Seed Balls and the Circle of Courage

A Decolonization Model of Youth Development in an Environmental Stewardship Program

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"I need to get out more!" one middle school student reacted when she learned about her potential contribution to pollinator health in her home city. This concerned student is part of Middle School 88's Green Team, an afterschool ecology club in Brooklyn, New York. The Green Team provides interested students with a high-quality environmental education beyond the scope of MS 88's normal science curriculum. The Green Team meets twice a week to participate in environmental education activities and learn about issues concerning their environment.

MS 88 serves a community of students often considered at high risk for dropping out of high school and other socially undesirable behaviors (C-J. Joseph-Guevara, personal communication, May 18, 2017). The population is 89 percent students of color, mostly Latino/a and South American; 27 percent have special emotional or academic needs that have required intervention; and 78 percent qualify for free lunch (NYC Department of Education, 2016).

In this high-need setting, we designed and implemented an environmental education program designed to meet the needs of urban youth of color. The approach we used, a decolonization model called Circle of Courage, is a promising approach other afterschool programs can use to foster belonging, mastery, independence, and generosity while showing students that they can care for

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the environment even in their densely populated urban neighborhoods.

Environmental Stewardship and the Circle of Courage Model

Individuals from racial minority groups are often underrepresented in professions focused on the environment (Armstrong, Berkowitz, Dyer, & Taylor, 2007; Bonta & Jordan, 2007; Fulford & Thompson, 2013; Ralston, 2012). One way to increase minority representation and interest in ecology as a profession is to create programs based on *decolonization* (Fulford & Thompson, 2013). According to the decolonization approach, most current Western teaching models emerged from European pedagogical approaches that uphold imperialistic values; these models fail to teach minority students in a way that resonates with their experience (Pete, Schneider, & O'Reilly, 2013). A decolonization model involves implementing programs based on the cultures of indigenous people and other underrepresented groups to enrich and empower students in marginalized communities; this approach can diminish the academic achievement gap between minority groups and people with social power and privilege (Brendtro, Brokenleg, & Van Bockern, 1990; Pete et al., 2013).

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The Circle of Courage is one such decolonization model for positive youth development, based on the Lak-óta Nation's child-rearing practices. Owned by Starr Commonwealth in Michigan, the Circle of Courage brings the cultural understanding of the Lak-óta peoples into a modern educational context (Brendtro et al., 1990), combining the science of education and child development with the values of a child-centered society. According to Brendtro and colleagues (1990), European-based culture emphasizes obedience to authority and individualistic behavior. This culture has contributed to the depersonalization of education and made an authoritarian, vertical teaching style the standard in most schools. By contrast, Native American cultures are more family-based and child-centered (Brendtro et al., 1990). The Circle of Courage model fosters a child-centered education system by emphasizing four core values:

- Belonging
- Mastery
- Independence
- Generosity

The model sees these four values as universal—attributes that all children, and indeed all people, need to be emotionally healthy (Brendtro et al., 1990). When these universal and naturally endowed needs are not met, people can engage in negative, nonconstructive behavior. Rather than using arbitrary rules to encourage positive behavior, the Circle of Courage creates an environment in which belonging, mastery, independence, and generosity can be developed and restored.

The Circle of Courage has been applied successfully by organizations all over the world to address the needs of underrepresented youth (Coetzee, 2005; Espiner & Guild, 2010; Halas, 2002). The model may hold particular relevance in environmental education (Fulford & Thompson, 2013). The four core values of the Circle of Courage align with the goals of many youth environmental education programs. *Belonging* is an ecology-oriented value because it includes all living things, not just humans (Brendtro et al., 1990). *Mastery* encourages work, persistence, and achievement, not innate talent, as a path to success in any field. Through inquiry that develops mastery, students in environmental programs can learn motivation by working through setbacks and academic challenges. *Independence* encourages self-actualization as opposed to compliance with authoritarian dictates. The emphasis on an internal locus of control may promote environmentally responsible behavior (Allen & Ferrand, 1999; Kaplan, 2012). The value of *generosity* emphasizes giving, not acquiring, as a sign of personal success. It emphasizes the importance of community contribution while discouraging conspicuous consumption. Through these four values, students may acquire skills and knowledge, internalize the concept of active participation, and develop sensitivity and concern for environmental issues—all of which, according to the U.S. Environmental Protection Agency (2015), contribute to a successful environmental education program.

It is easy enough to create environmentally focused programming for young people that is engaging and informative. Connecting this knowledge to lasting environmentally responsible behavior is more difficult (Hashimoto-Martell, McNeill, & Hoffman, 2012; Zeldin, Christens, & Powers, 2013). We believed that the Circle of Courage youth development model would help Green Team participants make this connection due to its emphasis on social values rather than arbitrary rules. We also hoped that this environmental activity would encourage agency in Green Team members to improve their lives and engage with their communities.

