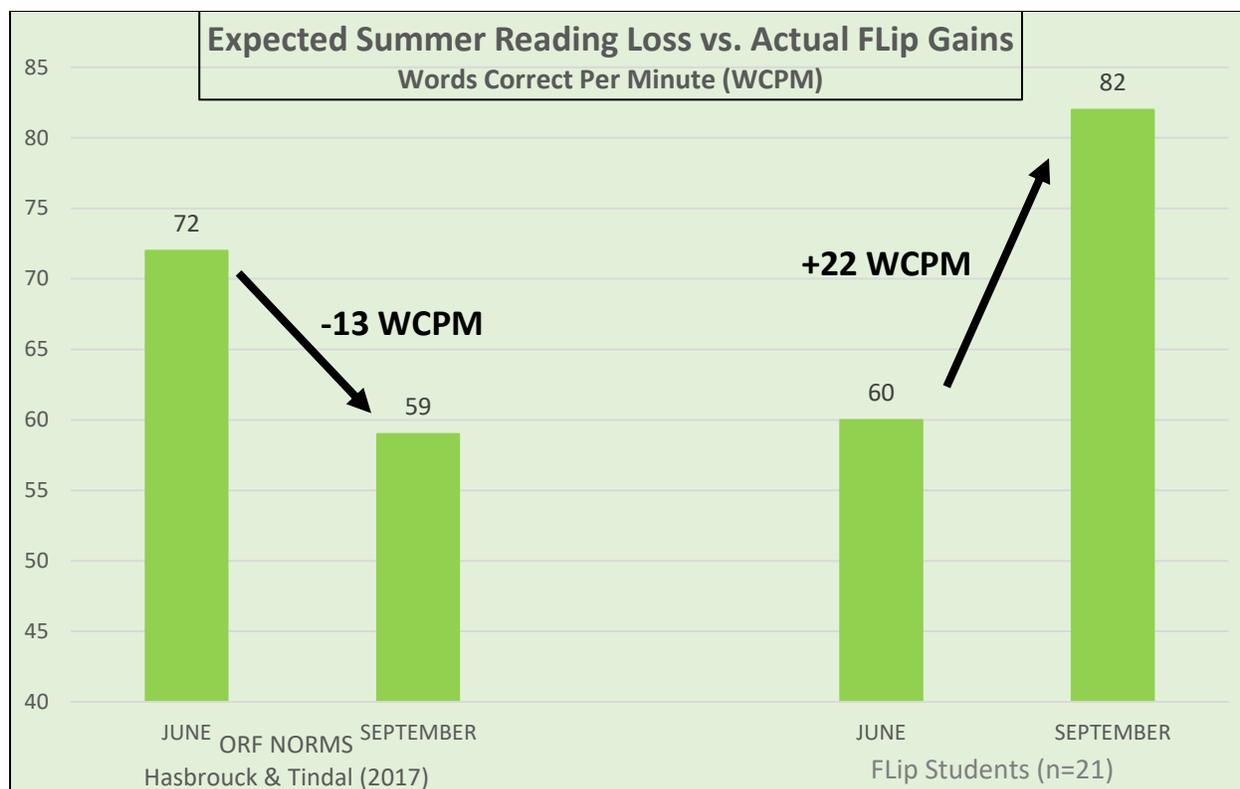
A comparison of FLiP students’ average pre-test and post-test scores indicates an average *gain* of 21.7 WCPM, or a 36% improvement in their reading fluency. This compares with research that has shown that at-risk students normally lose ground or make no progress in reading achievement over the summer (Allington & McGill-Franzen, 2017; Mraz & Rasinski, 2007) and that such losses can range from 17-34% (Kuhfeld, 2021). Further analyses of the students’ performance indicates that the average improvement made by students over the summer was statistically significant.

