



Supporting Literacy in Out-of-School Time: Summary of Evidence

Prepared by *Research for Action* • June 2017

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About Research for Action

Research for Action (RFA) is a Philadelphia-based nonprofit organization. We seek to use research as the basis for the improvement of educational opportunities and outcomes for traditionally underserved students. Our work is designed to strengthen public schools and postsecondary institutions; provide research-based recommendations to policymakers, practitioners, and the public at the local, state, and national levels; and enrich the civic and community dialogue about public education. For more information, please visit our website at www.researchforaction.org.

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Table of Contents

- Executive Summary i
- I. Introduction: Philadelphia’s Early Literacy Challenge..... 1
 - A. Overview of the Report 2
 - B. Note on Methods 4
 - C. Rating the Evidence..... 5
- II. Tutoring Programs 5
 - A. Programs and Evidence for Effectiveness..... 6
 - B. Distinguishing Characteristics: Literacy Content and Staffing..... 8
 - C. Dosage and Alignment with Other OST Program Goals..... 10
- III. Afterschool Academic Enrichment Programs..... 11
 - A. Programs and Evidence for Effectiveness..... 11
 - B. Distinguishing Characteristics: Literacy Content and Staffing..... 14
 - C. Dosage and Alignment with Other OST Program Goals..... 16
- IV. Summer Academic Enrichment Programs 17
 - A. Programs and Evidence for Effectiveness..... 17
 - B. Distinguishing Characteristics: Literacy Content and Staffing..... 20
 - C. Dosage and Alignment with Other OST Program Goals..... 22
- V. Non-Traditional and Computer Programs..... 22
- VI. ELL Consideration..... 24
- VII. Conditions for Successful Implementation 25
 - A. OST Program Quality and Positive Relationships..... 26
 - B. Parent Involvement..... 26
 - C. Connection to School..... 26
 - D. Infrastructure for Volunteer Recruitment and Support 27
- VIII. Conclusions and Recommendations 27
- Appendix A. Methodology 29
- Appendix B. Description of Promising OST Literacy Programs..... 31
- Appendix C. Cost..... 33
- References 34



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Executive Summary

June 2017

Introduction

The City of Philadelphia's Citywide Out-of-School-Time (OST) Initiative was launched in February 2017 in order to better coordinate and focus the capacities of OST programs on the needs of the city's children. The first phase of this initiative calls on OST programs to address the literacy needs of students in grades K-3. As a part of this initiative, the City of Philadelphia engaged Research for Action (RFA) to review existing research on literacy programs applicable to OST in an effort to ensure that children read on grade level by the end of third grade.

RFA reviewed 87 articles, including literature reviews, meta-analyses, and single studies. We rated the evidence base for particular literacy programs as strong, moderate, or needing more research, based on the rigor of the studies evaluating them. Results are summarized below.

OST Early Literacy Programs

OST programs have the potential to impact academic outcomes, including early literacy outcomes, in grades K-3 (Kidron et al., 2014; Redd et al., 2012; Crawford, 2011; Lauer, 2006).

The review identified 18 promising OST literacy support programs,¹ which we sorted into four groups:

1. **Tutoring programs** offer one-on-one literacy support.
2. **Afterschool academic enrichment programs** are activities offered after school.
3. **Summer academic enrichment programs** are activities that support literacy development during the summer.
4. **Non-traditional and computer programs** are more innovative or technologically-based literacy activities.

Overall, tutoring programs have the strongest evidence of effectiveness. All five identified programs were rated as having strong evidence.

- Tutoring programs with greater structure are more likely to have an impact on reading achievement.

¹ Importantly, all 18 of these programs were found to be effective with low-income youth.

- Tutors in effective programs are volunteers or paraprofessionals. Literacy content experts supervise volunteers and paraprofessionals in some tutoring programs, while others include close coordination with teachers and principals.
- Tutoring programs also help tutors develop literacy expertise through professional development.
- Effective tutoring programs were offered between 60-160 minutes per week over the course of the school year.
- Tutoring tended to be a stand-alone program but could be offered as a pull-out option within OST. These programs align with other OST goals in their reliance on positive adult-youth relationships.

Afterschool academic enrichment programs have more varied and less conclusive evidence of effectiveness than do tutoring programs. One of five identified academic enrichment programs had strong evidence, one had moderate evidence, and three needed further research.

- Effective OST academic enrichment programs use a well-defined reading curriculum and have a clear structure.
- Effective afterschool academic enrichment programs also offer activities that set the program apart from a regular school day.
- Certified teachers are the lead instructors in most identified afterschool academic enrichment programs, and most afterschool staff are supervised by literacy content experts.
- Most identified afterschool programs report upfront and ongoing professional development for staff.
- Regular participation in afterschool academic enrichment programs is related to positive outcomes. The minimum weekly dosage for identified programs is 120 minutes per week.

Summer academic enrichment programs have more rigorous evidence supporting their effectiveness than afterschool enrichment programs. Four of five identified programs had strong evidence while one program needed further research.

- All of the summer academic enrichment programs utilized curriculum, with most of them choosing packaged curriculum.
- Most programs offered activities that set the program apart from a typical school day.
- As with afterschool academic enrichment programs, summer programs were most often led by certified teachers. However, unlike afterschool enrichment activities, these programs did not typically bring in other literacy content experts or provide extensive professional development.
- Summer academic enrichment programs offered the highest weekly dosage of any of the programs but offered them in a more concentrated period of time. They typically offer 6-15 hours of literacy activity per week over a 5-7 week period.

Non-traditional programs have a limited evidence base, and computer programs have a mixed evidence base.

- Research on more innovative OST early literacy interventions, such as using the arts or games to promote early literacy, is limited and focused on older students.
- Computer-based programs generally have a mixed evidence base for improving literacy skills, but the review identified three programs with strong evidence of effectiveness. These programs typically target a narrow range of outcomes, particularly phonics.

English Language Learner (ELL) Consideration

There is little research on OST outcomes for ELLs, but several studies report that OST programs can have positive impact on English literacy. The review identified several strategies for effective ELL instruction applicable to OST settings:

- Small group or one-on-one tutoring;
- Explicit instruction in the elements of English literacy, such as vocabulary, grammar, and speech rate and tone;
- Opportunities to practice speaking in low-risk, inclusive environments;
- An inclusive classroom environment respectful of home language and culture; and
- Connection and collaboration between home and school.

Conditions for Successful Implementation

OST programs should assess whether the conditions to support literacy are currently in place or could be established. Conditions are defined as the underlying program supports or infrastructure necessary to support literacy. These necessary conditions include:

- A safe emotional climate and positive relationships between and among staff and students;
- Parent involvement;
- Alignment to the school curriculum and communication with school day staff; and
- An infrastructure for volunteer recruitment and support, if utilizing volunteers to staff the program.

Conclusion and Recommendations

OST providers that would like to support early literacy should consider three key areas: literacy expertise and staffing, literacy content, and other youth development goals.

- Advancing early literacy requires literacy expertise and staff training. While programs can staff their literacy efforts, particularly tutoring, with volunteers and paraprofessionals, they need a supervisor with content expertise. Professional development and strong coordination with schools can also bring literacy expertise into the program.
- OST programs need to provide literacy content aligned to student literacy needs. Packaged curricula can provide that content and bring structure to the literacy component of the program. Three curricula are used effectively in multiple programs (YET, KidzLit and Open Court). YET and KidzLit were designed specifically for OST programs. Access to diagnostic data can support providers in selecting materials that address the specific literacy needs of their students.
- Programs do not have to become “literacy only” programs. They can retain a diverse array of program offerings to address other youth development goals and can integrate youth development practices (i.e., positive adult-youth relationships) into literacy interventions. However, they need to ensure that adequate time is given for literacy intervention so youth can meet the dosage thresholds for the program to be impactful.

To help OST providers make these decisions, we have created an OST Early Literacy Quality Tool that allows OST programs to determine whether their early literacy supports are on track or need improvement. This tool will be available in fall 2017.



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I. Introduction: Philadelphia's Early Literacy Challenge

The ability to read on grade level by the end of third grade is critical. Fourth grade academic standards assume students have already learned to read and, therefore, require them to “read to learn” (Center for Public Education, 2015). Students who have not learned to read by fourth grade are four times more likely to drop out of school, and this risk is even greater for low-income children (Hernandez, 2011). Nationally, about 67% of all children and 80% of low-income children do not reach this critical milestone (The Campaign for Grade-Level Reading, 2017). In Philadelphia, the large city with the highest poverty rate in the United States (Center City District, 2017), 70% of third grade students and 72% of fourth grade students were not reading proficiently, as measured by the Pennsylvania State Standardized Assessment from the 2015-2016 school year (The School District of Philadelphia, 2017).

In February 2017, the City of Philadelphia launched the Citywide Out of School Time (OST) Initiative to “create a seamless, coordinated and focused system...to change some of the foundational issues that adversely affect educational outcomes” (City of Philadelphia, 2017). Each year, approximately 187,000 Philadelphia students attend OST programs funded by the City of Philadelphia (City of Philadelphia, 2017). These programs, which take place before school, after school, during the summer, and on weekends, often address children’s academic needs through homework help, academic enrichment, and tutoring. The first phase of this initiative, which is linked to the city’s larger Read by 4th campaign, calls on OST programs to address the literacy needs of students in grades K-3.

The City of Philadelphia engaged Research for Action (RFA), a non-profit educational research organization in Philadelphia, to review the research on literacy programs applicable to OST and identify those demonstrating effectiveness. This report shares the findings of that review, including an actionable tool for practitioners, the OST Early Literacy Quality Tool, which will be available in fall 2017.

