

Chapter 1

Summer Learning Programs: Investigating Strengths and Challenges

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Introduction

During the 2011 summer, 35 youth participating in the Summer Learning Program at the Boston Nature Center, a property of the Massachusetts Audubon Society, stood in a grass field and launched their self-designed kites. There was a lot of running, limited string, and low flying. When a teacher's kite started to edge higher, all eyes focused. The teacher challenged the youth to let the kite string go a little. She circulated to help the youth while keeping her own kite high in the sky. Forty-five minutes later, the sky was full to the tree tops with colorful flyers. This activity was followed by an experientially-based math class lesson on altitude, energy, and aerodynamics.

This selected vignette represents one of the many experiences from the research evaluation work of summer programming conducted by the National Institute on Out-of-School Time (NIOST) at the Wellesley Centers for Women at Wellesley College. Since 2010, NIOST researchers, in collaboration with citywide and statewide partners, have examined the qualities and practices in summer learning programs to examine the impact of the summer learning context on youth development.

In this work, we have conducted over 250 observations of learning experiences and collected outcome assessment data for over 10,000 students. We have worked in partnership with 12 different school districts across Massachusetts and Rhode Island. Utilizing multiple methods of data collection that span diverse sources (including youth, summer program staff and teachers, community partners, school administrators) has informed a deeper understanding of the qualities and practices that are associated with successful and effective programming, as well as exposed some existing gaps and limitations in the field. This chapter will draw on existing research in combination with the research and evaluation work of summer learning

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programs conducted by NIOST researchers to examine the strengths and contributions of summer learning programs, along with identifying implementation challenges and gaps in our knowledge base. It is hoped these findings and synthesis of experience will both inform and improve summer program scalability and reach.

This chapter is organized into four sections. Section 1 provides an overview of the components of high quality summer learning programs as evidenced by existing research and NIOST research over the previous five summers. Section 2 addresses the connection between summer learning programs and youth outcomes, highlighting the value of this association for continuous program improvement. Section 3 discusses several conceptual and methodological limitations in our understanding of associations between summer learning experiences and youth outcomes. Finally, Section 4 considers the role of summer learning in the larger picture of education reform and youth development priorities. For purposes of this chapter and our discussion, and because of the diverse summer program models and content, we will focus on summer programs that integrate academic and socio-emotional learning approaches with the goal of stemming summer learning loss.

Summer Learning Loss: Why It Matters

Recent research on the “achievement gap” shows that, although subsets of students demonstrate markedly different achievement outcomes, youth actually progress on a parallel trajectory and at comparable rates throughout the school year, regardless of factors such as socioeconomic status, race, or gender (McCombs et al., 2011; Miller, 2007). However, the picture of student progress looks very different during the summer months. Existing research supports that 3 months of unstructured summer vacation corresponds to 1 month loss of math skills, as well as a slight drop in reading. By the time students have reached the ninth grade, two-thirds of the achievement gap between students from diverse socioeconomic backgrounds can be explained by summer learning loss that accrued during the elementary years (Terzian, Anderson Moore, & Hamilton, 2009).

Given the substantial data that support trends in summer learning loss, researchers have concluded that summertime presents a particularly potent opportunity to help youth learn and develop in significant ways that have been vastly underestimated (McCombs et al., 2011; Miller, 2007). Even those summer educational programs which aim to maintain activity levels, rather than to educate and expand upon existing skills, demonstrate potential to slow, halt, or eradicate this loss (McCombs et al., 2011). Analysis of summer learning program data suggests that programs can mitigate summer learning loss and, in fact, lead to achievement

gains (McCombs et al., 2011).¹ There are social benefits of summer program involvement as well. Students who participate in summer programs are more likely to have high levels of social competence among both peers and adults, fewer behavioral problems, and even increased physical fitness (McCombs et al., 2011). The most effective summer programs involve complementary academic content, small class sizes, individual support, and hands-on activities (Terzian & Anderson Moore, 2009). In addition to “academic only” models for summer learning, summer programs that combine a youth development framework with academic enrichment also demonstrate potential for reversing summer learning loss and increasing educational equity (Miller, 2007).

Unfortunately, the socioeconomic divide keeps many children out of summer learning programs. Data show that more advantaged children are eight times more likely to participate in summer programs than their lower-income classmates. For the 3 million African-American children who do participate in summer learning programs, there are another 4.4 million who want to enroll but who cannot due to high costs or inaccessibility (Afterschool Alliance, 2010). Despite this participation gap, more than one half of these families want their children to participate in a summer learning program (Afterschool Alliance, 2010).

