

The Role of Parks in High Quality Summer Learning Programs: Implications for Action in California

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Introduction

Regular attendance in high-quality summer programs is associated with a range of positive academic and social development outcomes, including improved skills in literacy (Chaplin & Capizzano 2006) and math (Roderick & Nagaoka 2003), successful transition to the next grade (Cooper, et al. 1996), improved self-esteem and leadership skills (Bialeschki, Henderson and James 2007), increased attachment to the labor market and increased likelihood of future employment (Sum, McLaughlin and Taggart, 2007). However, research in afterschool has shown that program attendance alone will not make a difference for young people and that as many as half of existing programs show no positive youth outcomes (Granger, Durlak, Yohalem and Reisner 2007). Rather, it takes a high quality program to make a lasting impact on youth.

The summer space is not without its challenges; summer learning loss is real, documented and contributes to more than two-thirds of the ninth grade reading achievement gap (Alexander, Entwisle and Olson, 2007). However, research on nature exposure, play and informal learning has also documented the good news- that parks-based summer programs have an opportunity to stem and even reverse summer learning loss through programs and partnerships that foster positive youth development and outside-the-box learning.

This paper, commissioned by the California State Parks Foundation and funded by a grant from the David and Lucile Packard Foundation, seeks to capture and disseminate the field's best thinking on those opportunities and provide open space entities and cultural institutions in California with an important theoretical and practical base for expanding access to high-quality summer learning programs in the state.

I. Challenges and Opportunities from Youth Research

Summer Learning Loss

Since the beginning of the last century, numerous studies have analyzed the impact of summer vacation on student learning (White, 1906; Heyns, Cooper et al., 1996; Alexander, Entwisle and Olson, 2007). A meta-analysis of thirty-nine of these studies found that all students generally score lower on standardized tests at the end of the summer than they do on the same tests at the beginning of the summer. Students suffer the greatest losses in factual and procedural knowledge, including an average setback of more than two months of grade level equivalency in mathematical computation skills each summer (Cooper et al., 1996).

The problem of summer learning loss is particularly acute among low-income students. Cooper et al. (1996) found that low-income children and youth experience greater summer learning losses than their

higher income peers, experiencing an average loss in reading achievement of over two months. Another recent study found that the cumulative effects of differences in summer learning experiences explain as much as two-thirds of the reading achievement gap between low-income ninth grade students and their higher income peers (Alexander, et al., 2007). The study suggests that summer learning differences at an early age substantially account for achievement-related differences later in students' lives, such as whether they complete high school, attend a four-year college, and land a higher-paying job.

In addition to these academic gaps, research is increasingly revealing other types of opportunity gaps associated with summer:

- Parents, particularly low-income parents, consistently cite summer as the most difficult time to find quality programming and care for their children. Fifty-eight percent of parents say summer is the hardest time to make sure their child has productive things to do—the next closest is 14% for afterschool hours and 13% for the weekend (Duffet, et al., 2004).
- Many young people are at risk for harmful physical or physiological outcomes due to the lack of adequate adult supervision during the summer months. Young people who are unsupervised during out-of-school time are more likely to use alcohol, drugs, or tobacco; engage in criminal or other high-risk behaviors; receive poor grades; and drop out of school than those who have the opportunity to benefit from constructive activities supervised by responsible adults (Carnegie Council on Adolescent Development, 1994; Fight Crime: Invest in Kids, 2000).
- Transitions between middle school and high school, and high school to higher education and careers coincide with summer break and present an additional challenge for struggling students and youth living in poverty. Researchers estimate an average of 10% of ninth graders nationally is not promoted to the tenth grade; however, some school districts report significantly higher proportions, with Chicago reporting as high as 40% (Allensworth and Easton, 2005). While a number of factors contribute to students falling off track during the middle to high school transition (for example, moving to an entirely new school environment, characteristics of the high school organization and climate, and life course changes during adolescence) studies indicate many students fall off track because they lack the knowledge and skills needed to handle the academic demands of high school and beyond (Neild and Balfanz, 2006; Balfanz, Herzog, and MacIver, 2007; Roderick and Camburn, 1996).

Physical Activity and Healthy Lifestyles

An epidemic of physical inactivity has swept across the nation, contributing to one of most over-weight generations of youth in history. In a national study conducted by the Centers for Disease Control and Prevention (CDC), the results documented that an alarming 62% of children aged 9- to 13-years-old did not participate in any physical activity (PA) during nonschool hours and 23% engaged in no daily PA (Duke, Huhman, & Heitzler, 2003). Troiano et al. (2008) reported similar results when they found only 42% of children aged 6- to 11-years-old were physically active at least 60 minutes a day. This pattern is consistent with research on youth PA since the mid-90s (Luepker, 1999; Matthews et al., 2008; USDHHS, 1996).

The activity levels of children during the summer months are of particular concern. Studies by Carrel, Clark, Peterson, Eickhoff, and Allen (2007) and von Hippel, Powell, Douglas, and Rowland (2007) found

that children may be more susceptible to obesity during the summer months. Researchers discovered that once summer vacation from school began, children had lower levels of fitness and increased body fat (Carrel et al. 2007), as well as increased Body Mass Index (BMI; von Hippel et al, 2007). One of the conclusions from these studies was that summer break from schools may result in less structured days for children and fewer opportunities for adult supervision, which could contribute to less PA opportunities and a less healthy diet. Particular subgroups are especially at risk, including children who are African-American, Hispanic, and already overweight.

Investigations of physical activity tendencies that affect participation not only focus on factors affecting the individual but also on external forces such as social, physical, and political environments. Differences in PA by youth demographic characteristics are the most documented in the literature. Significant evidence has indicated that males are more physically active than females during all life stages (Jago, Anderson, Baranowski, & Watson, 2005; Pate, 2003; Telford, Salmon, Timperio, & Crawford, 2005). In addition, race/ethnicity and BMI may also play a role in the choice to be physically active. Mixed findings suggest that Caucasians may be more likely to participate in physical activity than Hispanics and African-Americans (e.g., Kimm et al., 2002; Richmond, Hayward, Gahagan, Field, & Heisler, 2005; Sirard, Pfeiffer, Dowda & Pate, 2008; van der Horst, Paw, Twisk & Van Mechelen, 2007). Findings have also been indeterminate in relationship to BMI; however some results suggest that a higher BMI is correlated with a lower incidence of PA participation (e.g., Campagna et al., 2002; Jago et al., 2005; Sallis, 2000; Thompson et al., 2009).