A. Overview of the Report

OST programs have the potential to impact academic outcomes, including early literacy outcomes, in grades K-3 (Kidron et al., 2014; Redd et al., 2012, Crawford, 2011; Lauer, 2006). However, not all literacy intervention programs are effective in OST. Redd et al. (2012) found that while one-third of OST interventions reviewed demonstrated positive statistically significant outcomes, two-thirds did not. Further, some OST interventions may be effective only under particular conditions or for particular students. For example, several studies have found that OST programs can be particularly impactful for low-income and struggling readers (Kidron et al., 2014; Holstead & King, 2011). However, literacy interventions may need further customization to fit the needs of ELL or special education students. Programs may target a range of different outcomes, and OST providers must determine the literacy outcomes that are most important for the needs of their students.

We identified 18 promising OST literacy support programs. Importantly, all 18 of these programs showed promise with low-income youth. We sorted these programs into four groups:

1. **Tutoring programs** offer one-on-one literacy support. While tutoring can be held at any time, all of the programs we identified were offered during the school year.
2. **Afterschool academic enrichment programs** are activities offered after school.
3. **Summer academic enrichment programs** are activities that support literacy development during the summer.
4. **Non-traditional and computer programs** have been primarily tested in school-day settings but have applicability to OST² programs.

While there is some overlap between these types, the categories capture important programmatic differences, and we have focused each section of this report on these program categories. Within each category, we address the following three sets of program characteristics:

1. **Instructional focus, curriculum, and structure.** Beginning readers need to master specific skills and concepts. The National Reading Panel (NRP) (2000) recommends reading instruction built on five main, interconnected components: phonemic awareness, phonics, fluency, vocabulary, and comprehension (see Figure 1). Although targeted assessments of individual components may be beneficial for some struggling readers, broader assessments of general reading achievement may provide a more holistic assessment. Such comprehensive reading achievement assessments, often reported as reading level gains, measure more than one of the NRP recommended components. In addition to these components, the NRP (2000) reports that reading instruction is most effective when combined with writing instruction.

² Based on RFA's program observations for 21st Century Community Learning Center Evaluations.

Figure 1. Components of General Reading Achievement



A school-day reading program is incomplete if it teaches only one component in isolation. The NRP recommends that a growing reader has balanced instruction in all of these components. However, an OST program may find value in working strategically with schools to build individual skills with which students need additional support. Decisions must also be made about curriculum, lesson planning, coordination with schools, and access to data for diagnostic and progress monitoring purposes.

2. **Staffing, literacy expertise, and professional development.** Given the comprehensive nature of early literacy, staff require some literacy expertise and training in order to meet the needs of struggling readers. However, OST programs cannot always afford to hire certified teachers or literacy content experts and are not always able to coordinate with the school, even when based there.
3. **Dosage and alignment with other program goals.** OST programs can provide increased learning time and additional opportunities to expand on and reinforce school-day learning. However, OST programs are often holistic in nature and try to avoid seeming “too much like school” (Britsch et al., 2005). Quality OST programs offer fun and engaging academic and non-academic enrichment activities. OST programs also address social, emotional, and other non-academic outcomes (Britsch et al., 2005).

The report ends with conclusions and next steps.

B. Note on Methods

To identify best practices and effective, evidence-based programs for promoting literacy in OST programs, we searched for research published in the last 10 years on early literacy interventions specific to the OST setting. However, after an initial review of the literature, we expanded the search to include the following:

- In-school interventions if they appeared appropriate for OST. We determined that a model was appropriate for OST if the author indicated that it had also been used in OST (even if it wasn't assessed in OST) or if it did not rely on certified teachers for implementation.
- Research that examined literacy outcomes, even in OST programs with a different primary focus.
- Research on tutoring programs used in both in-school and OST settings. Given the effectiveness of tutoring programs indicated in several meta-analyses, we conducted an additional search for effective in-school tutoring programs using paraprofessionals and volunteers.
- Research on computer-based programs. Due to the frequent use of computer-based programs in OST, we included programs designed for in-school settings.
- Research on effective educational supports, both in school and OST, for ELL students.
- Articles published more than ten years ago if they reported on promising programs.

We relied on peer-reviewed journal articles, reports by non-profit organizations with a known interest in literacy and/or OST programs, and reviews by What Works Clearinghouse.³ These included the following types of articles:

- **Meta-analyses.** Meta-analyses conduct new analyses of findings reported across multiple smaller studies to better assess the overall impact of strategies or interventions. These studies are helpful for identifying broad impact as well as characteristics of programs that make them effective.
- **Literature reviews.** These articles review multiple studies of multiple OST literacy programs to assess the evidence and identify common themes and trends. These studies offer implementation details about particular programs.
- **Single-program studies.** Studies include research articles published in academic journals, research reports published by research organizations, and reviews of individual or groups of studies conducted by What Works Clearinghouse. Articles about individual programs are useful for evaluating efficacy as well gathering information about implementation details.

In all, we reviewed 87 articles, ten of which were meta-analyses or literature reviews. More details on the methodology used to identify articles for this report are included in Appendix A.

³ What Works Clearinghouse (WWC), a project supported by the U.S. Department of Education, Institute of Education Sciences, reviews existing research on educational programs, products, practices and policies to provide information on “what works” in education.

C. Rating the Evidence

The strength of the evidence supporting OST early literacy programs varies. The stronger the evidence, the more confidence we can have in the model's effectiveness. To rate the evidence, we examined the research design to determine: 1) if program outcomes were compared to those of a similar group of participants; and 2) if participants were randomly assigned to the intervention or the control group.

There are three tiers of evidence supporting the programs in this report:

Rigorous evidence: Programs in this group demonstrated positive and statistically significant literacy outcomes from the most rigorous research design. The design eliminated other possible causes for positive outcomes, allowing us to conclude, with a high level of confidence, that the growth observed was the result of the program.

In these studies, participants were randomly assigned to either receive—or not receive—the early literacy intervention. This random assignment tells us two things: 1) Observed growth was not normal growth that might otherwise occur over the course of a school year; and 2) The program participants were not a self-selected group of stronger readers.

Moderate evidence: Programs in this group demonstrated positive and statistically significant outcomes from a research design that eliminated some, but not all, of the other possible explanations for the positive outcomes. Therefore, we have moderate confidence in the intervention's effectiveness.

Studies in this group compared the literacy skill growth of participants to the growth of similar students, but the two groups were not randomly assigned. Positive outcomes in these studies allow us to conclude that the growth observed for program participants was greater than what might normally be expected over the course of a school year, but they cannot eliminate the possibility that the intervention group differed from the comparison group in some important way.

Needs further research: Programs in this group report literacy skill growth over time, but research does not compare participant outcomes with those of similar students. From these studies, we can observe improved literacy skills, but we cannot conclude that these improved outcomes were caused by the model rather than normal growth or group advantage. These programs need more rigorous study to evaluate their full potential. However, several of these less rigorously evaluated programs still provide important insights into literacy programming in OST and are, therefore, included in this report.

II. Tutoring Programs

Overall, tutoring programs have the strongest evidence base of effectiveness. Meta-analyses and literature reviews have also found that one-on-one OST tutoring programs are more effective than small and large group instruction (Lauer et al., 2006; Redd et al., 2012). Two studies looking at in-school tutoring interventions for struggling readers found that tutoring had a significant impact, even when tutors were volunteers or paraprofessionals (Ritter et al., 2009; Slavin et al., 2011). Slavin (2011) also found that one-on-one tutoring was more effective than teacher-led small group instruction, regardless of whether tutors were volunteers or paraprofessionals.

A. Programs and Evidence for Effectiveness

We identified five effective tutoring programs. Although some programs were studied in school contexts⁴ and all of the programs were offered as stand-alone academic programs, each of these programs could be incorporated into an OST program.

Table 1 describes the evidence for the effectiveness of each program, and narrative descriptions are included in Appendix B.

Table 1. Tutoring Programs

Program	Level of Evidence	Type of Evidence	Outcomes Impacted	Strength of impact	Grade Levels Impacted	Impact on struggling readers	Impact on ELL students
Reading Partners (Jacob, Elson, Bowden, & Armstrong, 2015; Jacob, Smith, Willard, & Rifkin, 2014; Grove, 2013)	Rigorous	What Works Clearinghouse (WWC) single-study review of a randomized controlled trial (RCT) confirmed statistically significant positive findings.	Phonics Comprehension Fluency	1.5-2 months more growth in reading than a comparison group	2-3*	Yes ⁵	Yes
Howard Street Tutoring Program (Morris, Shaw, & Perney, 1990; Baker, Gersten, & Keating, 2000)	Rigorous	One RCT found statistically significant positive findings.	General reading achievement	More than one year's growth in eight months while the comparison group averaged only 2/3 of a year's growth in the same period	2-3	Yes	Not reported
Experience Corps (Lee, Morrow-Howell, Johnson-Reid, & McCrary, 2011)	Rigorous	WWC review confirmed statistically significant positive findings from one randomized controlled trial.	Comprehension Decoding	2.4 months additional growth in grade-specific reading skills	1-3	Yes	Not reported
SMART (Baker, Gersten, & Keating, 2000; U.S. Department of Education, 2011)	Rigorous	WWC review confirmed statistically significant positive findings from one randomized controlled trial.	Decoding Fluency Comprehension	3.7 months more growth in reading ability than a comparison group ⁶	K-2	Yes	Not reported
Sound Partners (U.S. Department of Education, 2010)	Rigorous	WWC review confirmed statistically significant positive findings from seven studies.	Alphabetics (phonics) Fluency Comprehension	3.5 months of growth ⁷	K-1*	Yes	Not reported

*Program served a wider grade band but did not report positive impacts for other grade levels.

⁴ Reading Partners and Sound Partners were studied both in school and out-of-school. SMART and Experience Corps were studied in school but have also been used in OST settings. Howard Street was studied in an OST context.

