

Child TRENDS FACT SHEET

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WHAT WORKS FOR SUMMER LEARNING PROGRAMS FOR LOW-INCOME CHILDREN AND YOUTH: Preliminary Lessons from Experimental Evaluations of Social Interventions

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OVERVIEW

Children and youth who reside in economically disadvantaged households and in low-resource, urban neighborhoods are more likely to lose ground in math and reading over the summer than their higher-income peers.¹ Although summer learning programs are a promising strategy for narrowing this achievement gap, surveys indicate that only 25 to 36 percent of U.S. children between 6 and 11 years of age attend summer programs (excluding summer school).^{2,3} This *Fact Sheet* presents some emerging lessons from 11 summer learning programs⁴ that were evaluated using experimental research designs. These programs are included in the Child Trends' online database of experimentally-evaluated, out-of-school time interventions – *LINKS* (Lifecourse Interventions to Nurture Kids Successfully; available online at www.childtrends.org/LINKS).⁵ All of the programs were implemented with economically disadvantaged children and youth.

The findings of this synthesis suggest that summer learning programs can be effective and are likely to have positive impacts when they engage students in learning activities that are hands-on, enjoyable, and have real-world applications. This review also suggests some insights into promising practices. Programs that are guided by grade-level curricular standards, are led by experienced teachers, conduct classes with 15 or fewer students and at least two teachers, and complement group learning with individual support were also found to be effective.

WHAT ARE SUMMER LEARNING PROGRAMS?

Summer learning programs are intervention programs that support accelerated learning during the summer months. They may also seek to promote positive youth development, college preparation, and career development outcomes. Academically-focused summer learning programs differ from traditional summer school programs in that they:

- integrate recreational, cultural, and/or enrichment activities;
- blend remediation with enrichment activities and more advanced curricula;
- are attended by students of varied skill levels;
- often seek to build positive relationships among peers and with adults;
- are not mandatory; and
- usually take place over a full day.

Summer learning programs typically take place over four to eight weeks and may be held at schools, summer campgrounds, places of worship, cultural centers, and at other youth-focused community-based organizations.

WHAT IMPACTS WERE FOUND?

Positive impacts were found for a number of programs. *Table 1: Impacts of Summer Learning Programs* on page 7 presents the findings for each individual program, so that readers can discern which programs were *found to work*, which programs had *mixed findings*, and which programs were *not proven to work* for specific outcomes. The definitions for these categories, defined for Table 1, are offered below:

- **Not Proven to Work.** Programs in this category have *non-significant* or *marginally significant* impacts on a particular outcome.
- **Mixed Findings.** Programs in this category have *varied impacts* either on particular outcomes or at different times or for varied subgroups. For example, a program that results in significant improvements in reading test scores at post-test but has no impact at a one-year follow-up would be rated as having “mixed findings”. A program that works for one subgroup of participants but not for another subgroup (on a particular outcome) would also receive a “mixed findings” rating.
- **Found to Work.** Programs in this category have *positive significant* impacts on a particular outcome. If multiple measures are used to assess a particular outcome, the estimated impacts on all of these measures must indicate statistically significant improvements.

Overall, findings across the 11 experimentally-evaluated summer learning programs suggest:

- **Reading achievement gains are possible.** Of the seven experimentally-evaluated programs targeting reading achievement, six had positive impacts -- including those with “mixed” impacts (that is, those that had positive impacts on one subgroup, but not another; at post-test, but not at follow-up; or on some measures, but not others within the same outcome domain). Three of the seven had consistently positive findings ([Building Educated Leaders for Life](#), [Louisiana State Youth Opportunities Unlimited](#), and [Read to Achieve Summer Day Camp](#)).
- **Math achievement gains are also possible, despite the fact that few studies evaluate math performance.** Two out of three experimentally-evaluated programs that examined impacts on math -- [Louisiana State Youth Opportunities Unlimited \(LSYOU\)](#) and [Building Educated Leaders for Life \(BELL\)](#) – improved math skills, and one ([Summer Training and Education Program](#)) had mixed impacts (positive impacts were found at post-test, but not at follow-up). Four more programs delivered math lessons to children, but these programs did not evaluate impacts on math skills.
- **Impacts of summer learning programs on high school completion look less promising.** High school completion was evaluated in four evaluations. One program ([Louisiana State Youth Opportunities Unlimited](#)) increased high school completion rates; two programs ([Upward Bound](#) and the [Summer Career Exploration Program](#)) found no impacts; and a fourth program ([Summer Training and Education Program](#)) had impacts that dissipated over time.
- **Impacts on employment are similarly lacking.** Only one out of four experimentally-evaluated programs that examined labor force outcomes improved employment outcomes. [Upward Bound](#) increased employment three years after program completion; but [Summer Career Exploration Program](#), [Summer Training and Education Program](#), and [Career Beginnings](#) did not increase employment. The lack of impact on this domain for the [Career Beginnings](#) program could possibly be attributed to its positive impacts on college enrollment.

