

eeWORKS: What We Have Learned and Why It Matters**June 18, 2025****Link to the recording:** <https://youtu.be/lotGDnwlXoQ>**eePRO post:** <https://eeopro.naaee.org/learning/eeworks-what-we-have-learned-and-why-it-matters>**Speakers:****Martha Monroe****Heidi Ballard****Nicole Ardoin****Alison Bowers****Judy Braus, Executive Director, NAAEE****Carrie Albright, Senior Communications and Data Specialist, NAAEE****Shared links and resources:**

- <https://naaee.org/programs/eeworks>.
- <https://naaee.org/programs/eeworks/community-citizen-science-support-outcomes>
- <https://naaee.org/programs/eeworks/benefits-k12-students>
- <https://naaee.org/programs/eeworks/conservation-environmental-quality>
- <https://naaee.org/programs/eeworks/benefits-early-childhood>
- <https://naaee.org/programs/eeworks/positive-youth-development>
- <https://evaluation.naaee.org/>
- <https://evaluation.naaee.org/resources/outcomes>
- <https://eeopro.naaee.org/learning/eelearn/eelearn-3-research-and-evaluation>
- <https://participatorysciences.org/resources/survey-instruments-to-measure-learning-outcomes/> (Association for Advancing Participatory Sciences)
- <https://participatorysciences.org/resources/research-evaluation/> (Broader evaluation resources)

Highlights of the chat transcript:**Welcome!****Paul List:** Paul List, calling in from Appleton, Wisconsin**Tina Harte Ballinger:** Tina Harte Ballinger – NASA Langley – Remote in Alabama**Carrie Albright, NAAEE Staff:** Welcome to today's webinar about eeWORKS! Please share your name, organization, and where you're joining us from!**Manuel Alonso-Martinez:** Manuel Alonso, Executive Director, Earth Team, Richmond, CA**Karen Christensen:** Karen Christensen Sacred Heart University**Catherine Price:** Hello! Catherine Price with the Cumberland River Compact in Nashville, TN**Sheryl Baumann:** Hello! Sheryl Baumann, Director of the Trumbull Nature & Arts Center, Connecticut**Janice Bailey:** Janice Bailey from Germantown MD**Bryan Martin:** Breanna Bashford, Outdoor Lab Foundation, Wheat Ridge, CO**Tate Vangellow:** Tate Vangellow, The Everglades Foundation, Florida

Monique Mckoy: Monique Mckoy, NC State Parks, Elizabethtown, NC
 nancy shannon: Nancy Shannon, Beacon, NY
 Jenny Frank: Jenny Frank, Maricopa County Air Quality Department from Phoenix, Arizona
 Jess Moskowitz: Jess Moskowitz, Appalachian Mountain Club, Attending from North Conway, NH!
 Heidi Smith: Olympia, WA
 Carson Monteith: Carson Raleigh NC
 Tellisia Williams: Dr. Tellisia Williams, Manager of Analytics & Insights at GSUSA. New York, NY
 Stacey Alfonso: Hello! I'm Stacey from Seattle, WA! :)
 Melanie Costello: Hi! Melanie Costello, NIU Lorado Taft Campus, Oregon, IL
 Billy Spitzer: Billy Spitzer, Hitchcock Center for the Environment, Amherst, MA
 Christy Roberts: Christy Roberts, McAuliffe-Shepard Discovery Center in Concord, NH
 Ian Humphreys: Hi from Northern Ireland
 Adela Pizarro-Conte: Adela Pizarro-Conte, San Juan Mountains Association, CO
 Erin Kinal: Erin from the Albany Pine Bush, Albany, NY
 Nicola Chopin: Hi all! Nicola Chopin, Saskatoon, Canada – Treat 6 territory and the homeland of the Métis people
 Diana Wilson: Diana Wilson, Toronto, Ontario, Canada
 Preethi Mony: Preethi Mony, Columbus, OH
 Nicola Chopin: Hi Judy!
 Nicola Chopin: Hi Alison and Nicole!
 Daniella Rolle: Hello! Daniella Rolle, the National Adaptation Forum, and I am based from outside of Seattle
 Bryan Baxter: Bryan from Harrisburg, PA
 Alison W Bowers: Hi Nicola!
 Lorelei Hanson: Lorelei Hanson from Amiskwaciwaskahikan, or Edmonton Canada
 Betty Olivolo: Betty Olivolo, Kittery, ME
 Peter Mecca: Good afternoon. Peter Mecca from Herndon, VA.
 Jen Kretser: Jen Kretser – The Wild Center, Adirondack Park – traditional and contemporary lands of the Haudenosaunee people
 Rebecca Gilbert: Rebecca from Atlanta, GA
 Lisa Eadens: Hello! Lisa Eadens, Colorado Alliance for Environmental Education
 Nicole Ardoin: Hi, Nicola!
 Lesli Moylan: Hi, Lesli Moylan here from Missouri Environmental Education Assn!
 Nicole Corbo: 🙌 Nicole Corbo, Founder, Roots & Sky Nature-Based Learning; Director of Outdoor Learning at The Attic Learning Community; Director of Washington Nature Preschool Association, joining gratefully from Coast Salish land in WA state.
 Stephanie Springer: Hello! Stephanie with NatureBridge– working from our campus in the Golden Gate National Recreation Area today
 Carrie Albright, NAAEE Staff: Great to have so many folks joining us from across North America and beyond! 🌍Welcome!
 Peggy Harte: Hello, Peggy Harte– Youth Education Program Manager at the UC Davis Center for Community and Citizen Science.
 Sarah Angulo: Hi there, Sarah Angulo, graduate student in Community Development at UC Davis

