

EXECUTIVE SUMMARY

# Stanford University Review of 56 Studies Reveals That Environmental Education Programs Achieve Substantial Civic Engagement-Related Outcomes at the Individual and Community Levels

A research team from Stanford University conducted a systematic mixed-studies review to identify environmental education (EE) program outcomes related to civic engagement.<sup>1</sup> After following the conventional steps of a systematic review to search for, identify, and synthesize relevant research, the team selected 56 peer-reviewed studies for the final sample.<sup>2</sup> The EE programs reported in these papers occurred in a range of settings, involved diverse audiences, and were generally longer than a month in duration. All 56 studies reported some level of positive findings, with 17 reporting civic engagement-related outcomes at the community level, such as community learning, community resilience, partnership building, and increased social capital. Fifty studies reported civic engagement-related outcomes at the individual level, with civic attitudes being the most frequent. Increased civic skills and civic knowledge were also commonly reported.

Additionally, the team conducted a thematic analysis, which revealed five practices EE practitioners should consider when designing or adapting their programs to better support civic engagement outcomes. Those practices include **(1) focusing on the local community; (2) actively engaging learners through participatory and experiential education; (3) building in action-taking as an integral part of the program; (4) emphasizing development of lifelong cognitive skills; and (5) providing ongoing opportunities for participants to engage in meaningful social interaction.** Please refer to the accompanying brief *Environmental Education Practices That Support Civic Engagement* for additional information.

## What Is Civic Engagement?

The research team identified several conceptualizations of and debates over defining features and nuances of civic engagement in the literature. Their review draws on Ehrlich’s definition of civic engagement<sup>3</sup> as it captures many essential ideas:

“At the core of the issue, civic engagement means working to make a difference in the civic life of our communities and developing the combination of knowledge, skills, values, and motivation to make that difference. It means promoting the quality of life in a community, through both political and non-political processes.”

— *Thomas Ehrlich, Adjunct Professor at Stanford University*



The Stanford review study also was guided by Crittenden and Levine's definition of civic education:<sup>4</sup>

"In its broadest definition, 'civic education' [refers to] all the processes that affect people's beliefs, commitments, capabilities, and actions as members or prospective members of communities. Civic education need not be intentional or deliberate; institutions and communities transmit values and norms without meaning to. It may not be beneficial: sometimes people are civically educated in ways that disempower them or impart harmful values and goals. It is certainly not limited to schooling and the education of children and youth. Families, governments, religions, and mass media are just some of the institutions involved in civic education, understood as a lifelong process."

—Jack Crittenden, Professor Emeritus at Arizona State University and Paul Levine, Professor at Tufts University

## What Is the Connection Between Civic Engagement and Environmental Education?

The field of environmental education motivates people to become more involved in their communities in ways similar to those of civic engagement and education; for instance, by strengthening attitudes, values, knowledge, and skills, and by offering opportunities to participate in solving problems. Creating EE programs with a civic engagement component emphasizes skill building and an action-oriented, project-based approach.

## What Are the Benefits of Civic Engagement?

A variety of benefits accrue to both individuals and communities when there is greater civic engagement. At the broadest level, civic engagement supports the establishment and maintenance of strong institutions and governance. It contributes to the survival of democracy. Communities with actively engaged citizens are stronger, more resilient, more equitable, and more economically sound due to increased social capital from people working together to resolve community concerns. The individuals who do this work benefit from civic engagement through strengthened networks, economic status, and social connection. Youth who are engaged in civic projects are reported to have improved social-emotional development and enhanced academic performance.



One outcome of effective civic engagement is making progress toward a more just and equitable society. This is true for programs that engage both youth and adults and reach across socioeconomic groups. As more people engage with governance in their communities, they bring more perspectives to the discussion. Increased civic engagement enables a community to benefit from new ideas, perspectives, discourse, and energy, which helps overcome the historic cycle of disengagement that often contributes to injustice and inequity.

Despite these documented benefits of greater civic engagement, the common indicators of civic engagement, such as voter turnout and volunteerism, show a measurable decline in this important aspect of American communities. This gap between what we value and what exists creates a highly compelling case for the development of environmental education programs that support civic engagement outcomes and provide opportunities for learners to be active in their communities. Such programs with a civic engagement component emphasizing skill building and an action-oriented, project-based approach can begin to reverse trends that threaten to reduce many of the qualities we value in our communities.



## Implications for Research and Practice

The Stanford’s team research review demonstrates that civic engagement-related outcomes from environmental education programs have multiple benefits. The research also leads to more questions for future research such as the following:

- What does civic engagement look like in different parts of the world, and how does this variation impact EE programs?
- How can EE support civic engagement around issues of environmental justice and provide opportunities for civic engagement in areas where it is profoundly lacking?
- How do different theories and conceptualizations of environmental citizenship, sustainability, and civic engagement influence the ways in which EE contributes to civic engagement?