Among the summer learning programs evaluated by NIOST, learning environments vary. Some programs utilize traditional classroom settings, community-based organization (CBO) spaces, natural environments that are part of outdoor recreation and reservation sites, and community-action and cultural organizational spaces. Across these diverse experiences and settings, several aspects of programming demonstrate notable and clear consistency. In particular, these programs serve high proportions of low-income, low-performing students in grades K-12. In addition, programs are organized around a variety of curricular themes, and engaged in multiple partnerships with local community, educational, and cultural organizations. The content and curriculum are generally focused on reinforcing the academic skills learned during the school year, and helping to prepare students to succeed in the upcoming school year in the context of a blended academic and enrichment learning experience. Programs have been located in urban, suburban, and rural locations and have served a diverse economic and ethnic profile of children and youth, generally operating for a minimum of 5 weeks, meeting 4–5 days per week, for at least 6 hours a day.

Summer Learning Program Components

Although some degree of ambiguity may exist, researchers *generally* agree on several core structural components necessary to design and implement an effective summer learning experience. Data support that the following characteristics of

¹RAND’s literature review of rigorous studies of voluntary summer programs, mandatory summer programs, and programs that encourage students to read at home during the summer.

summer programs are associated with maximum positive impacts for youth: (a) a minimum of 5–6 weeks of full-day programming with 3–4 h of academics per day; (b) a structure that ensures sufficient and maximum time on task; (c) small class sizes and low student-to-adult ratios (<15 per adult); (d) a program curriculum that is well aligned with the academic year curriculum; and (e) sustained and consistent youth attendance (Augustine McCombs, Schwartz, & Zakaras, 2013; Bell & Carrillo, 2007; McCombs et al., 2011, 2014; McLaughlin, 2009; Terzian et al., 2009).

Four specific characteristics of summer learning programs that we will discuss in this section of the chapter have emerged through NIOST summer learning program research. Our focus on four specific program components (i.e., project-based learning, high integration of academic and enrichment experiences, extensive partnering between schools and local organizations, and high quality teaching) are driven by the central nature of these elements throughout the programs NIOST has studied. Although existing research and NIOST evaluation work focus on youth impact, these program features also account for effects across multiple layers of these settings.

Project-based Learning

Project-based learning (PBL) has been a key instructional strategy in many of the summer learning initiatives NIOST studied. PBL typically includes groups of students working together in authentic and engaging learning activities that are designed to answer a question or solve a problem. Project-based learning is typically comprehensive and stretches intentionally across multiple disciplines and is most effectively carried out by highly skilled teachers given the interdisciplinary nature of its delivery. Across program sites, teachers expressed enthusiasm for utilizing a PBL approach and recognized the effect on students' level of involvement and academic engagement:

Last year I had 27 students in my [school-year] class. It was a hard year and so it was hard to do these kinds of things. But doing it right now...once again – reminding me of how important it is...passion and the involvement of the kids...They are really very involved with us. And I think because of that, their learning sticks.

Teacher in MA Statewide Initiative – Elementary School Program

Teaching staff across sites agreed that delivering learning activities through a PBL model is associated with several advantages. For instance, teachers consistently commented on the high levels of student engagement and enjoyment during PBL experiences. Although many students are most familiar with working individually or in pairs, PBL encourages working in small groups and taking on group leadership roles. Having to problem-solve with peers, negotiate project processes, and practice teamwork are all positive aspects of supporting a PBL approach.

Despite these strengths, there are challenges in the implementation of PBL. For instance, teachers have reported additional time being spent time searching web-based resources and reviewing print resources. Length of time available for each segment of a multiday activity and appropriate ways to break activities over several days all needs to be considered and managed. Access to resources to properly carry out activities can alter (positively or negatively) the impact of the experience for youth, and some teachers struggle with finding the right balance between time spent in informal and formal learning activities.

Integration of Academic and Enrichment Experiences

The second component, which is the integration of academic and enrichment experiences in programming, is the cornerstone of the summer learning program model. Findings 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 (Terzian et al., 2009). Although not all enrichment activities need to be linked to academic content, activities are most successful if they are well planned and demonstrate explicit connections to participants. To accomplish greater coordination among academic and enrichment staff, additional training and curriculum guidance for teachers and program staff is likely needed.

Across the initiatives that we studied, pre-program planning time was very limited, but most programs were able to create some level of integration and staff-sharing across academic and enrichment domains to approach a seamless learning experience. Thinking through an integrated learning day is both challenging and liberating for teachers. Teachers are not likely to have a companion manual to guide them on creating integrated learning content for their specific programs. As a result, teachers are challenged to create their own connected curriculum and imagine ways to transform classroom learning in the mornings into “hands-on, real-life experiences” that could be implemented in the afternoon.

One teacher expressed how the integration of classroom and outdoor real-life learning was far from the traditional learning experience during a typical school day:

I'm doing things with my students that I would never be able to do in a traditional class setting....So they're just getting experiences that they would never have gotten anywhere else...Everything we do is somehow related to the island, which makes it much more meaningful to them. We did fractions; I told the kids to gather ten clams and the shells. They brought all the shells back and I said it's time to sort them. And two pieces if they were attached was one whole, so then one was one half. They said, 'We have all these other ones that are broken, where do they classify?' And the kids were able to say, 'This one looks like it's a fourth, this one looks like it's three fourths.' These are kids that, during the

school year, whatever manipulatives I was using, they weren't seeing fractions, they weren't grasping them. But, it's incredible, just the context, and being outside, and just sort of living through the experience makes the difference.

