



Miranda Luft, Christina Schultz, and JaiCe Stinton

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Best Practices Analysis for Incorporating Green Education into Schools

In a major shift from prevention to education, environmental programs are being implemented in schools across the country. Environmental education programs are important because they provide students with hands-on, experimental learning and a deeper appreciation for the environment. The process of sustaining environmental education programs in schools can be difficult and often costly. By outlining the current systems and policies in place to develop environmental programs, more schools can sustainably introduce green curriculum.

Scope of the Problem

The world is changing due to human activity resulting in climate change and the evolution of ecosystems. As a result of this deeply politicized issue, many policies are moving from conservation efforts to public awareness and educational campaigns. Policies have become a crucial tool in this endeavor to shape how the public interacts with their communities. Classroom environmental education programs are more crucial now than ever because teaching children how to properly interact with the environment is proven to have a longer lasting effect than discouraging them from interacting with it.

There are many various ways to incorporate green education into the classroom, however certain strategies and programs have proven more effective. Obtaining different levels of certification provides an element of recognition and legitimacy, that can be often correlated with additional funding. In order to foster a successful environmental education program, a few elements are key. In addition to legitimacy and funding, programs should have some element of hands on learning extended outside the classroom. Often, successful programs will partner with community organizations who can provide a setting and specific curriculum. These community partners often work alongside a faculty member to collaborate on curriculum.

Past Policy

Previous policy in New York State was historically focused on restricting the ways in which residents interacted with the environment. Since the mid-twentieth century environmental conservation has been a major concern at all levels of government. The first organization that addressed environmental policies and housed programs concerning protection of the environment in New York State was the Department of Environmental Conservation (DEC) in 1970. The DEC's main goal was to protect the environment from pollution and, in doing so, ultimately improve the welfare of New York State citizens. The DEC drafted several different laws and regulations that spanned from waste management to hunting for sport. These constraints controlled the toll humans would have on New York's ecosystems.

The Department of Environmental Conservation hired Environmental Conservation Police Officers and Forest Rangers to carry out regulations. In 1975, the New York State Energy Research and Development Authority (NYSERDA) was also created to provide unbiased information, analysis, and technical expertise. These two organizations focused on protecting and conserving the environment and limited access to various green destinations within New York.

Current Policy

Under Governor Andrew Cuomo's new environmental policies, the Department of Environmental Conservation opened-up several education centers and programs across the State to inform citizens of the environment's importance. Some of the local education centers are Albany Pine Bush Preserve, Five Rivers Environmental Education Center, and Peebles Island State Park. The State decided that it would be more beneficial to educate people, rather than to prevent them from accessing protected sites.

The DEC has recently developed programs, such as summer camps for school-age children, where they can learn and experience the outdoors. These camps include Camp Colby, Camp DeBruce and Camp Rushford. The preset lesson plans that are available online are designed to highlight key points that may be useful in environmental education in a more traditional classroom.

Practices that encourage kids to engage in environmental education include art contests and service days where the students pick a specific environmental issue to draw about or participate in various community service events. These programs allow kids to become more engaged and research topics in environmental studies in a fun and creative manner. This encourages more students to use the greener practices they learn in the classroom in their communities.

Currently, NYSERDA is encouraging students and schools to consider developing new scholastic programs to prepare students for careers in renewable energy and

environmental studies. NYSERDA showcases the fun and positive effects a green energy career can have on an aspiring student, and offers several outlets for students to take advantage of. Easy to navigate websites offer younger students the opportunity to explore NYSERDA pages and find answers to their questions, such as how to start a sustainability project and make efficient upgrades to buildings (NYSERDA, 2017).

Recently, Governor Cuomo outlined in his 2017 State of the State plans to have New York 50% powered by renewable energy by 2030. At this time, New York is ranked 3rd out of all states for implementing green technology and achieving set environmental goals. In recent years, New York has created thousands of jobs and increased overall awareness of renewable energy including the education sector (EcoWatch 2017). Furthermore, New York State has funded several different initiatives, such as scholarships for schools who participate in environmental projects and various outdoors experiences, to help bring students and environmental agencies close together.

