



collaborative
summer **library program**

SUMMER READING WHITE PAPER

NPC Research
December 29, 2014

Acknowledgments

This paper is made possible by the efforts, support, and participation of several partners and colleagues. In particular, gratitude is due to:

- Elizabeth Rafferty, Collaborative Summer Learning Program
- Charley Jaspera, NPC Research
- Juliette Mackin, NPC Research
- Megan Redfield, NPC Research

Executive Summary

Summer reading has long been a topic of interest among educators, librarians, and researchers. Summer reading programs, whether organized by schools or by public libraries, can be found in almost every town across the country. The underlying assumptions about summer reading programs are two-fold: 1) Summer is an interruption in school-based learning that has a negative impact on the retention and development of children's reading skills and 2) Summer reading programs help to make-up for this "break" in learning and result in positive reading achievement outcomes when children go back to school in the fall. But what is really known about the effectiveness of summer reading programs? Is there valid and reliable evidence that summer reading programs result in positive outcomes for children? To answer this question, the Collaborative Summer Learning Program partnered with NPC Research to review the existing literature on summer reading and to critically examine the evidence base related to the need for, and the effectiveness of, summer reading programs.

RESEARCH QUESTIONS

1. What is the state of research on summer reading programs?
2. Are summer reading programs effective?
3. What are the best practices of summer reading programs?

METHODS

To answer the research questions, literature reviews were conducted on summer learning loss and the summer learning programs. All relevant literature was reviewed and inclusion and exclusion criteria were applied to arrive at our final sample of literature for review and synthesis:

KEY FINDINGS

Summer learning loss

- The research on summer learning loss provides convincing evidence for the need for summer reading programs. The findings offer clear and consistent support for the notion of summer

learning loss and that this loss affects children differentially, most notably by SES level. Lower SES children experience a loss of reading achievement during the summer while higher SES children either maintain or gain reading skills.

State of the research

- The literature search and review yielded three meta-analyses and one narrative literature review on the topic of summer/out-of-school-time learning programs covering 177 individual empirical studies published between 1966 and 2011.
- The state of the research on *school-based and home-based summer learning programs* is solid, of high quality, and offers confident conclusions.
- The state of the research on *public library summer reading programs* is limited both in terms of quantity and quality of studies. Not only are there significantly fewer studies conducted on public library summer reading programs, the ones that exist and are commonly cited offer limited findings and conclusions due to methodological design.

Program effectiveness

- There is clear and consistent evidence that *school-based summer and other out-of-school-time reading programs* can be effective in preventing summer learning loss and improving reading achievement.
- There is clear and consistent evidence that *home-based summer and other out-of-school-time reading programs* can be effective in preventing summer learning loss and improving reading achievement.
- The evidence base for the effectiveness of *public library summer and other out-of-school-time reading programs* has yet to be developed. Although a logical argument exists for public libraries playing a key role in children's literacy, especially in terms of access to books and

encouragement of voluntary and pleasure reading, rigorous empirical research has yet to be conducted on this topic.

Best practices of summer reading programs

- Several program components were identified as being associated with effective school-based summer reading programs, including small size, individualized content, parental involvement, high quality instruction, alignment between school year and summer curricula, engaging programming, high rates attendance and participation, adequate program duration and sufficient dose, and program evaluation.
- Summer reading programs are most effective for low SES children.
- Suggestions for best practices for public library summer reading programs are based on more general areas of research (e.g., early literacy) and are readily available. However, specific program components of public library summer reading programs have not been tested empirically.

RECOMMENDATIONS

- Support future research on public library summer reading programs in particular
- Prioritize funding for summer reading programs that target low SES children
- Broaden outreach and program components to include the whole family
- Support partnerships between schools and public libraries and study the impact

Introduction

Summer reading has long been a topic of interest among educators, librarians, and researchers. Summer reading programs, whether organized by schools or by public libraries, can be found in almost every town across the country. Dating as far back as the late 19th century, summer reading programs emerged as a vehicle to encourage children to read during summer when they were not in school. The underlying assumptions about summer reading programs are two-fold: 1) Summer is an interruption in school-based learning that has a negative impact on the retention and development of children's reading skills and 2) Summer reading programs help to make-up for this "break" in learning and result in positive reading achievement outcomes when children go back to school in the fall. But what is really known about the effectiveness of summer reading programs? Is there valid and reliable evidence that summer reading programs result in positive outcomes for children? To answer this question, the Collaborative Summer Learning Program partnered with NPC Research to review the existing literature on summer reading and to critically examine the evidence base related to the need for, and the effectiveness of, summer reading programs.

Background

The American Library Association defines literacy as the ability to use "printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential."¹ The development of literacy skills is crucial in a child's academic trajectory, especially during early childhood and elementary school years. Exposure to language and reading builds vocabulary and sets the stage for future learning and academic achievement. The National Reading Panel found that increasing the time that children spend reading is the most important strategy for improving literacy

¹ United States Department of Education, 2003 National Assessment of Adult Literacy

skills in fluency, vocabulary, and comprehension. Children who are not exposed to and engaged in reading as part of their daily lives are more likely to fall behind in school.²

Summer Learning Loss: The Impact of Summer Vacation on Children's Learning

Historically, schools in the United States followed varying calendars depending on the communities in which they were situated. For example, children in rural communities often attended school for only six months out of the year to allow for participation in farming activities. Children in urban communities, on the other hand, often attended school year-round. Today, as a result of increased emphasis on standardized curriculum in the early 19th century, most schools in the United States are in session for nine months and are closed for three months of summer vacation. However, there is an active discussion among educators, administrators, and parents questioning whether this is an outdated and unnecessary practice that potentially leads to negative academic outcomes for children.

Over the last century, researchers have strived to answer this question, and studies on the impact of summer vacation on academic outcomes are plentiful. The findings suggest there is good reason for concern—children do indeed experience losses in learning over the summer. Children score lower on standardized tests at the end of the summer than they do at the beginning of summer.^{3,4,5,6,7}

One of the most influential studies on this topic to date is a meta-analysis conducted by Cooper and his colleagues in 1996 which integrated thirty-nine studies examining the effects of summer vacation on achievement test scores. Cooper et al. found that on average, children's test scores were at least 1

² Donna Celano and Susan B. Neuman, *The Role of Public Libraries in Children's Literacy Development: An Evaluation Report*. Harrisburg: Pennsylvania Library Association. (February 2001).

³ Barbara Heyns, *Summer Learning and the Effects of Schooling* (New York: Academic Press Inc., 1978)

⁴ Harris Cooper et al., The effects of summer vacation on achievement test scores: A narrative and meta-analytic review. *Review of Educational Research* 66, no. 3 (1996): 227-268.

⁵ William F. White, Reviews before and after vacation. *American Education* (1906), 185-188.

⁶ Doris R. Entwisle and Karl L. Alexander, Summer setback: Race, poverty, school composition, and mathematics achievement in the first two years of school. *American Sociological Review* (1992): 72-84.

⁷ Douglas B. Downey, Paul T. Von Hippel, and Beckett A. Broh, Are schools the great equalizer? Cognitive inequality during the summer months and the school year. *American Sociological Review* 69, no. 5 (2004): 613-635.

month lower when they return to school in fall than their scores were when they finished the previous school year in the spring. Perhaps the most significant finding that emerged from this analysis was that although the evidence for the detrimental effects of summer vacation was clear, the effects were not consistent across all children or all subject matters. McCombs et al. (2010) found support for these findings in their more recent review of research on summer learning loss⁸. The Cooper et al. meta-analysis and studies that followed it have focused the attention on asking the question, “for whom and under what conditions does summer vacation negatively affect academic outcomes?” The answers that have emerged from this research literature, some clear and consistent and others less so, illustrate the complexities at play and are described below.