Teacher in Boston Citywide Initiative – K-8 Program

Developing a more connected, “real-time” curriculum can be facilitated by the partnership between schools and local community organizations. In bringing together the strengths and expertise of both settings, program content can be expanded to include a broader framework of youth experience. The next section discusses the importance and value of school–community partnerships in summer learning programs.

Partnership Between Schools and Local Organizations

Researchers, practitioners, and policymakers have emphasized the value in harnessing *meaningful* school–community partnerships to promote enhanced development and learning among youth (Anderson-Butcher, 2004; Doll & Lyon, 1998). One of the major strengths of school–community partnerships for youth learning is the opportunity to leverage family, school, and community resources to ameliorate nonacademic barriers to learning and healthy development that schools alone are not equipped to assume responsibility for (e.g., family conflict and instability, poor or unsafe neighborhood conditions, aggression, antisocial attitudes and behaviors, poor peer relationships; Anderson-Butcher, 2004; Steen & Noguera, 2010; Warren, 2005).

Research has suggested that the most effective partnerships enable new interpersonal relationships, including cooperation, coordination, and collaboration among diverse, once-separate stakeholders (Anderson-Butcher, 2004; Lawson, 2004). Consistent with existing research that has shown the benefits of such partnerships for youth learning—and, most notably, among those youth facing the greatest academic or financial disadvantages—most community organizations and school leaders that participate in the summer learning programs report that these collaborations are positive and influential experiences (e.g., Coalition for Community Schools, 2003; McCombs et al., 2011).

Data support that meaningful linkages between schools and community organizations can enhance outcomes for youth, particularly in the summer context (McLaughlin & Phillips, 2009). According to McLaughlin and Phillips (2009), meaningful linkages are those that “deepen into a partnership where organizations share risks, responsibilities, and rewards (p. 3).” Based on NIOST data and existing data about the benefits of school–community partnerships in summer programming, there are a number of ways that these collaborations enhance youth outcomes and program effectiveness. First, school–community partnerships have the potential to increase access to summer program opportunities across diverse youth. Increased access can result from lowered costs, more diverse curriculum and program offerings and opportunities, and an increased number of funding sources.

The likelihood for enhanced continuity of services across the entire academic year, including the summer months, is increased through these collaborations.

Furthermore, given the strengths of programs with an integrated academic and enrichment focus for facilitating positive youth development, these collaborations offer more varied curriculum and enrichment opportunities that may lead to more inventive, multi-disciplinary teaching strategies and methods, and higher levels of youth engagement (see Fredricks, Naftzger, Smith, & Riley, 2017 for discussion of importance of youth engagement). Most notably, because of the shared vision, interests, goals, and resources, these partnerships are better able to meet the needs of the “whole child” and to foster skill- and competency-building in new domains, both for youth and for teachers (McCombs et al., 2011; McLaughlin & Phillips, 2009). Particularly, as the American economy demands more on formal education from individuals and as the call for more technical and trade skills training also increases (with Baby Boomers slowly exiting these careers for retirement), cultivating a range of skills in our youth that are applicable across formal and informal education and job-related settings will be key. Finally, enlisting community partners in the education of youth allows for a stronger intersection of neighborhood and school contexts, which has the potential to facilitate deeper and more engaged learning as well.

Although school–community partnerships show promise with regard to the development and sustaining of effective summer programs, the qualities that are associated with successful partnerships that make them *meaningful* partnerships are critical to consider. Forging these partnerships as part of summer programming does not mean that these relationships will necessarily yield positive outcomes for youth. NIOST researchers collected online survey and interview data over five summers from school principals and community-based organization (CBO) leaders. These data describe the type and nature of these partnerships and emphasize the critical role of partnership structure (i.e., division of labor, hierarchy, agreement and decision-making, use of individual and shared resources, accountability), as well as other qualities of successful school–community partnerships.

Partnership Structure

NIOST researchers found that sharing responsibilities and working together toward common goals and objectives were structure-based characteristics of successfully perceived partnerships. As one community partner described, there is a process to achieving structural balance in these partnerships:

And I don't like it to be one-sided. I like to shift the responsibility. Because I think if it becomes one-sided, it's too heavy-handed from one side. So how do we create the holistic support so, again it's not one-sided. I mean we understand what they need, but it's also in return for them to be able to say 'this is what I need.' And I think creating a safe space for them to express what they need, I think that's important.