Most important to reversing the youth obesity epidemic is that age across the lifespan has a consistent negative correlation with PA (e.g. Sallis, 1993; Trost, Owen, Bauman, Sallis & Brown, 2002), and PA patterns may begin to decline as early as 6 years old (Caspersen, Pereira & Curran, 2000; Trost et al, 2002). One promising finding is that childhood PA and adult PA seem correlated. High levels of PA in childhood were found to predict high levels of future PA in all life stages (Friedman et al., 2008; Garcia, Pender, Antonakos, & Ronis, 1998; Pate, Baranowski, Dowda, & Trost, 1996; Sallis et al., 2000; Telama et al., 2005). As noted by Telama et al. (2005), "active, energetic children tended to become active, energetic adults, and in turn tended to remain active" (p. 1100). Therefore garnering interest in physical activity participation from current generations of children may have a reversing effect on future non-participation.

Recently a corpus of literature has begun to form suggesting that the environment largely influences PA participation. The actions of peers (Beets et al., 2006; Frenn et al., 2005; Prochaska et al., 2002) and guardians (Coleman, Geller, Rosenkranz, & Dzewaltowski, 2008; McKenzie et al., 1995, 2006; Rushovich et al., 2006; Sallis et al, 2001), physical environments (Mota, Almeida, Santos, & Ribeiro , 2005; Kaczynski & Henderson, 2007), and rules/policies imposed by host organizations (Fairclough & Stratton, 2005, 2006; Simons-Morton, Taylor, Snider, & Huang, 1993) may all be related to physical activity participation. Although little to no research has confirmed that these factors are relevant in youth summer camps, each of the dimensions is applicable to the camp experience.

Physical Activity, Unhealthy Weight, & Academic Achievement

The 2003 National Youth Risk Behavior survey showed a negative association between physical inactivity, unhealthy weight control behaviors and academic achievement, even after controlling for sex, race/ethnicity, and grade level (CDC, 2003). While this finding does not determine a causal relationship, it does indicate that youth who are physically active tend to have a healthy weight and better grades than inactive young people. In 19 research studies that examined school-based extracurricular physical activities and academic performance, all 19 studies found positive associations (CDC, 2010). Several policy implications arise from these studies including 1) physical activity can help improve academic achievement (grades and standardized test scores) 2) physical activity can impact cognitive skills and attitudes and academic behaviors including enhanced concentration, attention, and improved classroom behavior 3) school-based physical activities do not have detrimental effects on academic performance and 4) after-school organizations and clubs should be encouraged to incorporate physical activities into their programs.

The Camp Setting and Physical Activity

Past research indicates that day and resident camps are an effective site for youth development because of the supports and opportunities offered through positive relationships, feeling safe, youth engagement, and skill-building (Bialeschki, Henderson, & James, 2007; Henderson, Schuler, Bialeschki, Scanlin, & Thurber, 2007; Henderson, Thurber, Scanlin, & Bialeschki, 2007). Camp experiences also help disadvantaged youth build resiliency skills (Allen, Cox, & Cooper, 2006) increase feelings of self-esteem (Readdick & Schaller, 2005), and increase emotional control along with life effectiveness skills (Bialeschki, Sibthorp, and Ellis, 2006). While this research is not explicitly linked to PA, one could argue that these outcomes support other findings related to health behavior changes and positive youth development (Sale, Bellamy, Springer & Wang, 2008; Rhodes, 2002). In fact Jago and Baranowski (2004) suggested that structured summer opportunities such as youth summer camps could provide an opportunity for children to be physically active.

Almost no research has addressed PA that occurs in general camp programs. The exception was a recent study conducted by Hickerson (2009) that focused on individual, social, physical environmental, and organizational correlates of children's summer camp-based PA. His findings indicated children participated in equal or more PA in summer camps compared to other environments (e.g., schools). Campers at resident camps took 19,699 pedometer-counted steps per day and campers at day camps took 11,916 steps per day. The findings also confirmed that correlates of children's PA in summer camps are similar to other environments (e.g., parks, schools). Individual characteristics and camp social, physical, and organizational environments all associated with campers' PA participation. This research supports the fact that camps provide a positive venue for maintaining healthy levels of PA during the summer, so attending camp may allow many children a chance to be active while also participating in other positive youth development opportunities.

Experiential Learning

While the summer space presents many challenges in meeting the needs of youth and maintaining a level playing field for development, summer is also an excellent opportunity to engage youth in learning activities that are innovative, youth-centered, and often may expand on school-year strategies and topics. The appeal of the out-of-school time space for many educators and parents lies in the opportunity to expand on school-day content in an environment explicitly designed to look and feel different from the school day. Experiential learning, a common strategy found in high-quality summer programs, can be described as “learning by doing” and allows youth to practice what they’ve learned in school; develop new skills; test their leadership skills and expand their future aspirations (Miller, 2003). In experiential learning, youth are often asked to judge for themselves the outcome of their efforts based on their own experience with their results. Critical analysis and reflection, verbal and written, is an important capstone to any experiential learning experience (Miller, 2003). Experiential learning can take many forms in the summer; two of the most relevant for parks and cultural programs include informal science learning and service learning.

Informal Science Education

The National Research Council has defined six interconnected “strands” that describe goals and practices of informal science learning (National Research Council, 2009):

Learners who engage with science in informal environments...

Strand 1: Experience excitement, interest and motivation to learn about phenomena in the natural and physical world.

Strand 2: Come to generate, understand, remember and use concepts, explanations, arguments, models and facts related to science.

Strand 3: Manipulate, test, explore, predict, question, observe, and make sense of the natural and physical world.

Strand 4: Reflect on science as a way of knowing; on processes, concepts, and institutions of science; and on their own process of learning about phenomena.

Strand 5: Participate in science activities and learning practices with others, using scientific language and tools.

Strand 6: Think about themselves as science learners and develop an identity as someone who knows about, uses and sometimes contributes to science.

Research suggests that personal interest and enthusiasm are important for supporting children’s participation in learning science and that early experiences with science are related to personal interest to seek out science experiences and science careers as adults (National Research Council, 2009).

Designed spaces, such as museums, zoos, science centers and environmental centers, are favorable environments for supporting informal learning in science in particular (National Research Council, 2009).

“Schools are structured around primarily verbal or textual engagement with subject matter, and often present concepts in ways disconnected from everyday concerns of students. The structural properties of science-rich cultural organizations, on the other hand, include tactile, kinesthetic, and three-dimensional exhibits, objects and experiences that may afford different kinds of engagement and even understanding than can be developed in schools (Bevan, 2010).”

In 2006, the Monterey Bay Aquarium partnered with Pajaro Valley High School to launch the Watsonville Area Teens Conserving Habitats (WATCH) program. The program includes a three-week summer session where students work in teams to visit, study, and restore three main habitats of the Pajaro River Watershed (riparian, wetlands, and dunes), as well as a school-year project-based environmental science class involving more extensive research projects in the watershed. Using pre/post surveys and concept maps, a study of the program found statistically significant changes in students’ relationships to local ecologies, including their awareness of various environmental issues, and their import and impact for local communities (Bevan, 2010).