Table 1
Average Reading Improvement over Summer Break – Vero Beach, 2020

Average Pretest Score in WCPM (for 21 students)	60.29
Average Posttest Score in WCPM (for 21 students)	82.00
Average WCPM Gain Over the 12 Week Summer Program	21.71

Figure 2 illustrates the FLiP students' substantial gains in reading fluency over the summer months when compared to the expected decline in their reading fluency. (If we subtract 13 WCPM from their starting point of 60 WCPM, we would have an expectation of starting school in September at 47 WCPM. The difference between what would normally be expected (47 WCPM) and what they achieved (82 WCPM) is a differential of 35 WCPM - a remarkable achievement.)

Figure 2
Summer 2020 – Expectation vs Actual



Note also that the average weekly gain in fluency for students in the intervention program was 1.8 WCPM – a weekly level of improvement that is substantially greater than what is expected of average achieving second grade *during the school year* (Hasbrouck & Tindal, 2017) when they would be receiving direct instruction in reading.

A further analysis of the results examined the number of students who achieved reading performance levels at or above certain WCPM thresholds. Table 2 shows the number of students making substantive gains in their oral reading fluency development. At the beginning of the summer program only one of the 21 students had ORF scores at or above the 50th percentile; 10 students were below the 25th percentile. At the time of the posttest, 8 students were at or above the 50th percentile (an increase of 7 students) and 4 were below the 25th percentile (a reduction of 6 students).

Table 2
Reading Achievement Threshold Change - Vero Beach - Summer, 2020

Number of Students ORF Thresholds	Beginning of Summer Program	End of Summer Program
At or Above 50 th Percentile	1	8
Between 25 th -49 th Percentile	10	9
Below 25 th Percentile	10	4

Summer 2021 - Vero Beach FLiP Implementation - Results

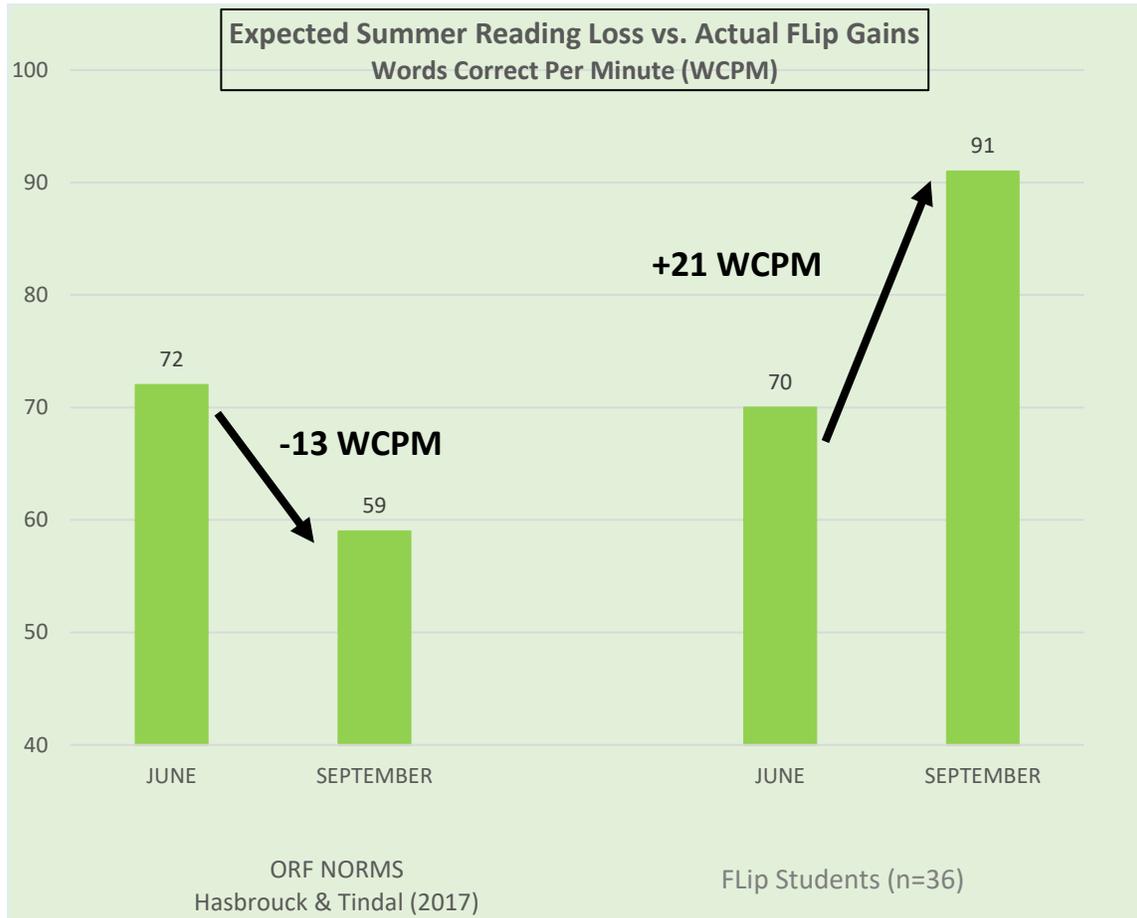
Due to the significant success of the summer 2020 FLiP intervention program, TLA of Vero Beach expanded the program during the summer of 2021. The FLiP session lasted the same 12 weeks as the previous summer. Students used the TIR program with a high level of fidelity (averaging 132 minutes of usage per week.) “Rising 3rd graders” were the targeted students again and their reading achievement levels at the end of grade 2 put them at the 49th percentile or below in fluency – at-risk readers.

