

# CHALLENGES INHERENT IN THE DESIGN AND IMPLEMENTATION OF AFTER-SCHOOL INTERVENTION PROGRAMS FOR MIDDLE GRADE UNDERACHIEVING READERS

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## ABSTRACT

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*In this brief report, we share three challenges we encountered when designing and implementing an after school intervention program for an ethnically diverse group of middle grade underachieving readers. We also offer practical solutions to help guide middle school teams in anticipating and addressing potential problems when putting in place literacy interventions in after school settings.*

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**Keywords:** After-school programs; literacy interventions; underachieving middle grades readers; program design, implementation, and evaluation

In the Fall of 2013, we teamed up with representatives of one local middle school to design, implement, and evaluate an after-school intervention program aimed at improving the academic vocabulary knowledge and the reading comprehension performance of an ethnically diverse group of 36 underachieving sixth graders. The target middle school was located in a socio-economically and ethnically diverse community in the Southwestern United States (pop. 105,000). At the time of the intervention, the school had an enrollment of approximately 600 students in grades six through eight with a 25:1 student to teacher ratio. Students represented various ethnicities, including White (4%), Black (20%), and Hispanic (76%). In addition, approximately 93% of these students were eligible for a free or reduced price lunch and nearly 40% were designated as Limited English Proficient (LEP).

The students were selected for participation in the after school literacy intervention program because they were underachieving in reading, writing, and academic subjects such as science and social studies as indicated by poor end of course grades (C- or below) in language arts, science, and social studies, as well as low performance (30th percentile or below) on the reading portion of the State of Texas Assessment of Academic Readiness (STAAR) test (TEA, 2015), the state's high-stakes standardized test, which is administered annually to middle grade students. School records indicate that these students were among 45% of the students in grades six through eight who were placed in remedial reading classes.

In light of the identified needs for the target students, we selected Word Generation, a program that is research-based and has a track record of documented effectiveness related to strengthening students' academic vocabulary and reading comprehension skills. Word Generation was developed by a research team affiliated with the Strategic Education Research Partnership (SERP) at Harvard

University (Snow & Lawrence, 2011; Snow, Lawrence, & White, 2009). This program has proven quite successful in strengthening middle grade students' academic vocabulary and improving reading comprehension performance as documented in various published research studies (Hwang, Lawrence, Mo, & Snow, 2014; Lawrence, 2012; Lawrence, Capostosto, Branum-Martin, White, & Snow, 2012; Lesaux, Kieffer, Faller, & Kelley, 2010; Snow & Lawrence, 2011).

The Word Generation program consists of a carefully coordinated set of curriculum materials that support the teaching of academic vocabulary and reading comprehension across the disciplines of language arts, science, mathematics, and social studies. These materials include a series of weekly instructional units, which introduce students to academic vocabulary words embedded in passages exploring topics or issues of interest to adolescents (e.g., steroid use among athletes, censorship of books, popular music). The curriculum then provides opportunities for students to use the new words in classroom discussions, debate, and writing. The overall purpose of the program is to strengthen students' academic vocabulary knowledge, which then helps them develop the background knowledge needed for effective reading comprehension and learning across the disciplines.

We implemented the program during the 2013 – 2014 school year and reported our findings in Mokhtari & Velten (2015). For purposes of this manuscript, we provide only a summary of the findings, but devote the remainder of the manuscript to a discussion of the challenges we encountered in designing and implementing the program in this after school setting. We also share practical solutions using lessons learned from our own experience implementing the program with the goal of guiding other middle school teams in anticipating and eventually addressing potential problems likely to be encountered in designing and implementing after school programs.

By and large, the implementation of the literacy intervention with our target students proved to be quite successful. In summary, we can report that after only 34 hours of small-group instruction using Word Generation, we compared the performance of intervention students (n=36), who voluntarily participated in the program, to a school-recruited comparison group of student peers (n=36), who participated in other after-school instructional programs of their choice. Our findings indicate that the vocabulary knowledge of our intervention students improved significantly when measured by scores obtained on a pre- and post academic vocabulary test for the whole program, available along with Word Generation's instructional units (see <http://wordgen.serpmedia.org>). Performance on this measure simply tells us whether the academic vocabulary words taught were actually learned by students who completed the program. The premise here is that an increase in word knowledge mediates an improvement in reading comprehension, which is the core purpose of our study. More importantly, as we expected, we found that intervention students read more proficiently at the end of the intervention than they did at the beginning when measured by the Group Reading Assessment and Diagnostic Evaluation [GRADE] (Williams, 2001), a standardized, group-administered test of reading comprehension ability. We further found that intervention students received nearly identical post-test performance scores on the GRADE test at the end of the intervention when compared to students in the comparison group after adjusting for pre-test reading ability score differences. The findings indicate that implementing evidence-based programs such as Word Generation can help narrow the reading achievement gap among skilled and less skilled middle grade readers.

It is important to note that while these program outcomes are encouraging, we faced significant challenges relating to the complexities of implementing the program in a real-world after school setting. Some of these challenges pertain to teacher and student participation, attendance, and scheduling, which we addressed in collaboration with members of the after school team throughout the design, implementation, and evaluation phases of the program.

