Final Report for the Sandra Deal Center for Early Language and Literacy: Research Grant Initiative for Early Language and Literacy Practices 2022

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The Roadrunner Reading Clinic: Conception to Implementation

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Abstract

The purpose of this study was to use implementation science to investigate the impact of one-on-one tutoring using a reading clinic approach.   The clinic was set up to match teacher candidates and students from local elementary schools. A preassessment was administered, and a plan was formulated for each elementary student. The clinic ran for ten weeks, one in the Spring and another in the Fall semesters. Data was collected and analyzed by looking at reading attitudes, Phonemic and Phonological Awareness, and fluency in some cases. Additionally, teacher candidates were surveyed to see the impact of working with students one-on-one and the effect it had on teacher efficacy in Literacy Instruction.

Literature Review

The Roadrunner Reading Clinic focused on how one-on-one tutoring can impact local struggling readers in grades (K-2). Reading is an unnatural phenomenon that can frequently cause anxiety and embarrassment and prevent children from advancing to the next level in school.

We know from the National Association of Educational Progress (NAEP,2021) reading scores in Georgia for the last reported year (2019) that the scores were above basic (a score of 210) but below proficient (a score of 218). For reading levels with our partner schools, 61% of students are reading below basic, and in the third grade, only 34% are reading at a Lexile Level of 670 (NAEP, 2021). Our solution was a reading clinic. "Reading clinics open the door to students who have lost a sense of satisfaction from reading and who have become frustrated and burdened with the stigma of reading poorly in class" (Cleland, 1982, p. 161).

Research shows that one-to-one tutoring can have a significant impact on children who are tutees (Jacob, Smith, Willard, & Rifkin, 2014; Ortlieb, Grandstaff-Beckers, & Cheek, 2012; Ritter, Barnett, Denny & Albin, 2009), with children showing improvement in reading comprehension, fluency, vocabulary, and confidence.

The Roadrunner Reading Clinic plan was to have an impact by working one-on-one with at-risk K-2 students while improving pre-service teachers' understanding of reading instruction. Research shows that pre-service teachers can impact the children they are tutoring, and the tutoring within the reading clinic can impact the pre-service teacher. According to Jones, Stallings, and Malone, 2004, "In sum, the tutors reported significant positive changes in their

perspectives and attitudes in several areas based on their service-learning tutoring experience" (p. 115).

The Road Runner Reading Clinic did impact children in North Georgia. The strategies used to help with reading included research-based practices; candidates used manipulatives such as sandpaper letters and a movable alphabet (Soundy, 2003). Weekly read-aloud and structured vocabulary (Kesler, 2010), partner reading, Reader's Theater, and other fluency-building (Griffith & Rasinski, 2004; Son & Chase, 2018) activities were a part of the program. Evidence supports the sustainability of early intervention strategies. In the Zijlstra et al. (2021) study, "children in the intervention group still consistently outperformed the no intervention group in reading and reading-related outcomes four years after the intervention was finished" (p. 262). Current reading clinics associated with the USG are in Atlanta, Athens, and Statesboro. North Georgia does not currently have a resource like a reading clinic. The Road Runner Reading Clinic provided opportunities to build literacy for our community and help strengthen future Georgia teachers' literacy practices and strategies.

Research Methods

We used a mixed-method approach. We gathered and analyzed quantitative data. Attendance was collected to determine the impact of consistent attendance during the ten weeks of the reading clinic. Pre- and post-assessment results were gathered and analyzed for the impact of strategies on reading skills. Pre- and post-survey data was collected and analyzed for the impact of participation on teacher candidates' self-efficacy in teaching reading.

For statistical significance, the researcher used a T-Test to compare the pre and post-assessments and the pre and post-survey results.