Pre-test and post-test mean WCPM Reading Fluency scores are presented in Table 3. The at-risk students in the program demonstrated an average gain of 21.14 WCPM in ORF, a 30% improvement. Further analyses of the students’ performance indicates that students’ improvement over the summer was statistically significant. As noted in the 2020 study, although the expectation is for students to lose 13 WCPM over the summer, students in the 2021 FLiP implementation group actually gained, on average, over 21 WCPM, a differential gain similar to and consistent with the previous year (Figure 3).

Table 3
Average Reading Improvement for students at 49th percentile or below

Average Pretest Score in WCPM (for 36 students)	69.75
Average Posttest Score in WCPM (for 36 students)	90.89
Average WCPM Gain Over the 12 Week Summer Program	+21.14

Figure 3: Summer 2021 -Expected Loss vs Actual Gain



We deepened our analyses by examining the performance of 17 students who entered FLiP reading at the 25th percentile or below in fluency achievement -- significantly behind in their reading development. Results are reported in Table 4.

Table 4
Average Reading Improvement for students at 25th Percentile and below

Average Pretest Score in WCPM (for 17 students)	51.12
Average Posttest Score in WCPM (for 17 students)	78.82
Average WCPM Gain Over the 12 Week Summer Program	+27.71

These lowest achieving students, those performing at the 25th percentile or below, exhibited the *greatest improvements* in their reading. The average weekly gain in Oral

Reading Fluency for these students in the 2021 intervention program was 2.31 WCPM. This is more than double the weekly gains expected of these second-grade students (1.1 WCPM gain) during the school year when they are receiving direct instruction in reading and substantially above the weekly gain expected of average to above average second graders (Hasbrouck & Tindal, 2017)

A further analysis (Table 5) of the results of 2021 examined the number of below-level students who achieved threshold improvements in reading performance levels. The number of students whose reading fluency was in the bottom 25% of all readers declined from 17 to 6, a two-thirds decline. Additionally, 12 (63%) students advanced from the 25-49th percentile range to the 50th percentile and above.

Table 5
Reading Achievement Threshold Change - Vero Beach - Summer, 2021

Number of Students ORF Thresholds	Beginning of Summer Program	End of Summer Program
At or Above 50 th Percentile	0	12
Between 25 th -49 th Percentile	19	18
Below 25 th Percentile	17	6

Conversion of WCPM gains to “Years of Growth”

While ORF data that is expressed in Words Correct Per Minute is intuitively easy for many to grasp, it can be difficult to compare to “years of growth”. Fortunately, we can use the ORF Norms chart (Appendix A) to approximate what the increase in WCPM would need to be, in order to be equivalent to one year of reading growth.

