Longitudinal Impact of Virginia Public Libraries’ Summer Reading Program on Student Reading Outcomes

Library of Virginia Year 3 Report

Over 48 years of education research, evaluation, and technical assistance

An industry leader in professional development and applied educational research
Dr. Kimberly Good  
Managing Evaluator

Dr. Hsiang-Yeh Ho  
Managing Evaluator

McREL International
Research ● Evaluation ● Instruction ● School Improvement ● Learning Innovation ● Educator Effectiveness ● Systems Transformation
Housekeeping

- No sound icon
- Red circle with slash through words "JARGON"
- Person with a speech bubble and question mark
Polling Question
Background

• **Summer reading loss is real.**
  – Cooper, Nye, Charlton, Lindsay, & Greathouse (1996)

• **Literature suggests that summer reading programs may be an alternative solution to prevent summer reading loss.**
  – Celano & Neuman (2001)
  – Matthews (2010)
  – Good, Ho, Muñoz-Miller, Ncube, & Turner (2015)
Purpose of the Study

Commissioned by the Library of Virginia and funded by the Institute of Museum and Library Services with the cooperation and collaboration of the Virginia Department of Education to investigate:

Does the summer reading program have long-lasting effects on children’s and teens’ reading outcomes?
Research Questions

What is the long-term impact of participation in the summer reading program on children’s and teens’ reading outcomes?

a. Does the summer reading program’s impact on reading outcomes endure more than one year following participation?

b. How many children participate in the summer reading program for more than one year, and what are the characteristics of these repeat participants?

c. How do the reading outcomes and growth patterns of repeat participants differ from nonparticipants and from those participating during a single summer?
Research Design

• The 2014 study involved a quasi-experimental design using propensity score matching methods to identify a group of matched comparisons (Stuart & Rubin, 2007).
  – For the longitudinal study, a subset of participants in the 2014 study who were entering the 4th, 5th, and 6th grades following participation in the 2013 Summer Reading Program were included.
  – The matched comparisons of the selected participants were included as the comparison group.
### Research Design

- Participants and comparisons were tracked if they also participated in the 2014 Summer Reading Program.

<table>
<thead>
<tr>
<th>Group Membership</th>
<th>2014 SRP Participation Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>2013 SRP Participation</td>
<td></td>
</tr>
<tr>
<td>Yes (Participants)</td>
<td>Group 1 – P1 (2013 SRP Participants)</td>
</tr>
<tr>
<td>No (Comparisons)</td>
<td>Group 2 – C1 (2013 Comparisons)</td>
</tr>
</tbody>
</table>

Note. SRP = Summer Reading Program
Participating Public Library Systems

Base map retrieved from:
http://www.nationalrealty.biz/map/virginia-counties.htm
Data Sources

• Evanced™ Summer Reader database
  – 2013 Summer Reading Program participation data
  – 2014 Summer Reading Program participation data

• Virginia Department of Education (VDOE)
  – Demographic data
  – Achievement data
    • 2012-2013 English/Reading Standards of Learning (SOL) (Baseline)
    • 2013-2014 SOL (T1)
    • 2014-2015 SOL (T2)
Longitudinal Study Sample

- 2,115 participants (46% of the 2014 participant sample) and
- 2,084 comparisons (45% of the 2014 comparison sample)
- Participants and comparisons who were entering the 4th, 5th, and 6th grades following the 2013 Summer Reading Program
# Study Sample Characteristics

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>2,115 Participants</th>
<th>2,084 Comparisons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male (%)</td>
<td>38.3%</td>
<td>38.6%</td>
</tr>
<tr>
<td>Minority (%)</td>
<td>31.3%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Fourth Graders (%)</td>
<td>56.4%</td>
<td>46.2%</td>
</tr>
<tr>
<td>Fifth Graders (%)</td>
<td>14.5%</td>
<td>33.0%</td>
</tr>
<tr>
<td>Sixth Graders (%)</td>
<td>29.2%</td>
<td>20.8%</td>
</tr>
<tr>
<td>Disadvantaged Status (%)</td>
<td>25.2%</td>
<td>23.9%</td>
</tr>
<tr>
<td>Limited English Proficiency (%)(^{a})</td>
<td>2.8%</td>
<td>3.1%</td>
</tr>
<tr>
<td>2013 SOL English/Reading Scale Score **</td>
<td>467.36 (63.39)</td>
<td>468.82 (65.94)</td>
</tr>
</tbody>
</table>