⁵ The readers who struggled the most, including ELLs, experienced 2.8-3 months additional growth in reading than a comparison group.

⁶ What Works Clearinghouse reports the impact of the program to be “substantively important” in all three outcome areas.

⁷ What Works Clearinghouse reports the impact of the program to be “substantively important” in all three outcome areas.

Table 1 reveals the following:

- **All of the tutoring programs have a rigorous evidence base.** Four of five have had their evidence reviewed and confirmed by What Works Clearinghouse.
- **Tutoring programs tended to impact two or three literacy skill areas.** Tutoring programs did not seek to address all five skill areas identified by the National Reading Panel. However, the areas impacted by these programs fell within these five big skill areas. Some additional, related literacy outcomes were impacted as well, such as alphabets (phonemic awareness and phonics) and decoding (the successful application of phonics skills). Similarly, in a meta-analysis of tutoring programs, they were found to impact assessments related to letters and words (Ritter et al., 2009), oral fluency and writing (Ritter et al., 2009), and comprehension (Slavin et al., 2011).

While only one of the effective programs above impacted the broadest outcome—general reading achievement—meta-analyses of tutoring programs used in school-day settings have found that these programs do impact general reading achievement (Ritter et al., 2009, Slavin et al., 2011).

- **The strength of the impact of these effective tutoring programs ranges from 1.5 to 3.7 months more reading growth than a comparison group.** Howard Street Tutoring, which reported its strength of impact on a slightly different scale, reports that their participants gained more than a year's growth in one school year.
- **Tutoring programs had an impact on students at different grade levels, but none of the programs impacted all four grade levels.**⁸ Differences in impact may reflect the different types of skills being developed at each of these grade levels.
- **All of the tutoring programs were designed to provide supplemental support to struggling readers.** Thus, these approaches may be well designed to support students reading below grade level; however, OST programs serving a wide range of students might need to adapt or supplement them to meet the needs of higher-achieving readers.
- **Only one program, Reading Partners, reported an impact on ELL students.** Other programs either did not include ELL students in their research sample or did not disaggregate the outcomes for this sub-group.

⁸ Programs did not target or assess all grade levels.

B. Distinguishing Characteristics: Literacy Content and Staffing

Table 2 displays tutoring programs and their characteristics in the areas of staffing and literacy content.

Table 2. Distinguishing Characteristics of Literacy Tutoring Programs

Programs	Literacy Expertise and Staffing Model			Literacy Content	
	Staffing	Literacy Expertise	Professional Development	Instructional Focus & Activities	Curriculum
Reading Partners	Volunteers, graduate students	Teacher mentors, literacy expert oversees multiple sites	Tutors trained by certified teacher, biweekly seminars, coaching	<i>Comprehension, vocabulary, read aloud, open-ended questions, independent reading</i>	Reading Partners
Howard Street	Volunteers	Literacy expert oversees and plans lessons for ten one-on-one pairs	On-the-job training, coaching and supervision	<i>Phonics, writing, instructional reading</i>	Howard Street
Experience Corps	Volunteers, coordinators	Unclear, coordinator credentials not specified	15-32 hours of initial training, continuous monitoring	<i>Vocabulary, phonics, writing, reading, word study</i>	Varies: Book Buddies, Reading Coaches, etc.
SMART	Volunteers, coordinators	SMART organization	1-2 hours of training, learn reading strategies	<i>Fluency, comprehension, reading, rereading, comprehension questions</i>	SMART
Sound Partners	Paraprofessional tutors	Sound Partners organization	Brief training to choose a tutoring method that matches student skill level	<i>Phonics, decoding</i>	Sound Partners

Instructional Focus

Each of these tutoring programs focuses instruction on at least one of the NRP recommended components of reading. As discussed earlier, the NRP recommends a balance of these literacy components. Since afterschool programs provide supplemental instruction, it is possible that tutoring programs that focus on just one or two components may be meeting needs that school-day programs cannot fully address. OST programs will need to evaluate, for example, whether a deep focus on phonics and decoding integrates well with students' overall literacy needs.

- Three tutoring programs report an instructional focus in two of the NRP components of reading. Of these, one program addresses vocabulary and comprehension (Reading Partners), one addresses phonics and vocabulary (Experience Corps), and the other focuses on fluency and comprehension (SMART).
- Two tutoring programs report a focus in one NRP component of reading. Both of these tutoring programs (Sound Partners and Howard Street) focus instruction on phonics skills.
- Two tutoring programs (Howard Street, Experience Corps) focus on writing skill development.

- Two tutoring programs link literacy instruction to state or national standards (Experience Corps and Reading Partners).

Curriculum and Structure

Tutoring programs with greater structure are more likely to have an impact on reading achievement than those with less structure (Ritter, 2009). Four of the identified tutoring programs (Reading Partners, Howard Street, SMART and Sound Partners) developed their own literacy curriculum to provide the needed structure. Experience Corps uses various packaged curricula depending on the tutoring site.

Programs also included other structural components. Some included internal lesson planning by literacy content experts or provided a structured format for tutoring sessions. Reading books and use of data to determine content were other key structural elements:

- **Lesson plans.** Literacy experts or certified teachers write specific, instructional lesson plans in two tutoring programs (Howard Street, Reading Partners). In Experience Corps, staff members trained by literacy experts and certified teachers write lesson plans.
- **Structured protocol.** Sound Partners uses a structured protocol to guide its tutoring sessions. For example, a tutoring session begins with 4-8 short phonics activities and ends with 15 minutes of applied phonics practice through oral reading. However, the specific phonics or oral reading activities could be selected by the tutor during the tutoring lesson.
- **Literary engagement.** Engagement with books in these programs includes varying types of reading support: independent reading, guided reading, shared reading, and tutor-led readalouds. Programs select books that are age and ability appropriate (Howard Street, Experience Corps) as well as rich and engaging (Howard Street). SMART also provided books for students to take home.
- **Use of data.** Three of five tutoring programs reported using data to inform literacy content and instruction. Student data can also help a program determine the type of literacy content needed by participants. It is important for a program to adapt instruction to meet individual student needs, even when using an evidence-based preplanned curriculum (Rasco et al., 2012). This requires the use of data for diagnostic purposes as well as progress monitoring. This is more common in tutoring programs than other programs, likely because the inherent nature of one-on-one tutoring programs allows more opportunity for targeted instruction. However, the types of data programs use can vary. For example, Reading Partners uses a goal template that encourages students' and partners' awareness of student goals and progress, while Howard Street Tutoring uses weekly progress monitoring tools. The Sound Partners model tests students every ten lessons to assess progress.

Type of Staff

Tutors in the effective programs are volunteers or paraprofessionals. Both paraprofessionals (paid staff without teaching certification) and volunteers can be effective tutors (Ritter et al., 2009; Slavin et al., 2011). A meta-analysis of tutoring interventions (Ritter et al., 2009) found that the type of tutor (i.e., parent, paraprofessional, volunteer) did not make a difference in outcomes. However, although none of the specific studies of tutoring programs used certified teachers, one meta-analytic study (Slavin et al., 2011) indicated that, when available, certified teachers were more effective tutors than volunteers.

All five evidence-based tutoring programs employ volunteers or paraprofessionals. One tutoring program (Reading Partners) utilizes volunteers from the AmeriCorps program, which offers a higher level of commitment and allows for more training time.

Literacy Expertise

Literacy content experts supervise volunteers and paraprofessionals in some tutoring programs, while others include coordination with teachers and principals. Reading Partners and Howard Street utilize literacy experts to supervise volunteers and staff. For example, in the Howard Street model, tutors are supervised by a reading specialist. Tutors observe the reading specialist model a lesson with the child and then receive a week of observation and coaching. The reading specialist also plans tutoring lessons for a caseload of ten tutor-child pairs and closely monitors those pairs. Reading Partners also has a literacy expert on staff that supervises and supports multiple sites. Experience Corps has a staff supervisor (not necessarily a literacy expert) that coordinates with teachers and principals to support volunteers.

Sound Partners and SMART have parent organizations that provides curriculum and training, serving as the source of literacy expertise. In addition, schools request to have both of these programs. While descriptions of these programs do not elaborate on the relationship with the school, school staff are available to provide literacy support to Sound Partners staff and tutors.

Professional Development

Tutoring programs also help tutors develop literacy expertise through professional development. All five of the programs offer some training for their tutors. Reading Partners, Howard Street, and Experience Corps offer significant upfront training as well as ongoing training and monitoring. Regular observations and coaching of tutors are important in these programs. Certified teachers are also used to advise, mentor, and train volunteers in two of the evidence-based tutoring programs (Reading Partners, Sound Partners). Sound Partners and SMART have more limited training and oversight.

C. Dosage and Alignment with Other OST Program Goals

The five identified tutoring programs are all stand-alone programs that do not address extracurricular areas of enrichment. However, they could function as pull-out programs within a broader OST program. OST providers have to consider, however, whether their programs can accommodate the necessary dosage for tutoring programs to be effective.

The effective tutoring programs discussed above are offered between 1-2.5 hours per week over the course of the school year. Three of five programs are offered 2 hours per week.

Table 3 displays the weekly dosage for each of the tutoring programs.

Table 3. Weekly Dosage of Tutoring Programs

Programs	Literacy Activities Time	Total Weekly Dosage	Weeks of Programming
Reading Partners	45-60 min sessions, 2x a week	1.5 -2 hours per week	28 weeks
Howard Street Tutoring	60 min sessions 2x a week	2 hours per week	32 weeks (est.)
Experience Corps	30-40 min sessions, 2-4x a week	1 -2.5 hours per week	24 weeks
SMART	30 min sessions, 2x a week	1 hour per week	Not specified – throughout the school year
Sound Partners	30 min sessions, 4x a week	2 hours per week	Not specified – throughout the school year

One study of tutoring programs suggests that optimal dosage is between 30-60 hours of tutoring a year (Heinrich et al., 2014). Heinrich et al. (2014), in a study of Supplemental Educational Services (SES) tutoring programs, found that participants needed between 30-60 hours of tutoring for it to be effective. The benefits of tutoring leveled off after 60 hours in a year (Heinrich et al., 2014).

