ENVIRONMENTAL EDUCATION FOR KIDS: THREE KEYS TO SUCCESS

LEARNING FROM PROGRAM EVALUATION

Introduction

Across 15 years, our team of evaluators at Learning for Action (LFA) has partnered with more than three dozen environmental education organizations to study the effectiveness of their programs, strengthen their program design and outcomes, and build their capacity to improve. Most of these organizations work in the San Francisco Bay Area; others are national in scope with sites in multiple locations. Collectively, their programs serve a diverse set of populations – and many of these programs explicitly aim to reach communities not engaged in environmental education.

In this essay, we focus on environmental education (EE) programs that serve young people – the population most emphasized in the efforts we evaluated. When we reflect on EE programs that consistently and measurably achieve meaningful outcomes for kids, three key characteristics emerge: First, these programs have sufficient intensity to reach their aims, engaging young people in program content over many hours and months. Second, they are connected to classroom instruction, reinforcing and expanding on what students are learning in school — particularly in science classes. Finally, these programs are grounded in positive youth development principles and practices, for example, nurturing development of life skills, a service ethic, and helpful relationships with adults. While some programs reflected all three elements, most lacked at least one of these key ingredients.

We further describe each of these components below, following a brief commentary on the importance of outcomes in EE programming. Throughout this essay, we include links to resources you may find helpful.

> **Characteristics of Effective EE Programs**
>
> - Sufficiently Intense
> - Connected to the Classroom
> - Grounded in Positive Youth Development

Impact Begins with Outcomes

By definition, EE programs pursue an environmental stewardship outcome. For example, these programs might seek an increase in participants' personal sense of responsibility to preserve the natural environment, in awareness of how their behaviors affect the environment, or in the degree to which they practice conservation behaviors. Program outcomes generally array along a continuum from change in knowledge to change in attitudes to change in behaviors. In this continuum, behaviors are the most difficult – and most important – to change. This essay is largely geared toward EE programs that seek to change behaviors, and thus pushes for meaningful depth in program design.

Our experience suggests that any effort to design or improve an EE program should begin with thoughtful conversation and definition of a target audience. Related, planners should name the outcomes the program will hold itself accountable for achieving. They should also state the core program components and activities needed to reliably and consistently achieve desired outcomes.

THE CONTINUUM OF ENVIRONMENTAL EDUCATION OUTCOMES

Knowledge → Attitudes → Behaviors

With support from the S. D. Bechtel, Jr. Foundation, LFA has developed the Environmental Education Better Results Toolkit. This practical guide includes examples and worksheets EE program leaders can use to build strong programs.

We also recommend *Measuring Environmental Education Outcomes* — an excellent resource developed by 20 environmental educators.

In addition, you can access this Benchmarking Best Practices toolkit drawn from LFA experience with other EE program audiences and outcomes; it includes information on programs that serve adults, advocate for policy change, and seek change in corporate practices.

THE THREE KEYS TO SUCCESS

1 ### Sufficient Intensity

Changing environmental stewardship behavior takes far more than a single exposure or light-touch experience. We find that the most common reason EE programs fail to achieve their desired outcomes is because they are too short or too shallow in their delivery. In technical terms, they lack sufficient "dosage" and "duration." Of course, there is no established standard for the needed length and depth of EE programs; you must determine these elements based on who you're serving and what you're trying to achieve. We generally find that programs providing consistent programming of *at least* one hour per week for *at least* a calendar or school year are more likely to achieve lasting and meaningful stewardship outcomes. Moreover, the most effective programs we've evaluated engage participants for multiple years (as many as three years or more), providing multiple exposures to EE curriculum content through progressive, sequential learning. This learning spans from the basics of why environmental stewardship is important to more complex concepts such as biodiversity and healthy ecosystems. While single, brief (i.e., up to one-day long) outdoor experiences certainly can make a strong impression – and might indeed be transformative experiences for some youth – the data generally don't tell us that these exposures create lasting impact on a broad scale.

