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Kate Van Patten
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SOC 450 Term Paper

Environmental Clearinghouse of Schenectady

Mission and Goals

Environmental Clearinghouse of Schenectady is a non-profit, non-political association founded in Schenectady in 1972. The organization was inspired by Rachel Carson's values and initiatives. Since the beginning of ECOS, the organization has remained a dedicated and flexible voice for the environmentalism movement. Over the years, the missions and initiatives of ECOS have changed as the organization's priorities shifted with time. Previously, ECOS initiatives were simply to produce monthly newsletters, lead nature walks during earth week, hold environmental workshops, and publish the Schenectady, Saratoga, and Albany County Nature Guides. Today, the overall mission of Environmental Clearinghouse is to provide environmental information and educational opportunities that enhance appreciation of the natural world; to build a community that is aware and knowledgeable about environmental issues; and advocate informed action to preserve our natural resources. ECOS has expanded to include not only Schenectady County but the Capital Region and beyond.

New initiatives that will advance ECOS toward reaching their goals are to develop and publish an online version of ECOS Natural Area Guide that includes information about outdoor recreation areas in our region and a map of the sites. ECOS will develop an educational curriculum on the ecology of the Mohawk River as well as create training materials for educators and lesson plans for students. This initiative directly relates to increased environmental education and awareness in our area and along the Mohawk River. ECOS offers programs to explore and learn about the natural diversity of the community by holding seasonal events, after school programs for kids of all ages, outdoor educational programs for inner-city summer camps and

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seasonal volunteer-led hikes. In order to build a community that is aware and knowledgeable about environmental issues, ECOS connects urban families with their local community gardens, has created a children's garden at Vale Urban Farm and hosts events at key sites along the Mohawk River. It is extremely important that children of all backgrounds receive the same education and the same opportunities to experience the outdoors. Education of all ages and demographics instills a mindset that the environment is for everyone's enjoyment, but it is everyone's responsibility to protect.

Finally, to advocate informed action to preserve our natural resources, ECOS will provide resources and support for grass-roots environmental protection efforts in our region. These efforts include providing priority recommendations for regional environmental protection and facilitating volunteer-led initiatives for community action. These efforts shift to include impromptu environmental initiatives as their importance becomes noticed. For example; February 24th was Skip the Straw Day, and the public was invited to join volunteers in making buttons and learning about the negative effects straws have the environment and biodiversity. All of these initiatives are to further ECOS in reaching their ultimate mission to provide environmental information and educational opportunities to the public.

ECOS is expanding its outreach and creating a new Woods and Waters Natural Area Guide for Schoharie County. This effort is led by a member of The Board and will be completed within the year. The goal is to write a hard copy as well as integrate Schoharie County into the online Woods and Waters map.

Organization of ECOS and Funding

Environmental Clearinghouse is organized into four sections; The Officers, The Board of Directors, the Executive Director and the Members. The Officers govern The Board of Directors, who govern the Executive Director, who provide services for the members and the public. The Officers and Board of Directors are elected into their position and when necessary they nominate and vote on the Executive Director. The Officers have the most decisional power at ECOS and can make a decision on time sensitive matters without discussing with The Board. The main duties of the Officers and the Board of Directors combined are to meet once a month, plan and organize the meetings, create the agenda, discuss updates, pass a budget, determine the responsibilities of the Executive Director and plan a membership dinner. Although the Board of Directors and the Officers govern the Executive Director as well as the organization, their duties are relatively minimal in aiding the development of ECOS and the advancement of ECOS toward achieving its mission. They serve more as a governing body for the organization than actually implementing change at Environmental Clearinghouse. Leah Atkins is a part time employee, she must complete all of the day to day operational duties while she must simultaneously develop new programs, educational opportunities and secure fundraising. Atkins creates environmental programs, manages public outreach, researches new initiatives and ideas and maintains or creates relationships between the community and ECOS. Atkins also develops resources sufficient to ensure the financial health of the organization, meaning she manages the funding for Environmental Clearinghouse.

