Advancing Environmental Education Practice

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Efficacy

**Highlights**

- Efficacy refers to people’s beliefs about whether their actions will achieve their individual or group goals.
- Self-efficacy and collective efficacy influence individual behaviors and collective action, and political efficacy influences whether we engage in the policy-making process.
- Efficacy influences our environmental behaviors through its impact on the goals individuals and groups set for themselves, actions they are willing to take, and their perseverance in overcoming obstacles to achieve desired outcomes.
- Environmental educators foster efficacy through providing participants with mastery experiences, role models, and supportive social interactions, and paying heed to participants’ emotions.

When we believe we will reach our goals—as individuals, groups, or part of a political system—we are more likely to take action. Mahatma Gandhi captured this idea in saying, “If I have the belief that I can do it, I shall surely acquire the capacity to do it” (quoted in Deats 2005, 108).
What Is Efficacy?

Unless people believe they can produce the desired effects by their actions, they have little incentive to persevere in the face of difficulties.

(Bandura 2004, 79)

Individuals have self-efficacy, whereas groups have collective efficacy. We can also have political and civic efficacy, which are useful in predicting whether we vote or engage in other civic behaviors. People with participative efficacy believe that their contributions to a larger cause, like reducing plastics pollution, matter. In short, psychologists, sociologists, and even political scientists investigate how different types of efficacy influence a suite of environmental behaviors and collective actions (table 10.1).

**Self-efficacy** is a belief that one can succeed in a specific situation or accomplish a task. Our self-efficacy plays a major role in how we approach goals, tasks, and challenges. Similarly, our belief that we can accomplish something strongly affects whether we attempt it and eventually succeed (Bandura 1993). Self-efficacy is often invoked in studies of academic achievement (Bandura 1993) and personal health (Strecher et al. 1986), where a person’s behaviors directly impact desired outcomes. However, environmental problems require more than the behavior of one individual to solve; thus other forms of efficacy come into play.

**Collective efficacy** shifts the focus from individual to group goals and actions. It is the belief that the problems of a group can be solved through collective activity (Van Zomeren et al. 2013; Barrett and Brunton-Smith 2014), or a shared “belief in the capacity of the group to pull together and realize shared aspirations or address shared problems” (Watts and Flanagan 2007, 786). A neighborhood’s or group’s collective efficacy predicts whether they will engage in collective action to benefit the greater good. For example, working in Chicago in the 1990s, researchers found that residents who felt a sense of collective efficacy were likely to take actions to address neighborhood problems—like transforming a trash-strewn lot into a community garden or reprimanding teenagers engaged in unruly behavior (Sampson et al. 1997; Hurley 2004).

Although collective efficacy can help explain why a group engages in collective action, it fails to explain why any one individual chooses to participate in that action. This is known as the free-rider problem (Ostrom 1990). For example, I might believe that my neighborhood is fully capable of converting a vacant space to a park and, thus, that my neighborhood has collective efficacy to reach this goal. But I ask myself, why should I participate when everyone else is fully capable of accomplishing the work? (In other words, why contribute when I can “free ride”?) Here is where a less discussed but important form of efficacy—*participatory*
efficacy—comes in. Participatory efficacy is a belief that my own individual actions in converting that park will make a difference, or more generically, a belief that one’s own contribution to a group’s action matters. Young people may believe that they have more influence on social problems, and thus higher participative efficacy, relative to adults (Fernández-Ballesteros et al. 2002; Van Zomeren et al. 2013).

Political efficacy refers to “the belief that political change is possible and that we have the capacity to contribute to it through deliberate judgments and actions” (Beaumont 2010, 525). It can be considered as a type of collective efficacy or beliefs about whether a group or the broader public has the ability to effect change in the political process (Lee 2006; Beaumont 2010). People have both internal and external political efficacy. Internal political efficacy is the belief that one has the ability to participate in the political process, whereas external political efficacy is the belief that government is responsive to citizens’ demands (Barrett and Brunton-Smith 2014). Internal political efficacy is often considered as a type of self-efficacy referring to an individual’s perception about his or her own potential to impact the political process. Closely related to political efficacy is civic efficacy, which reflects our beliefs about the effectiveness of participation in civic life (Serriere 2014). For students, who may have little opportunity to influence policy outside of school, school efficacy reflects similar beliefs about one’s ability to impact school policies (Torney-Purta et al. 2001).

