URBAN LIBRARIES COUNCIL

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Measuring Summer Learning in Libraries

A Scan of Existing Research on Measuring Summer Learning Initiatives in Libraries and Other Informal Learning and Out-Of-School-Time Settings

> *The biggest learning gap we face is not an education or opportunity gap for our children. It is a knowledge gap for the adults concerned about these issues—the gap between what scientists and educators already know and what society does (or does not do) with that knowledge. If, as a society, we leave the "learning faucet" turned off for the summer, the test-score gap between the advantaged children and their less fortunate peers will continue to grow.*[1]

With research spanning 100 years indicating that students lose ground academically when they are out of school for the summer, the public library is an important community institution that provides invaluable educational opportunities to students during the summer months. The Urban Libraries Council's partnership with the National Summer Learning Association, *Accelerate Summer*, identified trends in library summer learning programs showing that in addition to traditional summer reading, libraries are providing summer learning activities focused on STEM and maker spaces, creative exploration and inquiry-based learning, early and family literacy, and more, demonstrating that libraries are essential educational institutions addressing the summer learning slide. As such, libraries would benefit from scientifically valid and user-friendly measurement methods and tools to assess their summer learning programs and the outcomes gained by youth participants.

While there are a limited number of published studies that examine libraries' summer reading and learning programs, almost all of them focus only on *inputs* (e.g., staff training, resources and other investments) and *outputs* (e.g., programs delivered and how many young people are participating), rather than the *outcomes* of these programs (e.g., the impact on youth).

Studies that do look at participant learning outcomes are generally smaller in scale (i.e., a classroom-sized group of students who participate in a summer learning program compared to a classroom-sized control group) and/or use mostly subjective measurement methods, such as observation, self-reporting, and testimony from students, parents, library staff, and teachers.

Based on the research and literature reviewed, there does not appear to be a standard measure for libraries to use to identify the learning outcomes of their summer reading and learning programs, nor is there a method or tool in place for libraries to share data with one another. This is not to suggest that all libraries with summer learning initiatives should be measuring the same things or measuring them in the same ways. However, a shared understanding of and guidance on what and how to measure will be increasingly important if libraries—both individually and collectively—are to determine the impact of their summer learning programs on successfully addressing the summer learning slide.

> *Considering the ubiquitous role of public libraries in communities, there is surprisingly little research on learning in libraries. In the U.S. National Research Council's consensus report (Bell et al., 2009), there was not a single, significant discussion of the informal science learning that*

happens in public libraries. While the topic has not gone un-researched, there is certainly no dominant research framework from which to begin. [2]

Measuring Outcomes

Outcomes—which represent the changes that result from a specific intervention or program—are important for libraries to measure so they can demonstrate the value that they provide and the contributions that they make toward community-wide education goals. It also helps libraries identify efforts that are working (i.e., those that have large, positive outcomes) and those that are not working, so that they can plan and prioritize resources more effectively.

Measuring Library Summer Reading Programs

Public libraries have administered summer reading programs since the late 19th century. To the extent that outcome measurement has been done, the majority of libraries focused almost exclusively on literacy and the benefits that higher literacy levels have on students' academic performance, participation in class, and motivation to learn.

The majority of ***methods*** **used to measure summer reading outcomes** identified in the literature reviewed to date can be divided into four categories:[3] [4] [5] [6] [7] [8] [9]

1. **Test scores and grades** of students/participants in summer reading programs;

2. **Testimony via in-person interviews** with teachers, librarians, parents, and students/participants in summer reading programs;

3. **Survey responses** from teachers, librarians, parents, and students/participants in summer reading programs; and

4. **Observation** of students in programs and in class.

The majority of **outcomes measured** using these methods fall into three categories:[10] [11] [12] [13] [14] [15] [16]

1. **Academic:** gains made by students on standardized tests, from spring to fall; gains made by students on reading and spelling-based tests designed specifically for the research study, from pre- to post-participation in the library program; gains made on grades for reading and writing-based classes such as English, language arts, and writing; increase in student writing level/skills; increase in school readiness;

2. **Behavioral:** increase in participation in class; increase in positive behavior in the classroom and at home; and

3. **Motivation:** increase in volume and reading level of books selected by students in a given time frame; increase in the level of enjoyment of reading and writing.