Environmental Clearinghouse receives funding from membership fees, donations, grants, and volunteers. To maintain membership funding, Atkins must send out quarterly brochures about ECOS and membership renewal letters, she must send thank you letters in response to a

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donation and facilitate volunteer-organized annual events to encourage membership participation and preserve positive relationships with the members. There are currently about 150 active members contributing to ECOS, annual membership fees range from \$30 per person to \$500 dollars per patron. In total, ECOS receives about \$8,000 annually from their members. The annual dinner for the members is also a large fundraising event for ECOS, the dinner brings in about \$4,000 in revenue. The Rachel Carson Event is another annual occasion focused on celebrating the life and accomplishments of environmentalist Rachel Carson. The evening is filled with food, wine, music, a silent auction and raffle. It is \$50 per person to attend the event and half of each ticket is available for corporate match. This event is also extremely successful and on average ECOS earns \$5,000.

The organization's projected 2018/2019 budget is expecting a deficit. This is for multiple reasons. Environmental Clearinghouse did not have an executive director for about a year and during that year, they were relatively stagnant as an organization but ECOS saved a considerable amount of money by not needing to pay a full time or part time salary. But, this year ECOS had to pay a part-time employer salary and later this year ECOS will have to pay an additional salary to an administrative assistant. The new employee will work about 10 hours per month at a rate of \$50/hour. The assistant will help Atkins complete duties such as updating the books, contacting the members, sending thank you letters for donations, answering general phone calls and emails. The issue of an assistant has been one of the biggest debates discussed by the board because they could not understand why Atkins needs so much help and the Board could not justify the cost. After many discussions, the Board of Directors finally answered Atkin's concerns and agreed to hire a part time administrative assistant. The presence of an assistant will allow Atkins to free up her time to focus on grant writing, and environmental education or program development. In

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some cases, the organization can no longer expect to make money with the same efforts that made up a significant portion of earnings in the past. ECOS previously relied heavily on income from the printed Natural Areas books. ECOS projects that as soon as next year the organization will no longer receive any income from sales of the physical books. Because ECOS wants residents to remain informed about the environment, they have begun the process of digitizing the books. The budget is of major concern, but the organization must trust the Executive Director and expect to see change with time. There are many other ways in which the organization can secure reliable income and Atkins is eager to apply for more grants and funding for ECOS longevity.

Literary Review

Introduction to Environmental Education

Environmental Education is defined as any educational activity that fosters the development of environmentally friendly literate citizens. Environmental literacy involves an understanding of environmental issues, how human decisions impact environmental quality, and how to use this knowledge to make well-informed choices that also take into account social and political considerations (North American Association for Environmental Education, 2018). It is our responsibility to make sure children are prepared to address future environmental challenges and opportunities as individual citizens, as members of the workforce, and as parents who will prepare their own children to live responsibly in our world.

Declining Outdoor Participation

Nature is in constant competition with the television, the internet, video games, and other attractions of the modern world (SECESE, 2008). Children are over stimulated and now have endless opportunities to entertain themselves while indoors, but we must introduce them to the wonders of the outdoors. Children under 13 living in the United States spend on average only about half an hour of unstructured time outdoors each week (SECESE, 2008). Outdoor recreation should consume a major portion of our children's daily lives, but we continue to see the opposite trend. The participation rate among males ages 6 to 17 increased by one percentage point since last year to reach 65%. Participation rates among males ages 18 to 24 dropped two percent to reach 54% participation. Meanwhile, participation among females ages 6 to 17 dropped by one percent and young adults, ages 18 to 24 increased three percent to reach 56% participation (Outdoor Foundation, 2017). Generally, more young males and adult women are spending time outdoors while participation for young females and adult men is dropping. These rates remain relatively steady but overall participation is very low.

Data shows that adults who were introduced to the outdoors as children were more likely to participate in outdoor recreation during adulthood than those who were not exposed to the natural world as children. 37% of adults who grew up enjoying outdoor activities still enjoy the outdoors today (Outdoor Foundation, 2017). Unfortunately, from 2015 to 2016 outdoor outings fell from 11.7 billion excursions to 11.0 billion. These are the fewest outings since 2010. In 2015, outdoor participants embarked on an average of 77 outings per person but the year prior the average was about 82 outings per person (Outdoor Foundation, 2017). There is a pattern of decline in the willingness and will to participate in outdoor recreation. This is due to our busy

lives, the expense of outdoor equipment, and the lack of company willing to go outdoors (Outdoor Foundation, 2017).