**TABLE 10.1** Types of efficacy

<table>
<thead>
<tr>
<th>TYPE OF EFFICACY</th>
<th>DEFINITION</th>
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<tr>
<td>Self-efficacy</td>
<td>Belief in one’s ability to succeed in specific situations or accomplish a task (Bandura 1977)</td>
</tr>
<tr>
<td>Collective efficacy</td>
<td>Group’s shared belief in its collective abilities to organize and execute the courses of action required to reach goals (Bandura 1997)</td>
</tr>
<tr>
<td>Participative efficacy</td>
<td>Belief that an individual’s contribution is important to the success of collective action (Van Zomeren et al. 2013)</td>
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<tr>
<td>Political efficacy</td>
<td>Belief in our abilities to understand the political realm and act effectively in it (Beaumont 2010)</td>
</tr>
<tr>
<td>Internal political efficacy</td>
<td>“Belief that one understands civic and political affairs and has the competence to participate in civic and political events” (Barrett and Brunton-Smith 2014, 15)</td>
</tr>
<tr>
<td>External political efficacy</td>
<td>“Belief that public and political officials and institutions are responsive to citizens’ needs, actions, requests, and demands” (Barrett and Brunton-Smith 2014, 15)</td>
</tr>
<tr>
<td>Civic efficacy</td>
<td>Belief that one’s actions can make a difference in the civic life of one’s community (Serriere 2014)</td>
</tr>
<tr>
<td>School efficacy</td>
<td>Belief that actions taken by groups of students can improve their school (Torney-Purta et al. 2001)</td>
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</table>
Why Is Efficacy Important?

Unless people believe they can produce desired outcomes and forestall undesired ones through their actions they have little incentive to act or to persevere in the face of difficulties.

(Fernández-Ballesteros et al. 2002, 108)

Simply stated, efficacy is important because if we don’t believe we will succeed, we are unlikely to try.

- Self-efficacy is related to environmental behaviors in adolescents (Meinhold and Malkus 2005) and to collective actions in adults (Lubell 2002).
- Collective efficacy predicts an individual’s plans to engage, and actual engagement, in environmental behaviors (Homburg and Stolberg 2006; Barrett and Brunton-Smith 2014; Chen 2015; Barth et al. 2016; Jugert et al. 2016). Collective efficacy is especially important in addressing environmental issues, where in contrast to other endeavors like studying harder to improve test scores, individual behaviors do not result in immediate observable outcomes.
- Collective efficacy predicts collective environmental action (Homburg and Stolberg 2006; Chen 2015; Barth et al. 2016).
- Collective efficacy can help alleviate feelings of helplessness or hopelessness given the enormity of environmental problems relative to actions we can take as individuals (Meinhold and Malkus 2005; Chen 2015; Barth et al. 2016).
- Political efficacy is one of the strongest predictors of people’s political participation, including whether or not an individual is likely to vote, contact representatives, or become involved in political activism. Internal political efficacy appears to have a more consistent effect on different types of political participation relative to external political efficacy (Beaumont 2010; Levy 2013; Barrett and Brunton-Smith 2014).

Author Reflections

Efficacy—in its multiple forms—has had a profound impact on my life. The summer of my seventeenth birthday, I worked at a camp near Mount Rainier in Washington State. I remember on his days off, one of the boys working at the camp took a glacier-climbing class and summited Mount
How Does Efficacy Contribute to Environmental Behaviors and Collective Action?

It seems that being a member of a group changes our beliefs about what we can achieve. Even though we ourselves cannot solve pressing problems such as climate change we may feel that as a group we have the power to make a difference.

(Barth et al. 2016, 66)
that action; and a person’s emotional ability to deal with environmental issues (Bandura 1993; Lubell 2002; Young 2017). Self-efficacy is closely tied to locus of control—that is, individuals’ perceptions of their ability to bring about change through their behavior. Locus of control in turn has been linked to environmental behaviors through empowering individuals, or providing a sense that one can make changes and help resolve environmental issues (Hines et al. 1986/87; Hungerford and Volk 1990; Ernst et al. 2017).