In addition to introducing youth to new science concepts and experiences, summer is a powerful time to introduce teachers to new content they can use during the school year and out-of-school time.

The Calumet Environmental Education Program (CEEP) uses staff and resources from the Field Museum in Chicago to educate and provide professional development and learning communities to local teachers during its Summer Institute. The Calumet region is home to several hundred acres of forest preserves and recreational areas, a large lake, and waterway system and is endowed with rich ecosystems, which have been polluted by former steel mills and garbage dumps.

In order to expand teachers’ knowledge of local biodiversity and basic ecological concepts, CEEP offers summer institutes for teachers that include integration of a multi-year environmental studies curriculum for grades 4-12, in addition to time to plan for the school year. Evaluation results showed that teachers participating in CEEP significantly increased their knowledge of local environmental issues and content, increased their inclusion of local biodiversity into their teaching objectives, and reported higher confidence levels when teaching about environmental subject matter. Student results on pre- and post-tests of subject-matter understanding also showed increases in knowledge about local ecologies (Bevan, 2010).

Service Learning

Service-Learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities (www.servicelearning.org).

According to a National Service-Learning Clearinghouse Fact Sheet, high quality community-based service-learning projects are likely to benefit youth in a number of ways, including:

- Access to the range of supports and opportunities (or developmental assets) they need to grow up healthy, caring, and responsible. One study of youth civic activism found that these settings had particular strength in cultivating youth and community involvement.
- Increased sense of self-efficacy as young people learn that they can impact real social challenges, problems, and needs.
- Higher academic achievement and interest in furthering their education.
- Enhanced problem-solving skills, ability to work in teams, and planning abilities.
- Enhanced civic engagement attitudes, skills and behaviors.

The Crissy Field Center in San Francisco partnered during summer 2010 with San Francisco Recreation and Parks for its middle school Urban Trailblazers Program’s service learning component. With a program focus on the environment and conservation, the Trailblazers explored the ecology of watersheds firsthand from three different city parks, learning how pollutants enter the water supply and uncovering the impact of watershed pollution down to the neighborhood level. Youth then applied their new knowledge to protect the watersheds by completing clean-up and restoration activities at the parks they visited.

The following are important components of a strong service learning project to consider when planning for a summer service project:

- young people have active and meaningful leadership roles;
- the program is guided by clear and intentional learning and development goals;
- active, intentional, and structured reflection is integral to the program;
- young people are involved across time (at least 20 hours across several months); and
- the service projects meet real community needs and priorities. (Fact Sheet on Benefits of Community-Based Service Learning)

Power of play and nature exposure to child development

The Need for Nature

“I have a conviction that a few weeks spent in a well-organized summer camp may be of more value educationally than a whole year of formal school work.”

Charles Eliot, former president of Harvard University in his 1922 treatise on education

In *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder* (2005), Louv makes a case for the many ways modern children are disconnected from the natural world. Louv contends that outdoor play is necessary both for the development of children as well as the future of the planet. The alienation of children from nature has resulted in what he has termed “nature deficit disorder”. Causes of this lack of exposure to outdoor play for children are often attributed to the amount of time children

spend in front of some type of screen, structured activities (like sports, music, homework, etc), lack of access to natural areas, and fear (i.e., “stranger danger”, traffic, crime, and the natural world).

At the same time that we are concerned with children’s disconnect from nature, we are learning of the importance of these natural experiences. For example, studies (Trust for Public Land, 2005; Louv, 2005) have shown that nature can be a powerful therapy for depression, obesity, and attention-deficit disorder. Nature can help increase children’s ability to concentrate as well as increase creativity. Direct experiences in nature stimulate all of a child’s senses, which we know is essential to learning. Perhaps most importantly, children who don’t get outside miss out on the chance to feel a sense of wonder.

A link between academic success and outdoor experiences is also found in the research around the benefits of connecting children with nature (Munoz, 2009). For example, the American Institutes for Research found that nature-smart children scored higher on school tests. After a one week residential outdoor education program, children scored higher on mastery of science concepts, enhanced cooperation and conflict resolution skills, gains in self esteem, gains in positive environmental behavior, and gains in problem-solving, motivation to learn, and classroom behavior than did children in the control group (American Institutes for Research, 2005). Even brief exposures to nature boost children’s cognitive functioning (Wells, 2000) and help reduce stress in children (Wells & Evans, 2003).

A growing body of literature (Bialeschki, Henderson, & James, 2007; Henderson, Bialeschki, & James, 2007; White, 2004) shows that the natural environment has a profound effect on the positive development and increased well-being in children. The following list highlights some of these findings:

- Children with symptoms of Attention Deficit Hyperactivity Disorder (ADHD) are better able to concentrate after contact with nature (Taylor, 2001).
- Children with views of and contact with nature score higher on tests of concentration and self-discipline. The greener, the better the scores (Wells, 2000; Taylor, 2002).
- Children who play regularly in natural environments show more advanced motor fitness, including coordination, balance and agility, and they are sick less often (Grahm, et al, 1997; Fjortoft, 2001).
- When children play in natural environments, their play is more diverse with imaginative and creative play that fosters language and collaborative skills (Moore & Wong, 1997; Taylor, et al., 1998; Fjortoft, 2000).
- Exposure to natural environments improves children's cognitive development by improving their awareness, reasoning and observational skills (Pyle, 2002).
- Play in a diverse natural environment reduces or eliminates bullying (Malone & Tranter, 2003).
- Nature helps children develop powers of observation and creativity and instills a sense of peace and being at one with the world (Crain, 2001).
- Contact with nature is associated with increased language development (O’Brien & Murray, 2005)
- Early experiences with the natural world have been positively linked with the development of imagination and the sense of wonder (Cobb, 1977; Louv, 1991). Wonder is an important motivator for life long learning (Wilson, 1997).
- Children who play in nature have more positive feelings about each other (Moore, 1996).
- Natural environments stimulate social interaction between children (Moore, 1986; Bixler, Floyd & Hammitt, 2002).

- Outdoor environments are important to children's development of independence and autonomy (Bartlett, 1996).
- The camp experience benefits children by increasing confidence, self-esteem, social skills, independence, leadership, sense of adventure, and spirituality (ACA, 2005) as well as provides positive youth development supports such as positive relationships, skill-building, feelings of safety, and youth involvement (ACA, 2006a, 2006b).