Not only does exposure to the outdoors as children have positive effects on people's attitude towards conservation and environmentally responsible behavior as adults, but lack of exposure has negative effects on children's overall health (Santharam, 3/12/18). In the absence of engagement outdoors could increase the chance of attention deficit disorder in children. Children spending more time indoors and looking at screens are weaker, less muscular and unable to do basic physical tasks. "Increased obesity, loneliness, depression, and lack of social skills are some other consequences attributed to children spending more time indoors with modern electronic gadgets" (Santharam, 3/12/18). The need for children's connection to the outdoors and participation in environmental recreation is necessary to produce environmentally aware adults but also to maintain healthy generations to come.

Importance of Early Environmental Education

Environmental education is a lifelong learning experience therefore, educational programs should be available for children, adults, and families of all ages (Schad, 2016). Regardless the age, it is never too late to become an informed citizen about some of the biggest concerns facing society today. Education enables critical thinking by using information gathered through research to assess a situation and make educated opinions and hopefully, turn those ideas and opinions into action. Although environmental education is a lifelong journey, and there are always new challenges to learn, introducing the topic to students at an early age will help to instill these values and create an appreciation for the environment from a young age with the idea that this appreciation stays with them throughout their lives (Schad, 2016). Habits develop early

in a child's life and when we inspire kids to care for the environment we can reduce the likelihood that they will ever develop destructive or detrimental habits toward ecosystems. In addition to positive environmental habits, knowledge about the environment brings an awareness and deeper understanding of our challenges. When we are aware, we become concerned, and motivation to make a change emerges (Schad, 2016). Our lack of understanding about the natural world only worsens the current environmental issues and conditions (Zhang, 3/12/18) therefore, as more individuals become aware of the issues and involved in remediation, their collective actions will have greater environmental impact and can bring about a shift in the cultural attitudes and behaviors about the environment (Schad, 2016). The National Environmental Education Foundation believes that environmental concerns can only be solved if all Americans understand how they play a role in addressing and mitigating these problems first-hand.

It is simple to integrate environmental education into any and all existing studies in schools such as math, reading, science, art etc. therefore, if environmental education is not included we have neglected to ensure future health and safety of our next generation and our world. Environmental education will promote outdoor activities and hands-on learning which is an ideal way to engage even the most difficult to teach students because learning becomes fun and relevant. (SECESE, 2008). Research found that students may be aware of the environmental issues and may have a basic understanding of the natural world, but they lack the knowledge about the interconnection between the individual (themselves) and the environment (Zhang, 3/12/18). When we educate young students about the environment it is pertinent to ingrain the mentality that each individual can make a difference (SECESE, 2008). Students who are exposed to natural areas through mentors dramatically increases their willingness to make environmentally positive choices (SECESE, 2008), so teachings from individuals students

idolize could have stronger and long-lasting impacts. The ultimate goal is to teach our children to be responsible citizens of our world and to teach the virtue of service to the common good (SECESE, 2008). If we can prepare the next generation to become environmental advocates, they will have a cleaner, healthier future than the one we have left behind.

Connecting Urban Residents with the Outdoors

All students regardless of socioeconomic status, should have the opportunity to experience the outdoors, especially the unique landscapes that exist in New York State (SECESE, 2008). Students within urban environments are of utmost concern because of the trend of pollution that exists in densely populated city centers. Residents become used to, and comfortable with the pollution and over time, they lose their deep connection to the natural world and therefore their desire to protect our environment (Zhang, 3/12/18).