For example, an end-of-2nd-grade reader at the 25th percentile would be expected to grow from 72 WCPM to 91 WCPM in one year. This would be their ORF score at the end of 3rd grade. Consequently, a gain of 19 WCPM would equate to “one year’s growth”.

In this context, the gains that the Vero Beach FLiP participants experienced of 22 WCPM and 21 WCPM (in summers 2020 and 2021 respectively) actually exceed the equivalent of “one year of growth” expectations for such students.

Discussion and Implications

The goal of the Vero Beach Family Literacy Program was to ameliorate summer reading loss for at-risk second grade readers, improve their foundational reading skills, and thereby improve overall reading performance. Tune into Reading, an online self-directed program that teaches children songs, was used as the sole intervention provided. No other instruction, intervention, or support in reading was given to students. Given what is

known about summer reading loss (Allington & McGill-Franzen, 2019; Kuhlfield, 2021; Mraz & Rasinski, 2007), students at-risk in reading should be expected to experience a decline in their reading development over the summer due to lack of reading and reading instruction.

In fact, the results of the present studies demonstrate that students in the Vero Beach summer FLiP programs actually made significant gains in their reading development that were substantially greater than what would have been expected during the school year when direct instruction in reading and reading fluency would be provided. It is important to reiterate that no other direct instruction or intervention in reading was provided in the Vero Beach summer programs. Thus, it can be concluded that the improvements demonstrated in reading were due to student use of TIR.

These findings suggest that summer reading loss for struggling primary grade readers can be reduced through targeted interventions. More precisely, the study suggests that intentional singing activities such as those found in TIR have the potential to make substantial improvements in primary grade students' reading achievement outcomes. This is particularly good news recognizing that so many students in the United States fail to progress and achieve adequately in reading proficiency and that summer reading loss appears to be a significant contributor to their reading achievement difficulties.

Pinellas County Implementation – Spring Semester 2021

The Family Literacy Project was introduced to five Title One schools in Pinellas County in Spring of 2021. In this implementation 3rd grade students were selected for participation by the school principals as “struggling with reading” and judged to be “at-risk” of failing the upcoming state mandated standardized test in reading (“FSA” in Florida).

A total of 45 students completed at least 600 minutes of Tune into Reading over the course of Spring semester, 2021 and for whom pre and post test scores were obtained. Students were assessed on the MAP Growth assessment in winter and spring 2021.

The MAP assessment, published by the Northwest Evaluation Association (NWEA), is recognized as a valid and reliable assessment of overall reading achievement and is widely used throughout the United States. It is given via computer to children in grades K-12. The MAP Reading section for third grade is a comprehensive reading assessment and is divided into three main subsections: word recognition and vocabulary, comprehension of literary texts, and comprehension of informational texts. The MAP test is untimed, but students generally spend about 60 minutes per subject area. (See Appendix A for the MAP Reading Norms data).

Winter and spring mean MAP Reading scores are presented in Table 6 for the 45 identified struggling 3rd grade students who participated in the project. Students using

