

# Teaching Environmental Issues to Middle School Students in the "In Real Life" Program

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## **Abstract**

In Spring 2018, students in the UNCA *Teaching Environmental Issues* course worked with Asheville area middle school students participating in the In Real Life (IRL) after-school program to explore topics about the environment and sustainability. The IRL program's mission aims to engage students in a hands-on learning, after-school experience to explore their interests in different areas. The goals for working with the students included improving ecological literacy, increasing interest in the outdoors, building a relationship between the students facilitating the "Wild Adventures at UNCA" and the IRL students, as well as providing a safe, encouraging, and exciting space for students to learn. The IRL students were assessed on their eco-literacy and interest in the outdoors at the beginning, end, and throughout their time in IRL. The methods used to assess the students were a pre-survey during the first meeting, responding weekly to journal prompts, a mid semester survey, and taking a final assessment at the end of the semester. Students in the IRL program showed improved eco-literacy through an increased knowledge of flora and fauna, clearer definition of outdoor spaces, and improved awareness in sustainability topics as evidenced through several journal entries. The Asheville middle school students met the overall goals set out by both the IRL after-school program as well as the *Teaching Environmental Issues* course objectives.

## **Introduction**

An observed issue with the current education system in the United States is the intense focus on 'core subjects' including subjects like math, reading, and writing. While these subjects are critical as a base for education, the rigid curriculum does not necessarily accommodate students' strengths or interests in other areas. In Richard Louv's book *Last Child in the Woods*, a teacher shares her concern that with the increase of testing in schools as it leaves out important time for recess and exploring the outdoors (2008, p. 99). Louv talks about the increase in diagnosis of ADHD correlating directly with Nature Deficit Disorder (NDD). Nature Deficit Disorder is a term coined by Louv meaning that the lack of time that children spend outside directly correlates to a wide range of behavior problems. In fact, children who engage in more outdoor activity "report better health and social well-being than their peers who spend hours in front of television and computer screens" (Sadker & Zittleman, 2016, p. 29). There is also strong evidence of decreasing ecoliteracy. Ecoliteracy can be defined as the ability to understand ecosystems and their function on Earth. It encompasses six components including affect, ecological knowledge, socio-political knowledge, knowledge of environmental issues, cognitive skills, and environmentally responsible behaviors. (McBride, et al., 2013, p.7). It's a relatively new term that is used in conjunction to Nature Deficit Disorder.

With the increased amount of testing and decreased amount of time children spend outside, after-school programs become even more vital. After-school programs are of huge advantage to children particularly because it gives the students the opportunity to explore, discover, or develop a talent or skill that may not be recognized otherwise. Oftentimes, they get the opportunity to be outside and learn which they may not have at all during the school day. These after-school programs are especially important for

children who are from low-income households because they provide the “same opportunity as their more advantaged peers to explore expressive arts, sports, and other developmentally enriching activities” (Halpern, 1999, p. 81). After-school programs also provide the opportunity for parents to get involved with their child as well as the school community. Studies show that students with parents who are more involved in their child’s education “promote academic success of students who may be at special risk for academic failure” (Medina & Riggs, 2005, p. 471). Additionally, after-school programs offer an alternative for students in their out-of-school time (OTS). Research shows that there is a strong correlation between out-of-school time and their “trajectories in a number of developmental spheres including school success” (Medina & Riggs, 2005, p. 473).

The service learning project that was conducted throughout the course of the Spring 2018 semester worked directly with Asheville area schools in an after-school program called In Real Life (IRL). The *In Real Life* program is for middle school students. They are able to pick their own activities to participate in after their regular classes have ended and IRL. *In Real Life* partners with over thirty community organizations and professionals. The mission of the In Real Life program is for students to have a hands-on, engaging experience to explore their interests in different areas. The goals for *In Real Life* include building a community for students, exploring multiple areas of interest, staying involved and present, and finally, having fun and staying safe. The program also aims to develop social and emotional skills, so that the students are better-equipped individuals as they navigate through their own lives and interactions with others.