However, these dosage hours should be distributed throughout the year. Another study (Meier & Invernizzi, 2001) showed positive outcomes after students were tutored for the first half of the year. However, when tutoring was not offered during the second half of the year, the effects disappeared.

Positive adult-youth relationships. As previously noted, tutoring programs are stand-alone programs. However, their emphasis on the benefits of positive adult-youth relationships may align with other OST program goals. Unfortunately, there is limited research on how positive adult-youth relationships are cultivated and supported in tutoring pairs.

III. Afterschool Academic Enrichment Programs

We identified five promising afterschool academic enrichment programs. Three of these programs (Save the Children, Berninger Reading Club, and YET) were literacy-specific afterschool programs, while two (CORAL and Mercy Housing KidzLit) are full OST programs with embedded literacy activities. All of these programs served small groups, averaging 13 students per adult facilitator.

A. Programs and Evidence for Effectiveness

Table 4 displays these academic enrichment programs and the evidence for their effectiveness, while a more detailed description of each can be found in Appendix B.

Table 4. Afterschool Academic Enrichment

Program	Level of Evidence	Type of Evidence	Outcomes Impacted	Strength of Impact	Grade Levels Impacted	Impact on Struggling Readers	Impact on ELL Students
Berninger Reading Clubs (Berninger, Abbott, Vermeulen, & Fulton, 2006)	Rigorous	One randomized controlled trial (RCT) demonstrated statistically significant positive effects.	Fluency Phonics	Scores above population average after seven months compared to scores below the population average in control	2	Yes	Not reported
Save the Children (Romash, White, & Reisner, 2010; White & Reisner, 2007)	Moderate	Quasi-experimental study demonstrated statistically significant positive outcomes.	General reading achievement Books read	Three months of additional reading growth than the comparison group	1-3**	Yes	Not reported
YET (Hangley & McClanahan, 2002)	Shows potential but needs more research	The program has a strong theory aligned with National Reading Panel recommendations. A pre-post study without a comparison group showed positive changes.	Decoding Comprehension	1.4 grade levels of growth from pre to post	1-3**	Yes	Not reported
CORAL (Sheldon, Arbreton, Hopkins, & Grossman, 2010; Arbreton et al., 2008; The James Irvine Foundation, 2008)	Shows potential but needs more research	The program has a strong theory aligned with National Reading Panel recommendations. A pre-post study without a comparison group showed positive changes.	General reading achievement	.45 and .44 grade level increases in year one and two Positive outcomes including improved attitude towards school and reading in 72% of participants	3**	Yes ⁹	Positive outcomes ¹⁰
Mercy Housing Kidzlit (Mercy Housing, 2015)	Moderate	Study using a non-equivalent comparison group observed statistically significant positive outcomes.	Attitudes toward and confidence in reading and writing	Not reported	K-3*	Not reported	Not reported

*Program served a wider grade band but did not report positive impacts for other grade levels.

**Positive outcomes were also reported for children fourth grade and older.

⁹ Students who were two or more grade levels behind gained two grade levels. Students' one grade level behind gained 1.82 grade levels.

¹⁰ ELL students had 1.76 grade level gains over 17 months. While there was no comparison group in the study, the authors argue that this finding is encouraging because ELL students generally do not gain one grade level per year and often fall further behind.

Table 4 shows that:

- **Evidence for afterschool academic enrichment programs is more varied and less conclusive than for tutoring.** Only one model, Berninger Reading Clubs, had rigorous evidence; one, Save the Children, had moderate evidence; and three show potential but need further research to determine their effectiveness. Among those programs are CORAL and YET, both of which based their programs on a balanced literacy approach as recommended by the National Reading Panel. However, these programs were not tested with rigorous research designs; therefore, we cannot conclude that they caused the growth observed in reading outcomes. Importantly, in an earlier review of research on academic enrichment, Britsch et al. (2005) also found a body of less rigorous research on thirteen academic enrichment programs used after school. However, based on consistent evidence of student growth, the review concluded that afterschool enrichment programs showed promise.
- **Afterschool academic enrichment programs targeted a range of outcomes.** Two programs, Berninger Reading Club and YET, addressed skills within the five recommended skill areas of the National Reading panel. Two programs, CORAL and Save the Children, addressed the broadest outcome, general reading achievement. Mercy Housing KidzLit assessed attitudes toward and confidence in reading and writing; although these are not outcomes directly identified by the NPR, research suggests that students who enjoy and are engaged in reading score higher on reading achievement tests (Afterschool Alliance, 2015; The James Irvine Foundation, 2008).
- **The strength of the impact was similar to the impact of tutoring, although the evidence is less conclusive.** Programs with rigorous or moderate evidence displayed three additional months of reading growth for participants as compared to similar students. Programs without rigorous evidence reported less than a half year (CORAL) and 1.4 year's growth (YET) on average. While CORAL's average impact was less than a half year's growth, the impact was much greater for struggling readers and ELL students. CORAL students who were reading one grade below grade level moved up one grade over the two-year period. Students reading two or more years below grade level moved up two grade levels by the end of two years. ELL students also gained almost two grade levels in two years of the program. This upward trajectory is notable because struggling readers tend to fall further and further behind.
- **Afterschool academic enrichment programs reported positive outcomes for a wider age range of students than tutoring programs.** Three of five programs reported positive outcomes across grades K-3 or 1-3. The model with strongest evidence targeted second grade students. CORAL worked with students in grades 3-5, serving one grade (3rd) within the early literacy grade band.
- **Although not every program targeted struggling readers, all of the programs effectively served them.** CORAL and Mercy Housing KidzLit were open enrollment programs, but their participant groups included many struggling readers. The three reading/literacy focused programs specifically targeted students that were behind in reading. Other reviews of the evidence on OST programs (Kidron et al., 2014; Redd et al., 2012) have reported similar findings; the most academically struggling students saw the greatest academic gains from participation in OST programs.
- **Only one program reported promising outcomes with ELL students.** The CORAL model disaggregated ELL data and observed sizable reading level gains for these students.

B. Distinguishing Characteristics: Literacy Content and Staffing

Afterschool academic enrichment activities address issues of literacy content, staffing, and alignment with other OST program goals in unique ways. Table 5 displays key characteristics of the five academic enrichment programs.

Table 5. Distinguishing Characteristics of Afterschool Academic Enrichment Programs

Programs	Literacy Expertise and Staffing Model			Literacy Content	
	Staffing	Literacy Expertise	Professional Development	Instructional Focus & Activities	Curriculum
Berninger Reading Club	Certified teachers, graduate students	Staffed by certified teachers		<i>Phonics</i> , word work, readalouds, independent reading, bingo, word searches	Researcher-developed
CORAL	Paraprofessionals (college students), literacy expert	Literacy director monitors and coaches	Targeted training, monitoring and coaching	<i>Vocabulary, comprehension</i> , readalouds, book discussions, writing, independent reading, homework help	YET or KidzLit
Save the Children	Certified teachers, volunteers, literacy expert	Literacy coordinator directs literacy activities, monitors data, oversees tutoring, and works with children	Training in literacy instruction: programs receive 43 hours of training, ten hours of coaching	<i>Fluency, vocabulary</i> , reading, repeated reading	Renaissance Learning software
Mercy Housing KidzLit	Paraprofessionals		Ten hours of training, access to videos on the KidzLit website	<i>Comprehension</i> , reading and discussion	KidzLit
Youth Education for Tomorrow	Certified teacher, assistant, trained literacy volunteer, coordinator, director	Certified teachers, literacy coaches	Training, monthly workshops, coaching	<i>Vocabulary, phonics, comprehension</i> , writing, readalouds, independent reading, word work, comprehension games	YET

Instructional Focus

In each of these afterschool academic enrichment programs, instruction touches on at least one of the NRP recommended components of reading.

- One program, YET, reports an instructional focus in at least three components of reading: vocabulary, phonics, and comprehension.
- Two programs report an instructional focus in two components of reading. CORAL focuses instruction on vocabulary and comprehension. Save the Children addresses fluency and comprehension skill development.
- Two programs focus on one NRP component of reading. Mercy Housing KidzLit focuses largely on reading comprehension. Berninger Reading Club develops phonics skills.
- Two afterschool programs provide writing skill development.
- Two programs link literacy instruction to state or national standards (Berninger Reading Club, CORAL).

Curriculum and Structure

Effective OST academic enrichment programs use a well-defined reading curriculum and have a clear structure for their program (Redd et al., 2012, Lauer et al., 2004). All five identified programs use either in-house or prepackaged curricula.

- **Two afterschool enrichment programs developed their own curricula.** YET developed its curriculum based on National Reading Panel research, and this curriculum was adopted by another afterschool model, CORAL. Berninger Reading Club was developed by the researcher who created the program.
- **Two programs used KidzLit, a packaged curriculum.** KidzLit is a curriculum developed specifically for OST programs; it focuses on rich discussion, social-emotional learning, and encourages students to connect with literature. KidzLit was used by both CORAL and Mercy Housing KidzLit.

Effective academic enrichment programs developed lesson plans and used a structured format. Two programs (Save the Children and Mercy Housing KidzLit) used lesson plans. Berninger Reading Club uses a structured protocol to guide their literacy sessions. Instructors chose from a pool of pre-planned word play, word work, and story reading activities.

Each of these afterschool programs also engaged children with books. These programs included both independent reading and/or teacher-led readalouds.