## CHALLENGES AND SOLUTIONS

We encountered several challenges throughout the design, implementation, and evaluation of our after-school reading program, including, but not limited to, identifying students who were underachieving in reading and who were likely to benefit from the program, selecting and providing training for instructional staff to implement the program, finding adequate instructional space within the school premises wherein to implement the program, motivating reluctant students to participate in the program, and making arrangements to conduct pre and post assessments to enable us to determine program impact. For purposes of this brief report, we highlight three important challenges and provide possible solutions for addressing these challenges, focused primarily on teaching quality, dose or amount of instruction, and fidelity of program implementation.

### *CHALLENGE #1: TEACHING QUALITY*

Consistent with prior research findings relative to the role of effective teaching in schools (Allington, 2011; Darling-Hammond, 1999), we wanted to ensure the selection of an effective vocabulary instruction program curriculum. However, we also wanted to be confident that those delivering instruction for our target students were adequately prepared to do so. Although we selected an effective program, we had to adapt it in terms of instructional time and number of days per week it was implemented so as to fit the school's daily schedule of activities.

For instance, instead of the recommended 15 minutes per day, five days a week, we implemented the program at a rate of 30 minutes per day, four days a week. Because our teachers consisted of paraprofessionals (i.e., college students, many of whom were novice teachers), we provided extensive training, mentoring, and supervision to enhance teaching effectiveness. Each of the six teachers initially received two half-days of intensive training focused on an in-depth review and discussion of the Word Generation curriculum program, along with unit and lesson design and implementation.

To monitor progress and provide instructional support, we also held bi-weekly debriefing sessions with the teachers to review progress made, discuss and resolve issues and problems emerging from small-group instruction sessions, and provide assistance with issues pertaining to data collection and related program logistics. Finally, two members of the project team served as mentors for teachers by providing personalized consultation and instructional support. This mentoring role proved beneficial for teachers in preparing and delivering weekly lessons and addressing issues or problems encountered in small-group instruction sessions.

A second challenge that threatened teaching quality was an overreliance on the part of our teachers on two or three instructional strategies they learned during training sessions. During our intensive training sessions, we provided teachers with a suite of resources, including twenty or so instructional strategies, such as the K(What I Know), W(What I Want to Know) and L(What I Learned) tool, graphic organizers, Think-Pair-Share, that are designed to strengthen academic vocabulary and reading comprehension skills. We also supplied them with various resources to support student vocabulary growth, content learning, and engagement. Finally, we provided them with a lesson framework we prepared ourselves as a sample for use during the first week-long unit of instruction. To organize instruction during the first week-long unit, we included in our sample lesson plan two strategies (KWL and a sample graphic organizer) to support the topic and goals of the week-long unit. To help ensure quality of teaching, we offered to review weekly lesson drafts and assist with the development of these lessons prior to implementing them with students. However, in reviewing drafts of lessons teachers developed, we discovered that most of the teachers relied rather heavily on the sample lessons templates we provided when they developed

their own lessons for subsequent units. In doing so, they had a tendency to rely on the use of the two strategies we provided on the sample lessons rather than selecting other strategies taught during training sessions, which might have made their teaching more useful and engaging for students. To address this constraint, we added a brief training session during which we offered extra guidance for developing, implementing, and evaluating lesson effectiveness. We also provided one-on-one mentoring and support for each teacher to help strengthen instruction and eventually improve students' vocabulary growth, reading comprehension, and content learning. This process was helpful in that teachers became more reflective and thoughtful about developing and implementing their lessons.

### *CHALLENGE #2: DOSE OR AMOUNT OF INSTRUCTION*

When working with underachieving readers, providing them with good instruction using an evidence-based curriculum is necessary, but not sufficient, for improved learning. Equally important is the dose or amount of instruction each student receives. In order to achieve the desired reading improvement outcomes for our target students, we designed the program to help ensure that each student had an equal opportunity to receive an adequate amount of high quality instruction throughout the program.

We used prior research guidelines to provide students with a sufficient amount of instruction (30-40 hours) at a minimum to positively influence their academic vocabulary and reading comprehension performance. These guidelines vary dependent upon students' grade level, language proficiency, literacy skills, and content learning needs. Clay (2005), for example, recommends that struggling early grade readers receive 12-20 weeks of intensive instruction (30 minutes per day, five days a week) in one-on-one tutorial settings where they are provided personal attention by a trained literacy professional.

In small learning groups, however, where a single instructor works with approximately five or six students, literacy experts (e.g., Fountas & Pinnell, 2010) recommend 14-18 weeks of intensive instruction for early grade struggling readers and 18-24 weeks for upper grade readers. Yet other experts (Allington, 2011) note that remediating reading may require as few as 30-40 hours of instruction and as many as 75-80 hours of instruction to get them on par with their proficient reading peers. Consistent with these research guidelines, we designed the program to include at least 17-18 weeks of intensive instruction in small group settings, at a rate of approximately 30 minutes per day, four days per week.