Socioeconomic Status

Socioeconomic status (SES) has emerged as the single most consistent and significant moderator of the relationship between summer vacation and academic outcomes. All children, regardless of their SES, race or ethnicity, or reading level, experience similar patterns of improvement during the school year. However, low SES children fall behind during the summer months.^{9,10,11} This phenomenon is known as “summer slide,” “summer learning loss,” or “summer setback.”

In their meta-analysis, Cooper et al. (1996) found that although all children lost some math skills over the summer, loss in reading skills differed by SES. On some measures, middle-class children experienced gains in reading achievement over the summer, but lower SES children experienced losses. Reading comprehension scores of both income groups declined, but more so for low SES students. More

⁸ Jennifer S. McCombs et al., *Making summer count: How summer programs can boost children's learning*. Santa Monica: RAND Corporation; 2011: Monograph Report 1120.

⁹ Doris R. Entwisle, Karl L. Alexander, and Linda S. Olson, *Summer learning and home environment. A nation at risk: Preserving public education as an engine for social mobility*, New York: Century Foundation Press (2000): 9-30.

¹⁰ Cooper et al. 1996

¹¹ Heyns 1978

recently, Benson and Borman (2010)¹² found that high-income students improved reading levels over the summer, middle-income students maintained their reading levels, and low-income students experienced a decrease in reading levels.

Research suggests that on average, summer vacation creates a 3-month gap in reading scores between middle- and low-income children. As low SES children proceed through elementary school, their reading achievement scores fall behind national averages.^{13,14,15} By the end of elementary school, low SES children are nearly three grades behind their higher SES peers on average, and summer vacation has been identified as the strongest contributing factor to this achievement gap.¹⁶ Further, by the beginning of high school, summer learning loss among low SES students accounts for almost two-thirds of the achievement gap between low SES and high SES students.^{17,18} Together these research findings indicate that the quality of the education students receive during the school year is not responsible for the achievement gap, but rather it can be explained by cumulative summer reading loss.^{19,20,21,22} Figure 1 illustrates the generalized pattern of reading achievement for low and high SES children.

¹² James Benson and Geoffrey D. Borman, Family, neighborhood, and school settings across seasons: When do socioeconomic status and racial composition matter for the reading achievement growth of young children? *Teachers College Record*, 112, No. 5 (2010): 1338-1390.

¹³ Doris R. Entwisle, Karl L. Alexander, and Linda S. Olson, Children, schools, and inequality. Boulder, CO: Westview Press. (1997)

¹⁴ Karl L. Alexander, Doris R. Entwisle, and Linda S. Olson, Schools, achievement, and inequality: A seasonal perspective. *Educational Evaluation and Policy Analysis* 23, no. 2 (2001): 171-191.

¹⁵ Harris Cooper et al., Making the most of summer school. A meta-analytic and narrative review. *Monographs of the Society for Research in Child Development*, 65 (1, Serial No. 260) (2000): 1-118.

¹⁶ David Von Drehle, The case against summer vacation. *Time Magazine* 176, no. 5 (2010): 36-42.

¹⁷ Karl L. Alexander, Doris R. Entwisle, and Linda Steffel Olson. Lasting consequences of the summer learning gap. *American Sociological Review* 72, no. 2 (2007): 167-180.

¹⁸ Von Drehle, 2010

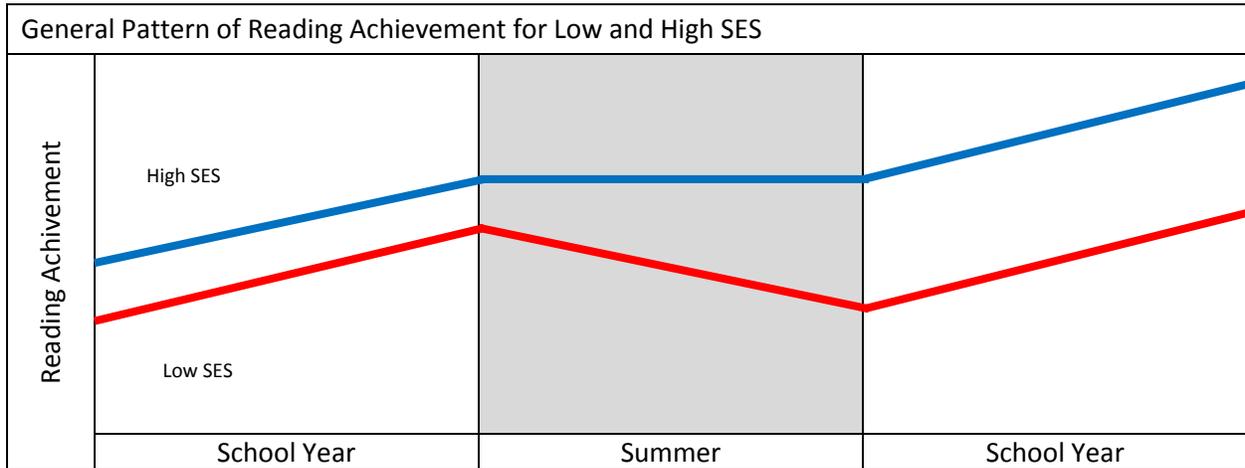
¹⁹ Entwisle et al., 1997

²⁰ Alexander et al., 2001

²¹ Doris R. Entwisle and Karl L. Alexander, Winter setback: School racial composition and learning to read. *American Sociological Review*, 59 (1994): 446-460.

²² Heyns, 1978

Figure 1. General pattern of reading achievement for low and high SES children (adapted from Cooper et al., 1996).



A popular explanation for summer learning loss is what has come to be known as the “faucet theory.”²³ According to this theory, the “resource faucet” is on for all students during the school year, but over the summer the faucet turns off for students from lower SES children as they lose access to many resources that more advantaged students continue to have. There is considerable research that suggests access to summer activities that stave off summer learning loss can be explained by family and neighborhood characteristics.^{24,25} In essence, the differential impact of summer learning loss in low versus high SES children appears to be related to differential access to the opportunities that allow for continued reading and learning over the summer. Simply having access to books and other reading materials appears to differ by SES. Research indicates that low SES children tend to live in homes where there are fewer books available to read.²⁶ This may be a result of low-income parents being unable to

²³ Entwisle et al., 2000

²⁴ Geoffrey D. Borman, James Benson, and Laura T. Overman, Families, schools, and summer learning. *The Elementary School Journal* 106, no. 2 (2005): 131-150.

²⁵ John Schacter and Booil Jo, Learning when school is not in session: A reading summer day-camp intervention to improve the achievement of exiting First-Grade students who are economically disadvantaged. *Journal of Research in Reading*, 28 (2005): 158-169.

²⁶ Catherine E. Snow and David K. Dickinson, *Skills that aren't basic in a new conception of literacy*. In *Literate systems and individual lives: Perspectives on literacy and schooling*, eds. A. Purves & E. Jennings. Albany: State University of New York (SUNY) Press (1991).

buy books for their children.²⁷ Similarly, Neuman and Celano (2001)²⁸ found that in low income neighborhoods there were fewer books available in stores, childcare facilities, schools and public libraries. Low SES parents are also less likely to read to their children during the summer as well as take them to the library.^{29,30}

These findings suggest that it is not financial or material advantage alone that provides children with opportunities for summer learning, but rather “family capital”—a combination of financial, human, and social resources. In their 2010 longitudinal study of public school students beginning first grade, Slates, Alexander, Entwisle, and Olson (2012)³¹ found support for the notion that family capital offers a pathway in which children are exposed to enriching reading opportunities over the summer. By examining a group of low SES children who did not demonstrate the typical pattern of summer learning loss, and in fact experienced as much learning gain as their high SES peers, they were able to identify family characteristics of these children that distinguished them from the low SES children who did experience summer learning loss. Their findings showed that there were both “structural” advantages such as having a two parent household and “functional” advantages such as having parents who read to them and take them to the library.

Other moderators

In addition to the main focus on SES, researchers have examined if patterns of summer learning loss differ by gender and race/ethnicity. The results, however, are not as robust as for SES. For example,

²⁷ Tiffani Chin and Meredith Phillips, Social reproduction and child-rearing practices: Social class, children's agency, and the summer activity gap. *Sociology of Education* 77, no. 3 (2004): 185-210.