Data Collection Instruments- The Roadrunner Reading Clinic used two instruments for the quantitative data collection. The first instrument is the Elementary Reading Attitude Survey (M McKenna K Dougherty Stahl, 2009) which helped establish the reading attitudes of struggling readers. We had planned to use the PAST (Phonological Awareness Screening Test). However, the initial results we received were not usable, and we opted to use the LETRS assessment instead. For a ten-week clinic, the principal investigators decided that the PAST, while providing solid information, drilled down too far. We did not feel the instruction we could provide would have impacted the reading scores. LETRS gave us skills that were broader and could provide results in a short amount of time.   We moved to the LETRS (Language Essentials for Teachers of Reading and Spelling) (L Moats C Tolman, 2019) Phonics and Word Reading Survey to determine reading and word fluency. Based on the results of each assessment, the principal investigator determined the plan of action and worked with the teacher candidate assigned to design the appropriate strategies for each student.
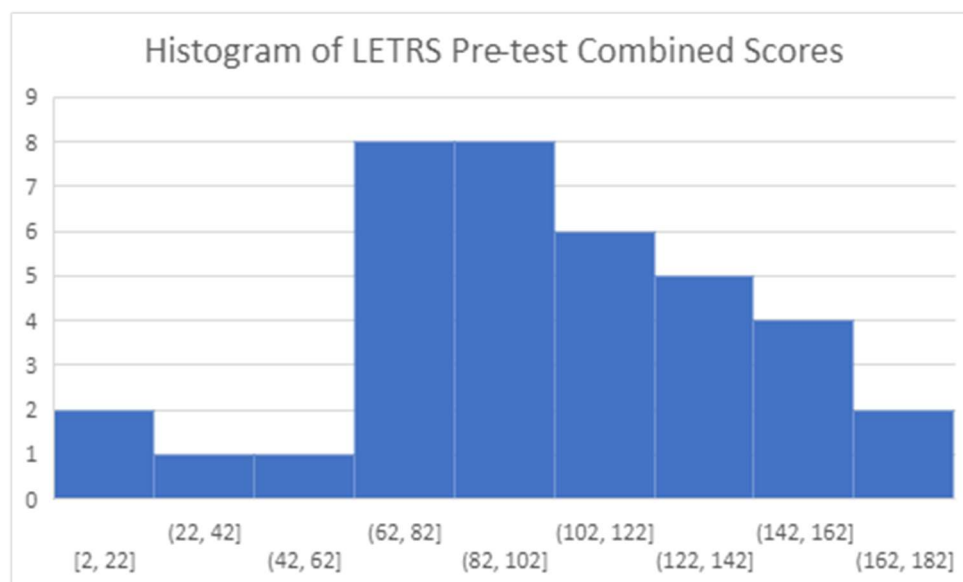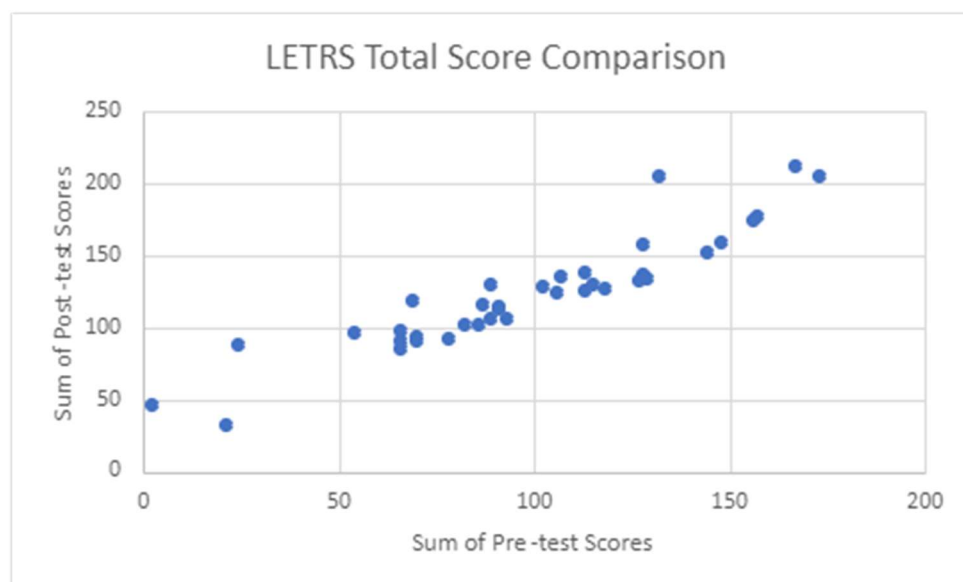
For the qualitative data collection, the Principal Investigator created a self-efficacy survey to measure the effectiveness of the participation of pre-service teacher candidate's efficacy. The principal investigator developed interview questions, measured the knowledge gained from the Literacy professors, and identified positive aspects and possible barriers to replication. These surveys were given to teacher candidates at the end of each session. '
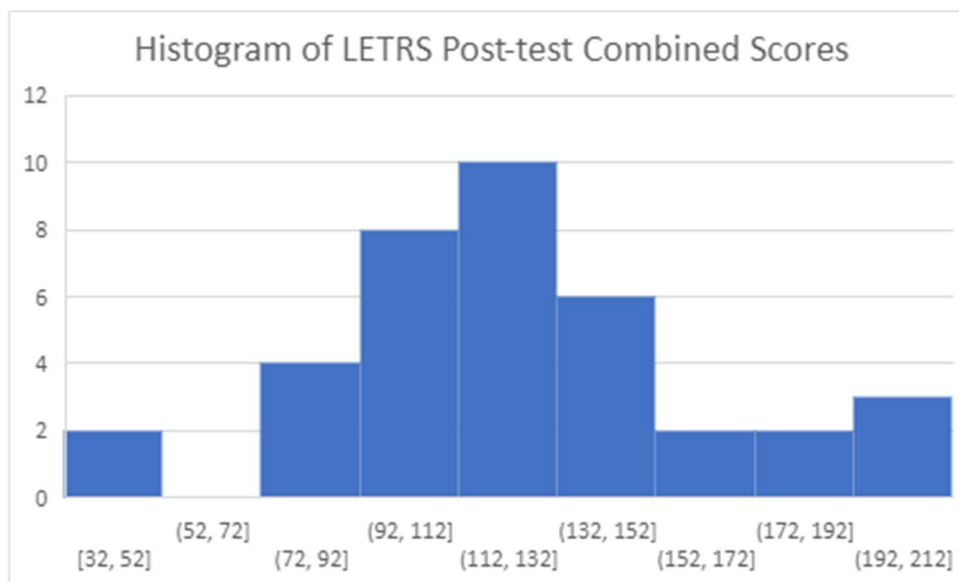
Results