We ran into a major challenge with respect to our goal to provide a sufficient and equitable dose of instruction to all students participating in the academic vocabulary program. Even though we had a dedicated 45-minute time block for instruction, the actual time devoted to instruction (roughly 30 minutes devoted to actual teaching) varied depending on several factors, including, but not limited to, class sessions starting on-time, students attending every class session four days a week, and teachers having to address occasional class disruptions. First, the school did not have sufficient classroom space for our six groups of students. Three of the groups met in the school library, which provided an ideal learning environment for the students and their teacher. One of the groups met in a computer lab on Mondays and Tuesdays and in another assigned classroom space on Wednesdays and Thursdays. Two of the groups met in the school cafeteria, which provided a rather poor learning environment for students and their teachers due to a noisy air-conditioning unit, disruptions from other students walking in and out of the cafeteria, and/or changes in after school staff meetings. Second, groups did not always start class on time because teachers had to make sure all six students were present (or not) before moving to their assigned classroom spaces. Oftentimes, teachers were left to rely on informal testimonies of classmates that a particular student was out

sick, had detention, or was on school grounds but running late. Finally, classes were occasionally cancelled, frequently with short notice from the school administration, to accommodate other scheduled events such as testing, participation in school-wide activities, and/or class cancellations due to weather conditions.

During the first four weeks of the program, we discussed the above challenges with members of the school administration, who were attentive and responsive to our needs. With their assistance, we were able to make some improvements in class attendance, disruptions to instruction, and scheduling of special events, which eventually helped lessen the impact of some of these challenges of providing all students with an equitable dose of instruction. These small improvements were also helpful in designing future reading intervention programs within the school.

### *CHALLENGE #3: FIDELITY OF PROGRAM IMPLEMENTATION*

A program is only as good as its implementation. Fidelity of implementation occurs when teachers use and deliver the content of the curriculum in the way that it was designed to be used and delivered. When changes are made in the presentation of the curriculum, it is often unclear what the effects on the students will be. In our after school instructional setting, it was challenging for us to adhere strictly to the ways in which Word Generation was to be implemented, especially given the diversity of backgrounds and experiences of our students and teachers.

However, we followed research guidelines relative to implementation fidelity for program designers and evaluators suggested by various researchers (Meyers & Brandt, 2015) that helped us implement the academic vocabulary program with the desired degree of implementation fidelity. For example, teachers followed a lesson template, which included key components of the lesson, including introducing academic vocabulary words using specific instructional strategies such as KWL [5 minutes], reading passages exploring a weekly topic, [10 minutes], and engaging students in discussing weekly topics using academic words learned [10 minutes].

Every week, teachers completed a fidelity of implementation form indicating whether they used parts of the lesson as-is, modified it to student needs, or did not use the lesson format at all. In addition, they provided reflections guided by open-ended questions discussing what worked, what did not work, and what they would do differently in future lessons. We used these two forms of feedback to determine the extent to which lessons were implemented as expected.

For purposes of this program, our desired degree of fidelity was that teachers used lessons as indicated or modified them slightly to fit instructional needs at least 80% of the time. In addition, we consistently monitored student attendance and supervised the day to day program to help ensure that the instruction provided was implemented as envisioned. Finally, we debriefed with teachers on a regular basis to provide them with guidance and support, as well as encouragement needed to implement the program with fidelity.

Perhaps one of the most significant challenges we encountered related to teacher attrition. All six of our teachers were college students pursuing degrees in various fields, including elementary education, business, and community nursing. Although every one of our six teachers were well trained and mentored to provide small-group instruction to their assigned students, and they were totally committed to the program, they occasionally had circumstances which prevented them from fulfilling their obligations to the program. For example, during the first few months of the project, we lost our graduate assistant who assisted us with the coordination and supervision of the program. Her role was crucial because she helped us oversee all components of the program, including data collection. Although the graduate student resignation did not impact program implementation in any significant way, it created a disruption and stalled the program somewhat



until we hired a replacement. In addition, because our program lasted an entire school year (fall and spring semesters), we had to replace two of the teachers who graduated in the fall of the same year. Finally, we also had to replace and train two of the teachers, one in the fall and one in the spring semester, who left for personal or work-related reasons. Although these disruptions are inevitable when working in schools, they can make a big difference with respect to whether a program succeeds or fails. Fortunately, we were able to attend to these disruptions to help ensure that our program had a chance of being implemented with a reasonable degree of fidelity.

## CONCLUDING THOUGHTS

An important lesson we learned throughout this project is that despite best efforts to incorporate effective practices for educating young adolescents, schools should expect to face challenges when designing and implementing supplemental interventions for underachieving middle grade readers. It is possible for school teams to anticipate and effectively address these challenges when teachers share common values, goals, and strategies for improving student learning; when they take collective responsibility for student achievement; and when they are empowered through strong school leadership and support. Consistent with lessons learned from our experience with this after school project, we suggest that schools take into account the challenges and solutions described in this brief report, which center around the three important issues, namely ensuring that underachieving students are exposed to high quality instruction, that the instruction they receive is of sufficient intensity and duration to result in improved literacy achievement outcomes, and that instructional programs selected are implemented equitably and with fidelity.

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