

Stanford analysis reveals wide array of benefits from environmental education

Review Process: K-12 Students

A team of researchers led by Dr. Nicole Ardoin at Stanford University undertook a review of research to examine the evidence base in support of environmental education and K-12 student outcomes. The team focused on peer-reviewed literature that empirically measured K-12 student outcomes associated with environmental education and was published in English between 1994 and 2013. Over 2,000 publication records were reviewed for consideration of inclusion in the review. To ensure the very highest standards of the results, researchers at Stanford followed a rigorous process with strict criteria for relevance and quality to select studies for the analysis. The final sample that met these criteria consisted of 119 articles.

The team coded and analyzed the 119 articles to address the following main review questions:

- What K-12 student outcomes are EE researchers measuring and reporting?
- What findings related to K-12 student outcomes are being published?
- What general trends and gaps do we see in EE outcomes research with K-12 students?

Findings from the analysis and team review of the articles were synthesized to provide a summary of the research and to discuss trends in EE research around K-12 student outcomes.

Review Results

What type of K-12 EE are researchers studying? EE researchers are considering a wide variety of EE programs with K-12 students. These programs differ in age of participants; as well as length, topic, format, and setting of program. This variety highlights EE's versatility and flexibility.

What K-12 ee outcomes are being measured? The range of outcomes under study is tremendous with 121 unique benefits examined by researchers. The 119 articles considered environmental, academic, civic, and social-emotional outcomes.

What level of findings are researchers reporting in terms of EE outcomes with K-12 students?

Studies reported



What research trends and gaps were identified?

Researchers reported gathering both qualitative and quantitative data using a range of methods, approaches, and tools, with the majority of research designs tending to be quasi-experimental and data frequently presented in a quantitative fashion. We noted a lack research involving students in grades K-3 as well as studies involving long-term follow-up. Overall, the review suggests that there is an abundance of EE research occurring with a focus on K-12 students as the target audience; yet, opportunities for future research remain, particularly with regard to addressing longitudinal studies as well as studies that focus on younger ages.