The Asheville area school community identified the need for students to spend their out-of-school time in a productive, interesting, and enjoyable manner. As a result, the *In Real Life* administrators reached out to Alison Ormsby, UNCA Environmental Studies faculty, who then proposed the “Teaching Environmental Issues” class, a collaborative after-school program for UNCA and IRL students. UNCA already had a relationship with IRL and this was not the first program offered at on UNCA’s campus. The program “Wild Adventures at UNCA” was created as a result of a need for a more science-based IRL experience. “Wild Adventures at UNCA” focused on environmental education for a group of middle school students which included improving ecoliteracy as well as making an effort to increase student’s interest in the outdoors and sustainable topics.

Another need identified by the *In Real Life* community was to help develop social and emotional learning skills (acsf.org/irl). Social and emotional skills are important because without them “students lack the skills to manage life tasks such as working cooperatively, solving everyday problems, and controlling impulsive behavior” (Taylor & Larson, 1999, p. 333). The In Real Life students are at a critical age for developing skills so they have the tools to work in groups, appreciate diversity, develop same-sex and opposite-sex relations, and seek independence from adults (Taylor & Larson, 1999, p. 3330).

The *In Real Life* students met weekly on Tuesdays from February until May 2018. Attendance, however, was variable ranging anywhere from 9 to 13 students. Students participating in *IRL* are not required to show up to their after school program. It is up to them to get out of it what they wish. While this presented a challenge at times, overall the program was successful.

## **Methods**

During the *In Real Life* program, several environmental topics were covered (see Table 1). Each student kept an individual reflective journal with weekly entries. Students were asked to reflect on each week's activity in their journal. Often structured prompts were provided because it was determined that the students responded more to these more than open-ended questions.

**Table 1: Topics covered in the “Wild Adventures at UNCA” IRL program**

Raptors and Owl Pellets
Birds
Feathers - Form and Function
Farming
Streams, insects, and water quality
Botanical Gardens
Recycling and Lifestyle
Art and the Environment
Rafting

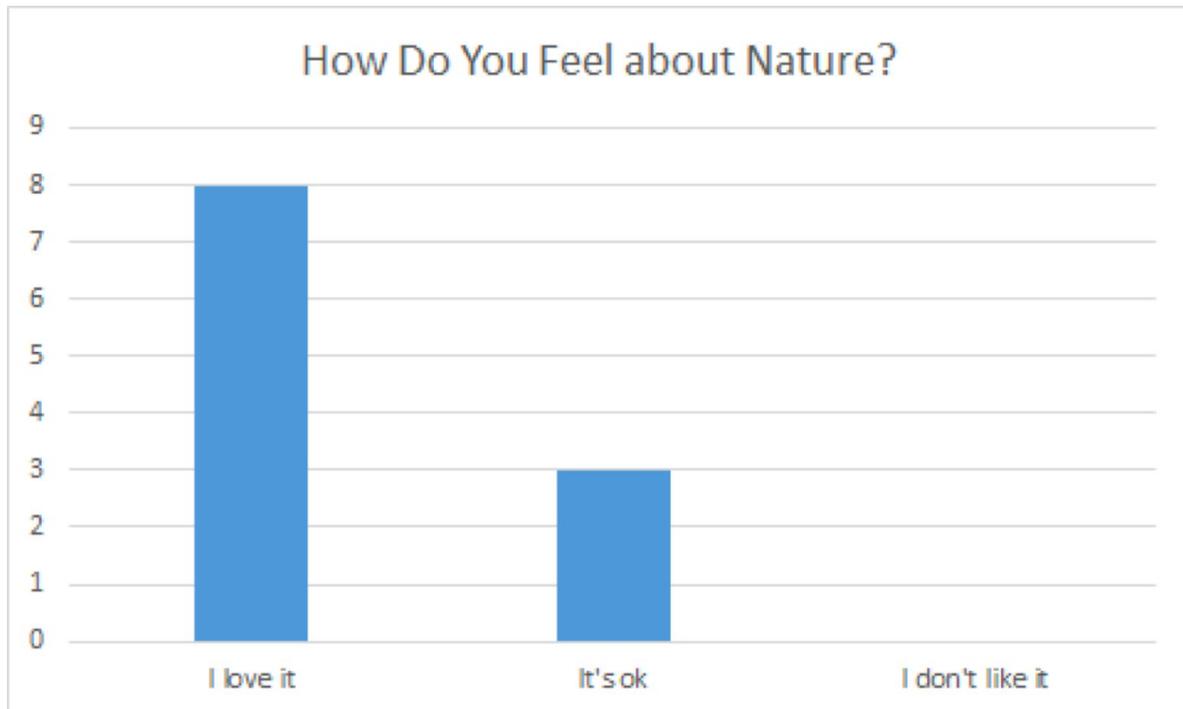
In order to gauge the students' attitudes and knowledge, they were given a pre-survey, mid semester check-in, and post-survey at the end of the program. We were trying to measure their increased understanding of topics presented, as well as any changes in their attitudes toward nature and interest in outdoor activities. Students progress in EQ or Emotional Intelligence Quotient was measured specifically in the mid-semester check in, post-survey, and through reflective journal responses.