Outcomes with fewer than three evaluation studies are not summarized, due to insufficient evidence; however the evidence for these outcomes is shown in Table 1. These outcomes included:

- Social skills (two programs)

- Self concept/self-efficacy (programs)
- Reproductive health (one programs)
- College enrollment (two programs)
- Engagement in postsecondary education (one program)
- Career decision making skills (one program)
- Work-related attitudes (one program)
- Welfare receipt (one program)
- Health and fitness outcomes (zero programs)

PROMISING APPROACHES

The following promising approaches were identified from our review of 11 experimentally-evaluated programs. We note that, due to the limited number of programs reviewed, further research is needed to support and validate these findings. These findings can be updated, as the number of experimental evaluation studies increase. For descriptions of each program see *Table 2: Glossary of Programs* on page 8.

Staffing and Class Size

- **Hire experienced, trained teachers to deliver the academic lessons. *Four out of five programs that used experienced, trained teachers worked for at least one child or adolescent outcome.*** Experienced teachers had at least a Bachelor’s degree and a few years of teaching experience. Programs resulting in mixed impacts hired college students and provided them with training or, as with the **i-START** intervention, did not rely on instructors to deliver academic content.
- **Limit class sizes to 15 or fewer students, with two to four teachers per classroom. *While not all were successful, five out of nine programs that integrated this strategy worked for at least one child or adolescent outcome.*** Two programs that did not work (**i-START** and **Voluntary Summer Reading Program**) employed individualized instruction for the majority of the program, but this instruction was not provided by teachers.

Intervention Content

- **Teach content that complements curricular standards. *Again, though not all were successful, five out of nine that aligned program content to grade-level standards worked for at least one child or adolescent outcome.*** Successful educational programs integrate learning activities that complement what children are learning during the school year.⁶ That is, academic content is aligned with statewide, grade-level curricular standards for English/Language Arts and Mathematics.

Intervention Strategy

- **Complement group learning with individual support. *Three out of five programs that offered individual support worked for at least one child or adolescent outcome.*** Examples of individual support include mentoring, tutoring, career counseling, financial aid advising, and homework assistance.
- **Make activities interesting and enjoyable. *Four out of six programs that integrated non-academic and non-job-related activities worked for at least one child or adolescent outcome.*** These programs supplemented academic instruction with enrichment activities that are relevant and engaging to children and youth. Some examples include a debate on current events, use of

technology, field trips, hip-hop dance, rap and spoken word, improvisational comedy, art, drama, and storytelling. They also include time for sports and recreational activities to offer students a chance to participate in the physical activities they enjoy.

- **Ground lessons or concepts in a real-world context.** *Five out of nine programs that integrated this strategy worked for at least one child or adolescent outcome.* Consistent with an accelerated learning approach, academic concepts are best learned when applying them in a real-world context. For example, students may learn about different careers by going to a job fair, or students can learn how to write fiction by participating in storytelling events in the community.
- **Integrate hands-on activities.** *6 out of 11 programs that integrated hands-on activities worked for at least one child or adolescent outcome.* Didactic lectures may increase knowledge, but lectures are not very effective at changing behavior.⁷ Interactive forms of instruction, such as immersion and experiential learning, help to keep students engaged in the material. Engaging children in games, group projects, field trips to historic sites, nature expeditions, and science experiments are all ways to make learning more interesting and applied.⁸

NEEDED RESEARCH

This review of the literature on summer learning programs, first and foremost, revealed the small number of experimental evaluations on these programs. Despite a long-standing recognition of the need to narrow the achievement gap between lower- and higher-income students and research documenting summer learning loss, only 11 experimentally-evaluated programs were identified. Additional research would inform the field about effective summer learning practices. Within the realm of summer learning programs, several areas of research and evaluation warrant further investigation. Some examples are noted below.

