

**The Efficacy of Volunteer Tutors on Student Reading Achievement in an After-School  
Tutoring Program: An Action Research Project**

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**Abstract**

*Elementary students from impoverished urban communities do not have access to trained after-school reading tutors. Programs like these are rarely available and mainly beyond the financial reach of the families living in these communities. Free reading tutor training programs are not available for volunteers who are motivated to serve the students who struggle with reading. The site, its tutors, and its students are direct beneficiaries of this guided reading program. All participants focus on the literacy needs of students in kindergarten through third grade. The site provides an after-school program which includes literacy intervention lessons from Fountas and Pinnell (2011). The purpose of this action research project was to determine the efficacy of an after-school guided reading program which uses certified volunteer reading*

*tutors to instruct students in grades kindergarten to second grade on the fundamentals of reading. Measures of Academic Progress (MAP) from the Northwest Evaluation Association (NWEA) database were collected at the beginning of the academic year and at the end of the academic year for two groups of students: a group that participated in the after -school guided reading program at least 80% of the time throughout the academic year (four out of five days per week) and another group that participated in the after-school guided reading program less than 20% of the time (one out of five days) for the same period. MAP was analyzed using Cohen's d and a paired t-test (two-tailed). Results indicated that the intervention was effective.*

**Key Words:** volunteering; tutoring; literacy; intervention; efficacy

## INTRODUCTION

In the United States, several solutions have been attempted to reduce the impact of poverty on reading achievement. Extending the school day through after-school programming is one of those solutions. Some programs have made effective use of properly trained and supervised reading tutors to provide reading instruction (Weinstein, 2010; Dunphy, 2006). Similar studies which made use of volunteer reading tutors rather than certified teachers in an after-school setting showed similarly beneficial results on student reading achievement (Ferrell, 2012; Bridges, 2011; Thomas, 2011; Perez, 2010; Parkman, 2009). Gibson (2013) and Johnston, Invernizzi, Juel, and Lewis-Wagner, (2009) contend that using trained professionals in early literacy instruction and intervention is preferable to using trained volunteers. However, the availability of teachers to perform one-on-one or small group tutoring is financially untenable in impoverished urban communities.

Numerous government-sponsored literacy programs promoting tutor education and community-based involvement have evolved to stem declining reading scores among the

nation's elementary school children. Studies (Gibson, 2013; Johnston et al. 2009) provide a historical perspective on the emergence of scientifically-based tutoring programs focused exclusively on the promotion of reading instruction. The Reading Excellence Act of 1998 (U.S. Department of Education, 1998) awarded state grants to improve reading instruction in high-poverty elementary schools. In 1997 the America Reads Challenge (U.S. Department of Education, 1998) was instrumental in creating America's Reading Corps in a concerted effort to have all students reading independently by the end of the third grade. A Presidential bi-partisan effort began to recruit and place as many as one million volunteer reading tutors in elementary schools across the country (U.S. Department of Education, 1998). A few America Reads Corps programs still exist, the most active program being in the state of Minnesota (Minnesota Reading Core, 2017). Book Buddies was born from the America Reads Challenge of 1997 (Gibson, 2013; Johnston et al. 2009) and informs a reading tutor training and certification program regarding the framework and activities presented to the volunteers (Miklosey, 2017).

### **Availability of After-school Reading Programs and Reading Tutor Training Programs**

Tutor training programs usually focus on middle school, high school, and college level subject remediation (Learn How to Become, 2017). The availability of reading tutor training programs for elementary students living in urban communities where tutoring services must be offered free of charge does not seem to exist. The urban community in which this after-school program operates does not provide such an opportunity as a routine function of the local school district. A reading tutor training program designed for use with elementary students within an urban community may provide a long-needed resource that benefits the children from impoverished communities who struggle with reading in the early grades.

Darrell Morris from the Howard Street Tutoring program in Chicago, IL has used trained volunteers to deliver a balanced instructional reading curriculum including a variety of reading comprehension activities (Harvard Graduate School of Education, 1988). Morris, Shaw, and Perney's (1990) statistical analysis of the Howard Street tutoring program reported significant gains for tutored students compared with the control group. Gibson (2013) and Morris et al. (1990) confirmed the findings that nonprofessional reading tutors can deliver effective reading instruction under the guidance of certified teachers. The practice of this after-school program is very similar to the practice of using paraprofessional teacher's aides in support of reading specialists in Response to Intervention (RTI) classrooms.