The team also suggested that researchers and practitioners consider

- the implications of how different ways of defining civic engagement impact EE programs;
- expanding work with older adults as they were underrepresented in the selected studies;
- partnering with other community organizations through community-wide networks to offer intergenerational and lifelong environmental learning programming; and
- promoting interdisciplinarity to bridge connections between science and social studies, and also environmental justice, social justice, and critical pedagogy.

## Key Findings

The review synthesized a number of findings, which we group here under Civic Engagement Outcomes, Study Characteristics, and Program and Participant Characteristics.

### ■ Civic Engagement Outcomes

|                  |                                 |   |
|------------------|---------------------------------|---|
| Community Level  | SOCIAL COHESION                 | ✓ |
|                  | COMMUNITY WELL-BEING            | ✓ |
| Individual Level | CIVIC KNOWLEDGE & UNDERSTANDING | ✓ |
|                  | CIVIC ATTITUDES & DISPOSITIONS  | ✓ |
|                  | CIVIC SKILLS                    | ✓ |
|                  | CIVIC ACTION                    | ✓ |

Figure 1. Reported civic engagement-related outcomes were found in most of the environmental education programs.

### KEY FINDING #1

**All 56 (100%) studies in the review reported some level of positive civic engagement outcomes, either at the individual level or the community level or both.**

- Community-level outcomes, such as partnership building, social capital, stakeholder engagement, community learning, and community resilience, were reported in 17 (30%) studies.
- Fifty-three (95%) studies reported positive individual outcomes, such as civic knowledge and understanding, civic attitudes and dispositions, civic skills such as critical thinking and teamwork, and civic action. Civic attitudes, such as self-efficacy, civic responsibility, and empowerment were reported by 39 studies (70%).
- Six studies (11%) reported a measure of civic action that extended beyond and was not associated with the program.

---

**“Through the project’s public forum presentation, students learned ways in which they can act as public scholars, and the public also gained some insights from the students’ experience.”**

Seth D. Baum et al., The Pennsylvania State University<sup>5</sup>

---

### KEY FINDING #2

**Positive environmental and academic outcomes occur alongside civic engagement related outcomes (34 of 56 studies).**

- Environmental education outcomes were associated with civic engagement outcomes including environmental knowledge, skills, attitudes, and behaviors.
- Nineteen studies reported positive academic outcomes with increased skills related to reading, writing, and science; improved career preparation; and increased interest in school and learning.

### ■ Study Characteristics

To provide an overview of the 56 studies in the final sample, the team examined trends in publication year, journal outlet, research methods, and program approaches.

### KEY FINDING #3

**Interest in the relationship between environmental education and civic engagement is increasing, and the selected studies used multiple research methods and program approaches.**

- In the sample, 28 (50%) of the 56 studies were published in the most recent five years of the 20-year search timeframe.
- Research approaches included action research, community-based research, design-based research, and case study.
- Although the team found categorizing program approaches to be challenging since many studies used multiple approaches, the most common approaches were Education for Sustainability, community-based programs, service-learning programs, and stewardship programs.

---

**“The nature of the drama activities afforded the children opportunities to develop essential skills in cooperating, collaborating, communicating their thoughts and ideas, stating their own opinions and listening to the opinions of others.”**

Marie Jeanne McNaughton, University of Strathclyde<sup>6</sup>

---





■ Program and Participant Characteristics

KEY FINDING #4

**Positive individual-level civic engagement outcomes were seen across age groups, across continents, and regardless of length of program. Older adults were underrepresented in the programs reviewed in this study and may provide an untapped resource for interested participants.**

- Participants were adults (ages 18+ years) in 45% of studies. Participants were children (ages 1 month to 18 years) in 46% of studies. Both children and adults were participants in 5% of studies. Participant ages were not reported in 4% of studies.
- Programs spanned six continents; half (28) of the studies were conducted in North America.
- Program length was most often at least one month; nearly half (26) lasted more than one year.
- Adult participants were often reported as college students or graduate students. There is a clear gap and opportunity to create programs for willing and able older adults.

**“Taking action through a one-off environmental education programme will not give children action competence for the rest of their lives; this is something that should be taught and supported on a long-term basis and through the whole curriculum.”**

Irida Tsevreni, University of Thessaly in Greece<sup>7</sup>

KEY FINDING #5

**The thematic analysis revealed five environmental education practices that support the development of civic engagement among program participants. Those practices are**

- focusing on the local community,
- engaging learners in participatory and experiential approaches,
- including action-taking as a key program component,
- developing lifelong cognitive skills, and
- providing opportunities for meaningful social interactions. (See Figure 2.)