**Note.** SOL = Standards of Learning

\(^{a}\) Limited English proficiency data were only available for children from kindergarten to third grade; hence, the percentages shown in the table indicate the percentage of fourth graders who were third graders with limited English proficiency before the 2013 Summer Reading Program.

** Independent sample t-tests indicated that the means of the 2013 SOL data were not statistically significant.
Research Data and Its Meaning

- Mixed linear modeling
- Statistical significance – $p$ value
Findings

a. Does the summer reading program’s impact on reading outcomes endure more than one year following participation?
Findings

b. How many children participate in the summer reading program for more than one year, and what are the characteristics of these repeat participants?

- 35% of the participants and 5% of the comparisons (i.e., 4th, 5th, and 6th graders) participated in the 2014 Summer Reading Program

<table>
<thead>
<tr>
<th>Group Membership</th>
<th>2014 SRP Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>2013 SRP Participation</td>
<td></td>
</tr>
<tr>
<td>Yes (Participants)</td>
<td>P1 = 2,115 students (2013 SRP Participants)</td>
</tr>
<tr>
<td>No (Comparisons)</td>
<td>C1 = 2,084 students (2013 Comparisons)</td>
</tr>
</tbody>
</table>

Note. SRP = Summer Reading Program.
b. How many children participate in the summer reading program for more than one year, and what are the characteristics of these repeat participants?

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>PI (1,375)</th>
<th>PI+ (740)</th>
<th>CI (1,982)</th>
<th>CI+ (102)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Library Systems Involved</td>
<td>37</td>
<td>25</td>
<td>46</td>
<td>17</td>
</tr>
<tr>
<td>Fourth Grade (%)</td>
<td>57.2%</td>
<td>54.7%</td>
<td>45.5%</td>
<td>58.8%</td>
</tr>
<tr>
<td>Fifth Grade (%)</td>
<td>14.6%</td>
<td>14.2%</td>
<td>33.1%</td>
<td>31.4%</td>
</tr>
<tr>
<td>Sixth Grade (%)</td>
<td>28.1%</td>
<td>31.1%</td>
<td>21.4%</td>
<td>9.8%</td>
</tr>
<tr>
<td>Male (%)</td>
<td>39.7%</td>
<td>35.5%</td>
<td>39.1%</td>
<td>29.4%</td>
</tr>
<tr>
<td>White (%)</td>
<td>67.1%</td>
<td>71.9%</td>
<td>65.3%</td>
<td>70.6%</td>
</tr>
<tr>
<td>Black (%)</td>
<td>18.3%</td>
<td>13.9%</td>
<td>20.1%</td>
<td>11.8%</td>
</tr>
<tr>
<td>Hispanic (%)</td>
<td>4.9%</td>
<td>4.6%</td>
<td>7.2%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Asian (%)</td>
<td>3.9%</td>
<td>5.3%</td>
<td>2.7%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Other race (%)</td>
<td>5.8%</td>
<td>4.3%</td>
<td>4.6%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Disadvantaged Status (%)</td>
<td>28.3%</td>
<td>19.6%</td>
<td>24.5%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

Note. PI = 2013 Summer Reading Program participants; PI+ = 2013 Summer Reading Program participants who also participated in the 2014 Summer Reading Program; CI = 2013 comparisons; and CI+ = 2013 comparisons who participated in the 2014 Summer Reading Program.
Findings

b. How many children participate in the summer reading program for more than one year, and what are the characteristics of these repeat participants?