CBO Leader in Boston Citywide Initiative

In addition, several principals and CBO leaders underscored the importance of flexibility, particularly in the context of shifting roles, responsibilities, and partnership goals. A number of CBO leaders commented that the structure of their partnerships depended on the level of leadership happening within schools. That is, recognition from CBO leaders that most principals and school officials are managing enormous responsibilities is critical to achieving an effective and well-balanced collaboration. Overall, the perception among community partners was that the relationship represented a collaborative effort to jointly assume responsibility for youth development by understanding what strategies were necessary to support these youth.

There was consensus that having an established infrastructure was beneficial to meeting long-term goals and objectives, and to promoting seamless day-to-day functioning of the partnership. Some of the more commonly described structural characteristics of successful partnerships included (a) establishing clear lines for the division of labor and responsibilities; (b) involving all participating school officials in the partnership from the planning to execution stages of the collaboration; (c) engaging some level of supervision from the schools over the partnership; (d) sharing of student data between schools and community partners; and (e) generating written documents and agreements (e.g., MOU and MOA) that outline partners' expectations for the collaboration, management of shared and unique resources, and specific roles and responsibilities for carrying out a successful partnership (see Deutsch, Blyth, Kelley, Tolan, & Lerner, 2017; Pittman, 2017 for discussion of systems-wide initiatives).

Qualities of Successful Partnerships

In interviews with CBO leaders, there were several characteristics that they described as integral to the success of their summer partnership: (a) maintaining open and consistent lines of communication, (b) openness to change, (c) sharing a collaborative vision, (d) having knowledgeable and well-trained staff (preferably who are already familiar with the youth), (e) establishing a common understanding of both partners' roles and responsibilities within the collaboration, (f) shared values and beliefs about the importance of learning, (g) generating formal or informal contracts/agreements that demonstrate commitment to the partnership and to following through on set goals, and (h) having a system in place that allows for the collection and sharing of student data.

These data support that mutuality and a shared sense of responsibility between partners is critical to the success of these partnerships. Respondents recognized that partnership is a "two-way street" that demands shared visions and goals, as well as mutually beneficial contributions. For schools, the push to address the needs of the "whole child" can be more readily and effectively targeted through partnership. The transformative vision of partnership is not limited simply to youth. Most

respondents emphasized that parents, families, schools, and communities were all beneficiaries of the collaboration, as well as important factors in the creation and sustainability of successful partnership.

High Quality Teaching

Hiring the most highly motivated and effective certified teachers and providing them with the necessary supports and training to implement the summer curriculum can maximize student achievement. Grade-level experience and subject matter expertise play a role in reaching optimal outcomes for youth participants. Familiarity with the youth served may help to improve opportunity for impact in the short duration program. Instructional quality of teacher and grade-level experience were associated with better ELA outcomes in RAND’s recent research on voluntary summer learning programs (McCombs et al., 2014).

Transforming teaching experiences and expansion of the “teacher toolbox” are characteristic of programs that we have observed and perceived as most successful. Essentially, we observed a relationship cycle—strong teachers make the most impact on students who, in turn, impact teachers in ways that carryover to delivering more effective academic year teaching experiences. On several occasions, we have queried teachers as to what they learned from the summer learning program and what strategies and teaching approaches, if any, they added to their “teaching toolbox” as a result of the summer experience. Many teachers commented that they wanted to incorporate more collaboration and teamwork into their classrooms. Some teachers following the summer have now done more research into teaching strategies, and found that their experiences in the summer learning programs helped reinforce their confidence in themselves and their approaches to the classroom, toward a direction of building and encouraging more active learners.

I would definitely say I put a lot more value in the teamwork and team-building, have them figure out problems on their own, rather than trying to show them—I want them to see it for themselves...well, you know, I look at math time, and we have our lessons, and I find that it’s really important to let them explore, which is something and I probably wouldn’t have done prior to the summer. And just let them use manipulatives and observe how they’re using them. You know, is this one student patterning, are they sorting, and what are they doing with them. You know, just to see how they work with them without specific guidelines... It’s amazing, you know I think I’m seeing things I don’t think I would’ve seen before in the kids, because I’m letting them kind of do their own thing.

Teacher in MA Statewide Initiative – Elementary Program

I’m calmer in the classroom. I’m taking that relaxed...feeling that I had [over the summer], and keeping my mouth closed when kids start to say something, and even I noticed today... instead of just standing up there talking away, I made myself ask more questions and letting the kids have more answers

Teacher in MA Statewide Initiative – Elementary Program

Connecting Summer Learning Programs and Youth Outcomes

In addition to describing features of high quality and effective summer programming, it is critical to understand how summer learning programs relate to youth outcomes. In this section, we discuss the nature of the data collected by NIOST researchers to ascertain associations between youth participation in summer programming and developmental impact, and how these multiple sources of data are woven together to create a holistic picture of youth impact. To date, the majority of research in the field has focused on the effects of summer programming on academic outcomes, with less attention being given to socio-emotional outcomes.