The structure of afterschool academic enrichment programs does not allow for the same level of targeted instruction as one-on-one tutoring, but two programs demonstrate how the use of data can enhance programming. Both Save the Children and CORAL report the use of student data to monitor student progress and adjust programming based on this data. The CORAL model also found significantly more positive outcomes for program sites that used a continuous quality improvement (CQI) process (Sheldon et al., 2010). CORAL implemented this process, which included continuous targeted staff trainings matching program goals, classroom observation and coaching of staff, and progress monitoring through the collection and analysis of data. Sites that thoroughly implemented CQI were rated the highest program quality and demonstrated more positive outcomes than those that did not.

Three afterschool OST literacy programs offer activities that set the program apart from the regular school day (Berninger Reading Club, CORAL, Mercy Housing KidzLit). CORAL and Mercy Housing KidzLit fit literacy activities in with other non-academic programming including:

- Enrichment activities
- Cultural experiences
- Art
- Community service
- Field trips
- Games

Berninger Reading Club attempted to make the club fun with strategies such as a secret password and hand stamps.

Type of Staff

Certified teachers are the lead instructors in three of five afterschool academic enrichment programs. Berninger Reading Club, Save the Children, and YET are all literacy-focused afterschool programs; as such, they employ certified teachers to lead their literacy programming. One meta-analysis of extended learning time (Kidron et al., 2014) supports the use of certified teachers. This analysis, across multiple types of small and large group OST settings, found that certified teachers had the greatest impact on academic outcomes (Kidron et al., 2014).

CORAL and Mercy Housing are traditional OST programs, and these programs use paraprofessionals as the main facilitators of the literacy activities that occur in the program. As mentioned above, both of these programs utilize the KidzLit Curriculum, which was designed for paraprofessionals in the OST setting. As with tutoring programs that rely on volunteers, a structured, evidence-based curriculum may help to strengthen a program not staffed by a certified teachers.

Literacy Expertise

Literacy content experts supervise paraprofessionals as well as certified teachers in afterschool academic enrichment programs. Save the Children, YET, and CORAL utilize literacy experts to supervise staff. Literacy experts oversee multiple sites and direct the literacy activities that occur. In all three programs, they provide observation and coaching and also monitor data and student progress.

Berninger Reading Clubs was staffed by certified teachers and directed by the lead intervention researcher. Mercy Housing KidzLit was the only program without regular literacy expertise on staff; however, they brought in literacy experts to train staff in lesson planning.

Professional Development

Four of five programs reported offering upfront and on-going professional development for staff. Training ranged from ten hours (Mercy Housing KidzLit) to 43 hours (Save the Children). Three programs also had ongoing training throughout the year as well as regular coaching for program staff, even when the staff were certified teachers (YET Centers). Mercy Housing KidzLit also offered online training videos. Offering targeted professional development for staff in academically-focused OST programs is a best practice identified in the OST literature (Maxwell-Jolly, 2011; Childtrends, 2014; U.S. Department of Education, 2009).

C. Dosage and Alignment with Other OST Program Goals

Regular participation in afterschool academic enrichment programs is related to positive outcomes (Lauer et al., 2004; 2006; Redd et al., 2012). OST providers should consider whether they can accommodate the recommended time commitment of these programs within their OST programs.

The five afterschool academic enrichment programs offered, on average, more hours of literacy programming per week than tutoring. Table 6 shows the time for literacy programming provided in afterschool academic enrichment programs.

Table 6. Weekly Dosage of Afterschool Academic Enrichment Programs

Programs	Literacy Activities Time	Total Weekly Dosage	Weeks Per Year
Berninger Reading Club	60 min sessions, 2x a week	2 hours per week	21 weeks (est.)
Save the Children	60 min sessions, 5x a week	5 hours per week	35 weeks (est.)
YET	90 min sessions, 4x a week	6 hours per week	Not specified, throughout the school year
CORAL	60-90 min sessions, 3-4x a week	3-6 hours per week	42 weeks
Mercy Housing KidzLit	Not reported	N/A	36 weeks (est.)

The minimum weekly dosage was two hours per week, and three of the five programs offered more. Two programs offered up to six hours per week of the intervention over the course of the school year.

Several studies attempt to identify the amount of OST academic enrichment programming necessary for impact. Lauer et al. (2006) found that students needed between 44-84 hours of the intervention over the course of a school year for it to have impact on their outcomes. The benefits of this intervention became slightly negative, however, when students experienced more than 210 hours.

IV. Summer Academic Enrichment Programs

Summer programs range from traditional academic programs to at-home interventions. While the programs presented in the previous section could also be implemented in summer programs, those in this section specifically identified themselves as summer programs and have a different set of characteristics than afterschool academic enrichment programs.

The identified summer programs include one primarily focused on literacy (Zvoch Summer School) and three offering a well-rounded slate of programming, including literacy activities (Building Educated Leaders for Life, known as BELL; Teach Baltimore; and Schacter and Jo Summer Day Camp). These programs often serve groups larger than those in afterschool programs, although the RIF Summer Success program did not meet in groups at all. Instead, it provided books and online enrichment activities for children and parents to use at home.

A. Programs and Evidence for Effectiveness

Table 7 displays these summer academic enrichment programs and the evidence for their effectiveness. A more detailed description of each model can be found in Appendix B.

Table 7. Evidence of Effectiveness for Summer Academic Enrichment Programs

Model	Rating of Evidence	Type of Evidence	Outcomes Impacted	Strength of Impact	Impact on Struggling Readers	Grade Levels Impacted	Impact on ELL Students
BELL (Urban Institute, 2006; Chaplin & Capizzano, 2006)	Rigorous	One RCT found a statistically significant positive effect.	General reading achievement Behavioral outcomes (Books read, hours reading at home, etc.)	One month of additional reading growth than comparison group	Not reported	3*	Not reported
Zvoch Summer School (Zvoch & Stevens, 2013)	Rigorous	One randomized field trial found statistically significant positive outcomes.	Fluency Alphabetics	Program rated as having a strong “effect size” 16.7 more nonsense words per minute, 12.14 words per minute in reading tests	Yes	K-1	Not reported
Teach Baltimore (Borman & Dowling, 2006)	Rigorous	One randomized field trial found statistically significant positive outcomes.	General reading achievement Vocabulary Comprehension	50% of a grade level more improvement in vocabulary than comparison group 40% of a grade level more improvement in a reading comprehension than comparison group 41% of a grade level improvement more in total reading comprehension than comparison group	Not reported	K-3*	Not reported
Schacter & Jo Summer Day Camp (Schacter & Jo, 2005)	Rigorous	One longitudinal randomized trial found statistically significant positive outcomes	Comprehension Phonics	41% higher comprehension scores Scores 18% higher than controls at end of following school year	Not reported	1	Not reported

Table 7. Evidence of Effectiveness for Summer Academic Enrichment *Continued*

Model	Rating of Evidence	Type of Evidence	Outcomes Impacted	Strength of Impact	Impact on Struggling Readers	Grade Levels Impacted	Impact on ELL Students
Reading is Fundamental (RIF) Summer Success Model Sinclair, White, Hellman, Dibner, & Francis, 2015; Reading Is Fundamental, 2015)	Shows potential but needs further research	A pre-post study without a comparison group found positive outcomes.	General reading achievement	Second and third graders lost ground on national percentile rankings over summer Improved reading scores for nearly half of all third grade participants Higher scores from spring to fall for more than half of all participants Meeting or exceeding projected growth targets for grade level on national standard scores for more than half of all participants	Yes	2-3*	Not reported

*Program served a wider grade band but did not report positive impacts for other grade levels.

Table 7 shows:

- Summer academic enrichment programs have more rigorous evidence supporting their effectiveness than afterschool enrichment programs, but compared to tutoring programs, the evidence is less rigorous.** Four of five programs demonstrated statistically significant positive outcomes using the most rigorous research design.
- Summer programs targeted the widest range of outcomes compared to afterschool academic enrichment and tutoring programs.** Three focused on addressing general reading achievement, including reducing the summer learning slide. Three also focused on specific literacy skills areas aligned with the National Reading Panel’s recommendations. One program, BELL, also assessed other behavioral outcomes such as time spent reading at home and total books read.
- When strength of impact was reported, summer programs showed a two month reading growth advantage to students in the program.** One model, Teach Baltimore, also reported a half grade level in growth and another, RIF Summer Success, reported that participants did not lose ground on reading over the summer.
- Summer programs impacted different age groups.** Three programs benefited students in grades K-3 or 1-3. One program benefitted students in grades 2-3, and one only served students in grade 2.
- Summer programs were less likely to target struggling readers or disaggregate results for the lowest-performing students.** However, two programs (Zvoch Summer School and RIF) were intentionally designed for struggling readers.
- None of the summer programs reported outcomes for ELLs.** While four of five programs served ELLs, none of the studies disaggregated outcomes for this group.

B. Distinguishing Characteristics: Literacy Content and Staffing

Despite holding similar goals, summer academic enrichment programs address literacy content, staffing, and alignment with other OST program goals in some ways that differ from afterschool academic enrichment programs.

Table 8 displays key characteristics of the five identified summer programs.

Table 8. Distinguishing Characteristics of Summer Academic Enrichment Programs

Programs	Literacy Expertise and Staffing Model			Literacy Content	
	Staffing	Literacy Expertise	Professional Development	Instructional Focus & Activities	Curriculum
BELL	Certified teachers, assistant teachers	Certified teachers	Training to support program objectives	<i>Phonics, comprehension, reading</i>	Houghton Mifflin's Summer Success: Reading, Voices for Love and Freedom
RIF Summer Success Model	Coordinator	RIF organization and possibly classroom teachers	Professional development for parents and possibly classroom teachers	Providing books to each student individually, online enrichment activities matched with books, independent reading	Read for Success
Teach Baltimore	AmeriCorps volunteers		Three weeks of preservice training, weekly meetings and workshops	<i>Phonics, comprehension, writing, reading</i>	KidzLit, Open Court
Zvoch Summer School	Certified teachers	Certified teachers	No professional development, program works with certified teachers	<i>Phonemic awareness, phonics, fluency</i>	Researcher-developed
Schacter & Jo Summer Day Camp	Certified teachers	Certified teachers	No professional development, program works with certified teachers	<i>Comprehension, phonemic awareness, phonics, decoding, writing, reading</i>	Open Court

Instructional Focus

Summer academic enrichment programs touch on at least one of the NRP recommended components of reading.