Three studies reviewed found positive, beneficial learning and behavioral outcomes of summer reading programs and no negative outcomes for students who participated in them. [17] [18] [19] What is lacking in these studies is a way to consistently gauge the level of youth engagement that will yield positive outcomes from the summer reading program (i.e., the level and type of involvement or "dosage" needed to produce positive learning outcomes on grades, test scores, behavior, motivation, etc.).

While a few of the studies reviewed attempted to measure level of involvement against positive learning outcomes for summer reading programs, the relatively modest scale of the studies prohibited the researchers from drawing firm conclusions that could be used by libraries nationwide.

Out-of-School-Time and Formal Summer Learning Programs

The review of published research indicates that out-of-school-time (OST) and afterschool programs and more formal summer learning programs have made investments in conducting research studies to identify learning outcomes. Although evaluation reports reviewed are not focused on library-centered or library-partnered programs, much can be learned from their findings and the methods used to assess program effectiveness. For example, the Urban Institute conducted a study to assess the effectiveness of the District of Columbia 21st Century Community Learning Center Summer 2000 Program. Researchers observed program activities and conducted interviews with program coordinators, facilitators, and parents at the nine DC 21st CCLC Summer 2000 school programs. In their formative report, researchers identified several long-term outcomes of the program: learning about new activities, developing collaborative and cooperative skills, learning social skills, increasing self-confidence, increasing ability to focus, and developing academic skills.[20]

However, like many other outcome studies of OST and summer learning programs, researchers noted that more rigorous evaluation was needed to "demonstrate whether these outcomes differed between students with access to the program and those in an appropriate comparison group." [21]

The review of additional evaluations and research studies on learning outcomes of OST and summer learning programs that are relevant to library summer learning outcomes included the following:[*]

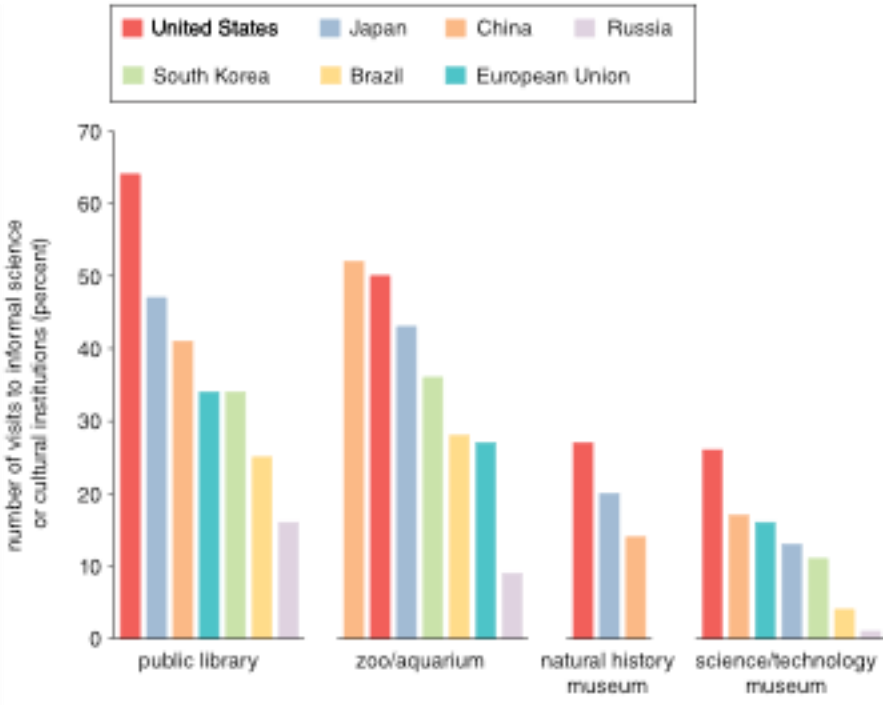
- **Providence's AfterZone:** Using data from youth surveys, administrative school records, and the Providence After School Alliance's management information system (MIS), researchers found that students who took part in Providence's AfterZone after-school program missed 25% fewer school days compared to their peers who did not participate in the program.[22]
- **LA's BEST:** LA's BEST is a community-based initiative program in which students received homework assistance and participated in library activities and a variety of other activities that were provided in safe environments. Researchers examined student outcomes of participating in LA's BESTusing achievement test scores in reading, mathematics, and language arts; rates at which students were re-designated as fully proficient in English; school absence rates; course-taking patterns; and rates of student mobility. The researchers found that students with long-term involvement (i.e., at least four years) in the LA's BEST program had increased positive achievement on standardized tests of mathematics, reading, and language arts, when the influence of gender, ethnicity, income, and language status was controlled.[23]
- **The Wallace Foundation's Summer Learning District Demonstration Project**: A six-year effort that looked at if and how large-scale, voluntary summer learning programs led by public school districts can help improve educational outcomes for children in low-income, urban communities, found that student performance on math assessments improved in the near-term.[24]