Intervention Research

- **Involve parents in intervention programs.** Few programs (only two out of 11 programs) involved parents. Encouraging parents to support their children's learning has been tied to program success. This has been done successfully in one program, by providing families with books and lessons on oral reading and comprehension strategies prepared by teachers.⁹ A recent study found that having students read four or five books during the summer months can reduce summer reading loss.¹⁰
- **Develop more effective programs for elementary school children.** Only two out of the six child-focused programs worked for at least one outcome. To address the achievement gap between economically advantaged and disadvantaged youth, programs that have been found to consistently reduce summer learning loss with low-income children during the elementary school years are needed.

Evaluation Research

- **Conduct experimental evaluations of summer learning programs.** Identifying evidence-based intervention programs and practices is a challenging task given the lack of random assignment, intent-to-treat evaluations of summer learning programs.
- **Widen the scope of the evaluation.** Knowing whether summer learning programs are able to improve math skills, decrease children's weight gain over the summer, or improve social skills, for

instance, would be valuable information to parents, teachers, administrators, program providers, and policymakers.

- **Mathematics.** Only three out of the seven experimentally-evaluated programs that targeted math skills evaluated whether students made achievement gains in math – [Building Educated Leaders for Life](#), [Louisiana State Youth Opportunities Unlimited](#), and the [Summer Training and Education Program](#).
 - **Youth development.** Only two out of four experimentally-evaluated programs that targeted youth development outcomes – [Building Educated Leaders for Life](#) and the [Summer Training and Education Program](#) – evaluated these outcomes (in these cases, social skills and sexual behavior).
 - **Science and technology.** None of the experimentally-evaluated programs that integrated science and technology evaluated new knowledge gained in these areas.
 - **Health and Fitness.** Although many experimentally-evaluated programs included physical activities and sports, none of the studies evaluated this domain.
- **Assess the impacts of dosage and duration.** Ten out of 11 experimentally-evaluated studies with mixed or positive impacts were delivered over a period of at least five weeks, for six to eight hours per day. Therefore, we could not discern from these studies whether more intensive participation or a longer duration of exposure to the program would improve program benefits. Additional research is needed to examine the impacts of different durations and dosages. In addition, studies that examine the impacts of varied exposure to out-of-school time programs are needed (e.g., school-year only, school-year plus one additional school term, year-round).

DISCUSSION

From the perspective of parents, educators, program providers, funders, and policy makers, the primary goal of summer learning programs is to prevent learning losses that occur over the summer and/or encourage academic progress. But for most kids, the summer is a time to get a break from school and have fun. Summer learning programs can offer children and youth the opportunity to learn and have fun at the same time. These programs can be an important strategy for reducing summer learning loss and narrowing the achievement gap.

Without question, there is a lack of experimental research to measure the impacts of summer learning programs on children and youth. At the same time, preliminary evidence suggests that good summer learning programs can improve the educational and career development outcomes of economically disadvantaged students. The literature reviewed, though limited, suggests the following promising practices may be integrated into existing programs to boost program effectiveness:

- Academic content that complements curricular standards and is taught by at least one experienced, trained teacher per classroom.
- Academic classes that are limited to 15 students, with at least two teachers (one lead teacher and one teaching assistant, for example).
- Group learning that is complemented with individual support.
- Fun and engaging activities that are used to teach concepts.
- Hands-on activities that are used to teach concepts.
- Concepts that are grounded in a real-world context.

Other strategies for preventing summer learning loss include: (a) identifying effective summer learning programs and approaches and replicating them; (b) extending effective school-year, out-of-school time

programs that have academic components through the summer; and (c) establishing extended-year or year-round schools that incorporate practices and approaches from effective summer learning programs.

Further research could improve our understanding of what works for summer learning programs. Findings from additional rigorous evaluations could inform decisions about what to fund and how to expand effective summer learning opportunities that seek to narrow the achievement gap for economically-disadvantaged students.