The Power of Play

Play is a time when kids get to recharge their minds and bodies. While play has often been viewed as “something kids do”, the real importance of play is only now getting the recognition it deserves. A growing body of clinical research concludes that play is essential to the social emotional, and physical development of children as well as has a positive impact on academic achievement (Robert Wood Johnson, 2010). Yet, a study by Alliance for Childhood found playtime is shrinking to the point of disappearing in kindergarten classrooms (Miller & Almon, 2009). This lack of time for play may result in less learning, poor behavior, inattentiveness, and fewer supportive relationships and opportunities for meaningful involvement among youth.

Yale University sponsored a conference focused on play in 2005 with the intent to affect policy changes and reinstate play in education and children’s lives (Play=Learning, 2005). They contended that play is the work of childhood that provides children with opportunities to maximize their attention spans, master number concepts, prepare for reading, learn to get along with peers, cultivate creativity, and work on emotions. During the conference an articulation of benefits of play included emotional (enjoyment, tension reduction, self-expression), cognitive (creativity, problem-solving, abstract thinking), affective (self-confidence, self-esteem), social (cooperation, conflict resolution, self-regulation), physical (motor experiences, physical challenges), attention (concentration, persistence), language (communication skills, vocabulary), and educational (context for learning, making learning fun, exploration and positive risk-taking, collaboration, practice of skills) benefits.

We must change the dialog about play. The focus on testing, accountability standards with narrow focuses on reading, math, and science (often through memorization) that does not result in the development of lifelong learners is the antithesis of the natural abilities to learn through play. The UN Convention on the Rights of the Child was ratified in 1989 and ratified by almost every country in the world. In this treaty is a specific article (#31) that states “every child has the right to rest and leisure, to engage in play and recreational activities appropriate to the age of the child and to participate freely in cultural life and the arts” (Play=Learning, 2005). Article 31 as well as the current play research all support the fact that the development of emotional intelligence (EQ) through play is just as important as IQ for success in the 21st century. The differences in playfulness show up in adulthood where play-deprived adults are often rigid, humorless, inflexible, and closed to trying new option. Playfulness enhances the capacity to innovate, adapt, and master changing circumstances, and as stated by Stuart Brown, founder and president of the National Institute for Play, “play reinvigorates us not because it is down time, but because it gets us in touch with our core selves and the joy of life” (Brown, 2009).

II. Designing and implementing a research-based, high quality summer parks program

It is clear that summer is a critical time for schools, community organizations and local and state agencies to engage youth in activities that promote healthy social, emotional, physical and academic development. Moreover, parks and other cultural institutions are primed as living classrooms, full of rich subject matter and hands-on experiences that can build relationships, knowledge and stewardship among communities of youth, families and educators.

As mentioned in the introduction, however, it is not enough to open the doors to youth, families and educators in the summer; summer learning programs must be designed with clear goals and quality structural features in order to promote positive outcomes. Research and practice have documented these key components of a high-quality summer learning program:

- i. Intentional Learning Experiences with Desired Outcomes
- ii. Evaluation Tied to Continuous Improvement
- iii. Targeted Staff Training/Development
- iv. Relationship Building
- v. Opportunities for Youth Engagement
- vi. Family Engagement
- vii. Meaningful Linkages

Intentional learning experiences with desired outcomes

When designing and implementing research-based, high quality programs the need for intentional efforts that result in desired outcomes is the foundation for quality (ACA, 2005, 2006a, 2006b; Metz et al, 2008). When looking at guiding principles for this intentionality, the following recommendations emerge:

- Develop a focused and intentional strategy with targeted specific skills and well-planned activities
- Set 3-5 SMART goals- specific, measurable, attainable, relevant and time-limited
- Use program mission and goals as the centerpiece of staff training
- Train staff on a developmentally appropriate set of tasks that will help youth reach the goal(s)
- Plan activities with written activity plans that outline explicit connections between activities and skills the youth are meant to learn

The key ingredients that help support this foundation are found in four guiding principles:

- Exposure (duration, intensity, breadth) matters and must reflect the goal of the program
- Supportive relationships must be established that include emotional and instrumental support between the youth themselves as well as with the adults involved in the program

- Where possible, family engagement should be explored (i.e., informing parents, asking for parent involvement in the program through volunteering, and offering support services like parent education)
- Cultural competence is critical and should be embedded in all aspects of the organization’s operations for maximum impact

The final principle is continuous program improvement that targets staff training, monitoring and coaching, data collection and analysis and makes sure that what is learned in each of these emphases informs the way the other two are conducted. The data for desired outcomes is collected at this point to confirm that the program has met its desired goals. These principals are central to program quality and will be discussed in depth in later sections of this paper.

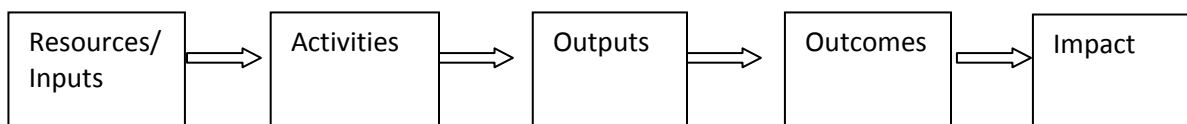
Evaluation linked with an on-going improvement process

High-quality summer learning programs have an ingrained culture of data collection, analysis and application at all levels of staff to continuously evaluate and improve program offerings. Data can inform the way the program serves multiple stakeholders- program staff, youth participants, families, partners, funders and policymakers. Targeted data collection also provides a logical basis for sound decision-making about program management and operations.

Program Theory

Evaluation and quality improvement processes begin through identification of the relationship between the program’s resources, strategies and changes or results it hopes to achieve (Kellogg). Program’s can visually represent these relationships through a logic model, an evaluation tool that facilitates effective program planning, implementation and evaluation.

The W.K. Kellogg Foundation’s Logic Model Development Guide shows the following framework for a basic logic model:



Building upon the basic logic model, programs can develop a more detailed “theory of change,” framing the problem or issue the program is trying to solve with documented evidence of community needs or assets and connecting program strategies to desired results.

Data Collection

Once the program theory or logic model is established, programs can pinpoint the events, activities, relationships, and outcomes that are central to its success (Reisner 2004). Programs should define data collection strategies for all intended outcomes or program goals. This includes identifying who

administers and who provides data, an annual schedule for data collection, and plan for cataloging and analyzing all data collected.