Carrie Albright, NAAEE Staff: Hi all! I'm Carrie (Bloomington, IN) and I'm happy to help if you need any tech support during today's eeWEBINAR.

Presentation

Part 1: The Process and Current Papers (Martha Monroe, Heidi Ballard)

Ian Humphreys: Is there some metric of the gains?

Nicole Ardoin: Great question, Ian. Because the studies include a range of measures, they're not directly comparable, but we do include a list of the studies so you can see the various ways in which the variables and metrics are measured and how we coded them.

Ian Humphreys: OK thanks Nicole. To your comment Carrie I may be missing the facts but the paper seems to reference the percentage of papers finding various benefits rather than the delta change for those benefits such as environmental literacy, physical gains etc.

Martha Monroe: I believe most of the reviews include both qualitative and quantitative evidence, and the papers explain that. The qualitative papers were helpful in exploring how participants felt about the program and what they learned. The quantitative studies tend to enable people to generalize.

Ian Humphreys: This has been a very interesting presentation, expertly delivered, thank you!

Catherine Price: You may have covered this earlier and I just didn't grab it, but how did you all define EE when reviewing programs to be included? For example, even if a program was really focused on water education, how did you make sure it was included as an EE program?

Nicole Ardoin: Great question, Catherine. We used self-definition of programs. If a program was a water education program AND called themselves 'environmental education,' we included them. Alison may speak to this more in her section, and we can discuss during Q&A. This is certainly a tricky part of this work as the definitional aspect can become very broad very quickly!

Martha Monroe: Catherine, for the climate change review, we used "climate change, global warming" and "education" so we captured a wide range of programs, whether they called themselves EE or not (and most didn't)

Manuel Alonso-Martinez: At the end of the day we figured (in our practice of 40 years with high school youth and hands-on EE) that all we can measure accurately are positive youth development outcomes using validated assessments with lots of research behind. Then we must imply that a thriving person connects with nature easily and thus is inspired to learn more (EE specific outcomes follow from there).

Stephanie Dobbie: What were you surprised about in your findings?

Nicole Ardoin: I love this question Stephanie! One of the things I found most surprising—and perhaps most actionable—is how many programs/orgs wish to have conservation-related outcomes, and yet how few programs are designed to actually create opportunities for that and document them

Elly Oyugi: Green Land Youth Network Kenya CBO promotes agroecological practices by training smallholder farmers in sustainable land use, organic farming, and soil conservation to enhance food security and climate resilience. We pioneer eco-

village tourism, empowering rural communities to preserve biodiversity while generating income through eco-friendly homestays and cultural exchanges. Our initiatives prioritize inclusive growth, ensuring women, youth, and indigenous groups lead and benefit from green enterprises. By blending traditional knowledge with innovation, we create holistic models for poverty reduction and environmental stewardship—turning vulnerable regions into hubs of sustainability and opportunity.

Elly Oyugi: I am Elly Oyugi from Kenya. I've found this conversation very insightful and informative. Let's keep pushing for inclusive growth.

Heidi Smith: Are there other organizations here that work with teachers rather than students? We (Pacific Education Institute) have found it challenging to gather this type of information without entering data sharing agreements with school districts. That seems to be the way we're heading moving forward.