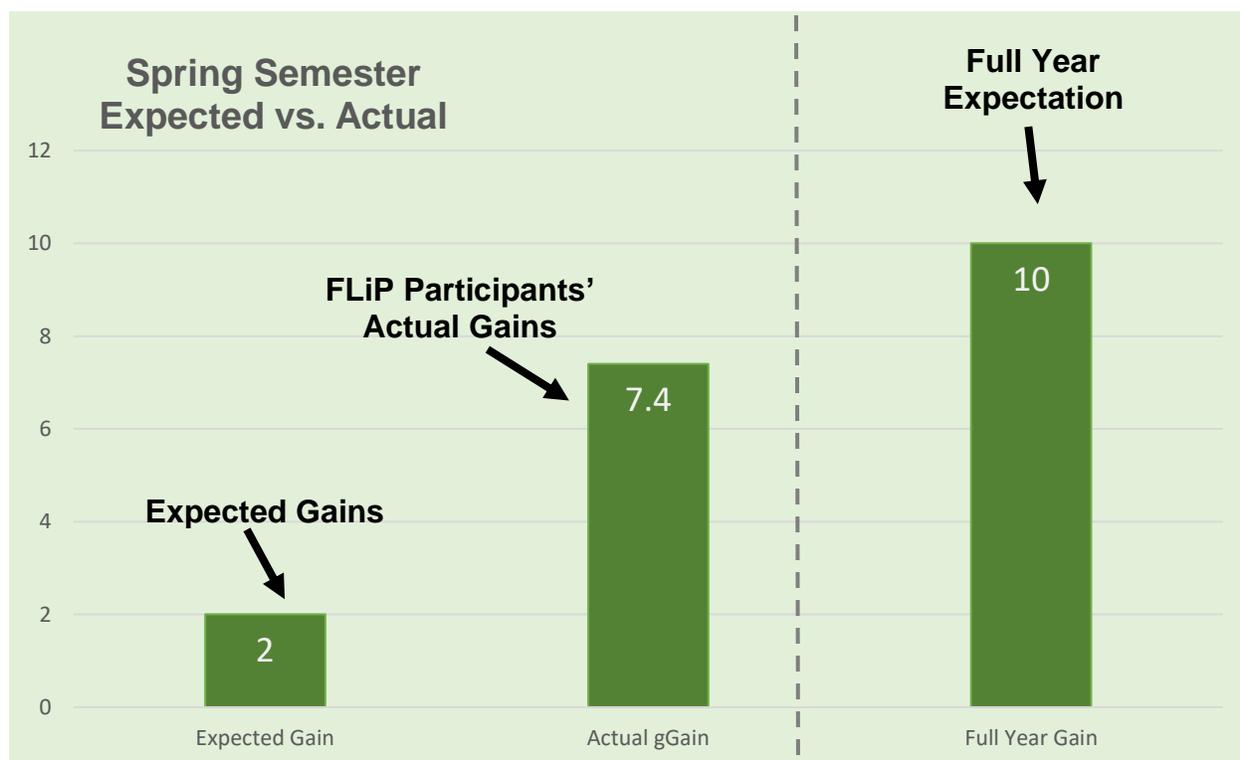
TIR, in addition to their regular reading curricula, made an average gain of 7.4 points on the MAP from winter to spring. Further analyses of the students' performance indicates that students' improvements were statistically significant.

Table 6
Average Reading Improvement Winter to Spring. 3rd Grade Struggling Readers

Average Winter 2021 MAP Reading Score (45 students)	179.93
Average Spring 2021 MAP Reading Score (45 students)	187.38
Average Gain Winter to Spring	+7.45

The MAP Goal Score Translation Chart (Appendix A) indicates that average/normal gain for low achieving 3rd grade students from Winter to Spring is 2 points. Students participating in the FLiP project made more than 3 times the expected progress during the implementation period. Indeed, the normal expected gain for low achieving third graders on MAP Reading for the entire year is 10 points. The struggling 3rd grade readers in this implementation made nearly a year's progress in less than a half year's use of TIR as part of their regular curriculum.

Figure 4
Pinellas County – Spring 2021 – Reading Gains on MAP Scores



Conclusion

The findings of these three different implementations of FLiP/TIR, at separate times and sites, with different grade levels of students, and using different but highly respected and valid measures of reading achievement provide strong support for the use of the Family Literacy Project and interactive singing software such as TIR to improve reading performance in primary grade students, especially those deemed at-risk or struggling readers. While the need for further research into innovative literacy development programs such as TIR remains, the existing evidence of the effectiveness of TIR (in this report as well as in previously published research) makes it a potentially valuable approach for improving students' reading outcomes. Certain characteristics of FLiP and Tune into Reading make it particularly attractive for use at home during the school year and/or during the summer months.