Since Governor Cuomo took office in 2010, he has advocated for more green initiatives for businesses and schools. New York State designates special awards to K-12 schools that achieve "exceptional environmental benefits and improve and protect" the environment. Some of the awards given out include NYS Environmental Excellence Awards, which highlights schools and other organizations for their efforts in improving and protecting the environment. Green Ribbon Schools, is a program that rewards schools with a student body that incorporates



environmental learning outside the classroom. (US Department of Education, 2016) Both awards are competitive and pave ways for the winners to gain marketing, networking, and financial opportunities.

Best Practices

Green education initiatives can be found in all levels of government. On a national level, there is the United States Department of Education Green Ribbon School Initiative (ED-GRS), a program that recognizes schools taking a comprehensive approach to making their schools more environmentally friendly. This program is found in many areas of New York State, from Long Island to Upstate (US Department of Education).

New York State is permitted to nominate up to four schools and one school district to ED-GRS each year. However, the State of New York does not nominate in the district award category. There are certain requirements for the types of schools that New York can nominate. For example, if New York State nominates four schools, at least one school has to be a public school with a 40% disadvantaged population and one school has to be a nonpublic school.

From the schools that are nominated to the ED-GRS program, they are evaluated based on the 3 following pillars:

- **Pillar I:** Reduce environmental impact and costs, including waste, water, energy use and alternative transportation.
- **Pillar II:** Improve the health and wellness of students and staff, covering environmental health and nutrition and fitness.
- **Pillar III:** Provide effective environmental and sustainability education, requiring robust environmental education that engages STEM, civic skills and green career pathways.

Key Organizations

- **New York State Energy Research and Development Authority (NYSERDA):** NYSERDA offers a variety of services such as professional consultations, youth camps, and grants for the community and local businesses. NYSERDA is a great service to provide consultation on projects. They also offer mentoring to students interested in green initiatives.
- **Department of Environmental Conservation (DEC):** The DEC has a large online presence. Their website is full of resources for teachers to build curriculum for their classrooms. There is also an option to connect with your local DEC branch and set up field trips and experimental learning opportunities.
- **Schuylerville Elementary School:** This Capital Region school has a Green Ribbon Certification. They are a great resource to discuss the process of obtaining certification and potential green projects.
- **Academy for Conservation and the Environment (ACE):** ACE is located in the urban community of New York City. They are a resource to utilize for implementing projects in this type of setting where green spaces can be limited.
- **Head Royce:** Located in California in a suburban community, Head Royce is home to a multitude of green projects. The school has several pillars that can be useful for other schools to model their initiatives after.

Case Studies across the United States

Based on the success of the Green Ribbon School federal program, several cases across the nation have been cited as effective models for green education. Each of these models house a broad range of green programs and strategies. However, the models differ in geographical location and community setting. The Capital Region is comprised of both rural and urban communities, so each model could be tailored to the specific needs of various districts.

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Head Royce Oakland, California

Located in Oakland, California, Head Royce is an independent school for students in grades K-12. There are four pillars of a Green School that Head Royce addressed. The pillars are : Strive to be "Toxics Free", use of resources sustainability, create green schoolyards, serve healthy food, and teach stewardship and student action. The students of Head Royce facilitated a trash audit to educate themselves on the do's and don'ts of recycling. This allowed the students to create a program for recycling, and the school began to separate and removing compostable waste. The school also received a grant for solar panels. Additionally, students run the "New Cafe," a green commercial kitchen, serving fresh, local, and organic food on reusable dish-ware. The school also runs a vegetable garden where the produce used in their kitchen is grown (Head Royce Independent School).

Academy for Conservation and the Environment, New York City, New York

Located in Brooklyn, New York the Academy for Conservation and the Environment is a public school that's mission is designed around the environment in the New York City Public School system. The school implements various green technologies such as solar panels and energy efficient lightbulbs. Students are able to interact with green technology on a daily basis allowing for a unique education experience coupled with green technology. (Academy for Conservation and the Environment)

Schuylerville Elementary School- Schuylerville, NY

Located just outside of Saratoga Springs, Schuylerville Elementary School was designated a Green Ribbon School in July 2016. The school was awarded the distinction for its exemplary efforts to reduce environmental impact and costs, promote better health, and ensure effective environmental education. Schuylerville did this by creating a sustainable partnership with a local park board, paving the way for experiential learning and projects for their students outside of the traditional classroom setting. Additionally, the school implemented a composting project (Schuylerville Central School District).