Stacey Alfonso: Thank you.

Catherine Price: I know NAAEE has a great toolkit for Nature Connection evaluation. I'd love to see more resources like that so that programs can design good evaluation tools to help gather more evidence on these outcomes under the categories you have researched! <https://evaluation.naaee.org/outcomes/nature-connectedness>

Heidi Ballard: Great point about evaluation resources, Catherine – for the topic of Community and Citizen Science, there is downloadable Guide and survey question scales for a variety of science and environmental learning outcomes on the website of the Association for Advancing Participatory Sciences here: <https://participatorysciences.org/resources/survey-instruments-to-measure-learning-outcomes/>, and broader evaluation resources here: <https://participatorysciences.org/resources/research-evaluation/>

Q&A Break:

Carrie Albright, NAAEE Staff: We welcome additional responses to the prompts: 1—How have you used these reviews? 2—What else would help you?

Lesli Moylan: Answers to your prompts: 1. I use the 2019 study of K-12 benefits a lot in all kinds of presentations, and paste the iceberg infographic it's great! I am really excited to dive into the one on youth development, as I think that will help me engage some new collaborators (4H, after school networks) 2. Two research areas that would help me a ton in making the case for EE in schools: more information on teacher fulfillment / retention & on cost-savings and other tangible collective impact for "green schools" working to lower their environmental impact through action-oriented EE

Judy Braus, NAAEE: Thanks, Lesli. And please add any additional ideas that will help us move the field forward. :-)

Nicole Corbo: 1 – I use the reviews in all sorts of presentations, teacher training programs, and advocacy work.

Nicole Corbo: 2 – I need a researcher to collaborate with me in implementing a nature-based education continuum (inclusive of ESE) in a PS – HS learning community

Judy Braus, NAAEE: Thanks, Nicole Corbo, for letting us know you use these!!!! :-)

Martha Monroe: Nicole, could this document, on the NAAEE publication website, help you design something? <https://naaee.org/sites/default/files/2022-10/Assessing%20Connection%20to%20Nature.5.6.20.pdf>

Déana Scipio: @Nicole– if you're seeking a collaborator, I wonder about connecting to folks at the UW. I think we're connected on FB. Reach out and I'll connect you to some folks I know who may have students looking for capstone opportunities.

Nicole Corbo: thank you, Martha. I will check it out when I'm not on my phone, but what I'm really looking for is a researcher who wants to follow these students as they move through years of NBE as an integral part of their education experience... in addition to looking at the existing research

Part 2: Review of the Reviews (Nicole Ardoin, Alison Bowers)

Lorelei Hanson: What does the research indicate about the impact of EE on long-term behaviour change(s)?

Nicole Ardoin: Love that question Lorelei! Perhaps related to my response to Catherine above, one of our findings was how few long-term studies exist and that more (most) programs, and therefore studies, focus on knowledge and attitudes rather than behaviors in meaningful ways over time. The good news is that it points to an opportunity!

Lorelei Hanson: Thank you Nicole

Heidi Ballard: Regarding Evaluation – NAAEE has great resources here:

<https://evaluation.naaee.org/>

Martha Monroe: A review of teacher education (PST and IST) programs was another topic that was on the list...but wasn't done... yet!

Heidi Ballard: And evaluation help on specific outcomes here:

<https://evaluation.naaee.org/resources/outcomes>

Déana Scipio: I'm happy to see this link between students and collective action as we think about ways in which we may be setting kids up to feel distress rather as sense of agency and than action. I'm wondering how you all are thinking about this work in relationship to the changing landscape at the national level?

Tina Harte Ballinger: Is anyone else online working with EE through the lens of Communities as Learning Ecosystems, where both formal and informal learning organizations are working together toward EE of the learners in their community as a unified ecosystem?

Stacey Alfonso: I was going to ask: through the review – what gaps become evident? Martha mentioned review of teacher education programs – would love to hear more about that and other areas that seems the reviews are missing.

Heidi Ballard: Great question Stacey – I'd say one thing missing, as Alison just mentioned, is researchers feeling more comfortable publishing what doesn't work, null/negative results.

Déana Scipio: Hi Heidi! Sorry I can't stay too much longer, I'm running to a retreat. Delighted to see this work and we'll be digging in as an Education Team.

Martha Monroe: Absolutely, Déana. I find that non-formal programs might be stepping up to encourage community action projects that take more time than what teachers can afford.