²⁸ Susan B. Neuman and Donna Celano, Access to print in low-income and middle-income communities: An ecological study of four neighborhoods. *Reading Research Quarterly* 36, no. 1 (2001): 8-26.

²⁹ David T. Burkham et al., Social-class differences in summer learning between kindergarten and first grade: Model specification and estimation. *Sociology of Education*, 77 (2004): 1-31.

³⁰ Robert H. Bradley et al., The home environments of children in the United States Part I: Variations by age, ethnicity, and poverty status. *Child Development*, 72, (2001): 1844-1867.

³¹ Stephanie L. Slates et al., Counteracting summer slide: Social capital resources within socioeconomically disadvantaged families. *Journal of Education for Students Placed at Risk*, 17, no. 3 (2012): 165-185.

although the literature suggests that girls tend to both read more and show greater reading skill achievement in elementary school,^{32,33} Cooper et al. (1996) did not find that gender had a consistent influence on summer learning loss. Similarly, although achievement and learning gaps between different racial and ethnic groups have been demonstrated, findings related to whether racial differences in summer learning contribute to these gaps have been less conclusive.³⁴ While Heyns (1987)³⁵ suggested that racial gaps in reading achievement are due to small differences in summer learning, Cooper et al. (1996) found no consistent evidence for a black-white reading gap increasing over the summer. Quinn (2014) proposed that the mixed research results may be due to methodological differences of the research itself and calls for not only further research but for careful attention to differing methodology and statistical testing when interpreting the results.

Combating Summer Learning Loss: The Need for Summer Reading Programs

After synthesizing the research results on summer slide, Cooper and his colleagues (1996) proposed two possible solutions to alleviate summer learning loss: 1) extend the school year calendar or 2) offer opportunities for summer remediation and enrichment. This paper focuses on the latter effort, and more specifically, summer programs focused on reading. Such programs are found both in traditional summer school settings as well as in public libraries, community-based organizations, and homes, and are varied in their design and implementation. Historically, the summer school model was punitive in nature and focused on remedial activities. Recently, summer school has been acknowledged as an opportunity to provide engaging programs for students, not only to remediate skills but to enrich

³² Madhabi Chatterji, Achievement Gaps and Correlates of Early Mathematics Achievement: Evidence from the ECLS K-First Grade Sample. *Education policy analysis archives* 13, no. 46 (2005): n46.

³³ Debra Viadero, Concern over gender gaps shifting to boys. *Education Week*, 25 (2006): 16-17.

³⁴ David M. Quinn, Black-White Summer Learning Gaps Interpreting the Variability of Estimates Across Representations. *Educational Evaluation and Policy Analysis* (2014): 0162373714534522.

³⁵ Barbara Heyns, Schooling and cognitive development: Is there a season for learning? *Child Development* (1987): 1151-1160.

them.³⁶ Summer reading programs situated in libraries date back to the 1890s, when they were geared towards children in urban areas (not involved in farm work) to read during summer vacation (American Library Association). These programs, with the goals of preventing summer learning loss, building reading skills, and encouraging lifelong reading practices, are very prevalent today. In 1994, 95% of public libraries offered summer reading programs for children (American Library Association). Given the clear need to ameliorate summer learning loss and the varying approaches that have been implemented to do so, researchers have recently turned their attention to assessing the effectiveness of these approaches. This body of research is reviewed below.

Summer Reading Programs: A Review of the Research

The following literature review aimed to answer the following questions:

4. What is the state of research on summer reading programs?
5. Are summer reading programs effective?
6. What are the best practices of summer reading programs?

Methods

Literature Search Procedures

We used the following literature search strategies to locate studies of summer reading programs. First, we ran computer searches of Google Scholar and the following reference databases: ERIC, PsychInfo, Academic Search Premier, Portland State University Library Catalog Interface, and EBSCO Host. We used the search terms “summer learning loss,” “summer reading loss,” “summer setback,” “summer slide,” “summer reading,” “summer programs,” and “summer vacation.” Search term modifiers included “library,” “school,” and “reading.” Second, we consulted key websites such as Every Child Ready to Read, Zero to Three, American Library Association, Public Library Association, and the

³⁶ <http://www.summerlearning.org>

National Summer Learning Association. Third, we reviewed the abstracts of all records found, and if it appeared to be either a description or an empirical evaluation of a summer reading program, we retrieved the full text document and subsequently reviewed each reference list for any additional citations. Some studies we identified could not be obtained via the Internet, library, or interlibrary loan.

Literature Review Procedures

We conducted the literature review in several steps, applying inclusion and exclusion criteria at each step along the way. First, we reviewed the abstracts for all records found. We applied a single inclusion criterion at this preliminary step: whether the focus of the report was a summer reading program. We chose to cast this broad net initially, because we wanted to capture any and all literature on the topic, whether empirical or not. We retrieved the full text document for all abstracts meeting this criterion. Second, we reviewed the full text documents and categorized them as either a) empirical evaluations of a summer reading program to potentially be included in the research review or b) theoretical, descriptive, or conceptual discussions of summer reading programs to be reviewed for background information.

The empirical studies identified in the second step of our review process were then reviewed and the following information was extracted for each study: author, type of publication, date of publication, sample size, participant characteristics, program setting, program characteristics, research design, outcome measure, and results. We then applied our final inclusion criteria to arrive at our final set of empirical studies to be included in the review (See Table 1). Studies included in the final synthesis met several criteria:

- Programs had to take place when regular school was not in session (e.g., during the summer)
- Studies included children (grades K-12) as program participants
- Studies had to report an outcome measure for the children participating in the program (i.e., not solely for parents or teachers)

- Studies had to test empirically the effects of the program (some studies initially categorized as empirical only included descriptive or process data for the program such as number of participants or number of books checked out). Test scores on reading comprehension, fluency and decoding, and vocabulary were the common objective outcome measures. Some studies included self-report outcomes measures such as the number of books read, the amount of time spent reading, enjoyment of reading, and confidence in reading.
- Studies had to compare the effects of participation versus non-participation, either by pre-test/post-test or comparison group design

Assessment of Study Quality

The goal of the current paper was to conduct an assessment of the research on summer reading programs, not only to synthesize and draw preliminary conclusions about the evidence regarding the effectiveness of summer reading programs, but also to describe the “state” of the available research—that is, what kinds of studies have been conducted? What is the quality of these studies? What gaps exist in the research? Therefore, as part of our review process we assessed and recorded information about the strength of the research design and potential threats to validity. In particular, we focused on internal validity and assessed whether the study answered its research question in a manner free from bias.³⁷ We made a broad, overarching assessment of quality (low, medium, high) and noted this rating in the final data extraction.

Results

The literature search yielded twelve empirical research and evaluation reports of summer reading programs that met the criteria for inclusion. Of these, there was one seminal study conducted by Barbra Heyns over thirty-five years ago (1978). Because this study stood out as definitive research from which

³⁷ Cochrane Bias Methods Group, Assessing risk of bias in included studies. bmg.cochrane.org/assessing-risk-bias-included-studies (accessed on October 16, 2014)

subsequent research launched, and that still offers findings that are relevant today, we felt it was important to review. In addition, there were three meta-analyses and one comprehensive literature review of summer reading or out-of-school-time learning programs conducted since Heyns' landmark study. Cooper et al. (2000)³⁸ reviewed studies conducted between 1966 and August 1998. Lauer et al. (2006)³⁹ reviewed studies published between 1986 and 2003. McCombs et al. (2011)⁴⁰ conducted a literature review designed to build off the meta-analysis on summer learning loss conducted by Cooper et al. (1996) and the meta-analysis on summer learning programs conducted by Cooper et al. (2000). Finally, Kim and Quinn (2013)⁴¹ reviewed studies conducted after August 1998 (the date of the last study included in the Cooper et al. analysis) and up to 2011. Because these four research syntheses offered a comprehensive and methodologically rigorous review of empirical studies on summer learning programs from 1966 to 2011, we did not re-review the studies included in these analyses. Instead, we utilized these meta-analyses and research synthesis as our foundation of comprehensive evidence and reviewed them in depth. The latest year of publication included in the Kim and Quinn (2013) analysis was 2011. Therefore, we also reviewed three empirical articles published after 2011 that met our inclusion criteria as well as four studies specific to public library summer reading programs that were not included in the research syntheses reviewed. The data extracted from each report are compiled in Table 1 and we provide a narrative review of the studies below.