As you critically examine your EE program and consider ways to strengthen it, take a look at the available research and evidence. We suggest starting with this compendium of research on EE programming, from the National Audubon Society, titled "Influencing Conservation Action."

2 ### Connected to the Classroom

Aligning program content to what kids are learning in school – particularly in science class – accelerates progress. EE programs that achieve strong stewardship outcomes are based in schools and/or partner closely with the schools and teachers that deliver core academic education to their participants. Effective EE curricula are anchored in standards for science education, with content delivered in time frames that mesh with what kids are learning in school. This coordination works best when community-based EE providers communicate directly with their participants' school teachers.

Digging Deeper to Achieve Outcomes
East Palo Alto Charter Schools
(San Mateo County)

The Digging Deeper Collaborative of community-based EE providers focus on high-quality environmental education aligned with state science standards in East Palo Alto Charter Schools. Their pilot project achieved significant results among fourth- and fifth-graders. These students experienced dramatic increases in test scores between the beginning and the end of the school year (for each of two years evaluated). Their general learning skills advanced as well — including students' ability to concentrate, engagement in learning, and critical thinking skills.

Participants also achieved environmental stewardship outcomes. They increased their understanding of how their actions affect the environment and their awareness of behaviors that harm the environment. Moreover, between 65 and 80 percent of students in grades four and five now engage in at least one new conservation-related behavior. To achieve these outcomes, the program provided students with at least 40 hours of EE content over the course of the entire school year through a standards-based curriculum that tied closely to classroom learning.

For example, in some of the most effective approaches we've seen, program leaders work with school teachers to plan outdoor EE experiences. These EE program providers then develop a pre-experience assignment that the teachers incorporate to enhance their classroom instruction, as well as a post-experience assignment that reinforces learning both inside and outside of the classroom.

A few very exciting efforts we've studied involve public-private partnerships. In one case, a local school district joined with community-based EE programs to design and deliver a curriculum that combined in-school instruction with outdoor experiential learning over a three-year period. Content delivered in each context was mutually reinforcing, and student learning was scaffolded across years. Participants started in the third grade and continued through grade five.

3 Grounded in Positive Youth Development

Drawing on the principles and practices of youth development contributes to achieving strong stewardship outcomes. Too often, fields of study evolve in silos, missing the opportunity to put knowledge, evidence, and experience to work in adjacent fields. The most effective EE programs serving kids avoid this trap and draw on the wealth of learning in the positive youth development field. Positive youth development is *"an intentional, prosocial approach that engages youth within their communities, schools, organizations, peer groups, and families in a manner that is productive and constructive; recognizes, utilizes, and enhances young people's strengths; and promotes positive outcomes for young people by providing opportunities, fostering positive relationships, and furnishing the support needed to build on their leadership strengths."* [1]

The youth development literature is vast (visit this national clearinghouse and access a program quality framework). Positive youth development frameworks abound, many defining the social-emotional competencies that youth-serving programs should nurture (a good example comes from CASEL). In our experience, EE programming effectively engages young people and can achieve significant stewardship outcomes when it:

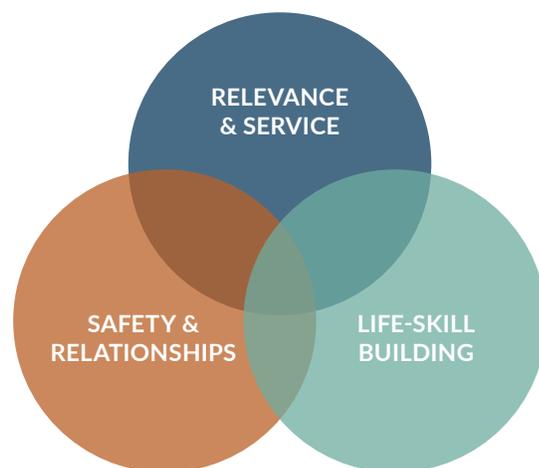POSITIVE YOUTH DEVELOPMENT PRINCIPLES CRITICAL FOR EFFECTIVE ENVIRONMENTAL EDUCATION

1. Is relevant and provides opportunities for service;

2. Ensures safety and nurtures positive youth-adult relationships; and

3. Builds life skills.

We'll conclude this essay with a more in-depth look at each of these elements.