NIOST seeks to expand on the existing knowledge base by assessing both academic and socio-emotional outcomes. In addition to focusing on multiple outcomes, NIOST researchers collect data using multiple methods and from multiple sources. Relying on data from multiple sources and using diverse methods allows for a more holistic snapshot of youth experiences and participation impact. Over the past five summers, data has been gathered through (a) program observations; (b) child-level assessments completed by teachers and program leaders and youth; and, (c) post-program school level and demographic data provided by program leaders and school district research or data managers. The child-level assessment NIOST researchers utilize is the Survey of Academic and Youth Outcomes (SAYO), both the youth (SAYO-Y) and staff/teacher versions (SAYO-S and SAYO-T). The SAYO is designed specifically for use in out-of-school time programs and is a research-based, scientifically tested instrument. Outcomes included for assessment represent a combination of academic and intermediary skill domains. These outcomes include ELA academic progress, Math academic progress, Communication, Engagement, Problem-Solving, Behavior, Initiative, Relations with Adults, and Relations with Peers. Each outcome area is measured by asking teachers and staff to respond to four or five survey items related to observable youth behaviors. Generally, these assessments are completed by program staff and/or teachers according to a pre- and post-test design. The SAYO-Y emphasizes youth experiences in the program and allows youth to reflect on connections between their program experience and aspects of their development. The domains on which youth self-report include (1) Youth's Experiences in the Program; (2) Youth's Sense of Competence; and (3) Youth's Future Planning, Expectations, and Aspirations.

In addition to these assessments, observational research allows for NIOST researchers to examine the quality and delivery of program strategies and practices and to link these academic and enrichment practices to youth outcomes. NIOST researchers utilize the Assessment of Program Practices Tool (APT) to evaluate characteristics related to the overall structure/organization and functioning of the program, as well as features of the academic and enrichment activities (see Fredricks, et al., 2017, for more on measures of program quality within the OST field overall). During a program visit, researchers would observe the overall program according to five dimensions: (a) informal program time (e.g., arrival time),

(b) academic organization, (c) youth participation, (d) staff management of academic learning time, and (e) overall social–emotional environment. In addition, researchers also evaluated each of the academic and enrichment activities that they observed according to six dimensions: (a) organization and nature of the activity, (b) staff ability to promote youth engagement and stimulate thinking, (c) staff ability to positively guide youth behavior, (d) staff ability to build relationships and support individual youth, (e) youth participation in activity time, and (f) youth relations with others. Researchers rate each of the items that comprise these dimensions on a scale from 1 (*not true*) to 4 (*very true*). Individual items are averaged to create subscale scores, with higher scores reflecting more frequent practices/behaviors.

After collecting all of these data, NIOST researchers examine patterns across the various sources of data (youth, staff, teacher, independent observers, and school district data) to assess youth- and program-level variations and impacts. Gathering and synthesizing data using multiple methods and from diverse sources is important to describe a more holistic picture of youth program experiences and impact. At a program-level, these analyses examine high/low score patterns across these multiple data sources (SAYO-Y, SAYO-T/S, and APT). NIOST researchers ascertain trends for programs that are highly rated by youth and independent observers, and that also demonstrate comparatively high SAYO-T ratings. Based on these patterns, researchers are able to better understand the practices and strategies that are related to more positive program experiences among youth and teacher-reported youth progress. Across the five summers of evaluation research, the majority of students show significant improvements ($p < 0.05$) over a 5–6 week program period in the targeted SAYO skill areas, which are associated with academic learning.

Although these patterns vary by program and by SAYO skill area, generally youth in programs with high SAYO-T results also rate their programs substantially higher than do peers in other programs for aspects of Choice and Autonomy and Youth Leadership. Generally, programs demonstrating better outcomes for youth, as captured by teacher and youth ratings, show stronger practices than other programs in building relationships with and between youth, and in promoting youth participation (see Dawes, Pollack, & Sada, 2017, for discussion of these domains in after-school programs). Strong positive change in youth engagement is a notable characteristic of higher achieving programs suggesting it is one central element for programs to achieve more positive youth outcomes. Structurally, programs with better youth outcome results have tended to emphasize structure, facilitate student on task behavior, provide an environment conducive to focused learning, stimulate engagement, and closely manage behavior.

A final data component that allows NIOST researchers to address questions related to summer learning loss is provided by the school district. Such data, which are typically collected in the fall through program leaders and associated school personnel, include youth demographic characteristics, school attendance data, behaviors (e.g., suspensions, tardiness), standardized assessment scores, and grades.