³⁸ Cooper et al., 2000

³⁹ Patricia A. Lauer et al., Out-of-school-time programs: A meta-analysis of effects for at-risk students. *Review of educational research* 76, no. 2 (2006): 275-313.

⁴⁰ Jennifer S. McCombs et al., *Making summer count: How summer programs can boost children's learning*. Santa Monica: RAND Corporation; 2011: Monograph Report 1120.

⁴¹ James S. Kim and David M. Quinn, The Effects of Summer Reading on Low-Income Children's Literacy Achievement From Kindergarten to Grade 8 A Meta-Analysis of Classroom and Home Interventions. *Review of Educational Research*, 83, no. 3 (2013): 386-431.

Table 1. Research and Evaluation Reports Included in Review

Last name of first author	Year of publication	Type of Publication	Sample size	Participant Characteristics	Program Characteristics	Research Design	Outcome Measure	Result	Quality Assessment
Heyns	1976	Book	2000	6 th and 7th graders in Atlanta’s public schools	n/a	Pre/Post	Reading achievement	<ul style="list-style-type: none"> Reading books during the summer is the strongest predictor of academic gain Use of public library is the strongest predictor of reading over the summer 	High
Cooper	2000	Journal article	93 studies	K -12	Classroom-based; individual program components varied	Meta-analysis	Varied	<ul style="list-style-type: none"> Classroom-based summer learning programs have a significant positive effect; positive effects are greater for higher SES children than for lower SES children 	High
Lauer	2006	Journal article	30 studies	K – 8	Out-of-school-time; individual program components varied	Meta-analysis	Reading achievement	<ul style="list-style-type: none"> OST programs have an overall positive on the reading achievement of at-risk students; effects are greater for students in the lower elementary and high school grades 	High
Kim	2013	Journal article	41 studies	K -12	Classroom- and home-based; individual program components varied	Meta-analysis	Reading achievement	<ul style="list-style-type: none"> Both classroom- and home-based programs had a positive effect on multiple measures of reading achievement; effects were greater for programs that incorporated research-based reading instructions and for programs that included a majority of low SES children. 	High

Last name of first author	Year of publication	Type of Publication	Sample size	Participant Characteristics	Program Characteristics	Research Design	Outcome Measure	Result	Quality Assessment
McCombs	2011	Report	13 studies	K -12	School district-provided programs	Research synthesis	Reading achievement	<ul style="list-style-type: none"> Summer learning programs have the potential to reduce summer learning losses, but they are not guaranteed to do so. 	High
Zvoch	2011	Journal article	1449	1 st /2 nd grade	School district-provided program	Quasi-experimental	Oral reading fluency	<ul style="list-style-type: none"> Participating students had significantly greater oral reading fluency improvement over the summer 	High
White	2014	Journal article	1421	3 rd grade	Home-based	Experimental	Reading comprehension	<ul style="list-style-type: none"> Two treatment conditions were effective for high poverty schools 	High
Mitchell	2014	Journal article	17	1 st /2 nd grade	Home-based; HELPS program	Quasi-experimental	Oral reading fluency, word reading efficiency, reading achievement	<ul style="list-style-type: none"> Students performed significantly higher at posttest than pretest on four of the five reading measures 	Low
Roman	2010	Report	219	3 rd /4 th graders	School and Public Library	Causal Comparative	Reading achievement ; attitudes towards reading; library usage; summer reading materials	<ul style="list-style-type: none"> Students who participated in the summer reading program scored higher on reading achievement tests at the beginning of their fourth grade year and improved reading skills, motivation, enjoyment, and confidence in reading. 	Medium
Celano	2001	Report	194	Varied; average was 3 rd grade	Public library	Pre/Post	Reading level	<ul style="list-style-type: none"> Children attending a library program were reading closer to their grade level than children attending a day camp with no focus on reading 	Low

Last name of first author	Year of publication	Type of Publication	Sample size	Participant Characteristics	Program Characteristics	Research Design	Outcome Measure	Result	Quality Assessment
Los Angeles County Public Library Foundation; Evaluation and Training Institute	2001	Report	2500	K-12	Public library	Post	Time spent reading, reading achievement	<ul style="list-style-type: none"> Children who participated in the program spent more time reading and read more books during the summer than they did before beginning the program. The data also suggested that a greater number of children who participated in the program performed at grade level on reading indicators and were more likely to retain this level 	Low
Doman	2013	Journal article	17	K-4	Public library	Pre/Post	Reading achievement ; attitudes towards reading	<ul style="list-style-type: none"> The program had a small positive effect on participants' reading levels and a small negative effect on their attitudes towards reading 	Low

A Landmark Study of Summer Reading: Summer Learning and the Effects of Schooling

Although conducted close to forty years ago, a study by Barbara Heyns (1978) is still one of the most consistently cited in the research on summer reading. She proposed that learning during the school year was due to both school and non-school factors, whereas learning during the summer was due to only non-school factors such as the home, neighborhood, and community. By comparing learning gains during the school year to learning gains during the summer, she was able to identify “summer parameters” influential to learning. In her study, “Summer Learning and the Effects of Schooling,” Heyns followed sixth and seventh graders over two school years and over the summer in between. One of the most striking findings was that children who did not read at all over the summer experienced a loss of reading skills equivalent to as much as an entire grade level. In contrast, children who read at least six books during the summer either maintained or improved their reading skills—and this was true for all children, regardless of SES. However, when examining differences between children that read over the summer and those who did not, Heyns identified that SES was influential. Higher SES children were more apt to read over the summer, as were as girls, children who used the public library and children who lived closer to a library.

Meta-Analyses and Research Syntheses of Summer Reading Programs

Meta-analysis is a systematic method used to statistically combine the findings from multiple independent studies allowing conclusions to be drawn about an entire body of research. A research synthesis, although not a statistical or quantitative analysis, has the same goal and emphasizes following similar patterns of logical and systematic examination of a body of literature. The search for research literature on summer reading programs yielded three meta-analyses and one research synthesis conducted in the last fifteen years. This bodes well for our ability to assess and understand the effects of summer reading programs.

Making the most of summer school: A meta-analytic and narrative review. In 2000, Cooper et al. published a comprehensive meta-analysis of classroom-based summer programs. The research questions were:

- What are the overall effects of summer school on children and adolescents?
- What characteristics of students, programs, and outcomes are associated with more or less effective summer programs?
- What does research say needs to be done to make the most of summer school?

Utilizing both meta-analytic and narrative review techniques, Cooper and his colleagues synthesized the findings of ninety-three evaluations of summer school programs. School- or classroom-based programs typically are geared toward remediating academic weaknesses through teacher-led instructional activities. The programs examined in Cooper's review took place during the summer, included students in primary or secondary school (preschool and postsecondary programs were excluded), included both regular and special needs students, and were organized by a school, school district, college, or university. All programs had goals of improving academic performance or school attendance. All studies included in the review a) compared the effects of participation versus non-participation in a summer program (via either pre-test/post-test or comparison group designs), b) tested the effects of the program empirically, and c) included an outcome measure taken on the students.

The overall finding was that classroom-based summer learning programs have a significant positive effect, and that those positive effects are greater for higher SES children than for lower SES children. Program components that were associated with greater effectiveness included size (small programs were more effective), individualization, and parental involvement. There was a curvilinear relationship for the number of hours of instruction with the greatest effect sizes for 60-120 hours compared to smaller effect sizes for less than 60 hours and more than 120 hours. Students who were in early years of

elementary school benefited more from summer school programs than students in the later years of school.