Sample Goal	Sample Data Measure
At least 90% of youth will demonstrate mastery of core oral presentation skills.	Oral Presentation Rubric Items: Eye Contact, Body Language, Poise, Enthusiasm, Elocution, Subject Knowledge and Organization
At least 90% of youth will report feeling a sense of community belonging and having healthy, valued relationships with peers and adults.	Youth Survey Items: -Students report having at least one young adult role model who sets an example for being college bound -Students report that they are part of a community where they feel safe and respected. -Students report that they have at least one adult in the program that cares about their wellbeing.
The program will retain at least 80% of youth from summer 2010 to summer 2011.	Youth Retention/Attendance Data for Summer 2010 and 2011

Data collection methods range widely in summer programs in order to meet the needs of a diverse group of stakeholders. High quality summer learning programs focus data collection in at least three areas: youth outcome goals, organizational goals and stakeholder satisfaction. Some common sources of data include:

- Standardized**

academic assessments: Summer programs rely on a variety of assessments to measure success, depending on program goals and priorities. Standardized assessments, such as the Diagnostic Inventory of Basic English Language Skills (DIBELS), are often used as pre-tests to assess baseline literacy skills and inform instruction and post-tests to measure progress in a program with a literacy focus. Many school-year assessments are not calibrated to show change in a 6-week period, so summer programs must intentionally choose assessments sensitive enough for their program’s intended results.
- Youth report:**

Youth report most often comes in the survey format, but can also be collected through interviews or focus groups. For many common psychosocial domains such as engagement, motivation, self-concept, future aspirations and relationships with adults and peers, a variety of validated measures of exist in the field. The Harvard Family Research Project (www.hfrp.org) continually updates a compendium of out-of-school time assessments for programs to adopt or adapt to suit their needs (*Measurement Tools for Evaluating Out-of-School Time Programs: An Evaluation Resource*).

- Performance-based or authentic assessments:**

Many summer programs also use performance based or “authentic” assessments to capture youth growth in more holistic methods. In contrast to multiple-choice testing, performance assessments require youth to construct an answer, produce a product or perform an activity, and they measure the ability to apply knowledge to solve realistic, meaningful problems (Darling-Hammond and Adamson, 2010). Everyday examples include a driving test or a vision exam. In a summer program, youth can complete a science project, identify, plan and complete a community service project, or conclude a summer of learning around a theme with a group project or presentation. Performance assessments are often associated with a scoring rubric developed around a set of core competencies, such as in the oral presentation example listed in the table above. A resource for rubrics to use in youth assessment is www.rubistar.com. Also see Galavan (2009) for guides on developing performance-based assessments.
- Administrative data:**

For summer programs working to affect school day and year outcomes, administrative data from schools such as grades, attendance, behavior reports and test scores often provide the clearest picture. It is difficult to isolate program effects from other variables that may occur during the summer months, but administrative data can help a program begin to understand if program participation is related to subsequent academic and developmental school-year gains. In addition, understanding the characteristics of the students served in an after-school program can inform an evaluation in useful ways. For example, information on students’ family income (as measured most frequently by eligibility for free or reduced price lunch) and on their prior academic achievement can indicate the overall level of need and will help the program to determine whether it is serving the types of students it set out to serve (Reisner 2004).
- Stakeholder feedback:**

Surveys, in-depth interviews or focus groups with youth, staff, families, partners and other stakeholders are a core component of a sound evaluation and continuous improvement process. Programs should collect stakeholder feedback regularly during the program session and throughout the balance of the year as a regular part of doing business.

Data analysis and application

Strategic data collection and analysis allows organizations to make data-driven decisions. Staff at all levels of the program should be involved in the collection and analysis of data in order to ensure a program-wide commitment to goals and develop buy-in to decisions made based on the data. Key questions that drive ongoing data analysis include:

- Are we meeting our goals for youth and for the organization? Are they the right goals?
- Are our stakeholders satisfied with the program and their role in supporting it?

- Does our program serve the youth we set out to serve?
- Do our program's outcomes align with evaluations of similar programs?

Quality Assessment

Whereas program evaluation is tailored to specific and unique program goals, program quality assessment is more generalized for the field of out-of-school time and serves as a yardstick to measure the program's alignment to research-based characteristics of summer or afterschool program quality across a wide variety of domains. Program quality assessment can take several forms, including an internal process of self-assessment and reflection through use of a common instrument, such as the California Quality Self-Assessment Tool for Afterschool Programs (www.afterschoolnetwork.org/qsatool). The California Environmental Education Foundation (CEEFF) has also developed a Self-Reflection Tool intended to enhance the use of best practices by formal and non-formal environmental education providers. The five programmatic Core Practices and the associated outputs necessary to achieve the practices are derived from the NAAEE *Non-formal EE Programs: Guidelines for Excellence* (2004). ([http://www.creec.org/stories/storyReader\\$198](http://www.creec.org/stories/storyReader$198))

In addition, program quality assessment can be conducted by external assessors, most often through a process that includes a combination of document review, in-depth interview and activity observation. The National Summer Learning Association's Comprehensive Assessment of Summer Programs (CASP) is designed to guide a wide variety of summer programs through multi-year improvement processes. Like other quality assessment systems, the CASP is designed to measure quality in both Program Infrastructure and Point-of-Service, covering domains of: Purpose, Finance and Sustainability, Planning, Staff and Partnerships in Program Infrastructure and Individualized, Intentional, Integrated and Unique Program Culture in Point-of-Service (www.summerlearning.org).

Targeted staff development/training

There is no clear-cut path to becoming a frontline staff member in an out-of-school time program. Staff may come from similar fields of education and early childhood care; may have expertise in a specific subject matter or content area; or may be older youth with little to no prior experience. Many staff members who work directly with youth have no pre-service training, specific credentials or degrees related to instruction and learning (HFRP, 2004). While the identity of the OST worker may still be evolving, the significance of training and professional development is an important driver of program quality and positive social and cognitive outcomes for youth (HFRP, 2004). High quality summer learning programs offer in-depth, tailored pre-program training through mixed methods and provide ongoing formal and informal support throughout the session, and often throughout the year. Research has shown that these types of overarching "professional development systems," or combinations of various professional development modalities and providers, have shown the largest sustained effects on program quality when evaluated (HFRP, 2004).

Summer programs vary widely on a number of dimensions, including the age and skill level of youth served; programmatic focus and goals; partnerships and intensity and duration. The differences affect the skill set staff needs to be successful in reaching program goals. Parks interpreters or rangers may be working with youth from multiple programs with diverging themes and goals throughout the summer. For example, parks may partner with summer programs with goals ranging from academic remediation

to leadership development. Similarly, program themes can range from Biggest Loser, to All Around the World, Community Service or Natural Disasters. It is important to establish a set of baseline staff competencies for the summer setting to standardize staff training and skill sets. For parks hiring new or additional staff specifically for summer programming, baseline competencies can also be used in staff selection. In order for parks staff to be successful working with a variety of programs, staff should be able to:

- Develop or adapt age or skill-level appropriate content: This includes knowledge of how to access and use grade-level academic standards as well as grade-level developmental assets.
- Check for understanding, reinforce learning, conduct informal daily formative assessments and use data for improvement.
- Facilitate youth-centered, hands-on learning.
- Create a safe, nurturing environment to promote positive youth development.
- Promote summer culture and spirit.
- Work with partner staff to align goals and programming.