City centers are home to minority community groups and research has shown that minorities don't see themselves as being an important contributor to environmental issues (SECESE, 2008). In order to save the planet, we cannot confine the environmental movement to certain ethnic and economic constituencies. The decisions that all of us make on a collective basis have a dramatic impact on the environment. That is why it is important to make the extra effort to reach out to those communities that feel disenfranchised or may not have the resources or background to make informed decisions about the environment. (SECESE, 2008). In the past, minorities have removed themselves from the environmental movement (EPA, 1990). The poor residents in an urban setting cannot meet some of the basic requirements for normal living. The environment is categorized as a superfluous topic because poor residents cannot care for the environment until they have satisfied their basic needs such as housing, health, food, and safety

(EPA, 1990). This is a challenge to overcome but there are ways to educate urban students, so they understand the challenges we face as a society and the ways in which they can make a difference. If we inform urban minority audience about specific environmental risks in their particular community, we increase the possibility of understanding because the issues are relevant to their daily lives (EPA, 1990). Residents connect with messages about their own communities and become passionate about finding remedies to problems within their environment (Schad, 2016). Additionally, educators can suggest actions to be taken by the community to affect change in their immediate and or global surroundings (EPA, 1990).

Effectiveness of Environmental Programs

A study at North Bay, a week-long program provides residential experience for high need students. For most students, it is the first time they travel away from home (SECESE, 2008). While at the program, the students are fully immersed in school work that relies on collaboration, independent research, they learn about life science and environmental science, qualities of a good scientific question as well as learn how to hypothesize and so many other necessary skills. “Students learn that they can influence the quality, health, and safety of their own home environment, and have the confidence to act, and have the knowledge and skills to do so” (SECESE, 2008). A major focus of the program is on character development and leadership, environmental responsibility and academic performance, and school culture. Evaluation of the program showed significant short-term improvement of the children that went to North Bay. Students scored significantly higher on survey elements associated with enhanced character development and leadership, environmental responsibility, and academic performance (SECESE, 2008). Follow-up surveys three months after the experience, character development and

leadership characteristics remained but environmental responsibility and academic responsibility faded over time. The results of this information confirm the need for effective follow-up experiences and students also need a variety of different environmental programs. Different environmental programs have different effects on learning (SECESE, 2008) and environmental education should not advocate a particular viewpoint or course of action, but it should teach students the ability to see all sides of our societal issues (Schad, 2016).

The most effective form of experience for students is known as *Direct Experience of Nature*. Direct experiences within nature include hiking, playing in the woods, camping, and fishing. “These experiences offer a magnitude of continuously changing sights, sounds, smells, and touches that promote a wide range of adaptive and problem-solving responses, alertness, and attention”. These characteristics make it a more meaningful experience for students than *Indirect Experiences* (i.e. zoos, nature centers, aquariums) and *Vicarious Experiences* which have no physical contact with nature. Vicarious Experiences include experiencing the outdoors through art, photographs, and videos (SECESE, 2008). When all possible, the nature experienced should be a direct experience. Structured and indirect experiences of nature do not require the same level of spontaneous engagement and do not have the same benefits as the disorderly direct experiences. Hands-on experience within nature is more important than young children learning about nature (Santharam, 3/12/18).

How student’s perspective of the environment changes after environmental education

Prior to attending an environmental, outdoor experience at Mountain School, student’s perceptions of nature were extremely varied and based on limited direct experiences and general observations of the natural world (Burgess, 3/14/18). Students ideas were based on limited experience in neighborhoods and local parks (Burgess, 3/14/18). The students were eager to

discuss their ideas about nature but had little to say about real ecological relationships and about one third of the children in the study arrived at Mountain School worried about outdoor experiences. Students were afraid of the dark, the weather, the “wild” animals, and the dangers of getting lost (Burgess, 3/14/18). During the program, children’s knowledge of the natural world increased, and their perceptions of nature changed. They began to recognize individual species and learn the scientific and common names of animals and plants, they formed connections with the fauna and flora in the region. This increase in scientific knowledge was accompanied by a growing awareness of the interconnections for organisms in the wilderness (Burgess, 3/14/18). They expressed feelings of love, care, and respect for the environment and its inhabitants. There was also a decrease in negative views of nature. For the one third of students that were worried about their environmental experience, during the program there was a visible decrease in their negative expressions of the natural world (Burgess, 3/14/18). The exposure to, and experiences within nature contributed to reducing barriers that enabled interaction with the environment. The physically demanding and challenging experiences were the ones children found most meaningful. Students felt a sense of accomplishment that reinforces the positive rewards of the natural world (Burgess, 3/14/18). This program provided students with direct experiences that involve primary contact with nature and that create an emotional experience. Without experiences such as the Mountain School, students who are disconnected from nature, remain disconnected due to the fear that develops. A fear of the unknown creates a barrier for children and ultimately, they will never be prompted to interact and enjoy nature. Environmental education removes this barrier and allows students to become interested and passionate about nature.