Out-of-school-time programs: A meta-analysis of effects for at-risk students. In 2006, Lauer et al. conducted a meta-analysis of out-of-school time (OST) interventions. The research questions were:

- What is the effectiveness of OST programs in assisting at-risk students in reading and mathematics?
- How does the effectiveness of OST differ by program and study characteristics?

Utilizing meta-analytic techniques, Lauer and her colleagues synthesized the findings of thirty studies of OST programs that focused on reading achievement. Programs were implemented in the United States, and occurred outside of normal school hours, during the summer, after school, or on Saturdays. The programs targeted students in primary or secondary school (K-12) who were at risk for school failure (defined as low student performance or other characteristics associated with low student performance such as low SES). Programs that were targeted for special populations (e.g., special education) were excluded from the review. All studies included in the review were a) published in or after 1985, b) compared the effects of participation versus non-participation in an OST program (via post test scores of participant group and comparison/control group), c) included an outcome measure taken on the students, and d) reported sufficient quantitative information (for the calculation of effect sizes).

The findings suggested that OST programs have an overall positive on the reading achievement of at-risk students, and that those effects are greater for students in the lower elementary and high school grades. Notably, one of the strongest effects that emerged was a positive impact of tutoring on reading achievement. The after-school programs tended to include tutoring as a program component whereas summer school programs often relied on large group instruction.

The effects of summer reading on low-income children's literacy achievement from kindergarten to grade 8: A meta-analysis of classroom and home interventions. In 2013, Kim and Quinn conducted a meta-analysis of classroom- and home-based reading programs. The research questions were:

- Do classroom and home interventions improve diverse reading outcomes?
- Does the implementation of research-based reading instruction moderate the effects on reading outcomes?
- Are the effects of summer reading interventions larger for low-income children than for middle- and high-income children?

Utilizing meta-analytic techniques, Kim and Quinn synthesized the findings of forty-one studies of classroom- and home-based reading programs. While classroom-based programs typically are geared towards remediating academic weaknesses via teacher-led instructional activities, home-based programs are usually designed to improve reading comprehension by providing access to reading materials and promoting intrinsic motivation to read. Home-based programs focus on child-initiated book reading and often include parental or teacher support. The programs in Kim's and Quinn's review were implemented in the United States and Canada and targeted students from kindergarten to eighth grade prior to their enrollment in a summer reading program. All studies included in the review a) included an outcome measure of reading achievement, b) compared the effects of participation versus non-participation in a program (via post test scores of participant group and comparison/control group) and c) reported sufficient quantitative information (for the calculation of effect sizes).

The findings demonstrated that both classroom- and home-based programs had a positive effect on multiple measures of reading achievement. The effects were greater for those programs that incorporated research-based reading instructions. The effects were also greater for programs that included a majority of low SES children.

Making summer count: How summer programs can boost children's learning. In 2011, McCombs and her colleagues at the RAND Corporation reviewed the research on summer learning loss, the effectiveness of summer learning programs, as well as information about the cost of summer programs and funding availability.⁴² Their research questions were:

- What is the nature of summer learning loss?
- Are summer learning programs effective in improving student achievement?
- What are the elements of effective programs?
- How much do summer learning programs cost?
- What are the facilitators and challenges to implementing summer programs?

To answer these questions, the researchers reviewed the existing literature, collected cost data for summer learning programs, and conducted interviews with program providers and site visits to programs. Their findings support the conclusions drawn by previous researchers: 1) Summer learning loss is disproportionate, cumulative, and contributes to an academic achievement gap, 2) Students who participate in summer programs have better academic outcomes—but this benefit is dependent on high quality programming and attendance, and 3) Programs that are individualized, involve parents, and are small in size are the most effective. In addition, they discovered that cost is a major barrier to implementing summer learning programs and that many program providers question the cost effectiveness and make decisions to eliminate programs based on this concern. Finally, they conclude that partnerships between schools and school districts or between school districts and community-based organizations can strengthen programs by accessing funding and reducing costs.

Continued research on summer reading programs

The findings from the seminal study by Heyns in 1978 and the four research syntheses covering decades of research, hundreds of programs, and thousands of children provide a solid foundation for

⁴² Jennifer S. McCombs et al.

our understanding of the value and impact of summer reading programs. Interest in this topic continued after the publication Kim and Quinn's 2011 meta-analysis, especially in light of restricted funding and increased accountability requirements for program implementers. In this section we review research published between 2011 and 2014 that met our inclusion criteria, as well as turn our attention to the less well researched public library summer reading programs.

We found three empirical studies of summer reading programs published after the most recent 2011 meta-analysis conducted on the topic. Given the large body of literature on summer reading programs and overall findings of effectiveness, it was not surprising that these studies applied a new lens, usually with the goal of explaining previous research results, employing more sensitive methodology, or increasing the understanding of best practices.

In his 2011 study, Zvoch tested the effectiveness of a summer reading program for children in between their first and second grade years.⁴³ In addition, in response to some of the design and analytic issues highlighted in previous research (i.e., potential differences between those who elect to participate in a voluntary program versus those who do not), he examined the characteristics of students who voluntarily participated and those who declined to participate and accounted for these selection effects. He found that participating students had significantly greater oral reading fluency improvement over the summer than did non-participating students. Further, he found that struggling readers increased their reading fluency more than struggling readers who were eligible for the program but declined to participate.

White, Kim, Kingston, and Foster (2014)⁴⁴ published a replication and extension of two experimental studies of a voluntary summer reading program that provided books matched to students' reading levels

⁴³ Keith Zovack, Summer school and summer learning: An examination of the short- and longer-term changes in summer literacy. *Early Education and Development*, 22, no. 4 (2011): 649-675.

⁴⁴ Thomas G. White et al., Replicating the effects of a teacher-scaffolded voluntary summer reading program: The role of poverty. *Reading Research Quarterly* 49, no. 1 (2014): 5-30.

as well as support by teachers and end-of-year comprehension lessons (these previous studies were included in the meta-analyses reviewed above). They conducted a randomized trial in 19 elementary schools and measured the effects of two treatment conditions compared to a control group. One treatment condition, replicating previous studies, provided books matched to students' interests and teacher support via end-of-year comprehension lessons. The other condition offered an enhanced treatment with teacher calls to the students during the summer (in addition to matched books and end-of-year comprehension lessons). They found that overall the two treatment conditions did not have a significant effect on reading comprehension. However, both treatment conditions were effective for high poverty schools. This finding offers continued support for the notion that SES is a significant factor in the effectiveness of summer reading programs.

In a quasi experimental study of a home-based summer reading program, Mitchell and Begeny (2014) examined the impact of parent involvement on summer reading improvement among struggling readers.⁴⁵ They found that an existing structured and research-supported program historically delivered by teachers (HELPS), when implemented in the home by parents, had positive impact on several different measures of reading achievement. The program included eight evidence-based strategies shown to improve students' reading fluency and parents delivered approximately 29 ten minute sessions during the summer. Parents submitted weekly summary reports and met with researchers to receive feedback on their implementation. Students performed significantly higher at posttest than pretest on four of the five reading measures. Findings were somewhat limited due to parents self selecting to participate, no control or comparison group, and a small sample (17 students).

Public library summer reading programs

⁴⁵ Courtney Mitchell and John C. Begeny, Improving student reading through parents' implementation of a structured reading program. *School Psychology Review* 43, no. 1 (2014): 41-58.