Programs should begin their training with new staff by assessing staff needs against identified competencies for each position, all under the umbrella of the program's goals. Chapter Five of the National Summer Learning Association's *Making the Most of Summer* handbook contains resources for setting staff competencies and assessing staff training needs (www.summerlearning.org). Once a program has determined the training needs of its staff, it should first look internally for expertise in identified areas. High quality programs use their veteran staff as trainers as well as accessing additional training outside of the organization. Below are key considerations for staff training, staff development and professional development for summer program staff:

Training

Pre-service training specific to the summer program is important- interactions and protocol will be different than for school-year programs.

- High quality programs use a staff handbook to explain goals, culture and norms; engage staff in modeling and practicing activities and lessons; and include time for paid, collaborative planning and preparation.
- Programs can access experts for training on specific content areas, such as Science Centers, afterschool TA providers, and state and national intermediary organizations.

Staff Development

Staff development should be ongoing throughout the summer session. High-quality programs offer:

- Mentoring programs and relationships between veteran and new staff
- Ongoing informal resources, such as newsletters and email communication
- Online discussion boards, and "brown bag" lunches for staff members to share ideas and expertise
- Time for reflection on staff experience, journaling

- Ongoing observation and feedback by site coordinator or program director: Programs can develop a short, standardized observation tool and introduce it to staff during pre-service training to ensure all staff shares the same vision for quality at the point-of-service.

Professional Development

Staff in OST programs are often very transient; professional development is essential to retaining staff and developing a career pathway for their continued growth. Key resources for professional development include:

- Higher education, such as continuing education courses and degree programs
- In-service training provided by programs to current staff
- Training seminars and resource centers provided by external organizations outside the program setting
- Local and national credentialing systems and programs
- Local and national conferences
- Site visits to partner summer programs

Relationship building (child and adult)

Supportive relationships developed between youth themselves as well as with their adult staff are often considered the linchpin to other supports and opportunities for positive youth development. The ability to be caring and responsive as well as offer guidance to young people are valuable components provided by quality staff that help youth feel connected to others, navigate day-to-day life and engage in productive activities. In fact, youth who have at least one highly supportive relationship with a caring adult will do better than youth who lack this support (Gambone et al., 2002). Supportive relationships not only are correlated with better youth outcomes, but they are often the key to attracting and retaining youth.

Several strategies can help develop supportive relationships (ACA, 2006b; Metz et al, 2008):

- Maintain a low child-to-staff ratio
- Emphasize positive youth-adult relationships regardless of the curriculum
- Allow for one-on-one time
- Teach youth skills necessary for building healthy relationships (listening, conflict resolution, cooperation)
- Provide a diverse staff with whom youth can identify in terms of gender, race, culture, sexual identity, and language
- Become “youth-centered” in approach to training and programming

Opportunities for youth engagement

As youth move into adolescence, they need opportunities to experience influence as well as “try on” adult roles they will eventually assume. They need to make age-appropriate decisions, decide activities that interest them, and choose responsible alternatives when needed. They need to help shape policies,

rules, and take on leadership roles such as peer leaders, council members, and mentors. As a result, these young people feel a greater sense of shared responsibility, respect, self-efficacy, better decision-making, fewer risk behaviors, and a greater sense of belonging and memberships (ACA, 2006b).

However, most youth organizations struggle the most with this support structure. The following suggestions are initial steps that could be considered:

- Train staff in ways to involve youth in decision-making
- Involve youth and staff in decision-making through youth councils as well as through direct program planning activities
- Allow youth (both as a group and as individuals) to have opportunities for choice in programs
- Establish peer mentoring programs
- Ask for and use youth feedback on a regular basis

Family Engagement

Summer programs are an important lever for encouraging family involvement in the academic and developmental growth of youth. Significant impacts were found for parents encouraging their children to read and actually reading to their children when they participated in the BELL (Building Educated Leaders for Life) Accelerated Learning Summer Program (Chaplin & Capizzano, 2006). Additionally, the Cooper meta-analysis of summer programs concluded that summer programs that included parental involvement produced larger effects than programs without this component.

In the summer, family engagement opportunities can be both voluntary and required. The Harlem RBI program in New York City requires parents to visit the program before they will send home the summer season's baseball trophy with youth. Programs that don't want to require participation often hook families through programming geared to their needs. For example, they offer a workshop or resource fair to connect families to complementary community services that help to create a year-round web of support, or they work with families to prepare them for their children's stages of developmental or academic advancement, including admissions and financial aid for high school and college. The Boys and Girls Club of Green Bay fosters a Family Advocacy Network (FAN Club), made up of family volunteers who are engaged in planning and advocating for the program and write a newsletter for other families and stakeholders. Most commonly, summer programs hold culminating events for youth to showcase what they have learned to family members and other invited guests. The best summer learning programs design the program to serve the whole family.

Meaningful linkages

Education policymakers have recognized the need for community organizations to partner with schools to reach learning and developmental goals, as is evidenced by the 21st Century Community Learning Center program. Expanding on the concept of partnerships to support learning, an evidence-based framework for complementary learning systems includes afterschool and summer programs as core elements of a system that supports youth academic and social achievement both in school and out of school.

According to the Harvard Family Research Project (www.hfrp.org), complementary learning means that out-of-school supports are aligned with and connected to schools and to each other to maximize learning and developmental outcomes. Across a child's development, aligned and connected supports aid important educational transitions and ensure that children and youth get and stay on pathways to learning and life success. Key features of alignment include:

- common learning and development goals among all partners
- information systems to ensure that information about students is shared across supports
- shared best practices and professional development opportunities
- shared accountability
- multi-level relationships that cross local and district school leadership
- formalized mechanisms for communication
- shared governance structures

Parks and other cultural institutions are key partners in building complementary learning systems and can benefit from collaborations designed to reach goals that cannot be achieved by a single entity. Partnering entities should evaluate whether favorable conditions for a partnership exist prior to entering into an agreement. Conditions include: complementary organizational missions, supportive leadership, formal and informal communications structures and multidimensional relationships among staff from partnering organizations (McLaughlin and Phillips, 2009).

Schools

Partnerships between schools and parks programs in the summer can take many forms and yield diverse benefits. Although community or park structures may not always support it, an ideal scenario allows parks to identify specific schools they will recruit or serve students from and engage in collaborative planning with school staff at least six months prior to the start of the summer program. Benefits for schools and parks include: targeting a specific population; meeting specific needs of schools; engaging teachers in embedding age and skill-appropriate learning; sharing data on youth to build individualized strategies; and supporting transitions from elementary school to middle school and middle school to high school. (Harvard Family Research Project, 2010; McLaughlin, 2009).