## **METHODOLOGY**

The research question guiding this study was: *To what extent did the certified volunteer reading tutors implementing a robust guided reading program impact student reading achievement as measured by the Measures of Academic Progress (MAP) from the Northwest Evaluation Association (NWEA) assessment data?* The quantitative analysis of this study sought to determine if trained volunteer reading tutors could contribute effectively to student reading achievement gains if conducted within the parameters of a rigorous after-school reading program. This action research project was designed to determine the effectiveness of the after-school program and its volunteer reading tutors, AESOP's Attic, a non-profit program staffed by trained volunteers.

### **AESOP's Attic Reading Tutor Training Program**

Literacy planners often select a specific and successful research-based reading curriculum for use with their population of students. However, it is also essential to ensure that the curriculum is suitable for use by the volunteer tutors, based upon their level of skill and

experience, and the amount of time available for training (Richards & Lassonde, 2008; Roderick, 2013). Tutors are routinely asked to implement daily tutoring lesson plans that include a variety of strategies and activities that promote all aspects of early reading. Tutoring program coordinators will need reading tutors skilled at small-group reading instruction and other literacy activities supporting differentiated groups of readers. Roderick (2013) and Strayhorn (2009) proposed that reading tutor training focuses on instructional skills that empower the volunteer tutor to organize and conduct lessons on oral fluency, word study, vocabulary development, and comprehension.

The volunteer tutors of this after-school program were explicitly trained to teach the rudiments of early reading to students in grades kindergarten through 3<sup>rd</sup> grade. Tutors were trained to implement the research-based guided reading program of Fountas & Pinnell (2011) which emphasizes phonemic awareness, phonics, word study, vocabulary, and comprehension. The results of this study indicate the use of volunteer reading tutors, if properly trained and equipped with a scientifically-based curriculum and high-quality reading materials, can have a positive effect on the reading achievement of early readers in an after-school setting.

### **AESOP's Attic After-School Program**

Unspecified reading programs that focus on "*homework help*" make the quantification of successful reading achievement in an after-school setting difficult. The after-school program cited in this study goes far beyond what unspecified reading programs offer. It does so by implementing a rigorous, scientifically-based, and objective reading curriculum aimed at producing a highly structured learning environment focused on early reading skills.

The after-school reading program was conducted throughout the academic school year, or five days each week when school was in session. Each guided reading session lasted

approximately 30-45 minutes. Additional variables mediating the effect of the after-school program were controlled by first limiting the ratio of tutors to students to 1:6 as recommended by the *Fountas & Pinnell Literacy Intervention Program (2011)*. Second, student exposure to the effects of the program was measured by both recorded attendance and the number of hours of direct participation.

Scripted guided reading lesson plans from *The Fountas & Pinnell Literacy Intervention Program (2011)* were used to instruct phonemic awareness, phonics, reading, writing, word study, fluency, vocabulary, and comprehension. The program provides 35 weeks of daily, intensive and scripted supplemental reading lessons. Other reading activities that complete the profile of the after-school program include Reader's Theater and literacy activity games.

Certified reading tutors teach the guided reading program under the direct supervision of a literacy specialist from AESOP's Attic, a non-profit literacy outreach organization specializing in reading intervention. All reading tutors received certification training involving a 20-hour training program focused on the tenants of early reading instruction, implementation of scripted lesson plans, and effective teaching strategies. (Miklosey, 2017).

### **The NWEA and Measures of Academic Progress**

The NWEA is used by the local school district as a universal screener and the Academic Year (AY) 2017-2018 results were made available for the use of this study. The NWEA is an adaptive assessment that determines progress in reading achievement based on a Rausch Unit (RIT) scale. The RIT scale is an equal interval curriculum scale, which assigns a numerical value to a set of learned curriculums and helps measure academic growth in several content areas.

Since the NWEA is a computer-adaptive test that measures a student's reading content mastery, test-item difficulty varies according to the student's achievement level. When students respond correctly, they receive a more difficult item. Incorrect responses are followed by more accessible items. Test-item difficulty varies at different grade levels with more difficult questions occurring at the higher grades. Because the recommended RIT growth in the lower grades is a higher number of RIT compared to upper grades, the effect size calculation (*Cohen d*) resulted in greater strength at the lower grades.