- Two programs report an instructional focus in at least three components of reading. Zvoch Summer School focuses instruction on phonemic awareness, phonics, and fluency. Schacter & Jo Summer Day Camp addresses comprehension, phonics, and phonemic awareness. The two programs that target phonemic awareness (Zvoch Summer School, Schacter & Jo Summer Day Camp) both primarily serve younger children (grades K-1).
- Two programs report an instructional focus in two components of reading. Teach Baltimore instructs children in comprehension and phonics. BELL focuses on comprehension and vocabulary.
- Two programs (Schacter and Jo Summer Day Camp and Teach Baltimore) also incorporate writing into their programming.
- Two programs (BELL, RIF SSM) link their literacy instruction to state or national standards, which may address the balanced NRP recommendation.

Curriculum and Structure

All of the summer academic enrichment programs utilized curriculum, with four of them choosing pre-packaged curriculum.

- Two programs (Schacter and Jo Summer Day Camp and Teach Baltimore) used Open Court Reading, which is also used in school.
- Other programs used KidzLit, Read for Success, Houghton Mifflin’s Summer Success: Reading, and Voices for Love and Freedom, which focus on social skills and values in addition to literacy skills.
- One program’s curriculum was developed entirely by the program’s research team.

In addition to using curriculum, one program model (Teach Baltimore) described internal lesson planning by literacy content experts, and two programs, (Zvoch Summer School, Schacter & Jo Summer Day Camp) used a structured protocol to guide their literacy sessions.

RIF SSM distributed books for students to take home and supplemented these books with online activities for students and parents. RIF emphasizes the importance of allowing children to choose from a wide selection of high-quality books.

Four identified OST literacy programs offer activities that set the program apart from the school year (BELL, RIF, Teach Baltimore, Schacter & Jo Summer Day Camp). These programs function as typical summer camps and offer a wide range of activities, including:

- Art
- Music
- Drama
- Field trips
- Recreational activities
- Book distribution events
- Reading celebrations
- Guest speakers
- Parental involvement
- Cultivation of exploration, creativity, discovery, and play

Type of Staff

As with afterschool academic enrichment programs, summer programs are most often led by certified teachers. Three of the five programs are staffed by certified teachers. One model, Teach Baltimore, was led by AmeriCorps volunteers. RIF SSM, which takes place mostly at home, is led by a coordinator whose qualifications are not specified.

Literacy Expertise and Professional Development

Given the reliance on certified teachers, summer academic enrichment programs did not typically bring in other literacy content experts or provide extensive professional development. However, AmeriCorps volunteers received three weeks of training.

C. Dosage and Alignment with Other OST Program Goals

As with all types of OST programs, dosage matters. All of these summer programs offer more hours of total programming per week than the typical tutoring or afterschool enrichment model. However, as a result of their shorter duration, the total hours of summer literacy programming is similar to or less than the total hours of programming offered by tutoring and after-school academic enrichment programs provided during the school year.

Table 9 describes the time spent on literacy programming in each of the summer academic enrichment programs.

Table 9. Dosage of Summer Academic Enrichment Programs

Programs	Literacy Activities Time	Weekly Dosage	Weeks Per Year
BELL	10 hours/week	10 hours/week	6 weeks
RIF Summer Success Model	Not specified	N/A	N/A
Teach Baltimore	3 hours/day of 6.5 hours/day program	15 hours/week	7 weeks
Zvoch Summer School	2 hours/day of 3.5 hours/day program	10 hours/week	5 weeks
Schacter & Jo Summer Day Camp	2 hours/day	10 hours/week	7 weeks

Summer academic enrichment programs offered the highest weekly dosage of any of the programs, but for a shorter period of time. They typically offered 10-15 hours of literacy activity per week over a 5-7 week period.

V. Non-Traditional and Computer Programs

Research on non-traditional OST early literacy interventions is limited. Some research has found that more non-traditional methods of literacy instruction, i.e., interventions utilizing technology or those that teach literacy skills indirectly through the arts or recreational activities, show promise in contributing to reading motivation and/or achievement (Winner, 2000). However, the non-traditional literacy programs studied primarily serve older students. For example, a Drama-Based Reading Comprehension model (Rose, Parks, Androes, & McMahon, 2000), which involved students working with drama artists in the classroom to turn stories into skits and act them out, was found to have a positive and statistically significant impact on older students' reading comprehension. These innovative approaches are less common than more traditional approaches in the experimental literature, and more research is essential, especially in OST contexts.

Computer-based programs generally have a mixed evidence base for improving literacy skills.

Slavin et al. (2011) found that computer-based instruction for struggling readers did not have a significant effect on literacy outcomes. However, because computer-based approaches are utilized in OST, RFA reviewed the literature to identify effective programs.

Three computer-based programs—Fast ForWord, Earobics and DaisyQuest—were identified as effective in grades K-3. All three programs have been studied in school-day settings but could be used in OST environments. Table 10 displays the available evidence for their effectiveness:

Table 10. Computer-based programs

Programs	Level of Evidence	Type of Evidence	Outcome Impacted	Strength of Impact	Grade levels Impacted	Impact on Struggling Readers	Impact on ELL Students
Fast ForWord	Strong	WWC confirmed statistically significant positive findings from a review of nine studies including seven randomized controlled trials.	Phonics	The average student would be expected to move from the 50th percentile to the 56th percentile after receiving the intervention.	K-3	Yes	Not reported
DaisyQuest	Strong	WWC confirmed statistically significant positive findings from a review of four randomized controlled trials.	Phonics	The average student would be expected to move from the 50th percentile to the 73rd percentile after receiving the intervention.	K-2*	Not reported	Not reported
Earobics	Strong	WWC confirmed statistically significant positive findings from review of four randomized controlled trials.	Phonics Fluency	The average student would be expected to increase from the 50th percentile to the 75th percentile in phonics and from the 50th percentile to the 65th percentile in fluency.	K-3	Yes	Not reported

*Positive outcomes were reported for children as young as age 3.

Table 10 shows:

- **All of these computer-based programs have strong evidence of effectiveness.** All three have multiple studies reviewed by WWC confirming that they do have a positive impact.
- **All three programs impact phonics. Earobics also has evidence of impact on fluency.** Fast ForWord had mixed evidence of impact on comprehension, with some evidence suggesting positive outcomes and some evidence suggesting no impact or negative outcomes. None of these computer-based programs were found to have a significant effect on general reading achievement. DaisyQuest did not assess its impact on general reading achievement, while the other two programs assessed general reading achievement but in less rigorous research that did not meet the standards of the What Works Clearinghouse.
- **Strength of impact ranges from a 25 percentile point increase for Earobics to a 6 percentile point increase for Fast ForWord.** DaisyQuest also demonstrated a strong impact, with a 25 percentile point effect.
- **Two programs reported impact on struggling readers.** FastForWord and Earobics were designed to support struggling beginning readers while DaisyQuest was designed for beginning readers.
- **None of the programs reported impact on ELL students.** However, Earobics has materials available in multiple languages.

VI. ELL Consideration

Of the 18 programs identified, only two reported having positive outcomes specifically for ELL students, and little detail was provided regarding their approaches. Below, we draw on research literature about OST outcomes for ELLs and research on in-school approaches to literacy instruction for ELLs to identify promising practices for OST.

There is little research on OST outcomes for ELLs (London et al., 2011, Maxwell-Jolly, 2011). Some rigorous research on effective OST literacy programs includes ELL students in the sample; however, most of the studies report results for all students and do not examine results for ELL students specifically. Even in a study that identifies positive outcomes for ELL students (Reading Partners), unique strategies for instructing ELL students are not identified.

Some less rigorous studies do report that OST programs can have positive impact on ELLs' English literacy (Arbreton et al., 2008, London et al., 2011). An evaluation of the CORAL programs showed ELLs making literacy gains similar to their peers. In this program, students have the opportunity to speak in their native language with peers and sometimes staff, and staff encourage bilingual peers to translate for students. The program also has independent reading books in native languages and provides one-on-one support in students' native languages. Instructionally, ELL students mostly received the same strategies as other students; the fact that program students possessed a mix of language backgrounds and achievement levels may have benefitted students. Although this program demonstrated positive outcomes for ELL students, bilingual instructors are not necessarily trained to teach ELLs. Specific training or certification in ELL instruction may put staff in the best position for strong ELL instruction.

Although research about effective practices with ELL students in OST programming is limited, researchers have identified instructional practices that promote ELL achievement in school, some of which can be applied to OST contexts:

Small group or one-on-one tutoring is an effective strategy for ELLs struggling to learn literacy skills (Calderon, Slavin & Sanchez, 2011; Cheung & Slavin, 2012). Small-group and tutoring contexts are common OST formats. Therefore, it seems that two small-group studies and one peer tutoring model that have shown positive outcomes for ELLs in school are relevant to OST contexts:

- The Peer Tutoring Approach for ELL Students (U.S. Department of Education, 2007), which was studied in school, has shown positive outcomes in language development. In Peer Tutoring, pairs of students discuss and answer questions about the English language and work together on a variety of activities. This model showed positive outcomes in relation to ELL students' language development.
- The Kamps Direct Instruction model (Kamps et al., 2007), which involves a certified teacher instructing a small group using evidence-based curricula (i.e., Reading Mastery Early Interventions in Reading, Read Well, and/or Read Naturally) has shown more positive outcomes for ELLs compared to ELL instruction with a balanced literacy focus. The Kamps model focuses its direct instruction on phonemic awareness, letter-sound recognition, fluency, and comprehension through the use of multiple activities and practice.
- The Core Intervention Model (CIM; Gerber et al., 2004) is an intensive small-group program that uses a researcher-designed intervention to provide support for students struggling with

phonological awareness and reading in English. The model, which has shown positive outcomes for ELLs, is facilitated by college students who have participated in CIM training and supervised practice. In conjunction with direct, explicit instruction, CIM uses the staircase approach. In the staircase approach, complex demands are reduced into scaffolded steps and corrective feedback is provided.