The mixed method is a convergent design, parallel-databases variant where we independently

analyzed the data and then pulled all information together (Creswell, J, Plano Clark, V, 2018)

The Roadrunner Reading Clinic collected and ran the data through a t-test for the LETRS and

Phonemic awareness instruments. The table below highlights the analysis.

	Variable 1	*Variable 2*
Mean	98.83783784	123.9189189
Variance	1586.750751	1534.243243
Observations	37	37
Pearson Correlation	0.92320755	
Hypothesized Mean Difference	0	
df	36	
t Stat	-9.846280855	
P(T<=t) one-tail	4.69097E-12	
t Critical one-tail	1.688297714	
P(T<=t) two-tail	9.38194E-12	
t Critical two-tail	2.028094001	

LETRS Total Score Comparison

Histogram of LETRS Pre-test Combined Scores
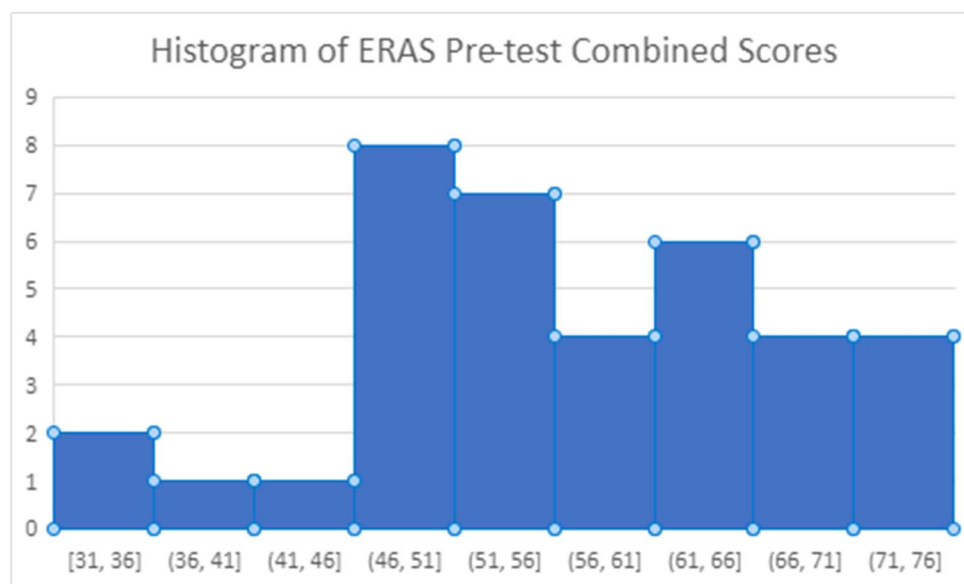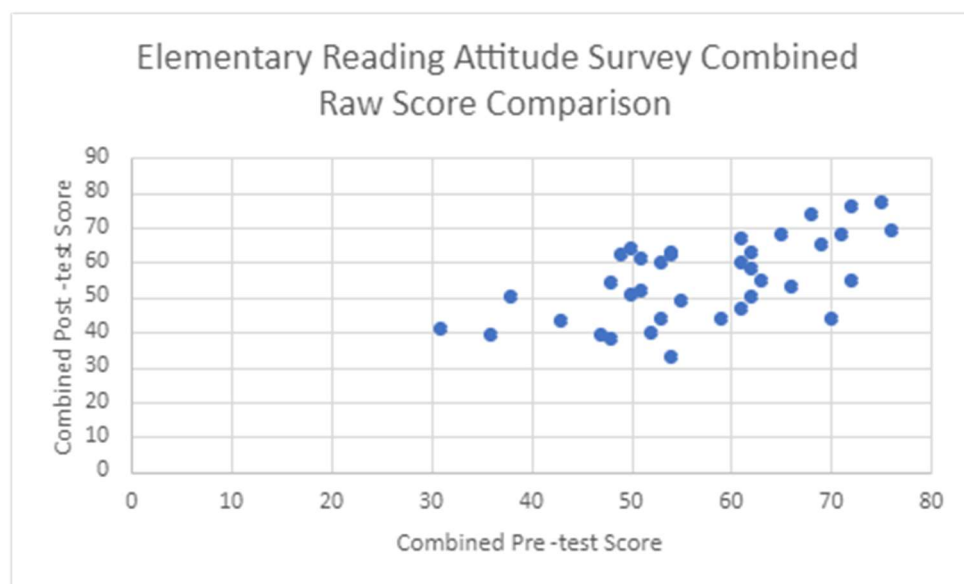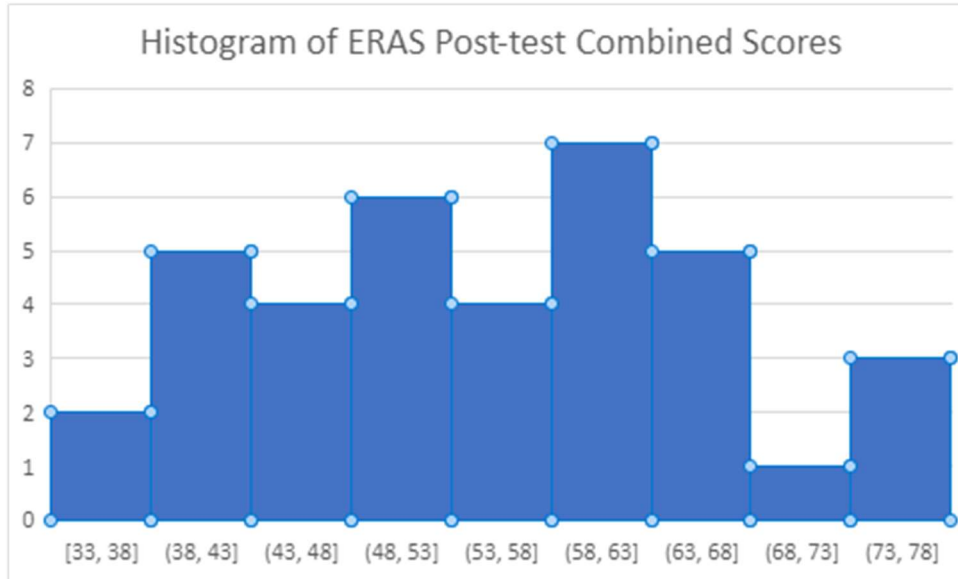
Histogram of LETRS Post-test Combined Scores

Data was deleted that did not contain pre- and post-data information. The remaining pre-test and post-test scores were then summed. On average, there was over a 24-point increase in scores. This was a statistically significant score increase ($p = 4.69 \times 10^{-12}$). Also, there was a high direct correlation between the pre-test and post-test scores (0.92). This suggests scores were increasing consistently across the board rather than pockets of increases, as shown in the scatterplot.