[*]The Afterschool Alliance's *Evaluations Backgrounder* provides additional information on program evaluations that show impacts on academics, behavior, safety and family life, all relevant to assessing the effectiveness of library summer learning programs.

- **The Urban Institute's study of the Building Educated Leaders for Life (BELL)**: Using random assignment, the Urban Institute studied the BELL program—a summer program designed to improve academic skills, parental involvement, academic self-perceptions, and social behaviors among low-income children and families—to evaluate effectiveness. They found that children who participated in the summer program in New York and Boston gained approximately one month more of reading skills than a control-group of children.[25]
- **Teach Baltimore:** In an experimental study of program effects on children participating in the Teach Baltimore summer program, researchers found that there were no effects on reading scores after one year but a growing and statistically significant positive impact on reading scores after children spent two or three years in the program.[26]
- **Citizen Schools after-school program model for middle school students:** The Citizen Schools after-school program utilizes experiential education through "apprenticeships" and culminates in a demonstration, presentation, or performance for the wider community. A three-year evaluation found that eighth graders who participated in the program were more likely than comparable non-participating peers to enroll in a top-tier high school and to be promoted to tenth grade on time. [27]

Informal research reviews on STEM learning that use correlation methods are also helpful to illustrate outcomes that may be achieved by library summer learning programs, but similarly do not allow researchers to draw firm conclusions. For example, in the article, "The 95 Percent Solution: School is not Where Most Americans Learn Most of Their Science" the Scientific Research Society explains why the U.S. general public has superior science literacy relative to other countries:

> *It seems reasonable to assume that out-of-school science-learning experiences are fundamental to supporting and facilitating lifelong science learning. . . . One of the major ways that U.S. adults and children under the age of 12 differ from their counterparts in other countries is their access to and use of free-choice science learning opportunities.*



[There are] high correlations between adult science literacy and . . . utilization of the free-choice science learning landscape. In other words, utilization of these resources could be a primary or at least a highly important causal factor in U.S. adults' relatively high performance on international measures of science literacy and interest. . . . Similarly, the simplest explanation for why American 8-year-olds do so well compared with their counterparts in other countries on [science literacy] tests is that young American children have greater exposure to free-choice science learning opportunities than do children in any other country. Unfortunately, utilization of these learning opportunities declines precipitously after age 12 in the U.S. [28]

Measurement Tools and Methods

Although there are a few common approaches to measuring library summer reading programs and there are useful methods being used in other OST settings to measure learning outcomes, there is currently no consistent tool, method, or metric for measuring the learning outcomes of library summer reading and learning programs. However, the following measurement methods and tools that have been tested in other studies or are currently being developed may be examined and perhaps adapted for libraries:

- The Maker community is exploring the development of a Maker documentation tool to track the evolution of participants' ideas and projects. Through a variety of methods, including data-mining and qualitative analyses, a repository of these documents could "enable researchers to extract key characteristics of making, to identify the kinds of learning and skills that are commonly fostered through making, and to chart developmental trajectories describing the path from novice to expert."[29]
- The Devereux Student Strengths Assessment (DESSA) is an assessment that is administered to teachers and asks them to rate student engagement and behavior over a set period of time to track progress.[30]
- Many public libraries, including those in Providence and Chicago, for example, are experimenting with "digital badges," which are online profiles that give young people recognition for social-emotional skills they develop and experiences they gain outside the classroom.[31]
- Evanced™ Wandoo Reader is an online summer reading/learning program participation tracking system that can be used by students, families and library staff. The database may be used in collaboration with schools, so that library summer program participation data can be matched with school data to identify correlations between participation and student achievement. [32]
- The Wallace Foundation established and funded an initiative to help five cities increase collaboration, access, quality, information sharing, and sustainability in their OST systems by using management information systems to collect and use data on OST programs, including enrollment, attendance, and student outcomes.[33]
- The Forum for Youth Investment developed a guide, *From Soft Skills to Hard Data* that reviews ten youth outcome measurement tools that are appropriate for use in after-school programs and other settings.
- The National Summer Learning Association, in partnership with the David P. Weikart Center for Youth Program Quality, developed the *Summer Learning Program Quality Intervention*, (SLPQI) a continuous improvement tool for summer learning programs.
- The National Research Council of the National Academies' Committee on Successful Out of School STEM Learning has also identified several initiatives to develop tools that can be shared across projects or sites:

    - The Youth Engagement, Attitudes and Knowledge (YEAK) Survey developed by 4-H;
    - A suite of tools developed by the Program in Education Afterschool and Resiliency (PEAR) at Harvard University;
    - Measures developed by the Activation Lab, a collaboration among the Learning Research and Development Center at the University of Pittsburg, the Lawrence Hall of Science at UC Berkeley, and SRI International; and
    - The Developing, Validating, and Implementing Standardized Evaluation Instruments (DEVISE) Project at Cornell University.
- The Urban Libraries Council identified a number of measurement tools being used by public libraries through the *Accelerate Summer* initiative:
    - CTB Acuity: provides technology to diagnose, predict, report, communicate, and provide individual instruction relative to the Common Core State Standards.
    - Counting Opinions Summer Reading Survey: provides organizations with innovative, comprehensive cost-effective ways to capture, manage, and measure performance data, including open-ended customer feedback, qualitative and quantitative data, trends, benchmarks, outcomes, and peer comparisons.
    - Developmental Reading Assessment: an individually administered assessment of a child's reading capabilities.
    - DIBELS: a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through sixth grade.
    - NWEA: research-based, computerized assessments help educators answer the crucial question, "Are my students learning?"
    - OrangeBoy: provides innovative tools and guidance to help libraries gather data related to customer interactions and engagement.

Other Efforts to Measure Learning at the Library

While there are no standard outcome measures widely in use by libraries that provide concrete, scientifically valid evidence for the amount of learning gains provided by their summer learning programs, there are efforts to begin looking at and researching library learning outcomes.

Efforts currently underway that could help address some of the gaps in data are:

- **PLA's Project Outcome: Measuring the True Impact of Public Libraries**: PLA's Project Outcome is an initiative to measure the outcomes of seven service areas of the library: Civic/Community Engagement, Digital Inclusion, Early Childhood Literacy, Economic Development, Education and Life Long Learning, Job Skills, and Summer Reading. Researchers use a six-question survey that measures patrons' level of agreement with statements describing a library program they just completed.[34]
- **The University of Washington Information School's Research Project called Valuable Initiatives in Early Learning that Work Successfully 2 (VIEWS2)**: VIEWS2 explores the research-based idea that children progress faster when they are around adults who provide opportunities for them—such as story times at the library—to develop early literacy concepts.[35]
- **The California Library Association's Outcomes-Based Summer Reading**: CLA's Summer Reading Outcomes Initiative helps libraries collect outcomes-based summer reading program data through short surveys and focus groups with patrons.[36]

Conclusion

This literature review clearly shows that there is a gap in the ability to measure learning outcomes of library summer learning programs across the nation. To fill this gap, the following actions suggest themselves for further exploration:

- Developing a menu of measures that capture positive summer learning outcomes gained by youth through participation in the diverse summer learning opportunities libraries provide, including but not limited to reading and literacy, STEM, inquiry-based learning, maker spaces, Learning Labs and other activities.

- Identifying a set of tools, methods, and guidelines for measurement that are scientifically valid and provide a range of evaluation methodologies for libraries depending on the scope of their program and their capacity for such research.

To develop these necessary measures, guidelines, tools, and methods, there is a growing set of questions that libraries and their partners should consider, including:

- What learning outcomes are libraries trying to achieve with summer reading/learning programming?

- What is important for library leaders to know about the outcomes for participants in library summer learning programs in relation to school achievement?

- What is important for libraries to know about non-academic learning outcomes being measured in OST and informal learning settings?

- What local partners are critical to identifying library summer learning outcomes and how can these partnering organizations contribute to measuring effectiveness?

- What are the major gaps in existing knowledge in measuring library summer learning outcomes and what key elements of technical assistance and specific resources are most needed?

- What could a community of practice focused on measuring summer learning outcomes for libraries look like?

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