To enable students to understand their impact on the environment, learning activities need to be relatable and have a tangible product (Hashimoto-Martell et al., 2012). For urban environmental initiatives, introducing nature as something local, rather than something found only in far-off wild places, has been a challenge (Haluza-Delay, 2001; Kudryavtsev, Stedman, & Krasny, 2012). Furthermore, although educators have long recognized that environmental literacy is essential to a well-rounded education (Fortner, 2001; Ralston, 2012), implementing environmental curricula in academic classes can be challenging in the face of high-stakes testing and inadequate funding for urban schools. These realities also work against using a holistic but nontraditional pedagogical model like the Circle of Courage during school hours. OST programs therefore are prime settings for environmental education and for innovative models like the Circle of Courage.

The Green Team Seed Ball Workshop

This project represented a cooperative venture between a community pollinator garden in Brooklyn and the MS 88 Green Team. These two programs created an environmental workshop to supplement the MS 88 science curriculum in a way that would help a significant contributor to the local (and global) ecosystem: bees. Participants created "seed balls": small balls of clay, compost, and native wildflower seeds. The balls are designed to be flung into any patch of dirt where a plant might be encouraged to grow, even if it's behind a chain-link fence.

Sowing flower seeds in otherwise wasted areas helps the environment by giving bees the food they need to pollinate plants, including those humans and animals consume. Made popular by the "guerrilla gardening" movement in New York City during the 1980s and 1990s, seed balls were invented by Masanobu Fukuoka in Japan 50 years earlier (Clarkson, 2004). The clay covering of the seed ball offers the ungerminated seeds protection from animals. As the clay erodes, the seeds can germinate and

MS 88 students and the Green Team adult facilitator display the completed seed balls after Session 1.

In Session 2, Green Team students learn to teach other students how to make seed balls.

A Green Team student facilitator teaches new students to make seed balls in Session 3.

begin to rehabilitate damaged landscapes (Overdyck, Clarkson, Laughlin, & Gemmill, 2013). Although tossing seed balls is not as effective as hand sowing seeds or planting seedlings, it is an inexpensive and useful way of revitalizing large areas of land.

Green Team facilitators reimagined a one-day activity in which participants simply created seed balls to create a multi-day student-centered pollinator workshop that emphasized the values of generosity, mastery, independence, and belonging. We divided the workshop into three sessions, presented on three Green Team days over several weeks. Session 1 gave Green Team students information about pollinators and colony collapse, introduced them to the concept of seed balls, and culminated with the students creating their own seed balls. After this initial session, we invited Green Team members to volunteer to lead a seed-ball activity with peers. Those who demonstrated interest participated in Session 2, in which they reviewed the information they learned during the first session and again made seed balls. Then in Session 3, those Green Team volunteers taught the information about pollinators and the seed-ball activity to students who were unfamiliar with the topic.

As we created this workshop, we determined that the Circle of Courage values would be demonstrated in the behaviors and attitudes outlined below, particularly during the final session.

- **Belonging:** Students understand the topic and the goals. They feel comfortable in the activity and with the group. Students know that they were chosen for this activity because they are interested in environmental issues; they believe that the adult facilitators trust them with the responsibility of leading a workshop.
- **Mastery:** Student leaders run the third session on their own. They feel confident in their ability to teach the activity and can refer back to information presented in previous sessions.
- **Generosity:** Students support one another and share supplies. They contribute productively to their community, pollinators, and the earth without expecting a return.
- **Independence:** Students work autonomously. In the final session, student leaders ask minimal clarifying questions of the adult instructors. Through the workshop, students demonstrate that they can contribute meaningfully to the health of the environment and can lead others to do the same.

We told the Green Team students that this was a new environmental workshop model that emphasized cooperation and leadership along with content knowledge, but we did not give them specifics about the Circle of Courage.

Fostering Belonging, Mastery, Generosity, and Independence

Fourteen Green Team members participated in Session 1 of the workshop. At the beginning of the session, we asked the students to name some pollinators and then to discuss what pollinators do, how they benefit humans, and why they are important. Finally, we asked what students thought humans could do to help pollinators. As students made seed balls (see box), adult facilitators led an informal academic discussion on colony collapse, the importance of pollinators to the ecosystem and food web, and what Green Team members could do to help.

