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North American Association for Environmental Education

Power Up Learning through Field Experiences

Learning happens all the time, everywhere. Gardens, zoos, nature centers and other sites of environmental education are like charging stations that can power up kids' learning back in the classroom. Some schools and students benefit from "high-wattage" areas that provide many energizing opportunities, while other students have few options to plug into. A patchy and unreliable grid means our education system is not as strong as it could be, but we can rewire it to eliminate dead zones and boost learning outcomes for everyone. By connecting to an extensive circuitry of environmental and outdoor learning sites that provide field experiences during the school day or out-of-school time experiences like after school clubs or summer camps, schools and districts can help ensure that the **knowledge and skills students gained in one place can easily flow into new contexts, powering further exploration and boosting ongoing learning.** Learning loss caused by school closures during the pandemic makes these learning experiences more important than ever before.

Recommendation:

Ensure that every PreK-12 student, no matter where they live, experiences at least one environmental and outdoor field experience every year.

Ensure that every Prek-12 student has opportunities to participate in outdoor and environmental summer and after school learning experiences to boost learning back in the classroom.

Evidence Base for Field Experiences

There is an extensive evidence base that shows when we boost kids' learning with frequent opportunities to explore their environment and communities, we can overcome learning loss and nurture a range of skills and interests that will prepare them for whatever the future brings.

Among the many potential outcomes, research has shown that **field experiences** during school time, summer, and after-school:

- Expose students to new experiences and can increase interest and engagement in science regardless of prior interest in a topic (*Kisiel, 2005; Bonderup Dohn, 2011*),
- Result in affective gains such as more positive feelings toward a topic (*Csikszentmihalyi & Hermanson, 1995*; *Nadelson & Jordan, 2012*).
- Are experiences that can be recalled and remain useful long after a visit (*Salmi, 2003*; *Falk & Dierking, 1997*).
- Boost student's retention of ecological knowledge longer than those students using conventional curricula. (*Farmer, J., Knapp, D., & Benton, G. M. 2007*)

Among the many potential outcomes, research has shown that **out of school time experiences**:

- In STEM programming, which includes environmental education, led to a narrowing of the achievement gap between young people from low-income and high-income families, better attendance, and more enthusiastic participation in school with consistent participation. (*National Research Council, 2015*)
- Provide effective strategies in promoting environmentally responsible behavior in the short, medium, and longer terms by providing multiple experiences over extended periods of time and coordinating with other experiences. (*Zint et al. 2002*).
- Enhance learning through first-hand experience with phenomena and materials (*National Research Council, 2015*).

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What are the Key Components for Success?

Classroom Integration: To be effective, field experiences need to be connected to what is already occurring in the classroom. They should be anchored to state academic standards and support goals for learning and/or student achievement. They are not meant to be something extra, but rather an educational approach that helps meet learning objectives. They can provide authentic, engaging interdisciplinary learning that crosses traditional boundaries between disciplines.

Active Educator Support during Field Experiences: Educators help students make connections and draw on past learning, serve as environmental role models, and ensure that the essential elements of the field experiences come together to support goals for learning. Even when environmental educators or other professionals are leading elements of the field experience, educators should be actively engaged in answering questions and relating the experience back to the classroom. To support this level of engagement, teachers should have access to professional development opportunities that support their content knowledge and confidence and intention to make connections with classroom learning.

Local Context and Phenomena: Field experiences use the local environment and community as a context for learning. Situating the field experience within local contexts promotes learning that is rooted in the unique culture, history, environment, economy, literature, and art of a students' school, neighborhood, town, or community. Partnerships, such as those with local community- based organizations, allow students to engage with members of their community of diverse cultures, values, and expertise for a more equitable and inclusive experience. Emphasizing local contexts and phenomena enables students and teachers to develop stronger connections and appreciation for their local environments and communities.

Sustained Learning Experience: Field Experiences have multiple opportunities to engage students from beginning to end. Each essential element builds upon and reinforces learning spread over the course of a unit or multiple units. All students should have the opportunity to participate in and benefit from each essential element.

Key Components for Success are Adapted from Practices Developed by *NOAA*

How?

Allocate Recovery Act Funding to allow every PreK-12 student to participate in at least one environmental and outdoor field experience annually.

- Field Experiences: #Students x ($X/student bus fee + $X/student program fee)
- State Level: E.g. 800,000 Colorado Students x ($15/student bus fee +$25/student program fee) = $32 Million or 355,000 students eligible for free and reduced lunch x ($15/student bus fee +$25/student program fee) =14.2 million
- District Level: 50,000 Students x ($15/student bus fee +$25/student program fee) = $32 Million or 355,000 students eligible for free and reduced lunch x ($15/student bus fee +$25/student program fee) =14.2 million
- Program Fees will vary based on length and intensity. The program costs above were estimated at $5/student/hour x 5-hour experience. Summer camps may be anywhere from
- $250-$1200 per week. After school experiences may be estimated at $100-150 for 6 weeks.
- Consider adding substitute teaching costs: ~$75-$100/day.