Table 1: Impacts of Summer Learning Programs

OUTCOME AREA	NOT PROVEN TO WORK	MIXED FINDINGS	FOUND TO WORK
Educational/Cognitive			
Reading achievement	Teach Baltimore did not improve reading achievement in the intent-to-treat, experimental analysis.	<p>Interactive Strategy Trainer for Active Reading and Thinking (i-START) improved answers to text-based questions for students with low prior knowledge of reading strategies and improved answers to bridging-inference questions for students with high prior knowledge of reading strategies.</p> <p>Summer Training and Education Program (STEP) improved reading grades but impacts were not sustained.</p> <p>Voluntary Summer Reading Program The program improved reading achievement for black students only.</p> <p>KindergARTen Summer Camp improved word list scores (a small effect size of .27) and improved Developmental Reading assessment scores (a small-to-medium effect size of .40); but it did not improve phoneme segment skills, letter naming skills, or dictation skills.</p>	<p>Building Educated Leaders for Life (BELL) improved reading test scores and increased time spent reading books.</p> <p>Louisiana State Youth Opportunities Unlimited (LSYOU) decreased rate of reading comprehension loss</p> <p>Read to Achieve Summer Day Camp improved reading comprehension scores.</p>
Reading Skills (Decoding, Reading Fluency, Oral Fluency)		<p>Read to Achieve Summer Day Camp improved decoding abilities at post-test and 3-months but impact decayed by the 9 month follow-up.</p> <p>Voluntary Summer Reading Program improved reading fluency for students owning fewer than 100 books and for students with reading fluency below national norms. No impacts on oral fluency were found.</p>	
Math skills		<p>Summer Training and Education Program (STEP) improved math skills but impacts were not sustained.</p>	<p>Louisiana State Youth Opportunities Unlimited (LSYOU) increased students' math computation and understanding of concepts and applications.</p> <p>Building Educated Leaders for Life (BELL) improved math skills.</p>
Grade Point Average (GPA)	Upward Bound had no impact on GPA rates 3 years after program completion		
High School Completion	<p>Upward Bound had no impact on high school completion rates 3 years after program completion</p> <p>Summer Career Exploration Program (SCEP) had no impact high school graduation rates.</p>	<p>Summer Training and Education Program (STEP) improved reading grades but impacts were not sustained over time.</p>	<p>Louisiana State Youth Opportunities Unlimited (LSYOU) increased high school completion rates.</p>
College Preparation		<p>Summer Career Exploration Program (SCEP) increased enrollment in college-track curricula and visits to college information centers, but it did not impact</p>	

		the taking a college entrance exam; visiting a college; consulting adults about college or financial aid applications.	
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Table 1 continued: Impacts of Summer Learning Programs

OUTCOME AREA	NOT PROVEN TO WORK	MIXED FINDINGS	FOUND TO WORK
Educational Outcomes			
College Enrollment		Upward Bound increased college enrollment in students with low expectations of obtaining an education beyond high school.	Career Beginnings increased college enrollment and length in stay in college.
Engagement in Postsecondary education			Upward Bound students had greater postsecondary attendance; and use of personal counseling, learning skills centers and tutoring services. (3 years after program completion)
Youth Development			
Social Skills	Building Educated Leaders for Life (BELL) did not improve social skills. Summer Training and Education Program (STEP) did not improve social behavior.		
Reproductive Health		Summer Training and Education Program (STEP) improved contraceptive knowledge but not level of sexual activity, pregnancy, and contraception use.	
Career Development			
Career Decision Making		Louisiana State Youth Opportunities Unlimited (LSYOU) improved 4 out of 5 career decision making skills: decisiveness, involvement, orientation, and compromise; but not independence.	
Work-related Attitudes	Summer Career Exploration Program (SCEP) did not improve participants' attitudes towards work nor their ability to recognize the connection between school and work.		
Self Efficacy/ Self Concept	Building Educated Leaders for Life (BELL) did not improve academic self-concept.	Summer Career Exploration Program (SCEP) increased participants' confidence in their ability to teach or hold a job that requires reading and writing, but did not increase participants' confidence about their ability to make a decision about their careers.	
Employment	Summer Career Exploration Program (SCEP) did not impact the frequency and duration of employment, continuation of work once school resumed, or school-year earnings. Summer Training and Education Program (STEP) had no impact on the likelihood of employment. Career Beginnings did not increase employment rates, however this was attributed to increased college enrollment.		Upward Bound increased employment, the number of hours per week worked during college (3 years after program completion)
Welfare Receipt	Summer Training and Education Program (STEP) had no impact on the likelihood of receiving welfare.		