Research on summer reading has identified that access to reading material and the volume of reading (e.g., more reading over the summer leads to better outcomes) is vital for improving reading achievement and preventing summer learning loss. Therefore, although not as rigorously researched as school-based summer reading programs, there is a logical argument to be made that public libraries are an obvious institution that should be central in summer reading efforts. In our review, we found few studies of high methodological quality that focused specifically on public library programs. To make conclusions about the effectiveness of summer reading programs, it is important to rely on findings from studies of high methodological quality (limited threats to validity). The meta-analyses and research synthesis reviewed above offer us this confidence—but primarily for school-based summer reading programs. A likely explanation for the focus on school-based programs is that the nature of the programs makes them easier to study—there is more likely to be mandatory participation, availability and feasibility of comparison or control group, more structured program components, and funding available for research. Public library summer reading programs, although prevalent, are often less structured and offer less opportunities for rigorous research either due to lack of funding or lack of feasibility (difficult to have control group). However, because of the logical role of public libraries in summer reading programs, it is important to review the literature to understand what has been studied (and how) in order to determine appropriate next steps. Our literature search found resources on public library summer reading programs in the format of research and evaluation reports as well as descriptive, case-study articles. One study in particular, known as the “Dominican Study,” has received significant attention and stands out as one of the few published studies on public library summer reading programs.

The Dominican study: Public library summer reading programs close the reading gap

A study by Roman, Carran, and Fiore (2010), which has come to be known as the “Dominican Study,” examined partnerships between public libraries and school libraries.⁴⁶ The research question was:

- Do public library summer reading programs impact student achievement?

Utilizing a pre-test post-test design, Roman et al. examined the impact of free public library summer reading programs in 11 sites across the United States, representing large, small, rural, urban and suburban communities. The summer reading programs included curriculum of the library’s choice and lasted at least six weeks. All programs were situated in libraries that demonstrated a history of collaboration with a paired school and that had a signed partnership agreement in place. Participants in the study were students finishing the end of the third grade year and beginning their fourth grade year in the fall. Participation in the summer reading program was voluntary. Comparisons were made between students who chose to participate in the summer reading program and students who chose not to participate in the summer reading program. Data were collected on reading achievement (Scholastic Reading Inventory) and self-reported attitudes towards reading (e.g., “I like to read books), reading habits (e.g., “I spend my free time reading), library usage (e.g., “Do you have a library card?), and summer reading materials (e.g., “What else did you read this summer?). Data was also collected from the students’ parents, teachers, and school librarians. The public librarians completed surveys as well.

The findings indicated that the two groups of students (summer reading program participants and non-participants) differed on demographic characteristics. Students who chose to participate in the summer reading program included more females, more Caucasians, and students of higher SES level. These students tended to be strong readers, to use libraries, and to have more “family capital” related to reading such as more books in their homes and parents who used the library.

⁴⁶ Susan Roman, Deborah T. Carran, and Carole D. Fiore, *The Dominican Study: Public library summer reading programs close the reading gap*. (2010): Dominican University, Graduate School of Library & Information Science.

Students who participated in the summer reading program scored higher on reading achievement tests at the beginning of their fourth grade year than the students who did not participate in the program. Both teachers and parents of the students who participated reported that they felt the students started the school year “ready to learn.” Teachers reported that the students who had participated in the program demonstrated improved reading skills, and motivation, enjoyment, and confidence in reading.

These findings all suggest that there is a relationship between participating in a public library summer reading program and positive reading skills, habits, and attitudes. However, it is important to note that the findings are rather limited by the study design. Comparing students who chose to participate or not participate in a summer reading program makes it difficult to tease apart whether it was actual participation in the summer reading program that led to reading outcomes, or if there were characteristics of the students who chose to participate that were the prime drivers of their reading outcomes in the fall (i.e., they were already strong and enthusiastic readers, they had families who encouraged reading, had books in the home, and who took them to the library). Would these students have engaged in enriching reading activities during the summer regardless of whether they participated in the summer reading program? And conversely, were the students who did not participate in the program not especially motivated or interested in reading? Further, previous research indicates that it is low SES children who are most susceptible to summer learning loss. The students who participated in the summer reading program were higher SES than the students who did not, making it difficult yet again to confidently draw conclusions about what factors are actually contributing to the higher reading achievement in the fall.

Although methodologically limited, the Dominican study offers a good first step in broadening the research on summer reading programs to include a focus on programs offered by public libraries. It puts forth the argument, and some suggestive research findings, that public libraries should be key players in

the effort to provide stimulating reading opportunities over the summer. Another strength of this study is that it examined partnerships between schools and public libraries and highlights the ability of public libraries to provide access to books to children of all SES levels.

Additional research on public library summer reading programs

Not unlike schools and school districts, individual public libraries face increasing accountability standards and scarce funding opportunities, and therefore are beginning more and more to partner with researchers to evaluate their summer reading programs. These studies are far less prevalent than studies on school-based programs and tend to demonstrate less methodological rigor. Below are several examples of studies of summer reading programs in public libraries. These are studies that would not have been included in the more rigorous meta-analyses and research syntheses due to methodological constraints. However, because they are representative of the type of study that has most commonly been conducted on public library programs, we review them as illustrative examples to highlight the current state of the research and the needed next steps.

The role of public libraries in children's literacy development: An evaluation report. In 2001, the Pennsylvania Library Association partnered with researchers to evaluate their summer reading programs.⁴⁷ In addition to administering surveys to librarians, observing programs, and conducting interviews with parents, researchers compared children who participated in an eight week summer library program that included special events and prizes for reading a certain number of books to children who attended a day camp that offered activities such as swimming and arts and crafts but did not include any reading programs. On pre-test measures collected a few weeks in to the programs, children attending the library program were reading closer to their grade level than children attending the camp. Due to significant attrition, the researchers were unable to collect post test measures. The researchers concluded that the findings indicated that the library program was successful in boosting children's

⁴⁷ Celano, 2001

reading level. However, due to the study's methodology (no random assignment to the two programs and no post measurement of outcomes) the conclusions that can be drawn are extremely limited. Once again, we cannot rule out the possibility that more avid, confident, or skilled readers are the ones who chose to participate in summer reading programs.

Evaluation of the Public Library Summer Reading Program: Books and Beyond...Take Me to Your Reader! In 2001, the Los Angeles County Public Library Foundation contracted with the Evaluation and Training Institute to conduct an evaluation of summer reading programs implemented in libraries throughout Southern California.⁴⁸ The goal of all programs was to appeal to children's interests and imagination. Children received reading logs to keep track of the number of books read over the summer and certificates of participation at end of summer. Local libraries used a variety of techniques to encourage reading such as helping children set reading goals, providing incentives, and awarding prizes. Data collected via program documentation and teacher, parent, and child surveys provided information related to public awareness of the program, the number of children who participated, the number of books that were checked out, and descriptions of program activities. Self-report data from children, parents, and teachers showed that children who participated in the program spent more time reading and read more books during the summer than they did before beginning the program. The data also suggested that a greater number of children who participated in the program performed at grade level on reading indicators and were more likely to retain this level. Once again, however, these conclusions are severely limited by methodological concerns: there was no random assignment and the data was self-report.

Impact of the Reading Buddies program on reading level and attitudes towards reading. In a 2013 study published in *Evidence-Based Library and Information Practice*, Dolman and Boyte-Hawryluk

⁴⁸ Evaluation and Training Institute, *Evaluation of the Public Library Summer Reading Program: Books and Beyond...Take Me To Your Reader!* Final Report (December 2001), 13-14.

examined the outcomes of a public library-based summer reading program called Reading Buddies.⁴⁹ The program paired lower elementary students with teen volunteers for reading practice over the summer. Children completed both pre- and post-program measures of reading achievement and skill. Results indicated that the program had a small positive effect on participants' reading levels and a small negative effect on their attitudes towards reading. Because there was no comparison or control group, conclusions about whether the program prevented summer learning loss cannot be drawn.