Grants, Subsidies, and Potential Fundraising

With the emergence of policy that is geared towards environmental education, there are several opportunities for grants and financial incentives available. Grants vary in qualifications for organizations with 501(c)(3) status, which nonprofits, such as charter schools, have. However, many are based on classroom and school initiatives aimed at different aspects of environmental projects and education. These include sustainability education, waste reduction, and basic introductions to environmental impact. All topic areas can be connected to school-wide projects, such as a greenhouse initiative, or other interactive classroom projects. Many private companies offer grants for environmental sustainability as it pertains to their company mission statements. These private for-profit companies include Waste Management (WM) and Clif Bar's Family Foundation.

WM offers charitable givings to organizations that support an introduction to environmental issues and particularly sustainable environmental education programs for high school students. On their official website, the company states that projects available for potential funding “[include] environmental and science related projects, science fairs, Earth Day projects and others” (Waste Management, 2017). Any large-scale initiative can easily be placed under the category of “other,” especially if developed in a structured classroom setting. However, this grant does not have a definitive amount allotted for the donation, thus, this may be considered for supplementary funds to ensure the project's success, but not a main source of funding. Additionally, an aspect of community involvement and improvement must be displayed within the project.

In contrast to WM grants, Clif Bar's Family Foundation gives small grants for environmental education, averaging \$7,000. The projects the Foundation is looking to fund are clearly outlined with a definitive objective: promote community involvement and promote positive change (Cliff Bar Family Foundation, 2017). While their official website describes a self-proclaimed “holistic approach,” other attributes of a project that do not have a focus on investing in capital and are subject to review three times a year to ensure the project is on track. Application deadlines are on a strict cycle with a deadline on the first days of February, June, and October.



In addition to private organizations, many nonprofit advocacy groups also offer grants and fundraising methods for environmental initiatives. Some viable nonprofit options include Wild Ones and Funding Factory. Wild Ones is a nonprofit advocacy and education group which offers grants to help teach high school students about natural plants in their region (Wild Ones, 2017). According to a letter put out by the organization, grants upward of \$500 are awarded from the Lorrie Otto Seeds for Education Fund. This fund supports initiatives that are based on student involvement all throughout and supports the introduction of native vegetation in an educational environment. An example of a potential project, given by the organization itself, on their website is “the establishment of a native plant community in an educational setting such as an outdoor classroom” (Wild Ones 2017). This could be looked at as a supplementary fund for either a small, initial school garden or be incorporated in a larger project, such as a greenhouse.

Another potential supplementary resource for sustaining a project within a school setting would be through Funding Factory and similar organizations. Funding Factory specifically assists groups and organizations in raising money for projects by allowing them to send in empty ink and toner cartridges, then reimbursing them for the valued amount of each (Funding Factory, 2017). This not only encourages environmental consciousness with the new green project being implemented, but may be a method of future funding, even if the return is purely reliant on the availability of cartridges to send in.

Glossary

Charter School: A publicly funded independent school established by teachers, parents, or community groups under the terms of a charter under a local or national authority.

DEC: Department of Environmental Conservation is a New York State specific administrative body. The DEC is responsible for various park conservation efforts and environmental policing.

Green Ribbon Schools: a national program established by the Education Department that recognizes schools taking a compressive approach to making their schools more environmentally friendly.

NYSERDA: New York State Energy Research and Development Authority. This agency encourages private sector investment in green energy and assist in overcoming large-scale obstacles.

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Community Policy Institute

The Community Policy Institute builds capacity surrounding policy within the Capital Region. We provide researched-based policy information to our community partners who use the information to modify best practices and advocate for policies that will further the development and effectiveness of direct community engagement.

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