## **Results**

The pre-survey was given in an attempt to measure the students' baseline eco-awareness as well as general interest in being outside. The pre-survey included the following questions: What are you most looking forward to?; What are your favorite places in nature?; How do you feel about nature/the environment?; and What is your favorite plant or animal? These pre-survey questions may seem simple; however, they yielded interesting results.

The pre-survey yielded data that revealed how the students felt about nature and the environment. When the students were asked how they felt about nature, 72% percent said they loved it or care a lot and 28% of students responded saying that it was ok. None of the students responded with “I don’t like it” (Figure 1).

**Figure 1.** Pre-survey Responses to the Question “How Do You Feel about Nature?”



Students gave the following varied responses to the question “What is your favorite place in nature?”: all places; the mountains; park; water/beach; forest or woods; flower garden; and I don’t know. When asked to list their favorite plant or animal, students responded with the following: pitbull; panda; giraffe; cheetah; fox; unicorn dragon; crows; hawks; owl; penguin; I love all; bear; flowers; and rose. The mid-semester check-in asked the following questions: What is something you have done in this program so far that you feel proud of, or that you think you did well?; In this program, what is one thing you can do to help yourself if you feel frustrated or feel like things are not going well?; and Of the activities we have done so far, do you have a favorite or a couple of favorites? What are they? The mid-semester check-in questions were directed more towards the students’ specific interest within the program.

The results indicated the students did already have socio-emotional tools. Several students responded to the question asking what they can do to help themselves by saying: breathing; counting to 10; taking a walk; and asking for help. When asked what the students were most proud of so far, the

students responded with the following: learning the opposite of nocturnal is diurnal; identifying feathers; looking at flowers; taking photos and looking at nature; learning about different animals; and dissecting the owl pellets. One student even said she was proud of herself for getting out into nature rather than staying inside. The IRL students responded to the final question about their favorite activity so far with the following answers: naming feathers and pH; everything; the farm field trip; and four students responded by saying their favorite activity was the Asheville Botanical Gardens walk.

The post-survey focused on what the students had learned throughout the semester, what they liked best about the programming, and what they learned about themselves. Some of these questions are similar to the ones asked in the pre-survey.

In response to the question, “What did you like most about the “Wild Adventures at UNCA” program?” students responded with the following:

- “The activities”
- “Learning more things about our environment”
- “Getting to experience new things.”
- “Working and learning outside”
- “The owls and hawks”
- “I liked when we went to the creek.”
- “Everything”
- “Going to the creek in the rain”

In the post-test, students stated that they learned the following things about themselves through the program:

- “I liked learning about animals.”
- “I learned that I liked nature more than I thought.”
- “I learned that I liked feathers and animals.”
- “I learned that I like to walk.”
- “I like nature more than I thought.”
- “I learned that we need to care for nature, and we can help love trees and animals.”
- “Nature is even more beautiful.”
- “I don’t like to touch certain things.”