Although more individualized attention can have positive effects on ELL students, it is not a sufficient strategy in itself and must be combined with differentiated instruction (Good et al., 2014).

Explicit instruction in the elements of English literacy, such as vocabulary, helps students develop English proficiency (Moughamian et al., 2009; O’Day, 2009). This strategy can be applied in OST programs, as seen in evidence-based programs that focus on the components of reading instruction (NRP, 2000).

Opportunities to practice speaking in low-risk, inclusive environments help students develop English language skills. ELL students have less than 90 seconds per day, on average, to speak in the classroom (Weisburd, 2008). OST programs can provide ELLs the opportunity to discuss books of interest in relevant, engaging, welcoming conversations in a space where students are less likely to be formally tested.

An inclusive classroom environment respectful of home language and culture is a component of effective ELL instruction (Reumann-Moore et al., 2016). In the CORAL program, where ELLs had positive outcomes similar to their non-ELL peers, students sometimes received support in their native language and had access to books printed in their native language (Arbreton et al., 2008). In addition, some OST programs that show positive outcomes express the value of culturally relevant texts and the importance of access to good literature (Lee et al., 2011; Morris et al., 1990).

Connection and collaboration between home and school support English language learning (Calderon, Slavin & Sanchez, 2011; Lucas et al., 1990; NCTE, 2008). Recommendations include parent and family support teams and positioning native languages and home environments as resources. Many OST programs with positive outcomes make an intentional effort to connect with parents (as in Howard Street, Sound Partners, Reading Partners, BELL, RIF SSM, Teach Baltimore) and can adopt these recommended practices. In CORAL, ELLs were able to use their native language and made gains similar to their non-ELL peers. Additionally, OST programs can host events to make families feel welcome (Weisburd, 2008).

VII. Conditions for Successful Implementation

A final consideration for OST programs is whether the conditions or underlying supports needed for successful implementation of the model are currently in place or could be established. This section of the report examines these conditions.

The evidence base for supporting conditions is very limited. Particular conditions cannot generally be tied to effective implementation or outcomes in a causal way. In addition, many of the articles we reviewed had limited description of the conditions that supported program implementation. We tried to fill in these gaps with additional research; however, we were not always able to acquire a full picture of the program. A program is not necessarily lacking a particular supporting condition simply because it was not mentioned

in the program study. These limitations make it difficult to know what supports the implementation of programs that have shown positive outcomes.

In this section, we identify four primary conditions that research suggests need to be in place for the programs to be effectively implemented.

A. OST Program Quality and Positive Relationships

A pre-existing condition for any effective OST early literacy intervention is overall high quality of the OST program (Holstead & King, 2011; Durlak & Weissberg, 2010; Vandell et al., 2007). While OST quality refers to a broad range of program characteristics, research suggests the importance of a safe emotional climate and positive relationships between and among staff and students (Vandell et al., 2007). These positive relationships should be in place before introducing an early literacy intervention.

OST program quality is also related to its relationship with the community (Good et al., 2014). For early literacy interventions, parent relationships are critical.

B. Parent Involvement

Effective OST programs involve parents in different ways. In early literacy, some parents participate as tutors (Howard Street, Sound Partners). Other programs involve parents through ongoing communication (Reading Partners, Teach Baltimore). RIF SSM provides parents with reading strategies to use with their children, and schools showing the highest reading gains after the RIF program had strong parental involvement. Research also suggests that meaningful, engaging, and targeted programs understand student backgrounds and home lives (Rasco et al., 2012).

C. Connection to School

Research-based best practices in OST suggest that programs should partner with schools and demonstrate alignment with the curriculum (Good et al., 2014). At minimum, the strategies that OST programs teach should not contradict school-day instruction. Some evidence-based programs have some variation of a partnership with the schools their students attend:

- Nine programs take place in the school building (Experience Corps, Peer Tutoring, SMART, Sound Partners, Reading Partners, Berninger Reading Club, Save the Children, Zvoch Summer School, Schacter & Jo Summer Camp). Two programs are staffed by teachers from the students' schools (Berninger Reading Club, Zvoch Summer School).
- The program staff is mentored by or coordinates with teachers from the students' schools (Teach Baltimore, Experience Corps).
- Students are recommended by their schools (Howard Street).
- The school curriculum is integrated into the OST curriculum or the OST curriculum extends school curriculum (Save the Children). Howard Street Tutoring reported problems relating to the school curriculum because it did not meet the needs of struggling readers. The school curriculum was too advanced, and the children needed targeted instruction to bolster their skills. In this case, the OST program might fill the gaps of the in-school curriculum and help students meet its expectations.
- The OST curriculum aligns with district, state, or national standards in six of these programs (BELL, Berninger Reading Club, CORAL, Experience Corps, Reading Partners, RIF SSM).

The Institute of Education Sciences Practice Guide for OST programs also suggests sharing planning periods with school-day teachers, attending workshops with school teachers, and asking school teachers for insight into OST planning and instruction (U.S. Department of Education, 2009).

D. Infrastructure for Volunteer Recruitment and Support

Eight identified programs relied on volunteers to staff their programs, particularly tutoring programs. Use of volunteers requires an infrastructure for recruitment, training and oversight. OST providers using volunteers should consider, then, whether they can provide this infrastructure.

Not surprisingly, three of the programs using volunteers (Reading Partners, Experience Corps and Teach Baltimore) recruited them through an established AmeriCorps program (including Experience Corps, an AmeriCorps senior citizen program). The federal AmeriCorps program provides full-time or part-time volunteers who receive a stipend. Two volunteer tutoring programs also successfully recruit volunteers through community organizations, churches, and other community-based efforts (Howard Street Tutoring, SMART). The Howard Street Tutoring program found that their initial community-based recruitment efforts paid off, and after a few years word-of-mouth was sufficient.

Volunteer retention is a challenge for many volunteer-based programs (Baker, 2000). For example, Reading Partners reported that one of their greatest challenges was retaining tutors over the course of a year. Howard Street, however, reported that a core group of volunteers returned each year.

Limited information was available on the cost of OST early literacy programs. We include cost information in Appendix C.

VIII. Conclusions and Recommendations

In summary, OST providers can help students in grades K-3 read on grade level by fourth grade. This review identified eighteen promising programs and common characteristics of those programs which can help inform decisions about OST literacy interventions. In addition, it also identified a number of important gaps in the literature which raise important questions for OST providers. Research is limited in the following areas:

- Non-traditional approaches to early literacy, including the use of literacy-rich games, arts, or sports programming;
- Strategies for supporting ELL student literacy in OST;
- Strategies for supporting writing skills in OST;
- The conditions needed to ensure the effective implementation of these programs, particularly at the system level.

Nonetheless, the review does suggest several key considerations for OST providers that seek to support early literacy in OST.

OST providers should consider program effectiveness. This review of the literature identified 14 programs that have strong or moderate evidence for their effectiveness and four programs that show potential but require further research. All of these programs work with low-income, struggling readers in

grades K-3, but they target different types of outcomes. One-on-one tutoring programs are the model with the strongest overall evidence base.

Programs should also consider three key programmatic components: literacy expertise and staffing, literacy content, and other youth development goals.

- Advancing early literacy requires some literacy expertise. While programs can staff their literacy efforts, particularly tutoring, with volunteers and paraprofessionals, they need a supervisor with content expertise. Professional development and strong coordination with schools can also bring literacy expertise into the program.
- OST programs need to provide literacy content aligned to student literacy needs. Pre-packaged curricula can provide that content and bring structure to the literacy component of the program. Three curricula are used effectively in multiple programs (YET, KidzLit and Open Court). YET and KidzLit were designed specifically for OST programs. Access to diagnostic data can support providers in selecting materials that address the specific literacy needs of their students.
- Programs do not have to become “literacy only” programs. They can retain a diverse array of program offerings to address other youth development goals and integrate youth development practices (i.e., positive adult-youth relationships) into literacy interventions. However, they need to ensure that adequate time is given for literacy intervention so youth can meet the dosage thresholds for the program to be impactful.

Finally, programs should ensure that supporting conditions exist to implement the program effectively. These include a positive emotional climate, strong ties to parents and schools, and an infrastructure of recruiting and supporting volunteers.

To help OST providers make these decisions, we have created an OST Early Literacy Quality Tool. This allows OST programs to determine whether their early literacy supports are on track or need improvement. This OST Early Literacy Quality Tool will be available in fall 2017.

Appendix A. Methodology

To identify best practices and effective, evidence-based programs for promoting literacy in OST programs, we relied on peer-reviewed journal articles. We searched education and social science databases for research material. Four main sources (ERIC, JSTOR, LexisNexis and Scholar Google) were used to identify potential studies. Additionally, we searched the reports produced by organizations with a known interest in literacy and/or after school issues, such as RAND, Public/Private Ventures, the National Institute on Out-of-School Time, and Child Trends. We also drew upon the William Penn Foundation's recommended list, our own literature search results from previous OST projects, and the bibliographies of pertinent articles.