Summer learning loss data have relied on diverse assessments and proxies, some of which include DIBELS, AIMSweb, GRADE, and Benchmark Assessment System.² A handful of challenges exist such as small sample sizes and lack of comparison group data. However, findings from the previous five summers in several smaller MA school districts do show some promise. Analyses with Group Mathematics Assessment and Diagnostic Evaluation (GMADE) and DIBELS have shown some significant findings ($p < 0.05$) (*Study Group* $n = 42$). In one MA school district one-way ANOVA analysis of DIBELS, third-grade summer participants ($n = 20$) showed significant improvement compared to third-grade nonparticipants, $n = 21$, $F(1, 39) = 6.95$, $p = 0.01$, however interpretation is limited due to small sample size. In another summer learning program, summer participant first graders ($p = 0.067$) and summer participant fifth graders ($p = 0.072$) trended toward less decline than their comparison nonparticipant peers on DIBELS. Often across communities and assessment measures youth enrolled in summer programming show improved assessment scores in the fall compared to their previous spring scores. In some cases, summer learning students show decline between the spring and the fall similar to their nonparticipating peers, but the decline is comparatively less. As summer learning programs continue to mature, more rigorous data gathered and analyzed by school districts will help to augment our understanding of how a blended academic and enrichment summer learning experience can contribute to student achievement and potentially reduce summer learning loss.

In the next section of this chapter, we will discuss some of the existing limitations in how summer learning programs are conceptualized and defined, as well as some of the gaps in how youth impact and program quality are measured, many of which mirror issues raised in the OST world as a whole, as described throughout the chapters in this brief. Although the knowledge base related to the positive impact of high quality programming on youth programs has grown exponentially over the past decade, there is potential for more growth in the field so that researchers and practitioners can arrive at a more nuanced vision for program scalability and impact.

²The **Dynamic Indicators of Basic Early Literacy Skills (DIBELS)** are a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through sixth grade. They are designed to be short (1 minute) fluency measures used to regularly monitor the development of early literacy and early reading skills. **AIMSweb** is *general outcome measurement*, a form of **curriculum-based measurement (CBM)**, used for universal screening and progress monitoring. This form of brief assessment measures overall performance of key foundational skills at each grade level. The **GRADE™** (Group Reading Assessment and Diagnostic Evaluation) is a diagnostic reading test that determines what developmental skills PreK-12 students have mastered and where students need instruction or intervention. The Fountas & Pinnell Benchmark Assessment System (BAS) matches students' instructional and independent reading abilities.

Limitations and Gaps in Understanding of Summer Learning Experiences

Despite the positive trends reported in the research on summer learning, there are several conceptual and methodological limitations in our collective understanding of associations between summer programming/experiences and youth outcomes. There are conceptual challenges, and notable heterogeneity, with regard to how both researchers and practitioners define summer programming. In the existing literature and in practice, summer learning experiences vary dramatically on a variety of dimensions, characteristics, and content (McLaughlin & Pitcock, 2009).

Conceptual Challenges

How researchers and practitioners define and prioritize targeted outcomes and measure participation impact(s) poses yet another challenge. That is, on both sides of the summer learning equation, there is considerable diversity both with regard to the *input* (i.e., characteristics/qualities of the summer learning experience) and *output* (i.e., youth outcomes), notwithstanding the ambiguity that characterizes the intermediary pathways and factors that describe process.

With regard to youth impact(s), selecting clear and targeted outcomes for program participation allows for intentionality in developing curriculum and content-related goals (see Fredricks et al., 2017, for discussion of using logic models to achieve this end). From a practice perspective, program content, goals, and structure depend on, and should develop out of, the “outcomes of interest and importance” on the youth populations being served, with consideration to other factors such as availability and access to resources, connections to community, staff availability and expertise, and duration of programming. According to the “goodness-of-fit” framework, the likelihood for positive developmental outcomes is enhanced when individual characteristics and developmental needs closely match with contextual resources. That is, when individual and environmental resources are well-aligned, adaptive development results (Dawes et al., 2017; Lerner, 1984). Furthermore, and consistent with the “goodness-of-fit” model, explicit and well-defined outcomes and participation impact(s) permit better alignment between assessment tools and programs goals and curriculum.

The need to simultaneously target academic/learning and socio-emotional outcomes in program design, goals, and content, as well as in the assessments used to measure youth impact in these domains, highlights another conceptual limitation of the accumulated knowledge base on summer learning experiences and their effects on aspects of youth development, i.e., the need for more relational, systems-based models for understanding the impact of summer programming on multiple aspects of youth development.

Developmental systems theories are an example of relational models that describe human development as a synergistic, bidirectional, person-context relational process (Bronfenbrenner, 2001; Lerner, 2002, 2006). To date, few studies related to summer learning apply holistic developmental models to examine multiple levels of influence (i.e., person and context) and their dynamic interactions overtime (e.g., Bronfenbrenner & Morris, 2006; Gottlieb, 1992; Lerner, 2002, 2006; Mahoney, Vandell, Simpkins, & Zarrett, 2009).