In addition to engaging families, the Boys and Girls Club of Green Bay, Wisconsin, is dedicated to preparing youth for success in the next school year. BGC staff work with principals and teachers year-round to incorporate a focus on academic skills most critical to the school's population. Based on annual standardized test scores, BGC staff selects a core academic focus of the summer program to align with the needs of the schools it serves. This commitment to shared education goals is the foundation for a strong, mutually supportive partnership between schools and BGC that maximizes opportunities for youth.

Engaging certified teachers as summer program staff often results in improved in-school instruction and relationships (Harvard Family Research Project, 2010). The Trail Blazers Summer Program in New York provides a camp experience for urban youth in 1,000 acres of forest in New Jersey. Trail Blazers employs a certified teacher from the school district of the youth served as the education coordinator of the program. This person is charged with overseeing education efforts and implementing academic programming—a partnership that serves youth and the school district by preparing youth for the next

school year, in addition to serving the education coordinator by providing opportunities for ongoing professional growth.

Community-based organizations (i.e., parks and recreation, youth organizations, nature-related organizations)

Parks can also partner with CBOs or city or state agencies for summer programming. Many city Parks and Recreation departments have youth programs or summer jobs programs focused on conservation or ecology. The City of Sacramento Parks and Recreation department offers several summer employment programs that focus on building job readiness skills for disconnected youth in an environmental context. The highlight of the program for both youth and staff is a kick-off trip to a state park for a whitewater rafting expedition. According to the program's administrator, the rafting trip does more to bond youth from divergent backgrounds than anything they could do in the classroom. Because rafting is something new to all of them, and they are forced to work together to succeed, the program's "difficult to serve" youth walk away as equals and as friends as a result of the experience.

Initiatives such as the Network for a Healthy California (through the California Department of Public Health) also offer logical partnerships for summer programs with a health, nutrition or physical activity focus. The Network offers a toolbox of activities, handouts and evaluations for community educators working with youth in out-of-school time settings. Likewise, state college and university extension offices also offer free programming, resources and staff assistance for summer programs with a health or nutrition focus.

Youth leaders (Outdoor Youth Connection)

Outdoor Youth Connection (www.parks.ca.gov) is a collaborative effort of California State Parks, California State Parks Foundation, and Pacific Leadership Institute of San Francisco State University. With funding provided through the Stewardship Council, OYC provides teens ages 14 through 17 who are involved in community based organizations experience in outdoor activities, teambuilding, and camping. Youth are educated and trained in outdoor activities and leadership skills and are then equipped to organize and lead outdoor trips and projects for their peers and community. OYC can provide a strong connection between parks and CBOs with an outdoor or nature component in the summer.

III. Questions left unanswered

As with any undertaking, there are questions that remain unanswered as the process begins. While research can provide many needed directions, some areas related to the provision of quality youth programs need further investigation. The following two topics are areas that impact programs but have no clear-cut directives.

Intensity, Duration, and Breadth

Providers of youth programs constantly struggle to have the right combination of program characteristics that result in the most meaningful effects. Duration, intensity, and breadth are all

indicators of exposure that may influence the results of any program. Duration is the length of participation over time (days, weeks, months, years); intensity is the amount of time spent in a given time (hours per day, days per week); and breadth of attendance refers to the variety of activities engaged in by a young person both within and across programs.

While no prescription can be written around these aspects of exposure, they do depend on the goals of the program. Research also shows correlations between attendance and outcomes, especially for preteens. Experienced programmers also know that if youth are to be engaged, a variety of well-planned and organized activities must be available from which youth can choose the ones most appealing to them.

Duration obviously implies that a child needs to attend programs to gain benefits, but more than just attending is the way youth become engaged, focused and excited about the programs. Studies of duration suggest that the longer youth stay engaged, the larger the benefits. However, even limited engagement is better than none at all. Well-planned short term programs still show improved short-term gains. In fact researchers have begun to investigate whether involvement in a series of quality programs over the course of the young person's development can be as effective as a longer lasting single program.

Research focused on issues of intensity usually shows that high intensity (multiple hours/day/week) programs have more positive academic, social, and behavioral outcomes (Fiester, Simpkins, & Bouffard, 2005). However, no minimum threshold has ever been established, so many programmers go with the adage of "more is better". Some programs have flirted with required (mandated) attendance, but that approach has been fairly unsuccessful. Most programs will need to look at the parameters that influence dosage and intensity and find the best fit for their situation.

Breadth to the experience has received little research attention, perhaps because it is such a complex issue. In some cases, breadth is used as a way to increase duration and intensity by increasing the young person's interest. Many times the variety sought in breadth of activities is a combination of recreational activities, enrichment (arts for example), and academic activities. Research has shown breadth to be a strong predictor of outcomes, an effective way to guide learning and engage young people, and effective for recruiting, engaging, and retaining youth when well-implemented.

Fidelity of Staff Training and Implementation

Much concern exists around training and implementation of programs. While more studies have been undertaken recently, no clear consensus has emerged regarding particular techniques for effective training and implementation where administrators are sure that trainers are imparting the information in the same way and that staff are actually implementing in the way intended in the training. However, several recommendations can be made for programs conducting staff training (Metz, Burkhauser, & Bowie, 2009):

- Present background information, theory, philosophy, and values of the new program or practice to staff to make the training meaningful to staff and how it will make a positive difference to youth.
- Introduce and demonstrate important aspects of the new practice or program.
- Provide staff with opportunities to practice new skills and receive feedback in a safe training environment with opportunities to reflect on how the new practices differ from their past/current interactions with youth.
- Provide staff with ongoing support and follow-up training that allows them to process their training in real settings.
- Allow sufficient time for training that occurs (preferably) over multi-day sessions that incorporate training from pre-service, in-service, and on-going technical support.

Recommendations for facilitative administrators include (Collins & Metz, 2009):

- Lead program implementation by:
 - Being knowledgeable about program curriculum
 - Setting goals
 - Gaining support from key stakeholders for program implementation
- Support program staff by:
 - Offering high-quality and ongoing training
 - Providing ready access to technical assistance
 - Sharing information on program changes
- Use data as tools for
 - Guiding program decisions
 - Devising goals collaboratively
 - Developing program improvement strategies
- Establish a positive organizational culture and climate by:
 - Hiring staff members who have positive relationships with program participants
 - Encouraging program administrators to support staff members
 - Administering high quality programming

Lastly, cultural competence needs to be a part of training as well as many other facets of the program. Staff need to understand, accept, value, and honor the unique contributions of all staff and participants. Organizations need to create practices and policies that make services and programs accessible to diverse populations and provide appropriate and effective services in cross-cultural situations. When translated to the programs, cultural competence is focused on helping young people understand and value their own and other cultures, languages, lifestyles, and communities as well as developing their own sense of personal identity. This focus on cultural competence will help build physically and psychologically safe environments for all youth, which in turn will help them alleviate emotional stress often encountered in other areas of their lives.