Table 2. Glossary of Programs

1. **Building Educated Leaders for Life (BELL)** is a 6-week, non-profit tutoring and mentoring program that primarily focuses on reducing summer learning loss among low-income, elementary-school children of color (Grades 1 to 7) in urban communities. In addition to improving academic outcomes, the summer program also seeks to improve social skills and self concept. Beyond academic instruction, the program engages parents and offers enrichment activities, physical education, community service opportunities, and mentoring services.
2. **Career Beginnings Summer Academy** is a 6-week, college preparation program that provides academic enrichment and job training opportunities to average-performing, low-income high school students. It includes a paid work/study program, job training, and field trips to local businesses.
3. **Interactive Strategy Trainer for Active Reading and Thinking (i-START)** is a web-based, educational program that trains adolescents to use a high-level reading strategy to improve comprehension of science texts. Participants learn reading strategies in a simulated classroom setting by responding to three animated characters (an instructor and two students). They identify strategies, practice self-explanations, and receive individualized feedback from the program. It has been used as part of the Learning Bridge summer enrichment program.
4. **KindergARTen Summer Camp** is a 6-week, full-day (8-2pm) summer literacy and enrichment camp that is offered to exiting kindergarten students participating in Title I schools. Class sizes are limited to 10 students. Students are taught literacy by a team of three program staff (one credentialed teacher and two college student interns) – students also participate in science and art-related activities and weekly field trips to museums, aquariums, and other community destinations.
5. **Louisiana State Youth Opportunities Unlimited (LSYOU)** is a 5- to 6-week, residential, dropout-prevention program for at-risk youth ages 14 to 16. The program is available to students 24 hours per day, 7 days per week. Students receive three hours of academic instruction in literacy and math per day and they also receive counseling services. They are given a part-time work placement and also have the opportunity to engage in recreational activities.
6. **Read to Achieve Summer Day Camp** is an 8-week program delivered by 4 elementary school teachers with an average class size of 15 students. Two hours of reading instruction are followed by summer camp activities, such as swimming, organized sports, arts, dance, and music. Students also participate in weekly field trips to museums, aquariums, and cultural centers.
7. **Summer Career Exploration Program (SCEP)** is a 6-week program that prepares low-income youth in Grades 10 through 12 for college and work by engaging them in a career-related summer job and providing them with a supportive adult monitor. Beyond offering academic instruction and job placements, it offers life skills, mentoring, and service learning components.
8. **Summer Training and Education Program (STEP)** is a 6-week program designed to minimize summer learning losses, prevent pregnancy, and decrease high school dropout in low-achieving, at-risk adolescents aged 14 to 15. The program provides remedial education, life skills training, part-time summer employment, and continuous school-year support.
9. **Teach Baltimore** is an 8-week summer program that provides reading and writing instruction to low-income elementary students (Kindergarten to fifth grade). In the afternoons, students participate in hands-on science and math projects and in recreational and art- and drama-related activities. The program also offers weekly field trips and cultural enrichment experiences.
10. **Upward Bound** is a 6-week program designed to help prepare disadvantaged high school students for college and to increase college attendance rates. The program consists of college preparatory classes (in math, laboratory science, composition, literature, and foreign language) and cultural enrichment activities, as well as a range of services, such as tutoring, mentoring, and counseling related to personal finances, career, or post-secondary educational opportunities.
11. **Voluntary Summer Reading Program** is a 12-week reading program that is delivered to fourth-grade students. In June, students participate in reading lessons. During the following two months, they are mailed 8 books that match their interests

(one per week) and encouraged to read orally with a parent or family member and practice comprehension strategies learned in school.

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REFERENCES

- ¹ Alexander, K. L., Entwisle D. R., & Olson L. S. (2007). Summer learning and its implications: Insights from the Beginning School Study. *New Directions for Youth Development*, 114, 11-32.
- ² U.S. Department of Commerce, Bureau of the Census, October Current Population Survey, 1996.
- ³ Urban Institute, and Child Trends. National Survey of America's Families (NSAF), 1999 [Computer file]. ICPSR03927-v1. Washington, DC: Westat [producer], 1999. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2007-10-03. doi:10.3886/ICPSR03927
- ⁴ This synthesis does not review summer school programs lacking enrichment and/or recreational components.
- ⁵ <http://www.childtrends.org/links>
- ⁶ Bell, S. R. and N. Carrillo (2007). Characteristics of effective summer learning programs in practice. *New Directions for Youth Development*, 114, 45-63.
- ⁷ Moore, K. A. (2008). Lessons from youth development research and evaluation. Child Trends (revise reference)
- ⁸ Johnson, P. (2000). *Building effective programs for summer learning*. America Reads Program New Haven, CT: Yale University. Corporation for National and Community Service: <http://nationalserviceresources.org/practices/17334>
- ⁹ Kim, J. S., & White, T. G. (2008). Scaffolding voluntary summer reading for children in grades 3 to 5: An experimental study. *Scientific Studies of Reading*, 12, 15.
- ¹⁰ Kim, J. S. (2006). *The effects of a voluntary summer reading intervention on reading achievement: Results from a randomized field trial*. Irvine, CA, University of California Irvine: 44.