According to developmental researchers, in order to understand the bases of and to promote healthy and positive individual–context relations, scholars must ask complex, multilevel questions that examine what attributes of the individual (e.g., biology, physiology, cognition, emotion, ability, temperament, gender, race/ethnicity, SES) in combination with what characteristics of the summer program context (e.g., program duration, staffing, location, type of program, assessed quality) result in what types of adaptive functioning in which domains of development (Lerner, Agans, DeSouza, & Gasca, 2013). In addition to addressing these multipart questions, theoretical models need to recognize the multiple contexts (both proximal and distal) surrounding the youth (e.g., family, neighborhood, school, peers, culture, media), and how these contexts interact with youth summer experiences, to shape developmental outcomes. In order to optimize the positive and healthy development of our youth in the context of summer learning, the conceptual models through which we design programs and evaluations need to adopt a systems-based framework that capitalizes on the “whole child” perspective (see Pittman, 2017).

Methodological Challenges

In addition to these conceptual challenges, there are several methodological limitations in our understanding of summer learning experiences and their impact on youth development. First, most evaluations of summer programming on youth outcomes utilize a pre-post design for practical and economic considerations. Thus, the issue of measuring *true developmental change* is constrained by the nature of the assessments (e.g., the number and timing of measurements). Such pre-post designs estimate developmental trajectories as following linear trends, which means that real developmental change that is not linear may be masked by a reliance on only two data points. In addition, the timing of these assessments is often dictated by the short duration of these summer programs, although developmental research would argue instead that the frequency and rate of change specified by theory should be used to guide the selection of assessment points for any given research study (Lerner, Schwartz, & Phelps, 2009). If the data are not collected frequently enough, then the true patterns in the data may be missed and no analytic technique can overcome these limitations. Therefore, researchers need to give more careful, theoretically driven consideration to how the *x-axis* is conceptualized and spaced based on the change process being examined (Lerner et al., 2009). Also problematic in pre-post designs is the inability to detect interindividual differences in

intraindividual change, which scholars argue is the crux of studying developmental processes (Baltes, Reese, & Nesselroade, 1977; see Deutsch et al., 2017; Fredricks et al., 2017 for further discussion of such methodological challenges).

Another methodological limitation of existing literature is the paucity of longitudinal studies that examine the cumulative (positive) impact of summer programming on youth development. Although longitudinal research exists to support the cumulative negative effect of summer learning loss (e.g., Alexander, Entwistle, & Olson, 2007), less is known about the enduring positive effects of youth involvement in high quality summer programming. Furthermore, given the short duration of summer programming, how can such experiences foster lasting positive effects in addition to slowing and deterring negative ones (i.e., “summer slide”)? Understanding the shorter- and longer-term effects of involvement in such programs becomes critical to disentangling the mechanisms by which summer programming exerts its influence, and to harnessing its power as a unique context to promote positive youth development. In this way, more longitudinal research designs that examine both shorter- and longer-term effects across diverse youth development domains will better inform the place of summer learning in the promotion of positive youth development.

The majority of studies that examine effects of summer programming on youth development have utilized variable-centered methods of data analysis. This aggregate-level approach to data analysis does not account for differences across individuals with respect to these relations, but rather considers such differences random and negligible (Bergman & Magnusson, 1997; von Eye & Bergman, 2003). Pattern- or person-centered analyses examine differences within individuals in the sample and attempt to create subgroups based on shared profiles of characteristics. Such methodologies aid in describing a more nuanced (qualitative) perspective about development, compared with variable-centered methodologies which assess differences across individuals in the sample, making comparisons to the average participant in the sample (Roeser & Peck, 2003). In studies of youth activity participation in out-of-school time (OST) settings, person- or pattern-centered data analytic techniques have been particularly useful (e.g., Bartko & Eccles, 2003). Furthermore, research designs need to give more careful consideration to the higher order nesting of children within groups, schools, and activity settings/programs to capture the between- and across-level variations that may exist. Combining both variable- and person-centered analyses, and employing more longitudinal research designs may help inform questions about whether and how summer programming impacts the constancy or change in diverse domains of youth development.

The Role of Summer Learning in Education Reform and Broader Youth Development Initiatives

Because of the dramatic losses in academic learning that occur over the summer months, and the cumulative effects that such losses have on longer-term academic achievement and educational attainment, educators, and policy-makers are focusing

more attention on summer learning as a key strategy to boost achievement, particularly among lower-performing youth. With increasing benchmarks and President Obama's *Race to the Top Initiative* that focuses on the cultivation of college and career readiness skills among our nation's youth, schools and educators are being asked to recognize and meet the needs of the "whole child." As part of her *Reach Higher Initiative*, First Lady Michelle Obama has also prioritized building positive and successful summer programs for all youth. As conversations about expanding the academic calendar or lengthening the school day to lessen the academic divide circulate, it becomes even more pressing to examine the role of summer program practices in the broader educational "picture."