IV. Next Steps for California State Parks

The California State Parks Foundation hosted a conference of state and national open-space entities, funders and researchers in Sausalito, California, in November 2009 entitled *Rethinking Summer: Exploring How Parks Play an Essential Role in Summer Enrichment Programs*. Some of the key challenges that parks face in positively effecting student learning that were raised at the convening include:

- Risk management (safety of children) and fears about a park experience
- The perception that Parks staff are not educators
- Confusion in education community about differences and roles among local, regional, state and national parks
- Unclear goals with partners
- Planning time
- Limited/poor advocacy base for programs makes it difficult to get parent/stakeholder engagement
- Staff turnover (Parks and Summer Program) impacts ability to learn from experience, build relationships and have program continuity
- Transportation for youth to get to Parks (cost)
- Competition with video games and mainstream culture

Based on the challenges and opportunities raised at the conference, the authors recommend two Next Steps for the California parks community to move toward establishing parks staff and programs as leaders in summer learning.

Regional Staff Trainings

Summer learning has not been a specific focus of professional development for Parks staff in the state to date. Based on the experiences of the National Summer Learning Association and American Camp Association in statewide efforts in other states, regional trainings for program directors, interpreters and rangers on “Summer Learning 101” are a logical starting place for establishing a shared vision for summer program quality. Initial regional trainings would include an overview of the research base discussed in this paper and introduction to the seven core quality features also discussed within this paper. Subsequent trainings would go into depth on critical quality topics, such as evaluation and continuous improvement, staff training and meaningful linkages with schools and community organizations. The California State Parks Foundation could help to build state and local capacity for increasing access to high quality summer learning parks programs by identifying regional leaders to receive in-depth training and resources they could then use to train a wider local audience of parks staff and partners.

Advocacy and Outreach

Another important point of consensus at the conference was that Parks lack a strong advocacy base in the K-12 education community. Programs such as Parks Online Resources for Teachers and Students (PORTS) are an excellent springboard for conversations about deepening partnerships for learning with

individual schools, districts and the California Department of Education (CDE). Using this paper as a guide, the California State Parks Foundation can develop a Fact Sheet to support the role of Parks in summer learning, and in education more broadly, in conversations with CDE, districts and principals. With budget cuts eliminating many summer school options, superintendents, principals and teachers are searching for partnerships to keep youth engaged in learning during the summer. Opening communication lines with targeted schools or districts to share resources such as curriculum, events and other free or low-cost resources that can be used in the summer will build goodwill and relationships that are critical in times of dire capacity restrictions.

Begin by identifying any schools or districts in the state that have strong partnerships for learning with state or local parks and conduct interviews to determine the conditions and strategies that make those partnerships effective. Then, document, disseminate and use those strategies to build and strengthen by expanding outreach to additional schools or nearby districts in areas with existing strong connections and favorable conditions for partnership.

Conclusion

With strong theoretical underpinnings and many examples of success from the field, the opportunity for parks to expand their role in summer learning programs is great. The California State Parks Foundation in partnership with California State Parks is well positioned to offer leadership and promote synergistic local and regional partnerships for summer learning. Moreover, change agents such as the California STEM Innovation Network and funders such as the David and Lucile Packard Foundation and the Stewardship Council are ready audiences for innovation in nature-based learning for youth. With a focus on building the capacity of park entities to implement innovative high-quality summer learning programs, and targeted outreach to schools and other community partners, California parks can make sure that summer is a season of life-changing learning for all children and youth.

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This report includes state-by-state and national polling information on access and participation in summer learning programs. Report finds that the nation is missing a key opportunity to help millions of children succeed in school through summer learning.

- American Camp Association** (2005). *Directions: Youth development outcomes of the camp experience*. Retrieved April 29, 2010 <http://www.acacamps.org/research/enhance/directions.php>

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These executive summaries from national research projects undertaken by ACA highlight the research findings related to outcomes and the supports and opportunities needed for quality youth development programs as well as suggestions for practice. The information is evidence of the value of the camp experience for positive youth development and establishes the camp experience as a site for development and learning.

Centers for Disease Control and Prevention (2003). Physical inactivity and unhealthy weight control behaviors and academic achievement. Retrieved April 23, 2010

http://www.cdc.gov/healthyyouth/health_and_academics/pdf/physical_inactivity_unhealthy_weight.pdf

This brief summary of a larger project (Youth Risk Surveillance Project- 2009) describes the relationships between physical inactivity, weight gain, and academic success. Data showed a negative association between physical inactivity and unhealthy dietary behaviors and academic achievement after controlling for sex, race/ethnicity, and grade level. This means that students with higher grades are less likely to be physically inactive and engage in unhealthy dietary behaviors than their classmates with lower grades, and students who are physically active and do not engage in unhealthy dietary behaviors receive higher grades than their classmates who are physically inactive and engage in unhealthy dietary behaviors.

Munoz, S.A. (2009). *Children in the outdoors: A literature review*. Horizon, Scotland: Sustainable Development Research Centre. (www.childrenandnature.org/research/).

This review provides an extensive overview of the literature related to the value of the outdoors to children's development. She provides research on health benefits, the design of outdoor play spaces, education in the outdoors as well as constraints and enablers of children's use of the outdoors. Munoz ends with ideas for creating a research agenda for children and the outdoors. This review could be complemented with reviews from the Children and Nature network.

National Summer Learning Association. Research in Brief:

http://www.summerlearning.org/?page=research_brief

This web page offers access to several brief summaries of key research in the field of summer learning. Briefs include studies on summer learning loss, weight gain, technology use and reading.

National Summer Learning Association. (2009). *Meaningful Linkages between Summer Programs, Schools and Community Partners: Conditions and Strategies for Success*.

(<http://www.summerlearning.org/resource/resmgr/publications/2009.linkages.pdf>)

This report describes the existing literature on effective partnerships for summer learning and includes information gleaned from in-depth interviews with award-winning summer programs.

National Summer Learning Association. (2010). *Summer Starts in September: A Strategic Summer Program Planning Guide.* (https://summerlearning.site-ym.com/store/view_product.asp?id=423453)

This guide includes tasks and timelines for planning a high-quality summer learning program. The guide is structured around research-based indicators of quality, rich descriptions and program spotlights.

Play=Learning Conference (2005). Yale University. Retrieved April 29, 2010
<http://udel.edu/~roberta/play/index.html>

This website established after the Yale conference on play has a variety of useful resources when examining the value of play within children's development. The benefits of play are articulated as well as challenges to play, issues related to school readiness and school standards, and a few considerations for children with special needs. The site also includes the UN Convention on the Rights of Children.