We started with broad search terms: "literacy programs," "literacy program," and "literacy strategy," then narrowed results by focusing on out-of-school time programs using the terms "OST," "out-of-school time," and "after school." After establishing a more general bank of articles to draw from, we looked for early literacy OST efforts using the terms above in combination with "elementary," "early," "K-4," "K-5," "preK-4," and "preK-5." To make sure we had recent findings, we searched for articles published in 2006 or later.

To cover areas of special interest, we looked for studies of particular programs and topics. We searched for studies of Reading Partners and articles that discussed early literacy programs in Philadelphia. To fill gaps in the results, we performed specific searches for ELL and computer-based literacy programs.

We also searched What Works Clearinghouse for programs that had been reviewed and found to have at least promising evidence as well as for reviews of programs identified in other articles.

A. Selection Criteria

We limited the studies reviewed to those that addressed literacy interventions and literacy outcomes for students in grades K-4. (Later, we omitted articles pertaining to fourth grade students because these interventions were somewhat different than K-3rd grade interventions.) While some programs had a particular type of literacy intervention, others applied to more general literacy goals, and we included both. We also included literacy interventions that were used in school settings but which the author stated could be adapted to OST. School-day literacy interventions for ELL students and computer-based programs have particular relevance to Philadelphia but lack a significant OST evidence base, so we included the available in-school literature on these topics. We also included foundational articles or articles about promising programs studied before 2006.

B. Categorization for Analysis

We categorized the results of the studies by program, using three broad areas of interest: the program itself, the evidence supporting its approach, and the key program characteristics that could be generalized into best practices.

We looked at overall program descriptions first: the name, the grade levels served, and whether they took ELL or Special Education students into account. Did they use tutoring, small groups, or computer-based approaches? What was the overall strategy and structure? Was there a named curriculum? Finally, did the program run after school, during the summer, or was it solely a computer supplement?

Next, we examined the evidence. Was the article supported in the What Works Clearinghouse results? What was the study design: random controlled trials, quasi-experimental, pre/post testing, or something else? What was the effect size, and did the program have any positive impacts?

Lastly, we looked at the key program characteristics. We noted the type of frontline staffing (tutors, volunteers, etc.) and whether or not supervisory staff had a background or training in literacy. We looked at staff training, use of data, the dosage, and made notes on the curriculum strategy. We indicated any other key programmatic elements present and what system-level supports were in place to assist the literacy effort.

Appendix B. Description of Promising OST Literacy Programs

Table B1. Description of OST Literacy Programs

Volunteer Tutoring Programs
<p>Reading Partners is an in-school and afterschool one-on-one tutoring program for students in grades 2-5. It utilizes an integrated literacy approach which includes tutors reading to the child, asking students open-ended questions, and having students read independently. Tutors are volunteers who are supervised by literacy experts and receive training from certified teachers. Tutoring takes place twice a week for 45-60 minutes per session. (Jacob, Elson, Bowden, & Armstrong, 2015; Jacob, Smith, Willard, & Rifkin, 2014; Grove, 2013)</p>
<p>Howard Street Tutoring Program is an afterschool one-on-one tutoring program for students in grades 2 and 3. Tutoring occurs for two hours every week and consists of a variety of activities including word study, writing, reading to the child, and tutor-supported reading at the child's instructional level. Volunteer tutors receive detailed training from literacy experts. (Morris, Shaw, & Perney, 1990; Baker, Gersten, & Keating, 2000)</p>
<p>Experience Corps is a one-on-one tutoring program that has been implemented both as an afterschool program and during school hours. The program specifically utilizes older adults as volunteer literacy tutors for students in grades 1-3. The curricula used (e.g., Book Buddies, Reading Coaches) vary among cities but share features, such as a staff member who coordinates volunteers with classroom teacher, tutor training, and structured tutoring sessions. Students are tutored for two to four 30-40 minute sessions per week in school. (Lee, Morrow-Howell, Johnson-Reid, & McCrary, 2011)</p>
<p>SMART is a tutoring program with a focus on grades 1-2 that occurs twice a week for 30 minutes each meeting. The program uses volunteers supervised by a coordinator to read to students, read together with students (at the same time or alternating), practice fluency, and ask comprehension questions. The program also provides students with two books to take home every month. (Baker, Gersten, & Keating, 2000; U.S. Department of Education, 2011)</p>
<p>Sound Partners is a tutoring program for students in grades K-3 that takes place four times a week for 30 minutes each session. The program is staffed by paraprofessional tutors trained to choose a reading method that matches the skills of the students. The program focuses heavily on phonics, addressing letter-sound correspondences, sound blending, decoding, and oral reading. Students are tested after every ten lessons to monitor progress. (U.S. Department of Education, 2010)</p>
Afterschool Academic Enrichment (Small groups, average of 13)
<p>Communities Organizing Resources to Advance Learning (CORAL) is a community-based afterschool program that uses a balanced literacy approach to increase academic achievement for students in grades 3-5. The program uses either the KidzLit or Youth Education for Tomorrow curriculum. Students attend programming with paraprofessional team leaders supervised by site coordinators for three to four 60-90 minute sessions per week. (Sheldon, Arbretton, Hopkins, & Grossman, 2010; Arbretton et al., 2008; The James Irvine Foundation, 2008)</p>
<p>Save the Children is an afterschool reading program for students in grades 2-6. The program uses certified teachers to provide instruction to a small group of students. Each session consists of 30 minutes of guided independent reading practice, 20 minutes of fluency building support, and a ten-minute read aloud. (Romash, White, & Reisner, 2010; White & Reisner, 2007)</p>
<p>Youth Education for Tomorrow (YET) is an afterschool program for students in grades K-12. The program involves four activities each meeting: oral language/vocabulary in the context of student interests or current events, interactive readalouds, student independent reading with instructor conferences, and writing. The program also involves some essential components, including word walls, display of daily schedule, displays of student work, public library cards, and access to books. A final significant component of the program requires YET staff to interview the parents and teachers of their students. (Hangley & McClanahan, 2002)</p>
<p>Berninger Reading Club is a small group afterschool program for struggling readers in grade 2. The program, facilitated by certified teachers with graduate assistants, includes word play, word work, reading, and games as an intervention tool for students twice a week for an hour. (Berninger, Abbott, Vermeulen, & Fulton, 2006)</p>
<p>Mercy Housing KidzLit is an afterschool program for students in low-income housing. The program works with students in grades K-8 and uses the KidzLit curriculum, which incorporates social and emotional learning in its literacy instruction. Mercy Housing afterschool staff are trained and regularly supported in using the KidzLit curriculum. (Mercy Housing, 2015)</p>

Academic Enrichment - Summer Programs

Building Educated Leaders for LIFE (BELL) is a summer program for students in grades 1-7 with a focus on both literacy and math skill development and social-emotional learning. Taught by certified teachers, the program uses Houghton Mifflin's Summer Success: Reading curriculum as well as a culturally sensitive curriculum from Voices for Love and Freedom. The program runs for five to six weeks with about eight hours of literacy instruction per week. (Urban Institute, 2006; Chaplin & Capizzano, 2006)

Reading is Fundamental (RIF) Summer Success Model (SSM) is a summer program for students in grades 2-4 that provides quality, multicultural books to students. The summer independent reading program is an extension of the in-school curriculum, Read for Success. After a program coordinator introduces students to the program, they go online to participate in enrichment activities matched with the books they were provided. Parent involvement supports the success of the children, and students are encouraged by "reading celebration" events. (Sinclair, White, Hellman, Dibner, & Francis, 2015; Reading Is Fundamental, 2015)

Zvoch Summer School is a certified teacher-directed summer school program focused on students in grades K-1. The program consists of a mix of whole- and small-group activities with direct instruction in phonemic awareness, phonics, and fluency. Literacy is addressed for at least two hours a day throughout the summer. (Zvoch & Stevens, 2013)

Teach Baltimore is a summer school program for students in grades K-4. The program instructors are Americorps volunteers trained for three weeks prior to the beginning of summer school. It partners with Baltimore City public schools and works closely with Baltimore City public school mentor teachers. The program uses the KidzLit curriculum in combination with Open Court curriculum. (Borman & Dowling, 2006)

Schacter & Jo Summer Day Camp is a program built for first graders facilitated by certified teachers. In combination with the Open Court curriculum, the program focuses on phonemic awareness, phonics, vocabulary, fluency, reading comprehension, and writing. (Schacter & Jo, 2005)

Appendix C. Cost

Adequate resources. Effective OST literacy programs come with a cost. OST providers will have to consider this factor in determining the appropriateness of the program for their setting.

Cost information was available for eight of the evidence-based OST programs; however, the information available was limited. In addition, it is unclear what the costs include; therefore, it is difficult to compare costs. Space and staffing, where reported, appear to be the largest costs.

With the exception of Sound Partners and CORAL, cost information is displayed as price per student. The Sound Partners model is priced per master set, which includes lesson books, handbooks for tutors, and an implementation manual.

CORAL is priced per day, per student while the other model costs are annual.

Table C1. Displays the cost for each of the programs where information was available.

<i>Tutoring program</i>	<i>Cost</i>
<i>Reading Partners</i>	\$710/student
<i>SMART</i>	\$300/student
<i>Sound Partners</i>	\$231/master set
<i>Afterschool program</i>	<i>Cost</i>
<i>CORAL</i>	\$20/day/student (approximately \$3600/year/student)
<i>Summer program</i>	<i>Cost</i>
<i>RIF SSM</i>	\$100/student
<i>BELL</i>	\$1500/student
<i>Teach Baltimore</i>	\$815/student
<i>Computer program</i>	<i>Cost</i>
<i>RIF SSM</i>	\$554/computer license
<i>BELL</i>	\$56.90/computer license
<i>Teach Baltimore</i>	\$25/computer license when licensing 12 computers

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