Synthesis of research findings

The research on summer learning loss provides convincing evidence for the need for summer reading programs. The findings offer clear and consistent support for the notion of summer learning loss and that this loss affects children differentially, most notably by SES level. Lower SES children experience a loss of reading achievement during the summer while higher SES children either maintain or gain reading skills. Our review of the literature on summer reading programs answered the following research questions:

What is the state of the research on summer reading programs? A considerable amount of research has been conducted on the impact of summer learning programs—four comprehensive research syntheses have been conducted since 2000. Because all four of these studies were of high methodological quality we can feel confident in the overarching conclusion that summer learning programs can be effective in lessening summer learning loss and increasing reading achievement. However, by far the majority of the studies included in these syntheses were school-based or school-sponsored summer learning programs. Therefore, the state of the research on *school-based summer learning programs* is solid, of high quality, and offers confident conclusions. We cannot say the same about the state of the research on *public library summer reading programs*, both in terms of quantity

⁴⁹ Hayley Dolman and Serena Boyte-Hawryluk. Impact of the Reading Buddies Program on Reading Level and Attitude Towards Reading. *Evidence-based library and information practice*. 2013, 8.

and quality of studies. Not only are there significantly fewer studies conducted on public library summer reading programs, the ones that exist and are commonly cited offer limited findings and conclusions due to methodological design. The hundreds of studies synthesized by Cooper et al. (2000), Lauer et al. (2006), McCombs et al. (2011), and Kim and Quinn (2013) were subjected to strict methodological inclusion and exclusion criteria. The studies had to involve a comparison of student achievement measures either from the same student before and after participating in the summer program or from students who did or did not participate in the program. Most studies we found that were specific to public libraries either did not meet this criterion or had other methodological limitations (e.g., self-report data) and therefore were not included in the four research syntheses or in our review.

Are summer reading programs effective? Based on our literature review, we came to the following conclusions regarding the effectiveness of summer reading programs:

- There is clear and consistent evidence that *school-based summer and other out-of-school-time reading programs* can be effective in preventing summer learning loss and improving reading achievement.
- There is clear and consistent evidence that *home-based summer and other out-of-school-time reading programs* can be effective in preventing summer learning loss and improving reading achievement.
- The evidence base for the effectiveness of *public library summer and other out-of-school-time reading programs* has yet to be developed. Although a logical argument exists for public libraries playing a key role in children's literacy, especially in terms of access to books and encouragement of voluntary and pleasure reading, rigorous empirical research has yet to be conducted on this topic.

What are the best practices of effective summer reading programs? Cooper et al. (2000) found that programs that were small in size (no more than 20 students), individualized to the student, and included

parental involvement had the greatest effect on student achievement. McCombs et al. (2011), added to list: high quality instruction; aligned school-year and summer curricula (either with the previous school year for remediation or with the upcoming school year for a head start); engaging programming (moving beyond traditional remediation and utilizing innovative approaches); maximized participation and attendance (students have to participate to reap the benefits); sufficient program duration and dose, and program evaluation (suggesting that program quality can be improved based on formative evaluation feedback). Further, both the literature on summer learning loss and the literature on effective summer reading programs suggest that low SES students often benefit the most from summer learning programs—indicating that a best practice may lay in targeting the appropriate population.

Information on best practices of public library summer reading programs tended to not be directly and empirically studied but rather extrapolated from other areas of research. For example, the American Library Association offers a collection of best practices on their website that include research articles, case studies, program guidelines, and frameworks for measuring outcomes. A 2013 report by Hanover Research⁵⁰ reviews best practices in summer literacy and draws from the broader body of research on improving literacy achievement in elementary school children. Best practices suggested include: Increasing the time children read independently, including speaking and writing activities in addition to reading, and providing reading materials that are of high quality and high interest. In addition, the authors encourage summer reading programs to partner with local schools as a way to access expertise and support for staff development.

Discussion

The results of the literature review offered us considerable knowledge about the “what,” “why,” and the “who” of summer learning loss. In addition, it provided a convincing argument for the

⁵⁰ Hanover Research, *Best Practices in Summer Literacy*, 2013.

implementation of summer reading programs as one possible solution to the challenge of interrupted learning over the summer. The literature on summer learning and reading programs also yielded conclusions about the effectiveness of this solution, most notably for school-based programs. Although we discovered that public library summer reading programs are prevalent, they are also much less researched and this finding was valuable in and of itself in terms of demonstrating the need for future research.

Strengths

Our literature search yielded several meta-analyses conducted on the topic of summer reading programs and we assessed these studies to be of strong methodological rigor. Further, because the meta-analysis published most recently (Kim & Quinn, 2013) included studies published up until 2011, and essentially picked up where the Cooper et al. (2000) meta-analysis left off (i.e., included studies published after the studies analyzed by Cooper et al.), we feel confident that by examining these two studies in particular that we have a comprehensive understanding of the high quality empirical research conducted on the effects of summer reading programs. Because an important focus for this paper was to identify any gaps in the research and to make suggestions for future research, and it was clear that the majority of the studies on the topic were school-based, we were able to further our review to examine the research on public library summer reading programs in particular.

Limitations

As with all research reviews, it is certainly a likely possibility that not all studies on summer reading programs were located by searching reference databases and reference lists or that interesting or useful evaluations or studies were never published or were not published in time for this review. This limitation applies to the key meta-analyses that form much of our review as well; however, it may be especially relevant to our search for empirical studies on public library summer reading programs, as these may be less likely to be published in academic journals.

Implications for future research

Our literature review emphasized that although the effects of summer reading programs have been well researched, both in terms of the quantity and quality of studies, most of the research has been focused on the effects of school-based programs. Less well researched are the effects of public library-based programs. Moreover, the potential benefits of partnerships between public libraries and schools have not been explored in depth. The “Dominican Study,” the current flagship and most cited study specific to public libraries, while a significant contribution to the literature, was methodologically limited by the research design (i.e., no random assignment, self-selection, and self report data) and consequent inconclusive findings regarding the actual cause and effect.

A consistent finding in the research is that access to books is a critical mechanism in summer reading, especially for children from economically disadvantaged families. Public libraries are the obvious institutions to meet that need. Public librarians and staff know this and have risen to the call. In 1994, 94% of public libraries had summer reading programs for children (National Center for Educational Statistics), and in 2010, the American Library Association Council adopted the *Resolution on Ensuring Summer Reading Programs for all Children and Teens*. Stakeholders such as library directors and governmental bodies were encouraged to “ensure that their libraries are provided adequate funding to ensure that their summer reading programs for all children and teens are maintained.”

Numerous resources offering guidelines and implementation tools are available through organizations such as Collaborative Summer Learning Program (CSLP), National Summer Learning Association, and the Illinois Reading Enrichment and Development (iREAD) program, just to name a few. However, while there are tacit and logical assumptions about the benefits of public library-based summer reading programs, there is a need for more empirical research to test these assumptions. Further, because school-based summer reading programs have been shown to mitigate summer learning loss, the field would benefit from research on the outcomes of partnerships between schools

and public libraries. As two important institutional resources for children's education, it only makes sense that the two entities working together, perhaps combining evidence-based curricula (schools) and access to books (public libraries) would have the potential for great benefits.

Implications for Policy

The research findings on summer learning programs can and should inform policy decisions regarding funding and design of effective interventions. The consistent finding that low SES children have the greatest need for and also benefit the most from summer learning programs suggests that, especially if resources are limited, the priority should be on funding programs designed to reach and serve this population. Related to this, program implementers would do well to broaden their outreach and program components to include the whole family, as parental involvement and "family capital" were shown to be predictors of whether children read during the summer and consequently experience less learning loss. Public libraries are well situated to reach families and could design programs and events that have both child-focused and parent-focused components, both to encourage utilization of the library and to enhance the resources available to parents as they strive to build their family capital for literacy. In addition, the evidence that school-based summer programs can be effective at combating summer learning loss and the research suggesting that access to books and enthusiasm for voluntary reading point to significant potential benefits for schools and public libraries who partner with one another. Such partnerships should be encouraged, developed, and studied. Given that the research has identified a collection of evidence-based best practices for school-based programs, decisions around program design and funding should take these in to account and dedicate resources to what has been shown to be effective. Finally, resources should be allocated to further research on what makes an effective public library summer reading program.