Collective efficacy helps people who fear that individual behaviors do not make a difference envision how they can impact the environment by joining with others (Homburg and Stolberg 2006; Barth et al. 2016). Individuals realize that when people provide mutual support, form alliances, and pool their knowledge, skills, and resources, they have a greater ability to achieve a desired outcome (Fernández-Ballesteros et al. 2002). In addition, when a group shares a sense of collective efficacy, members may increase their confidence in their own ability to make change; in this way, collective efficacy contributes to individuals’ self-efficacy (figure 10.1; Jugert et al. 2016).

As a reflection of our beliefs about the effectiveness of our actions, political and civic efficacy affect our willingness to engage in political and civic behaviors (Barrett and Brunton-Smith 2014). Participative efficacy similarly reflects beliefs

**FIGURE 10.1.** Self-efficacy predicts individual environmental behaviors, whereas various forms of group efficacy are tied to collective action. Collective efficacy can also lead to self-efficacy.
about the contributions of our individual actions and thus impacts decisions about joining in collective action (Van Zomeren et al. 2013).

### How Can Environmental Education Build Efficacy?

Environmental educators can use four general strategies to foster self-efficacy and political efficacy in youth: mastery experiences, vicarious experiences, social interactions, and paying heed to participants’ emotional state (Bandura 1977; Beaumont 2010). A group’s collective efficacy depends on having successfully worked together in the past to achieve a common goal and to effect social change. Thus, environmental educators can enhance collective efficacy by engaging program participants in collective environmental actions (see chapter 5) in which they depend on each other to achieve a shared goal (Fernández-Ballesteros et al. 2002; Velasquez and LaRose 2015).

#### Mastery Experiences

Mastery experiences allow youth to master a skill or behavior. Such experiences can foster self-efficacy when they include authentic hands-on opportunities to practice a specific behavior, to experience how the world responds to one’s efforts, and to achieve success. For small children, playing in natural areas can provide mastery experiences. For example, when children build a dam with rocks in a small stream, they can see how the water changes course—the result of their actions (Chawla 2006). Older children and adolescents develop self-efficacy through more challenging mastery experiences guided by experienced and supportive adults. Breaking down behaviors or actions into simple, achievable steps, and steering youth away from overambitious efforts where their limited abilities or structural barriers are likely to result in failure, are also important to building self-efficacy and other forms of efficacy. Once students master relatively easy yet still challenging behaviors and build a sense of efficacy, they may feel empowered to take on more challenging behaviors (Lauren et al. 2016; Reese and Junge 2017). Mastery experiences are the most important strategy for fostering efficacy because they allow students to actually practice the behavior and enable them to see their accomplishments (Bandura 1977).

#### Vicarious Experiences

Vicarious experiences have to do with seeing others—usually role models—take action and achieve success. Students can observe, interact with, and emulate
role models who are knowledgeable about policy processes and are politically involved (Beaumont 2010). A teacher who rides his bike to school might inspire students to do the same and might even help those students to advocate with city council for bike lanes. Students also benefit from outside speakers, such as local politicians or community members, who are inspiring and have compelling stories of overcoming challenges (Beaumont 2010).

Social Interactions

Social interactions include expressing faith in students’ abilities, realistic encouragement (rather than empty pep talks), persuasion, supportive relationships, access to professional and community networks, and actual inclusion in a political community (Bandura 1977; Beaumont 2010). Such interactions entail guiding students through an activity—letting them know when they are succeeding and when they need to reflect and consider an alternative strategy. This includes providing feedback, opportunities for reflection and discussion, as well as helping students connect to groups that value and support their interest in influencing policy. Especially important is developing a sense of community with peers and community members engaged in the policy process, for example through internships and service learning (Beaumont 2010).

Emotions

In fostering efficacy, educators need to be attentive to students’ emotional state. A student who is anxious about being in a program, or is feeling vulnerable or out of place, is less likely to develop feelings of self-efficacy (Bandura 1977). An environmental educator should be aware of students who may feel stress or anxiety and help them become comfortable with the group and its activities. Further, environmental educators need to provide a basis for hope tempered with reality, demonstrate the power of working as a group rather than alone, and help students to persist through the inevitable challenges that arise (Jugert et al. 2016). Finally, educators can help students appreciate the value of the “sense of dignity, community, and solidarity that can come from an active political life” (Beaumont 2010, 554).