- TIR is an already existing program that has been shown, through scientific research, in a number of settings, to raise reading performance of students who use it on a regular basis.
- Embedded in the TIR program are essential elements of fluency and foundational reading instruction – modeling fluent reading, assisted reading, repeated reading, and word study. Additionally, FLiP/TIR provides opportunities for students to engage in meaningful interactions with texts that go beyond foundational reading and extend into reading comprehension.
- FLiP/TIR is a relatively inexpensive program that can easily be loaded onto electronic tablets for easy access and use by students in a variety of settings.
- Navigating TIR is simple, and students can learn to use the program independently with minimal instruction. Once students become familiar with TIR use of the program is under control of the program itself and the student.
- Singing is generally considered an appealing, engaging, and worthwhile activity (Iwasaki, et al., 2013; Sample 2005). Students using TIR find it to be engaging and motivating as they learn to sing songs.
- The use of songs in TIR provide increased variety for the learning experience. Moreover, the brevity as well as the rhythmical and rhyming nature of songs make them particularly well suited for younger students and students who struggle in reading. These features allow students to master a song in a relatively short period of time, giving students a sense of accomplishment that struggling readers rarely experience.

The need for effective and efficient reading instruction and interventions for all students, and especially students who find learning to read difficult and students from less advantaged backgrounds, is as important as ever. Moreover, the need for innovative solutions for reading difficulties that go beyond “Business as Usual” need to be explored. FLiP/Tune into Reading is one of those innovations that has great potential for helping more students become proficient and life-long readers. Schools and communities looking for new ways to improve students reading achievement and reducing summer reading loss may be well-advised to consider programs such as FLiP/TIR that are time and cost efficient, easy to use, and demonstrated to improve reading in students who use it.

Given the promising results of the use of TIR in FLiP, it is strongly recommended that use of TIR continue to be expanded on a number of different fronts, but especially with students deemed most at risk. TIR should be employed at other grade levels than those studied in this research report: 2nd and 3rd grade. The present findings suggest that students as young as 1st grade and those in 4th and 5th grades can benefit significantly from participation in FLiP/TIR. Continuing research using additional, valid assessments should be employed to ensure the efficacy of the program and that growth in reading is well documented. Additionally, TIR should continue to evolve as an instructional product to meet the wide range of literacy needs of students.

Given the more than three decade-long stagnation of reading development of elementary and middle grades students in the United States, it is high time to consider alternative and supplementary approaches to improving students' reading development. Certainly, the ample evidence of efficacy for FLiP and TIR appears to hold great promise for improving literacy achievement and outcomes for many elementary school students.

Appendix A – Hasbrouck & Tindal ORF Norms and MAP Goal Norms

COMPILED ORF NORMS

Hasbrouck & Tindal (2017)

From Hasbrouck, J. & Tindal, G. (2017). *An update to compiled ORF norms* (Technical Report No. 1702). Eugene, OR. Behavioral Research and Teaching, University of Oregon.

Grade	Percentile	Fall WCPM*	Winter WCPM*	Spring WCPM*	Grade	Percentile	Fall WCPM*	Winter WCPM*	Spring WCPM*
1	90		97	116	4	90	153	168	184
	75		59	91		75	125	143	160
	50		29	60		50	94	120	133
	25		16	34		25	75	95	105
	10		9	18		10	60	71	83
2	90	111	131	148	5	90	179	183	195
	75	84	109	124		75	153	160	169
	50	50	84	100		50	121	133	146
	25	36	59	72		25	87	109	119
	10	23	35	43		10	64	84	102
3	90	134	161	166	6	90	185	195	204
	75	104	137	139		75	159	166	173
	50	83	97	112		50	132	145	146
	25	59	79	91		25	112	116	122
	10	40	62	63		10	89	91	91

