

Educational intervention enhances student learning

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In a study of low-income, urban youth in the U.S., researchers at Columbia University Mailman School of Public Health found that students exposed to Photovoice, an educational intervention, experienced greater improvements in STEM-capacity scores and environmental awareness scores compared to a group of youth who were not exposed to

the activity. The results suggest that the Photovoice activities may be associated with improved learning outcomes. The study is published in the *International Journal of Qualitative Methods*.

"Our findings suggest that the Photovoice activities result in greater environmental awareness and may be associated with improved learning skills," said Nadav Sprague, doctoral fellow, Environmental Life Course Epidemiology at Columbia Mailman School.

Photovoice uses community-members' knowledge and perspective to address knowledge gaps in academia, research, and policy-making. Most often used in public health research, the method engages the participant in taking photos on a given topic in combination with narrative discussions in a focus group setting.

Sprague and colleagues from Washington University in St. Louis studied the STEM-capacity, environmental perceptions, and environmental awareness of 335 low-income, St. Louis Public School students aged 9 to 15. Students in the study were assigned to one of two intervention groups, a Photovoice environmental education intervention group or a traditional intervention group without a Photovoice activity. The investigators also evaluated outcomes among a control group of youth, who did not participate in either intervention.

After the intervention, both STEM-capacity and environmental awareness for the Photovoice intervention group were significantly higher than that of the control group of youth who did not participate in the intervention and did not experience any significant improvements in STEM- capacity or environmental awareness. Both environmental education interventions were run by Washington University and Gateway to the Great Outdoors (GGO), a nonprofit organization that provides environmental health and STEM education to [low-income](#) elementary and middle schools in Chicago and St Louis.

"There is an environmental justice issue. Low-income and non-[white children](#) often have less access to nature and greenspace than their high-income or white counterparts," said Sprague, who also founded Gateway to the Great Outdoors. Researchers believe focused based environmental education is a potential answer to halt or slow human-driven climate change, biodiversity loss, overuse of natural resources, environmental health disparities, deforestation, and other human-caused environmental issues.

While the findings of the current research as well as previous studies are consistent with the literature that nature-contact improves social connectedness, Sprague recommends larger [intervention](#) studies to confirm the benefits of Photovoice in environmental education are necessary.

"The purpose of Photovoice is to empower individuals and communities that are traditionally neglected from research and policymaking discussions," said Sprague. "Photovoice may be an effective leadership development tool for youth, as it demonstrates to youth that their opinions and views can lead to change."

More information: Nadav L. Sprague et al, Enhancing Educational and Environmental Awareness Outcomes Through Photovoice, *International Journal of Qualitative Methods* (2021). [DOI: 10.1177/16094069211016719](#)

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