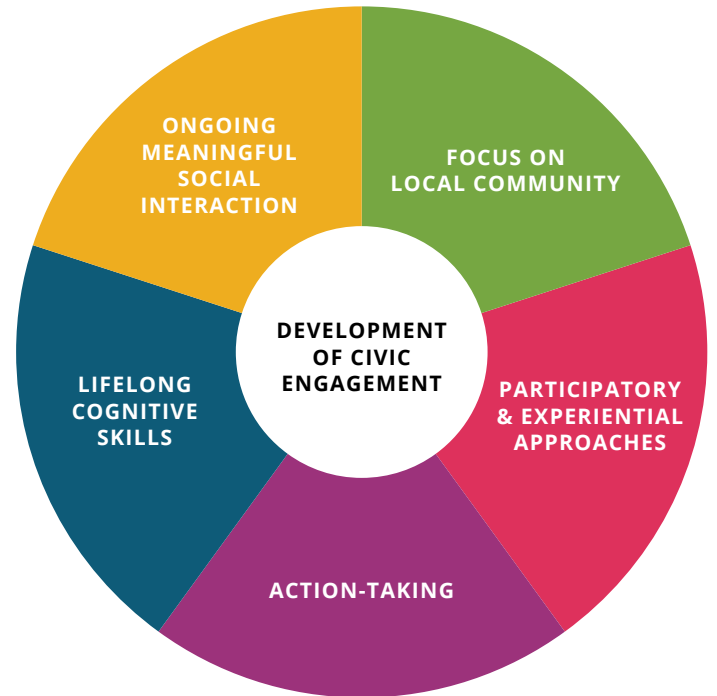


Figure 2. Environmental education practices and foci that support development of civic engagement.

## Conclusion

With partisan politics dividing communities across the nation, it is increasingly important to restore faith in democratic principles and processes. Encouraging people to become more civically engaged and empowering them with the skills to do so effectively are important and achievable outcomes for EE programs that use the local community as a source of action projects. Young people aged 12 to 25 are likely to be aware of the need for change and anxious to make a difference, making them particularly receptive to this type of opportunity. Such EE programs can lay a foundation for civic skills that may contribute to a lifetime of increased civic engagement and stronger communities.

---

**“Our results suggest that a place-based, data-rich experience linked explicitly to local, regional, and global issues can lead to measurable change in individual and collective action, expressed in our case study principally through participation in citizen science and community action and communication of program results to personal acquaintances and elected officials.”**

Benjamin Haywood, Allegheny College, et al.<sup>8</sup>

---

<sup>1</sup> Ardoin, N. M., A. W. Bowers, and E. Gaillard. 2023. “A systematic mixed studies review of civic engagement outcomes in environmental education.” *Environmental Education Research*, 29(1), 1-26. DOI: 10.1080/13504622.2022.2135688

<sup>2</sup> For more information on the research review process used in this study and how the study relates to the reviews completed for other outcome areas in the eeWORKS project, please see the methods section of Ardoin, Bowers, and Gaillard (2023) in note 1 and From Anecdotes to Evidence: Diving into the Research Review Process. [https://naaee.org/sites/default/files/inline-files/ee\\_works\\_review\\_process.4.26.21.pdf](https://naaee.org/sites/default/files/inline-files/ee_works_review_process.4.26.21.pdf)

<sup>3</sup> Ehrlich, T. (Ed.) 2000. *Civic responsibility and higher education*. Illustrated edition. Lanham, MD: Rowman & Littlefield.

<sup>4</sup> Crittenden, J. and P. Levine. 2018. Civic education. In *The Stanford encyclopedia of philosophy* (Fall 2018), edited by E. N. Zalta. Metaphysics Research Lab, Stanford University. <https://plato.stanford.edu/archives/fall2018/entries/civic-education/>

<sup>5</sup> Baum, S. D., D. D. Aman, and A. L. Israel. 2012. “Public scholarship student projects for introductory environmental courses.” *Journal of Geography in Higher Education* 36(3), 403-419, DOI: 10.1080/03098265.2011.641109

<sup>6</sup> McNaughton, M. J. 2004. “Educational drama in the teaching of education for sustainability.” *Environmental Education Research* 10(2), 139-155, DOI: 10.1080/13504620242000198140

<sup>7</sup> Tsevreni, I. 2011. “Towards an environmental education without scientific knowledge: an attempt to create an action model based on children’s experiences, emotions and perceptions about their environment.” *Environmental Education Research*, 17(1), 53-67, DOI: 10.1080/13504621003637029

<sup>8</sup> Haywood, B. K, J. K. Parrish, and J. Dolliver. 2016. “Place-based and data-rich citizen science as a precursor for conservation action.” *Conservation Biology* 30(3), 476-486. <https://par.nsf.gov/servlets/purl/10042629>