Pre-test data was taken from NWEA RIT scores at the beginning of the academic year. Post-test data was taken from NWEA RIT scores at the end of the academic year. The data was gathered from 4 elementary schools, from which AESOP's Attic drew its after-school participants. Pre and post assessment data were analyzed using multiple calculations. Descriptive statistics were used to determine the RIT mean, standard deviation, and percent of students meeting their respective growth target. The growth target is a number provided by NWEA to determine if students have met a recommended level of growth during the AY. Inferential statistical analysis consisted of a *t-test* (two-tailed) and Cohen's *d* calculations

Students whose MAP scores were selected for analysis fell into one of two groups: those who attended after-school guided reading lessons at least 80 % of the time (four out of five days each week) or 102 hours over the length of the academic year. Students in this category were considered to have received the full effect of the program. Students who attended after-school guided reading lessons less than 20% of the time (one out of five days each week or less) or 20-25 hours over the length of the academic year were considered to have received negligible or no effect from the program.

## RESULTS

The pre and post-assessment data in Table 1 summarize the RIT scores of 39 first and second grade students who fully participated in the guided reading program. The pre and post assessment data in Table 2 summarizes the RIT scores of 29 first and second grade students who participated in less than 20 % of program services.

Table 1  
Pre and Posttest measures of first and second grade students fully participating in after school program with percent of students meeting growth targets

	Average Hours in Intervention	<i>N</i>	Mean Pre	SD Pre	Mean Post	SD Post	Percent Meeting Growth Target (MAP)	Cohen's <i>d</i>
1 <sup>st</sup> Grade Pre/Post MAP Results Reading	102	11	159.4	11.51	176	16.6	81.8%	1.19
2 <sup>nd</sup> Grade Pre/Post MAP Results Reading	102	28	162.9	14.2	185	22.2	75%	1.44

Table 2  
Pre and Posttest measures of first and second grade students *not* fully participating in after school program with percent of students meeting growth targets

	Average Hours in Intervention	<i>N</i>	Mean Pre	SD Pre	Mean Post	SD Post	Percent Meeting Growth Target (MAP)	Cohen's <i>d</i>
1 <sup>st</sup> Grade Pre/Post MAP Results	20	5	152.2	5.88	172.2	20.86	20.0%	1.49

Reading								
2 <sup>nd</sup>								
Grade								
Pre/Post	20	24	156.6	7.84	173.5	16.2	25 %	1.4
MAP								
Results								
Reading								

### Measures of Academic Progress (MAP)

NWEA pre and post-test data of *Measures of Academic Progress* (MAP) indicate students who fully participated in the after-school program achieved far greater academic growth than students who did not participate, as the school district reported that 50 % of all students in grades one and two successfully met the expected MAP growth target as compared to 77% of those students who fully participated in the AESOP’s Attic tutoring program.

### Cohen’s d

The following results from the Cohen’s *d* show a very high to moderately high effect size for first and second grade students of both groups. There was no distinctive variation in *Cohen’s d* measures between either group. It is assumed that the high effect sizes of both groups were a result of the adaptive nature of the NWEA test and therefore provided no conclusive difference in scores. See Table 3 for a comparison of thresholds of *Cohen’s d*.

Table 3. Comparing Cohen’s d Thresholds

	<i>d</i>	<i>r</i>	r equivalent to d*
Small	.20	.10	.10
Medium	.50	.30	.24
Large	≥.80	.50	.37

\*Where  $r = \frac{d}{\sqrt{d^2 + 4}}$

### **Paired t-test (two-tailed)**

The *paired t-test* (two-tailed) analysis of second-grade students who fully participated in the afterschool program showed a significant effect on their reading achievement ( $t = 2.62, p < .02$ , two-tailed) but not a significant effect on first grade ( $t=1.00$ , two-tailed). The lack of significance could be due to the lack of variance in the first grade group sample as indicated by the small standard deviation. The smaller sample size of the first-grade class and their lack of variance at the beginning of the school year may have impacted the significance of the results.

### **Limitations and Recommendations**

Sporadic attendance had a direct impact on key features of this project: sample size, the ability to make random group assignments, and controlling other variables considered standard research design features. It can be concluded that students who fully participated in the after-school program demonstrated characteristics better suited for reliable academic rigor. Factors such as family dysfunction, routine and acute physical illnesses, unstable housing, unreliable transportation, or a parent's contribution to chronic absenteeism could not be factored out of the study and had an impact of the study's overall design. Missing literacy instruction in the early grades both at school and in after-school programs has a deleterious effect on a child's developmental reading (Ready, 2010).

The results of the action research study have limited application because it is site-specific, however further research using valid and reliable experimental methods may shed light on the role of after-school support structures, including the use of certified volunteer reading tutors, in accelerating literacy gains of students in poverty. The growth indicators for students receiving the full impact of the program show promising results when compared to students who attended the after-school program less frequently and on the school's overall average growth

results. While not definitive, the difference in the growth target indicators points to a positive impact by the program and its volunteer reading tutors.

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