Conclusions

Research shows that summer and out-of-school-time programs can have positive effects on gains in reading achievement mitigating summer learning loss. However, program designers, implementers and funders must consider factors such as program size, duration, dose, quality, and appropriate target population in order to offer the highest quality programs. There is a solid body of research findings related to school-based summer programs, but a critical next step is to support, facilitate, and conduct rigorous research and evaluation of public library programs. Finally, taken together, the research findings suggest that partnerships between schools and public libraries have the potential to combine the best practices and resources of each institution in an effort to increase reach and impact for children and families.

Bibliography

- Alexander, Karl L., Doris R. Entwisle, and Linda S. Olson. Schools, achievement, and inequality: A seasonal perspective. *Educational Evaluation and Policy Analysis* 23, no. 2 (2001): 171-191.
- Alexander, Karl L., Doris R. Entwisle, and Linda Steffel Olson. Lasting consequences of the summer learning gap. *American Sociological Review* 72, no. 2 (2007): 167-180.
- Benson, James, and Geoffrey D. Borman. Family, neighborhood, and school settings across seasons: When do socioeconomic status and racial composition matter for the reading achievement growth of youth children? *Teachers College Record* 112, no. 5 (2010): 1338-1390.
- Borman, Geoffrey D., James Benson, and Laura T. Overman. Families, schools, and summer learning. *The Elementary School Journal* 106, no. 2 (2005): 131-150.
- Bradley, Robert H., Robert F. Corwyn, Harriette P. McAdoo, and Cynthia G. Coll. The home environments of children in the United States Part I: Variations by age, ethnicity, and poverty status. *Child Development*, 72 (2001): 1844-1867.
- Burkham, David T., Douglas D. Ready, Valerie E. Lee, and Laura F. LoGerfo. Social-class differences in summer learning between kindergarten and first grade: Model specification and estimation. *Sociology of Education*, 77 (2004): 1-31.
- Celano, Donna, and Susan B. Neuman. *The Role of Public Libraries in Children's Literacy Development: An Evaluation Report*. Harrisburg: Pennsylvania Library Association (February 2001).

- Chatterji, Madhabi. Achievement Gaps and Correlates of Early Mathematics Achievement: Evidence from the ECLS K-First Grade Sample. *Education policy analysis archives* 13, no. 46 (2005): n46.
- Chin, Tiffani, and Meredith Phillips. Social reproduction and child-rearing practices: Social class, children's agency, and the summer activity gap. *Sociology of Education* 77, no. 3 (2004): 185-210.
- Cochrane Bias Methods Group. Assessing risk of bias in included studies. bmg.cochrane.org/assessing-risk-bias-included-studies (accessed on October 16, 2014)
- Cooper, Harris, Barbara Nye, Kelly Charlton, James Lindsay, and Scott Greathouse. The effects of summer vacation on achievement test scores: A narrative and meta-analytic review. *Review of Educational Research* 66, no. 3 (1996): 227-268.
- Cooper, Harris, Kelly Charlton, Jeff C. Valentine, and Laura Muhlenbruck. Making the most of summer school. A meta-analytic and narrative review. *Monographs of the Society for Research in Child Development*, 65 (1, Serial No. 260) (2000): 1-118.
- Dolman, Hayley, and Serena Boyte-Hawryluk. Impact of the Reading Buddies program on reading level and attitude towards reading. *Evidence-based library and information practice*, 8, no. 1 (2013): 35-46.
- Downey, Douglas B., Paul T. Von Hippel, and Beckett A. Broh. Are schools the great equalizer? Cognitive inequality during the summer months and the school year. *American Sociological Review* 69, no. 5 (2004): 613-635.
- Entwisle, Doris R., and Karl L. Alexander. Winter setback: School racial composition and learning to read. *American Sociological Review*, 59 (1994): 446-460.
- Entwisle, Doris R., Karl L. Alexander, and Linda S. Olson. Children, schools, and inequality. Boulder, CO: Westview Press. (1997)

- Entwisle, Doris R., Karl L. Alexander, and Linda S. Olson, *Summer learning and home environment. A nation at risk: Preserving public education as an engine for social mobility*, New York: Century Foundation Press (2000): 9-30.
- Entwisle, Doris R., and Karl L. Alexander. Summer setback: Race, poverty, school composition, and mathematics achievement in the first two years of school. *American Sociological Review* (1992): 72-84.
- Evaluation and Training Institute, *Evaluation of the Public Library Summer Reading Program: Books and Beyond... Take Me To Your Reader!* Final Report (December 2001), 13-14.
- Hanover Research, *Best Practices in Summer Literacy*, 2013.
- Heyns, Barbara. *Summer Learning and the Effects of Schooling* (New York: Academic Press Inc., 1978).
- Heyns, Barbara. Schooling and cognitive development: Is there a season for learning? *Child Development* (1987): 1151-1160.
- Kim, James S., and David M. Quinn. The Effects of Summer Reading on Low-Income Children's Literacy Achievement From Kindergarten to Grade 8 A Meta-Analysis of Classroom and Home Interventions. *Review of Educational Research*, 83, no. 3 (2013): 386-431.
- Lauer, Patricia A., Motoko Akiba, Stephanie B. Wilkerson, Helen S. Apthorp, David Snow, and Mya L. Martin-Glenn. Out-of-school-time programs: A meta-analysis of effects for at-risk students. *Review of educational research* 76, no. 2 (2006): 275-313.
- McCombs, Jennifer S., Catherine H. Augustine, Heather L. Schwartz, Susan J. Bodilly, Brian Mcinnis, Dahlia S. Lichter, and Amanda B. Cross. *Making summer count: How summer programs can boost children's learning*. Santa Monica: RAND Corporation; 2011: Monograph Report 1120.
- Mitchell, Courtney, and John C. Begeny. Improving student reading through parents' implementation of a structured reading program. *School Psychology Review* 43, no. 1 (2014): 41-58.

Neuman, Susan B., and Donna Celano. Access to print in low-income and middle-income communities:

An ecological study of four neighborhoods. *Reading Research Quarterly* 36, no. 1 (2001): 8-26.

Quinn, David M. Black–White Summer Learning Gaps Interpreting the Variability of Estimates Across

Representations. *Educational Evaluation and Policy Analysis* (2014): 0162373714534522.

Roman, Susan, Deborah T. Carran, and Carole D. Fiore. *The Dominican Study: Public library summer*

reading programs close the reading gap. (2010): Dominican University, Graduate School of Library & Information Science.

Schacter, John, and Booil Jo. Learning when school is not in session: A reading summer day-camp

intervention to improve the achievement of exiting First-Grade students who are economically disadvantaged. *Journal of Research in Reading*, 28 (2005): 158-169.

Slates, Stephanie L., Karl L. Alexander, Doris R. Entwisle, and Linda Steffel Olson. Counteracting summer

slide: Social capital resources within socioeconomically disadvantaged families. *Journal of Education for Students Placed at Risk*, 17(3) (2012): 165-185.

Snow, Catherine E., and David K. Dickinson. *Skills that aren't basic in a new conception of literacy.* In

Literate systems and individual lives: Perspectives on literacy and schooling, eds. A. Purves & E. Jennings. Albany: State University of New York (SUNY) Press (1991).

United States Department of Education. 2003 National Assessment of Adult Literacy

Viadero, Debra. Concern over gender gaps shifting to boys. *Education Week*, 25 (2006): 16-17.

Von Drehle, David. The case against summer vacation. *Time Magazine* 176, no. 5 (2010): 36-42.

White, Thomas G., James S. Kim, Helen Chen Kingstron, and Lisa Foster. Replicating the effects of a

teacher-scaffolded voluntary summer reading program: The role of poverty. *Reading Research*

White, William F. Reviews before and after vacation. *American Education* (1906), 185-188.

Zovack, Keith. Summer school and summer learning: An examination of the short- and longer-term

changes in summer literacy. *Early Education and Development*, 22, no. 4 (2011): 649-675.