*WCPM = Words Correct Per Minute

MAP Goal Score Translation Chart

Based on 2020 Norms

LO = 1-39%ile

AV = 40-79%ile

HI=80-99%ile

Grade	FALL			WINTER			SPRING		
	LO	AV	HI	LO	AV	HI	LO	AV	HI
K	<134	134-146	>146	<143	143-155	>155	<149	149-162	>162
1	<153	153-165	>165	<163	163-176	>176	<167	167-182	>182
2	<168	168-184	>184	<177	177-193	>193	<181	181-198	>198
3	<182	182-200	>200	<190	190-206	>206	<192	192-210	>210
4	<192	192-210	>210	<198	198-215	>215	<200	200-218	>218
5	<200	200-217	>217	<205	205-221	>221	<206	206-223	>223
6	<206	206-223	>223	<210	210-226	>226	<210	210-227	>227
7	<210	210-227	>227	<213	213-230	>230	<213	213-231	>231
8	<214	214-231	>231	<216	216-234	>234	<216	216-234	>234
9	<214	214-234	>234	<216	216-235	>235	<216	216-236	>236
10	<217	217-236	>236	<218	218-237	>237	<218	218-238	>238
11	<219	219-237	>237	<220	220-239	>239	<219	219-239	>239
12	<219	219-239	>239	<218	218-241	>241	<217	217-243	>243

Appendix B – Data Set 1

SOAR Data Set 1				
Summer 2020 - Vero Beach ORF scores				
Oral Reading Fluency (ORF) Assessments				
	Pre - TiR	vs Gr 2 end	Post - TiR	Gain
Student	WCPM	Percentile	WCPM	WCPM
Student 1	107	57	121	14
Student 2	98	48	118	20
Student 3	96	46	130	34
Student 4	93	44	117	24
Student 5	88	40	108	20
Student 6	86	38	126	40
Student 7	83	35	133	50
Student 8	83	35	99	16
Student 9	80	32	96	16
Student 10	78	30	107	29
Student 11	73	26	93	20
Student 12	61	19	72	11
Student 13	54	16	74	20
Student 14	44	11	52	8
Student 15	43	10	69	26
Student 16	36	5	62	26
Student 17	24	3	62	38
Student 18	18	3	26	8
Student 19	11	2	39	28
Student 20	6	1	12	6
Student 21	4	1	6	2
Average WCPM	60.3		82.0	21.7

Appendix B – Data Set 2

SOAR Data Set 2									
Summer 2021 - Vero Beach ORF scores									
Oral Reading Fluency (ORF) Assessments									
		PRE-TIR	POST-TIR	GAIN			PRE-TIR	POST-TIR	GAIN
School	Student	WCPM	WCPM	WCPM	School	Student	WCPM	WCPM	WCPM
School A	Student 1	91	114	23	School D	Student 19	49	88	39
School A	Student 2	91	111	20	School D	Student 20	82	86	4
School A	Student 3	76	114	38	School D	Student 21	98	110	12
School A	Student 4	69	97	28	School D	Student 22	32	49	17
School A	Student 5	65	76	11	School D	Student 23	55	88	33
School A	Student 6	59	79	20	School D	Student 24	78	126	48
School A	Student 7	54	76	22	School D	Student 25	74	98	24
School A	Student 8	40	66	26	School D	Student 26	24	25	1
School B	Student 9	98	111	13	School D	Student 27	92	99	7
School B	Student 10	92	103	11	School D	Student 28	98	122	24
School B	Student 11	89	93	4	School D	Student 29	64	83	19
School B	Student 12	88	85	-3	School E	Student 30	88	122	34
School B	Student 13	87	102	15	School E	Student 31	68	80	12
School B	Student 14	79	88	9	School E	Student 32	61	121	60
School B	Student 15	74	86	12	School E	Student 33	56	132	76
School B	Student 16	73	80	7	School E	Student 34	52	95	43
School B	Student 17	40	54	14	School E	Student 35	43	71	28
School C	Student 18	94	82	-12	School E	Student 36	38	60	22
							69.8	90.9	21.1