We did not use the PAST assessment as planned. We attempted to use this instrument but could not get data we could use. Many students needed help to get past the initial questions, which is problematic. Phonemic Awareness is vital to reading acquisition therefore this assessment was a significant portion of our plan. We used the LETRS assessment, which included Phonemic Awareness, to gather data that helped us understand the phonemic awareness needs of our students.

Additionally, we examined Reading Attitudes using the Elementary Reading Attitudes Survey. The chart below describes that analysis.

	Pre Combined Score	*Post Combined Score*
Mean	57.08108108	55.08108108
Variance	120.2987988	134.9654655
Observations	37	37
Pearson Correlation	0.606639621	
Hypothesized Mean Difference	0	
df	36	
t Stat	1.212517495	
P(T<=t) one-tail	0.11660585	
t Critical one-tail	1.688297714	
P(T<=t) two-tail	0.2332117	
t Critical two-tail	2.028094001	

Elementary Reading Attitude Survey Combined Raw Score Comparison

Histogram of ERAS Pre-test Combined Scores

Histogram of ERAS Post-test Combined Scores

The overall mean of the combined scores dropped two points. However, this difference is not statistically significant (p = 0.1166). In other words, this can be attributed to chance. There was a moderately strong correlation between the scores (r = .60664), as also illustrated in the scatterplot. One student did not complete the ERAS pre- and post-assessment.