IV. How Successful is ECOS in Meeting its Goals?

Environmental Clearinghouse of Schenectady understands the importance of environmental education for all ages and communities, as well as the importance of promoting the outdoors and encouraging widespread participation in local environments. To determine the success or effectiveness of the organization, some qualities such as; a range of classes offered for a range of ages, the successful organizations bring their students outdoors, receive grants, maintain their memberships as well as recruit more members, additionally, effective organizations teach an appreciation for the land and outdoors so that communities treat our environment respectfully (Schad, 2016). Based on some of these qualifications ECOS is successful and based on other qualifications, ECOS falls short.

In the past, the organization has not been effective in curating public involvement in environmental education or public interest in getting outdoors. The main activities included nature walks on Tuesday mornings, and various workshops with little advertisement. These activities complement the fact that ECOS is an old organization with aging members and an aging Board of Directors. When the Board is an older generation, many of their ideas, and objectives do not match the new generation's and new priorities. For much of 2017, ECOS did not have an executive director and therefore the Board could continue its stagnant ways and outreach really suffered. In September of 2017, Leah Atkins became the executive director of ECOS and has since transformed the organizations efforts. The organization has newly developed a multitude of programs to promote environmental education in and outside the classroom. The new executive director and the board have very different viewpoints and have trouble agreeing on the organization's vision for the future. This butting of heads has slowed progress, but a lot has been done to transform the organization.

Outreach programs and environmental education for young students has become the focus. ECOS promotes Direct Experience for students in the outdoors. ECOS provides outdoor activities year-round for all ages. Volunteer-led activities offer the opportunity to snowshoe, cross-country ski, play in the snow or just enjoy the outdoors and drink hot chocolate through events called ‘Saturdays in the Snow’ and ‘Tuesdays on the Trail’ (ECOS, 3/12/18). ECOS brings young scientists to the Emma Treadwell Thacher Nature Center to “look for signs of the park’s winter residents including birds, bunnies and bees”, in addition students study the effects of wind-chill on fellow mammals using readings from thermometers and a homemade anemometer (ECOS, 3/14/18). At the Grafton Peace Pagoda, students are invited to join the Japanese Buddhist nun in chanting and drumming along to her universal prayer for peace (ECOS, 3/12/18). These examples invite students to exercise, learn, and experience new cultures all while being outdoors. In the Fall, ECOS invited residents to take a tour of the Central Park greenhouse, led family bike rides along the Zim Smith Bike Trail, and ECOS began an initiative to put down our electronics and get outside! All of these activities and events promote the idea that humans are connected to nature and must take advantage of the vast landscapes within New York by site seeing, through education and exercise. Additionally, providing hands-on educational experiences with the fun of being outdoors, students learn that they can have fun while learning.

There are many effective ways to teach kids about the environment, and organizations should not promote one method or idea above the rest because students all learn at different rates and enjoy different methods. Although direct experiences in nature are found to be the most successful, some students enjoy traditional and structured education experiences. Understanding this, ECOS developed an after-school club for kids to learn about science, writing, and the

environment. At the club, students are accompanied by their parents and volunteers who promote environmental awareness and activism to the children. It is ideal when a parent or mentor promotes environmental education or an environmental cause to students because there is a greater willingness for the student to make positive environmental choices when it is encouraged by someone the student looks up to (SECESE, 2008). Mentors and parents help answer the kid's questions to increase their knowledge base and spark curiosity within the student. Since the environment can be connected to all areas of study, there are endless opportunities to integrate environmental education into children's daily lives.