Relevance and Service. EE programs can build approaches around the issues and skills that matter most to youth participants. Leaders should consider cultural relevance as well as geographic relevance, particularly since many view the EE field as largely developed by people from White middle- to upper-class backgrounds. Understand where program participants are coming from with respect to their experience and comfort in the natural environment. Design ways to engage them from this starting point – and move forward incrementally to create lasting impacts.

Youth without much experience in the outdoors and with little or no prior exposure to environmental education may not immediately see the relevance of EE programming. A strategy for making EE meaningful begins with their voices: Ask what issues they care about in their community and identify (the inevitable) connections to environmental topics. Next, explore ways they can make a positive difference in their community and for the environment through service. Service activities might include organizing and advocating for a healthier local environment, building and maintaining

---

[1]   Retrieved from http://youth.gov/youth-topics/positive-youth-development on April 17, 2017.

a community garden, cleaning up parks and shared green spaces, or teaching neighbors about environmental concerns and ways to make a difference. Providing youth with opportunities to take on leadership roles in service activities, and to work together to solve problems (see below), activates social-emotional development and can deepen their commitment to environmental stewardship.

Safety and Relationships. EE programs can provide safe space that allows young people to be themselves while also fostering caring and supportive adult-youth relationships. These spaces and relationships build trust, and enable kids to try out and develop new ways of thinking and behaving. The best youth-adult relationships place the young person at the center; their interests gain primacy over any adult-drive agenda or goals. Authentic adult mentors model positive character, meet young people where they are, and focus on building warm, empathic connections.

Adults can also build relationships with young people through intentional conversations about character (see this content from the Search Institute) and by teaching social and emotional competencies (here is more good information from CASEL). They can also handle disciplinary matters in empowering and constructive ways – such as promoting reflection and giving back to the group.

EE programs that promote safety and build positive youth-adult relationships provide young people with opportunities to collaborate with peers and adults, share opinions, and work in teams. The programs that safely support young people in stretching outside of their comfort zones – but not so far that anxiety gets in the way of learning – achieve better stewardship *and* youth development outcomes.

Life-Skill Building. Most EE programs naturally include great opportunities for outdoor experiential learning. Achieving positive stewardship outcomes can be enhanced through approaches that build life skills while teaching about the environment and conservation. EE programs can elevate skills such as problem-solving, coping, and assertiveness through activities such as identifying and removing invasive species, repairing trail systems, or cleaning up a river bank. Citizen science – the collection and analysis of data relating to the natural world by members of the general public, typically as part of a collaborative project with professional scientists – is another way to teach young people valuable physical, intellectual, and social skills through engagement with nature.

EE programs can help grow other life skills as well – for example, cultural literacy, media literacy, and communication. They can help form good habits of the mind, prepare young people for adult employment, and fuel new levels of social and cultural capital. Depending on your population, focus, and resources, you may also want to consider providing paid, supportive environmentally-focused work opportunities. We have found that improvement in "workforce" or "professional" skills is correlated with better stewardship outcomes.

WHAT DO YOU THINK?

We appreciate you taking time to read our reflections and suggestions. We hope this essay has provided you with something of benefit — an affirmation of your current approach, an invitation to consider ways that any or all of the three ingredients could strengthen your efforts, or a new idea you can use. We'd love to hear your reactions. What resonates? How does your EE experience compare? What would you like to learn more about?

LEARNING *for* ACTION