We also looked at the impact of one-on-one tutoring on the teacher candidates' practice.

We quantified the results for the survey as 5 for strongly agree and 1 for strongly disagree and found the average score per item on the survey. While the average score for each item on the survey increased from the pre-test to the post-test, we could not conduct a t-test for dependent samples since the sample sizes were different. The gains ranged from 0.019 to 0.346 for the averages of the items in the pre- and post-assessments.

Discussion

Investigators felt that the Roadrunner Reading Clinic was successful; however, some problems impacted the clinic as a whole. One of the most significant hurdles for this clinic was finding tutors that would consistently show up. Most of our tutors were students taking classes in Area F, the prerequisite course to enter the School of Education, but were not in the School of Education yet. These students did not understand the need to be consistent with instruction and were unaware of the anxiety this caused the elementary students. The grant offered payment for tutoring, which we thought would address this issue, but this was not a solution. We struggled to hire tutors from the beginning of the Roadrunner Reading Clinic in February of 2022. Principal investigators tutored one to two children for several days because tutors did not attend.

Transportation was also a challenge for the Reading Clinic. The principal investigators wanted to provide transportation to the Dalton State Campus and promote the idea that elementary students were essential and were "going to college." After we finalized transportation, we realized that we had many students who needed car seats. Car seats were not in our budget, but we were able to find a donor who purchased several new booster seats, and we were able to borrow the rest. Not having students old enough to buckle up added the complication of getting all the students buckled into seats for transportation. The principal investigators rode the bus the first semester, taking daily turns. During the second semester, a student was hired to ride the bus and ensure students were strapped in correctly.

An additional issue was the consistent attendance of the elementary students. Throughout the clinic, our attendance dropped. We did send reminders to schools and families, but families have many things to attend to, impacting attendance. We did not change attendance policies from the first to the second semesters. We did have students return from the first semester to the second

semester. If we were to repeat the Roadrunner Reading Clinic in the future, we would contact families directly instead of leaving that to the school administration.

Reading Attitudes did not improve as initially thought. We worked under the impression that students who were stronger readers would have improved attitudes about reading. Based on the data we received from reading attitudes, the total score dropped by two points. The change in attitude could be chance or perhaps based on the mood of the elementary students were in on the day of post-assessment. In one case, the students reluctantly circled all negative Garfield's and said he hated all reading. We worked with tutors and used their feedback to improve the attitudes by implementing manipulative materials for work, Reader's Theater for fluency, and working with a classmate in partner work. Additionally, the instrument has flaws, such as the question about using a dictionary. Most students have little to no exposure to a dictionary. Many questions felt redundant, and sometimes the students answered the same way. The researchers were surprised by this. The hope was that students who improved their reading ability would improve their attitude and begin their path as lifelong readers. It is also possible that reading attitudes dropped because students were more aware they were struggling since they had received extra support. Perhaps, they indicated they liked reading less because they were more aware of the different types of reading to which the questions were referring.

Reading skills did improve with the one-on-one models used in the Reading Clinic. The scores on the LETRS assessment increased by an average of 24 points. LETRS looked at letter recognition, high-frequency words, vowel pairs, long and short vowels, Closed Syllables, digraphs, doubles, Blends, r-controlled and VCE words, and complex multi-syllables and prefix and suffix pairs. LETRS also explored each concept through real and nonsense words. Using the

LETRS assessment gave us specific data on each child and allowed us to tailor weekly instruction. This approach allowed the students to grow and address their areas of weakness.

Based on actual data, the students made significant gains in the short ten weeks of instruction. The Principal Investigators observed a difference in demeanor and attitude toward reading, even though the data from the Reading Attitude survey did not support this observation. The students were eager to come to campus, work with their tutors, and less reluctant to read. The partnering officials have requested we repeat this experience as they felt it was the most valuable of the partnership's initiatives.

The Roadrunner Reading Clinic was a goal the School of Education at Dalton State College and the principal investigators had envisioned for many years. Despite the many barriers and challenges, the principal investigators feel it was a successful and good use of resources. The students involved in the clinic grew as readers and grew their home libraries. The teacher candidates engaged in the Roadrunner Reading Clinic were exposed to teaching one-on-one and learned specific strategies to help literacy acquisition.

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