



## A COLLABORATIVE EVIDENCE-BASED LEARNING NETWORK FOR IMPROVING ENVIRONMENTAL EDUCATION DISTANCE LEARNING

*Funded by the Pisces Foundation*

### Overview

Interested in designing and improving your online programs based on evidence? Our research team has developed a systematic monitoring/evaluation process using a shared outcome measure that supports evidence-based programmatic improvement for organizations that provide environmental education (EE) programs for adolescent youth. Because of the COVID-19 pandemic, many EE organizations have adapted their programming and now provide a range of online resources, which may take the form of synchronous or asynchronous learning experiences. To date, we know very little about the best approaches to enhance student learning outcomes in online EE programs. With the support of the Pisces Foundation, we are currently recruiting organizations to participate in an evidence-based learning network about online EE programs.

In the learning network, we will help organizations collect outcomes data from their program participants using a shortened version of the EE21 survey, a collaboratively developed and statistically validated survey that measures 12 unique outcomes that the field has defined as important (see “EE21 Survey” on the next page). We analyze the data and provide **confidential** reports of the results directly to each participating organization. We then convene all of the organizations in a learning exchange to discuss and learn from each other about opportunities to improve their distance learning programs. Our team will share results from an extensive systematic literature review focused on online environmental education programs, which identified practices that tend to lead to better outcomes. Educators will consider potential revisions to their distance learning programs based on their evaluation results, reflections on the literature review, and discussions with fellow practitioners. Each organization will leave the learning exchange with a plan for how to revise their programs with the goal of enhancing student outcomes. Participating in the evaluation for a second season enables organizations to see if (and to what extent) revisions have improved desired participant outcomes. Subsequent participation provides continued open and collaborative spaces for meaningful partnerships, thoughtful exchanges of ideas, and continual program improvement.

### What would participation look like?

1. Work with the research team to develop a data collection plan. This would entail conversations about the details and scope of your programming.
2. A commitment that each organization will provide an online link to the survey, which will be completed immediately following a web-based EE experience. The questionnaire takes about 6-8 minutes to complete.
3. The research team analyzes your data and provides a confidential report. This report provides your program’s outcomes assessment on 12 EE outcomes in comparison to the overall average of the entire network. Organizations may use the report in any way they like (for marketing, internal reporting, etc.).

4. Attend a 1/2-day web-based zoom workshop ready to learn and discuss how to make web-based EE programs for adolescent youth more effective. Prior to the end of the meeting, each organization will develop a preliminary plan for revisions.
5. Commit to make revisions to your web-based programs, and we continue to collect outcomes data from participating students. We will produce a second confidential report and host a second workshop.
6. Share program revisions with the research team, so we can document whether these changes led to positive changes in outcomes. These lessons will be shared across the network. All program-specific outcome scores will remain confidential.
7. **Eligibility** is based on commitment to all six items listed above. Only organizations serving participants above age 10 (5<sup>th</sup> grade and older) are eligible.

### The EE21 Survey

The survey measures twelve outcomes of EE programs:

1. **Enjoyment/Satisfaction:** Evaluation of the experience.
2. **Place connection:** Development of appreciation and personal relationships with the physical location and its story.
3. **Environmental learning:** Knowledge regarding the interconnectedness and interdependence between human and environmental systems
4. **Interest in learning:** Enhanced curiosity, increased interest in learning about science and the environment
5. **21<sup>st</sup> century skills:** Critical thinking and problem solving; communication; and collaboration
6. **Meaning/identity:** A heightened sense of self-awareness, critical reflection, and purpose.
7. **Self-efficacy:** Belief in one's own ability to achieve one's goals and influence their environment.
8. **Environmental attitudes:** Sensitivity, concern, and positive dispositions towards the environment
9. **Environmental stewardship:** Motivations to perform stewardship-related behaviors
10. **Action orientation:** Intentions to perform behaviors relevant to the program's content.
11. **Collaboration:** Motivation to collaborate more with others
12. **School motivations:** Motivation to work harder in school

*Note: Many programs focus on a few of these specific outcomes. Using the full measure allows us to see areas of strength and to make comparisons across programs.*

### What next?

We are currently gauging interest in participating in this learning network, which will be the second one of its kind in the United States (the first is underway with Oregon Outdoor Schools and focuses on in-person EE programming). If you are interested, please send an email with contact information to:

Eileen Merritt, Research Scientist, Virginia Tech, [egmerritt@vt.edu](mailto:egmerritt@vt.edu)

The rest of the project team:

Marc J. Stern, Professor, Virginia Tech: [mjstern@vt.edu](mailto:mjstern@vt.edu)

Bob Powell, Professor, Clemson University: [rbp@clemson.edu](mailto:rbp@clemson.edu)

Troy Frensley, Assistant Professor, Univ. of North Carolina Wilmington: [frensleyb@uncw.edu](mailto:frensleyb@uncw.edu)