Implementing Efficacy-Building Strategies

Given environmental education’s history of engaging youth in hands-on experiences, it is easy to imagine how environmental education programs might incorporate mastery experiences, role models, and social interactions, and pay heed to program participants’ emotional state. Environmental action (see chapter 5) and positive youth development approaches to environmental education
(see chapter 14) in particular incorporate multiple strategies for building self-, collective, and political efficacy.

In the “Salad Girls” program, elementary school students decided they wanted to change the school lunch program to reflect their faith-based dietary restrictions. Their teacher helped create a “mastery experience” for the girls. She connected her lessons to her students’ interests and experiences, encouraged student inquiry, valued her students’ ethnic and religious diversity, and allowed students to practice activism skills (Serriere 2014). The cafeteria worker also supported the students’ desire to change the lunch offerings, thus alleviating a structural barrier that could have hindered the students’ success in building efficacy and achieving their goals.

Engaging youth in school-based civic literacy programs can enhance political and civic efficacy. In particular, discussions of political issues and opportunities to build rapport with politically engaged peers can build a classroom culture of political interest and strengthen students’ political efficacy. Further, teachers can help students build trust in government and civil society institutions and encourage students to persist in achieving their goals for social or political change as they face challenges over an extended period of time. This may involve suggesting alternative pathways for achieving change when an initial strategy fails (Levy 2013). Importantly, environmental education can provide real-life experiences in the community for students in civics classes.

Narrative and participatory theater also have been used to build self- and collective efficacy, including with vulnerable groups such as women and those living in developing countries. These methods draw on and validate participants’ traditional storytelling practices, while providing opportunities to act out new roles and form social connections to support collective action. Educators also can incorporate opportunities for discussions, teamwork, and self-evaluations into narrative and participatory theater (Young 2017).

Assessing Efficacy

Researchers use “I” statements to measure self-efficacy and “we” statements to measure collective efficacy. Likert scale survey statements are worded either more generally about the environment or specifically about a particular type of environmental behavior or action (see appendix).

For general self-efficacy, survey statements might be worded as “I am optimistic that I can protect the environment” or “I am capable of protecting the environment” (Reese and Junge 2017). A specific measure of self-efficacy in a study of plastics behaviors asked participants their level of agreement with the statement
“I think that I am capable of protecting the environment by means of my personal plastic reduction” (Reese and Junge 2017). Similar questions were used before and after a training program for farmers impacted by drought in Malawi: “I feel confident that I can deal with unexpected events”; “When confronted with a problem, I can usually find several solutions”; and “I can solve most problems if I invest the necessary effort” (Young 2017).

To measure general collective efficacy, evaluators can ask participants their level of agreement with the statement “People in the community can come together to solve problems” (Young 2017). In studies investigating climate change actions, more specific collective efficacy was measured by level of agreement with the following statements: “Climate change can be averted by mobilizing collective effort”; “If we act collectively, we will be able to minimize the consequences of climate change” (Morton et al. 2011); and “As inhabitants of this region we can do much to noticeably reduce CO₂ emissions together” (Barth et al. 2016). Researchers also have asked questions about participatory efficacy to determine individuals’ perceptions of the importance of their individual contributions to collective action. For example, “I believe, as an individual, that I can contribute to students’ ability to change energy policy in my school” (Van Zomeren et al. 2013). Finally, you may want to measure internal and external political efficacy (see appendix), or, in situations where students have little opportunity to influence policy, you can measure school efficacy by posing survey statements such as “Lots of positive changes happen in this school when students work together” (Torney-Purta et al. 2001).

You can also use open-ended interview questions to gain in-depth understanding of participants’ efficacy before and after an environmental education program. For self-efficacy, participants might be asked to “describe your ability to impact environmental problems.” For collective efficacy, you might ask, “What challenges do you see in working as a community in responding to changes in the weather in the past few years?” (Young 2017).