Students demonstrated mixed levels of knowledge at the beginning of the first session. As a group, they had a basic awareness of some pollinators, including the wind, bees, butterflies, and other insects. Most knew, generally, what a pollinator was: "It brings seeds, or something, to one flower from another." One student described the importance of pollinators in maintaining genetic diversity in plant populations, and another student knew about colony collapse. All students were surprised and concerned at the endangered species status of some pollinators, and

SEED BALL RECIPE

Adapted from seed-balls.com (n.d.)

Materials (per student)

- ½ cup of red clay powder (available at seed-balls.com, or use regular clay but with less water)
- ½ cup of dirt or compost (We used Miracle Grow.)
- 2–3 teaspoons of native wildflower seeds (We used black-eyed Susans. Seed-balls.com says to use 2 or 3 seeds per ball, but other recipes recommend more.)
- Water, approximately 1–2 tablespoons

A seed ball after germination

Directions

Each student should mix the red clay powder, dirt or compost, and wildflower seeds. Add water till the mixture is gummy but firm enough to be molded into dime- or nickel-sized balls. Let balls dry for 12 to 24 hours. Throw seed balls wherever there is a need for flowers.

no student thought cities could be healthy ecosystems for pollinators. When asked if they could do anything to help the pollinators, one student said to buy honey.

After completing the seed-ball activity and pollinator discussion, students were able to define *pollinators* as all animals or things that can spread pollen. Students also mentioned the idea or the term *colony collapse*. Many could specify the percentage of human food that is pollinated by bees. Students demonstrated interest in the idea that they, as New Yorkers, could actively help the pollinator population by engaging in community gardening and fostering diverse native plants.

This first session reinforced Circle of Courage values by highlighting the importance of community involvement in environmental protection and the contribution that each student could make to pollinator health and diversity, thus fostering the core values of belonging and independence. However, the students were not able to demonstrate mastery of the material. When asked to name a meaningful place to deposit seed balls, several students named places that had meaning for them but would be inappropriate or impossible: "The top of the Empire State Building!" "Ecuador, where I am from."

When asked whether they wanted to lead a pollinator workshop as student facilitators, six Green Team members, all female, volunteered. During the second session, then, these six student facilitators reviewed the pollinator health information and practiced making seed balls. They also learned teaching techniques to help them introduce the seed-ball activity to a new group of students.

In this second session, the student facilitators demonstrated all four Circle of Courage core values. For example, they demonstrated belonging during the seed ball activity when they asked one another for help instead of relying on the adult facilitators. They recalled most of the information from the first session, and the quality of their seed balls improved, both signs of mastery. Generosity was demonstrated in their willingness to help one another as they prepared to share their new knowledge with others. Independence emerged when one student began experimenting with the shape of the seed balls, and the group made predictions about how a different shape would affect the growth rate.

Six new students learned from the Green Team student facilitators during the third session of the workshop. Each student facilitator was assigned one or two new students and recreated the original seed-ball session with them. The student facilitators accurately presented the workshop information and taught the seed-ball activity. After the session, the new students demonstrated a more nuanced understanding of human reliance on pollinators. Student facilitators kept the new students engaged in the activity, and the new students were excited at the prospect of distributing their seed balls.

Student facilitators demonstrated all four Circle of Courage values in this third workshop session. They expressed belonging in their willingness to work with the Green Team and the community pollinator garden and through their trust in the adults who helped them prepare to lead the final session. They demonstrated mastery not only of the new information about pollinators and the new skill of making seed balls, but also of the pedagogical techniques they needed to teach their new knowledge and skills to others. They demonstrated generosity with their growing desire to help pollinators, not only by participating in an environmentally responsible behavior themselves but also by disseminating the necessary information to peers. They demonstrated independence by presenting the pollinator workshop with limited help from their adult instructors.

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The workshop made a lasting impression on the students. In the six months following the third session, the Green Team adult leader heard participants referring to the pollinator information and discussing the seed-ball activity. Use of the Circle of Courage model may have helped with this retention. We hope that it also increased environmentally responsible behavior in these students.

The Circle of Courage and Environmental Stewardship

We found the Circle of Courage to be useful both in creating the seed-ball workshop and in evaluating the workshop's success. Although the Circle of Courage was not expressly designed for environmental or OST programs, its core values are congruent with the goals of environmental OST initiatives. The success of this workshop indicates that this model may be appropriate to use in OST environmental education.

Through these seed-ball workshops, students demonstrated the effect they could have on the environment

and inspired their peers to make a difference as well. They shared the Circle of Courage values of belonging, mastery, generosity, and independence. They gained a better understanding of the positive impact they can have on the world; this knowledge may even encourage them to pursue leadership roles in protecting the environment. Other OST programs may have similar results in using a decolonization model of environmental education.

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