Environmental Clearinghouse has acknowledged the need to increase environmental awareness in Schenectady, our local urban center. Including minorities and urban residents in environmental initiatives creates an inclusive environment for all people. A diverse environmental community recruits more diversity within the group and more concerns will be heard when all different people are working together to reach a common goal. ECOS has succeeded in reaching our urban residents and students by providing education material to an outdoor summer camp for inner-city students. Environmental education in the summer is a perfect time to target students because nature is flourishing, and wildlife is abundant. Additionally, it keeps students learning year-round. Another way to excite urban children and families about the outdoors is through the creation of the Children's Garden at Vale Urban Farm in Schenectady. ECOS partnered with Vale Urban Cemetery and Transition Schenectady to create an organic garden for local residents to take part in gardening, an activity they have likely never participated in (Transition Schenectady, 3/14/18). The garden is available for people to contribute monthly work hours to the larger garden in exchange for a share of the produce, or people can contribute fewer hours per month to the large garden to have a right to their own

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individual plots (Transition Schenectady, 3/14/18). The garden is considered a community garden, but it is based on work time instead of money. The after-school program and the community garden create a safe space for urban families to learn about the environment and get involved in the outdoors. It is extremely important to inform urban residents and minorities that they too play a large role in protecting and promoting awareness about our natural world. When we educate all people about environmental topics we will have a greater opportunity to hear about environmental issues affecting other communities and a greater chance at collective action and actual change.

All of these programs at Environmental Clearinghouse of Schenectady are ever-changing, they are created when new concerns are discovered, and implemented immediately. Leah Atkins introduced a new experience for local residents. Atkins is a marine biologist who loves connecting people with the water and has always wanted to highlight water access points to communities along the Mohawk River. Students from all over the Capital Region were invited to learn about the Mohawk's fish species, study water quality, and witness a demonstration of an Erie Canal lock (ECOS, 3/14/18). The data collected by attendees will be submitted to the DEC, "making this a citizen science event with real value" (ECOS, 3/14/18). This gives people a sense of worth, what they just participated in is now going to serve a greater good for research purposes. These experiences are new to our area, many students are not able to safely explore our water ways or learn first-hand about an ecosystem that is so important to our region. These activities increase resident's awareness of our own community and their love for our unique landscape.

Even with these new initiatives and educational opportunities for students in our Capital Region, ECOS has not done a successful job at maintaining membership and recruiting new

members. ECOS currently has about 150 members that pay a membership fee each year. This number is low from previous years when the organization claimed to have over 400 active members. Additionally, ECOS is understaffed and under budgeted. ECOS has only one, part-time employee working to fulfill all aspects of the organization. The executive director must develop new programs, research new ideas, apply for funding, complete all administrative work and attend the events all while receiving a part-time salary. The executive director receives some assistance from the committees within the Board of Directors but not sufficient enough to take any one task of her plate. The organization is underfunded because it once relied on membership fees and book sales to bring in a considerable amount of revenue but today this is not a significant percentage of their income and they must look elsewhere to receive funding.

Environmental Clearinghouse of Schenectady has been a part of our community for over forty years. Their presence in the community has been small but as the organization worked to transition their mission to meet the changing demands of our environmental concerns, their presence has begun to grow. ECOS mission, to provide environmental information and educational opportunities that enhance appreciation of the natural world; build a community that is aware and knowledgeable about environmental issues; and advocate informed action to preserve our natural resources is realistic and because of the widespread concern society has for the environment, organizations such as ECOS are gaining popularity. Education to all of society is necessary, but educating the youth is the most important piece of ECOS work. Students taught about the environment and introduced to the outdoors at an early age curate a life-long love and appreciation for the environment. Kids who love the outdoors become adults with environmentally friendly values, and fully engaged citizens who see the benefit in protecting our environment for future generations. If our next generation is more environmentally educated than

ours, they will do a better job caring for our health and the environment than generations before them have (SECESE, 2008). A successful organization suggests actions to be taken by a community to affect change, it provides an array of activities for many ages, and it includes residents of all backgrounds to join the initiative. ECOS is successful in these areas and will remain successful if it continues to educate our youth, and curate public involvement in our efforts to save the environment.

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