Although academic goals have primarily fueled the impetus for educators and policymakers to prioritize youth summer programming, there is strong potential for summer to promote positive youth development across a broad range of domains. Furthermore, according to Redd et al. (2012), summer programs and other expanded learning opportunities (ELOs) tend to be more effective in improving *predictors* of academic achievement and educational attainment outcomes, such as scholastic behaviors and educational expectations, than in improving academic achievement. Accordingly, then, as policymakers broaden our vision for youth education, it is critical that the vision for summer programming becomes more adaptive, flexible, holistic, and creative as well. Because youth spend the vast majority of their time outside of the school context, academic success is inextricably linked to nonschool factors and experiences.

Particularly as the passage to adulthood becomes prolonged and more complex, the demands on our nation's youth to be active and engaged citizens in our country are pressing and multifold. Summer presents a unique opportunity and resource to forge ahead with our efforts to meet these demands and to better educate the "whole child." Because youth and their parents expect summer learning experiences to differ from traditional academic year opportunities, teachers can be more inventive and flexible in their methods and curriculum. In addition, the growth of school-community partnerships in summer programming represents a progressive and innovative approach in the education of our country's youth. Bringing together classroom teachers with community partners who have a specialized expertise in the arts, technology, sports, music, and youth development showcases the potential for academic learning models to be more multidimensional and applied. Furthermore, such partnerships strengthen youth connection with his/her community, and expose youth to opportunities for personal and (potential) professional opportunities.

In a previous section, we highlighted one limitation of existing research as the primarily singular focus of summer programming on youth academic learning, and described the need for more holistic, multifaceted models of summer programming and research designs. In the way that the summer context can be harnessed to promote more active, engaged learning, so exists the potential to utilize summer programming to address other areas of youth development that may also benefit

from innovative approaches and techniques to learning. In particular, issues of nutrition and physical activity represent key domains where summer experiences may occupy an important role. According to research, children gain weight two or three times faster during the summer months than during the school year (von Hippel, Powell, Downey, & Rowland, 2007). Although public debate and scrutiny have focused mainly on the role of schools in curbing the obesity epidemic among our nation's youth, these findings support that experiences outside of the school context may matter more. Although it is not entirely clear what accounts for these trends in weight gain over the summer months, data support that youth access to federally subsidized meals declines notably during the summer months (United States Department of Agriculture [USDA] 2014). At the same time, it is plausible that youth not involved in structured opportunities during the summer months may be supplementing with additional "screen time" and other sedentary behaviors.

Given the myriad strengths and challenges in delivering high quality summer learning experiences, there are many implications for policymakers and funders when it comes to expanding and improving summer learning experiences for youth. First, the methodological and conceptual challenges to our working knowledge about the impact of summer on youth development suggest that more funding needs to be directed toward building stronger data systems. Because many of the basic questions about summer impact still remain unanswered, policymakers and funders need to consider the important role of using data to build sustainable programs that deliver high quality services to diverse populations of youth. In addition, the provision of more innovative funding to support partnerships between school districts and community organizations would be another important growth strategy. It is also important that local and federal funding take a more coordinated and comprehensive perspective rather than viewing school day experiences as separate from after-school and summer experiences. In this way, there is more potential to maximize existing resources if summer programming is considered an extension of academic year experiences. Funding priorities should be given to those communities that adopt more integrated and expanded learning models, and that conceptualize summer program experiences

Although youth physical activity and nutrition have received some research and popular attention for their role in youth summer programming, other areas of youth development, such as bullying, media literacy, and civic engagement, also represents potential targets for program impact. As we strategically redefine and expand our summer programming models to better align with the fundamentals of a positive youth development perspective, the potential for the summer context to encompass and affect multiple challenges facing our youth today becomes significant. When it comes to funding decisions, it becomes critical that federal funding expands even more beyond just the traditional school year to recognize that small investments in youth learning experiences have the potential to yield significant returns.

Summary

As its first aim, this chapter intended to highlight existing research and practices that contribute to positive and higher quality summer learning programs as a means to deepen and broaden our understanding about the impact of summer learning programs on youth development. In addition to those structural aspects of summer programs consistently underscored in research as important to high quality programming, NIOST researchers also discussed four additional factors that have emerged from the several years of evaluation research they have conducted across diverse summer programs. These components include project-based learning, strong integration of academic and enrichment curriculum, high quality teaching (both in delivery and content expertise), and forged community–school partnerships. In this chapter, the authors discussed how these four factors uniquely contribute to building high quality programs that positively impact youth outcomes. As a second goal, this paper sought to address several limitations and gaps in how researchers and practitioners define and measure summer program content and impact, and to demonstrate the relevance of summer programming to diverse aspects of youth development. While the lack of statistically significant findings has been disappointing, possibly related to small sample sizes or statistical power, findings from existing data analysis can still be informative toward improving program structure, practice, quality, and delivery. Armed with a deeper and more nuanced understanding of the impact of summer programs on affecting diverse populations of youth, researchers, practitioners, and policymakers can harness the potential of the summer months to better meet the academic and socio-emotional needs of all youth, and most notably those youth who face the greatest challenges to their positive development.

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