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>PI (1,375)</th>
<th>PI+ (740)</th>
<th>CI (1,982)</th>
<th>CI+ (102)</th>
<th>t-test results (All results with p &lt; 0.001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading/English SOL at Baseline (M/SD)</td>
<td>464.02 (62.66)</td>
<td>473.55 (64.30)</td>
<td>467.31 (65.72)</td>
<td>498.14 (63.68)</td>
<td>CI+ &gt; PI+ &gt; PI, CI</td>
</tr>
<tr>
<td>Reading/English SOL at T1 (M/SD)</td>
<td>470.23 (60.86)</td>
<td>479.43 (63.05)</td>
<td>459.82 (61.28)</td>
<td>479.95 (54.52)</td>
<td>PI+ &gt; PI, CI, CI+ &gt; CI</td>
</tr>
<tr>
<td>Reading/English SOL at T2 (M/SD)</td>
<td>464.27 (58.56)</td>
<td>477.60 (61.93)</td>
<td>461.79 (60.61)</td>
<td>485.97 (57.78)</td>
<td>PI+, CI+ &gt; PI, CI</td>
</tr>
</tbody>
</table>

Note. PI = 2013 Summer Reading Program participants; PI+ = 2013 Summer Reading Program participants who also participated in the 2014 Summer Reading Program; CI = 2013 comparisons; and CI+ = 2013 comparisons who participated in the 2014 Summer Reading Program.
c. How do the reading outcomes and growth patterns of repeat participants differ from nonparticipants and from those participating during a single summer?

**Findings**

<table>
<thead>
<tr>
<th>SOL Mean</th>
<th>C1+ (Rate of decrease is significant)</th>
<th>P1+ (Rate of change is not statistically significant)</th>
<th>P1 (Rate of change is not statistically significant)</th>
<th>C1 (Rate of decrease is significant)</th>
</tr>
</thead>
</table>
Limitations

• The study sample only included students who were entering the 4th, 5th, and 6th grades following their participation in the 2013 Summer Reading Program.

• Selected comparisons were only similar to participants in key demographic and achievement variables before program participation.

• Participation criterion is broad.
Summary

• Participation in summer reading programs may have a positive effect on student achievement outcomes by preventing learning loss even two years after participation.

• Thirty-five percent (35%) of the 2013 Summer Reading Program participants and 5% of the comparisons also participated in the 2014 Summer Reading Program.

• Repeat participants benefited the most from their participation in the 2013 and 2014 Summer Reading Programs, followed by those who only participated in the 2013 program.
Questions & Answers

- Reminders
- Questions from the chat box
Kimberly Good  
kgood@mcrel.org  
304.347.0449

Hsiang-Yeh Ho  
hho@mcrel.org  
304.347.0404

Enid Costley  
enid.costley@lva.virginia.gov  
804.692.3765


Founded in 1966, McREL International is a not-for-profit corporation with offices in Denver, Colorado; Honolulu, Hawaii; and Charleston, West Virginia. McREL delivers high quality program evaluation services and develops award-winning reports to provide clients with timely information to improve their programs and document their successes. McREL staff members work collaboratively with clients to build their planning, data, and program evaluation capacity through just-in-time consulting and training. McREL’s evaluation services are grounded in the latest research methods and evaluation best practices.

For information about McREL’s research, products, or services, contact

4601 DTC Boulevard, Suite 500 • Denver, CO 80237 • 303.337.0990 • fax 303.337.3005
1003 Bishop Street, Suite 2200 • Honolulu, HI 96813 • 808.664.8175 • fax 808.664.8190
500 Virginia Street, East, Suite 500, Charleston, WV 25301 • 304.347.0400 • fax 304.347.0487
info@mcrel.org • www.mcrel.org

This project was made possible in part by the Institute of Museum and Library Services (IMLS) grant number LS00-15-0047-15, under federal funding to the Library of Virginia. Its contents do not necessarily reflect the positions or policies of the IMLS, Library of Virginia, or any other agency of the U.S. government, and you should not assume endorsement by the federal government.

McREL is an equal employment opportunity/affirmative action employer.