Appendix B – Data Set 3

SOAR Data Set 3 - Spring 2021 - Pinellas County Schools - "5 school Pilot"

MAP Reading Scores

Grade of Students:	3r graders - spring semester	
Name of Assessment:	NWEA - MAP Reading - RIT scores - Mid Year and End of Year	
Dates of Assessment:	Pre	Post
week of:	Dec '21	May '22
Dates of Intervention:	Start	End
	15-Feb-21	15-May-21
# of weeks of intervention:	12	

School	Student	Winter RIT	Spring RIT	Change in RIT	School	Student	Winter RIT	Spring RIT	Change in RIT
School A	Student 1	178	173	-5					
School A	Student 2	174	183	9	School D	Student 24	188	191	3
School A	Student 3	161	172	11	School D	Student 25	188	193	5
School A	Student 4	158	170	12	School D	Student 26	193	199	6
School A	Student 5	176	189	13	School D	Student 27	201	208	7
School A	Student 6	158	174	16	School D	Student 28	192	200	8
School A	Student 7	177	194	17	School D	Student 29	187	195	8
School A	Student 8	151	169	18	School D	Student 30	192	200	8
School B	Student 9	190	192	2	School D	Student 31	191	200	9
School B	Student 10	181	183	2	School D	Student 32	186	197	11
School B	Student 11	181	185	4	School D	Student 33	183	196	13
School C	Student 12	177	176	-1	School D	Student 34	170	193	23
School C	Student 13	181	181	0	School E	Student 35	194	193	-1
School C	Student 14	179	181	2	School E	Student 36	176	178	2
School C	Student 15	171	173	2	School E	Student 37	181	186	5
School C	Student 16	157	160	3	School E	Student 38	179	186	7
School C	Student 17	158	163	5	School E	Student 39	163	171	8
School D	Student 18	200	199	-1	School E	Student 40	169	177	8
School D	Student 19	200	199	-1	School E	Student 41	172	181	9
School D	Student 20	195	197	2	School E	Student 42	149	163	14
School D	Student 21	200	203	3	School E	Student 43	176	195	19
School D	Student 22	204	207	3	School E	Student 44	185	207	22
School D	Student 23	193	196	3	School E	Student 45	182	204	22
							179.9	187.4	7.4

Appendix C – Bio of the Author

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Dr. Timothy Rasinski is a professor of literacy education at Kent State University and former director of its award-winning reading clinic. He also holds the Rebecca Tolle and Burton W. Gorman Endowed Chair in Educational Leadership. Tim has written over 250 articles and has authored, co-authored or edited over 50 books or curriculum programs on reading education. He is author of the best-selling books on reading fluency *The Fluent Reader* and *The Megabook of Fluency* (winner of the 2019 Teachers Choice Award). Dr. Rasinski's scholarly interests include reading fluency and word study, reading in the elementary and middle grades, and readers who struggle. His research on reading has been cited by the National Reading Panel and has been published in journals such as *Reading Research Quarterly*, *The Reading Teacher*, *Reading Psychology*, and *the Journal of Educational Research*. Tim is the first author of the fluency chapter for the *Handbook of Reading Research, Volume IV*.

Tim served a three-year term on the Board of Directors of the International Reading Association and was co-editor of *The Reading Teacher*, the world's most widely read journal of literacy education. He has also served as co-editor of the *Journal of Literacy Research*. Rasinski is past president of the College Reading Association, and he has won the A. B. Herr and Laureate Awards from the College Reading Association for his scholarly contributions to literacy education. In 2010 Tim was elected to the International Reading Hall of Fame and he is also the 2020 recipient of the William S. Gray Citation of Merit from the International Literacy Association. In a 2021 study done at Stanford University Tim was identified as being among the top 2% of scientists in the world.

Prior to coming to Kent State Tim taught literacy education at the University of Georgia. He taught for several years as an elementary and middle school classroom and reading intervention teacher in Omaha, Nebraska. Tim is a veteran of the United States armed forces.

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