Nicole Corbo: hi, Déana!! Yes, I've got a few researchers in mind. just thought I'd put it out there in this space, too.

Paula Peters: It is hard to find funding if we cannot measure the outcomes. It is one of our main problems! (Chile) It is more expensive than the program itself!

Nicole Ardoin: Paula, that is an excellent point. Embedded assessment is one way to address this challenge—that is, including measures throughout the program, when possible.

Martha Monroe: Yes Paula. You might be able to use these reviews to find a paper that measured what you are curious about... and then use the way they assessed those outcomes. Many folks use survey items over and over!


Carrie Albright, NAAEE Staff: Thanks to everyone who is sharing questions for our panelists. Please feel free to keep asking and we'll do our best to provide answers!

Martha Monroe: These reviews are marvelous models to others to copy! Grad students and teams at one or several universities can do this too!

Diana Wilson: I'm inspired! I'm working on a project next year in partnership with our local municipality to analyze neighbourhood-level water usage rates before and after a year-long engagement with the local school and surrounding community. We are DIY-ing the program evaluation!

Heidi Ballard: That sounds really exciting, Diana! Please do take a look at the evaluation links at NAAEE Eval websites if you want some examples and resources to draw from! <https://evaluation.naaee.org/resources/outcomes>

Judy Braus, NAAEE: We need funding!!!!!!!!!!!!!!!!!!!! :-)

Nicole Corbo: !!

Bryan Martin: We now know what strategies create desirable outcomes, I'd be interested in learning what are the most successful strategies for communicating these desired outcomes to the community/funders.

Martha Monroe: Bryan, the summaries on the NAAEE site took the research papers and made them "more digestible" so that it might be easier to talk to community funders.

Heidi Ballard: To Martha and Bryan's point – here is the website with the very digestible versions of each review: <https://naaee.org/programs/eeworks>

Preethi Mony: <https://eeepro.naaee.org/learning/eelearn/eelearn-3-research-and-evaluation>

Carrie Albright, NAAEE Staff: eeLEARN is a fantastic place to dig in to a deeper understanding of topics like research and evaluation—> :

<https://eeepro.naaee.org/learning/eelearn/eelearn-3-research-and-evaluation>

Closing Remarks

Karen Christensen: Very informative, inspiring! .My thanks

Nicole Ardoin: thanks to NAAEE and funders, all of the eeWORKS reviews are open access—THANK YOU Judy and team! yay!

Déana Scipio: Thank you all for the work you've done to synthesize and share this work with us.

Nicole Corbo: I so appreciate all the work you're doing. So rich. So useful. Thank you!!

Jen Kretser: thank you!! this is so exciting

Billy Spitzer: Thank you for sharing the results of this impressive body of work!

Carrie Albright, NAAEE Staff: Thanks to everyone who has shared questions and experiences. There is so much more to dig into! The details of these eeWORKS papers can be found at <https://naaee.org/programs/eeworks> .

Peter Mecca: Great presentations – very informative. Thank you, everyone.

Lesli Moylan: This work is really exciting, thank you!

Judy Braus, NAAEE: So many great comments and questions. Thank you! And thanks so much to Nicole, Heidi, Alison, and Martha! What a team!!!!

Ian Humphreys: This was brilliant. Thank you Alison, Heidi, Martha, Nicole and Judy. I'm also keen to follow up on the AI aspect related to assistance with reviews, mentioned briefly tonight.

Melanie Costello: This was very interesting. Thank you for sharing your work!

Joan Haley: Thank you, everyone!

Tina Harte Ballinger: Thank you all for the amazing work that you have done !!!

Mme Noura Fatchima: bsr depuis le début de cette réunion j'ai un problème de connexion. merci. Mme Noura Fatchima Djibrilla Association Nigerienne des Scouts de l'Environnement Niamey Niger

Mme Noura Fatchima: scout_envirt@yahoo.fr

Nicola Chopin: Thanks so much!

Nicole Corbo: Super inspiring!!

Danika Garcia: Thank you! This was wonderful!

Stephanie Dobbie: Thank you!

Jennifer Walker (she/her): Thank you!

Emily Maroni: Thank you all!!

Heidi Ballard: Thank you Judy and funders, and the NAAEE community!

Nicole Ardoin: Thank you NAAEE for your amazing support of this work over the years, and thanks to the community for your interest in and use of this work! ❤️

Christy Roberts: Thank you!

Manuel Alonso-Martinez: Very good! thanks

Kim Beardwood Smith: Thank you!!