## **Discussion and Conclusion**

Overall, “Wild Adventures at UNCA” met the needs of the Asheville middle school community in providing “high quality, hands-on, equitable, and accessible after-school programming” ([acsf.org/irl](http://acsf.org/irl)). The program received positive feedback from the *In Real Life* students through active participation and reflective journal entries. The combination of surveys and the weekly journal entries provided information and data that showcased both the challenges and successes of the program.

### *Successes*

I had several goals that I was aiming to accomplish throughout my Community Engaged Scholar project. Most of them lined up with the goals of the *In Real Life* program to provide an engaging after-school program that allowed students to explore interests that they may not have the opportunity to

do during their regular school day. Because an increasing amount of youth suffer from Nature Deficit Disorder (Louv 2008), one personal goal I had was to positively influence at least one student who came into the program feeling indifferent or negatively about nature and the environment and change his or her perspective on both topics. One of the students responded on her mid-semester check-in by saying that she was proud of herself because she “has gotten out in nature other than staying inside.” Her answer alone proves that our educational methods were successful in changing her perspective and interest in being outside in nature. Although it was only one student, she was still influenced by engaging in hands-on afterschool activity in a positive way, showing the importance of not only education, but programming like *In Real Life* that got her outside of her comfort zone to learn something new.

There were students who showed improvement in their eco-literacy as well. One student wrote about learning the difference between diurnal and nocturnal which they learned when the non-profit bird rehabilitation organization called Wild for Life visited the class ([wildforlife.org](http://wildforlife.org)). Another student reported in his journal about learning a new term, barbules, after the activity on week three called Feathers - Form and Function. Although these results may appear to be minor, they show that the students were retaining information. Furthermore, the journals successfully served their purpose in providing the students with an opportunity to reflect on their experiences with “Wild Adventures with UNCA” to reinforce the lesson plan objectives for each activity.

### *Challenges*

Despite the many successes, the program faced a number of challenges. Because of scheduling logistics, we only met with students for 45 minutes or even less at times. This limited the amount of time we had with the students. It was challenging trying to give the students an educational experience while also balancing the idea that they had just been in school all day and did not necessarily want to continue to learn in a structured setting. The students were often rowdy and sometimes even defiant towards us as their *In Real Life* leaders. As a result, we learned how to address different behavioral issues throughout our time with the middle schoolers. In addition, there was a student who did not speak English as a first language, which meant that he was too anxious and often times unable to complete written answers in his journal. Finally, the students who register for *In Real Life* often have spotty attendance due to different circumstances. As a result, attendance varied from week to week, which presented a challenge in activity planning as well as data collection. There were some students who were there the first two weeks of the program but never returned. In addition, we had one new student who showed up on the fourth week.

### *Suggestions for Improvement*

One of the biggest improvements to this IRL program that should be made is increased time with the students. Because of the short time with the students, our lesson plans felt rushed. Often, we were trying to do too much in too short of a time frame. Increasing the amount of time spent with the students would allow us to teach more effectively because there will not be as much of a time constraint. More consistent attendance would help meet the learning objectives. Often, we did not know how many students would be missing until 30 minutes before the students arrived on UNCA’s campus. It makes it really difficult to plan for an activity if students decide to just not show up especially when it happened so last minute.

### *Personal Reflection*

Working with the *In Real Life* students was always the highlight of my week. Although they could be challenging at times, it was such a rewarding experience overall. I rode the bus with the students to and from UNCA's campus. It gave me an opportunity to connect with them on a deeper level because I spent more time with them. It was interesting to see how the students behaved once they were not under the supervision of the UNCA leaders. I was also in charge of reading and compiling data from the students' journals. I was really impressed with the depth of their responses especially towards the beginning. With some students, their entries declined as the semester went on. It was also surprising to find that out some of the most insightful entries were by the people who I assumed were just not paying attention. These kids are really smart and are willing to engage when I was able to blend in as a peer rather than an authority figure.

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