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Nicole Kras

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EXCHANGE



Nature-Based Learning at an Urban Community College: A Case Study at the Central Park Zoo

Nicole Kras

Human Services, Stella and Charles Guttman Community College, A City University of New York, New York, NY, USA

ABSTRACT

There is rapidly growing research on the multiple benefits of nature-based experiences. Some institutions of higher education have incorporated these types of experiences in areas such as building design, travel offerings, residential programs, green spaces, field trips, wellness centers, and freshman orientation programs. Unfortunately, urban community college students often do not receive the chance to participate in these type of experiences due to lack of opportunity and lack of time outside of class due to their multiple responsibilities. One way to help mitigate some of these challenges, is for community college faculty to embed nature-based learning experiences into their courses. This paper presents a case study of a nature-based learning experience that took place at the Central Park Zoo as part of a required first year course.

Nature-based learning (NBL) is a recently defined educational approach that has been gaining rapid attention in primary and secondary schools (Chawla, 2018). NBL is described as follows:

Nature-based learning, or learning through exposure to nature and nature-based activities, occurs in natural settings and where elements of nature have been brought into built environments, such as plants, animals, and water. It encompasses the acquisition of knowledge, skills, values, attitudes, and behaviors in realms including, but not limited to, academic achievement, personal development, and environmental stewardship. It includes learning about the natural world, but extends to engagement in any subject, skill or interest while in natural surroundings. (Jordan & Chawla, 2019, p. 2)

While there have been numerous identified benefits of NBL with primary and secondary students including increased well-being, academic achievement, pro-environmental behaviors and attitudes, and improved cognitive functioning (Camasso & Jagannathan, 2018; Chawla, 2018), there is minimal research of the benefits of NBL in higher education, especially at the community college level. Research is needed to assess if NBL can also provide similar benefits to students in higher education.

Nature-based learning in higher education

Although not commonplace, the incorporation of nature in higher education can be found in some of the following areas: campus and building design, domestic or international travel offerings, elective courses, residential programs, green spaces, field trips, skill development courses, and freshman orientation programs (Cooley et al., 2015; Dustin et al., 2017; Silvia, 2008). Given the readily available natural resources in suburban and rural areas, it is more likely to see nature-based programs taking places at these institutions of higher education. When thinking about how urban community colleges can successfully provide nature-based experiences for their students, there are some important factors to consider.

Urban community college students often face many challenges including discrimination due to minority and immigration statuses, low-income, low-graduation rates, and remediation needs

(Ellerton et al., 2015). Most community colleges do not offer residential housing for their students. Commuting students are often off campus during the evening or on weekends and they are less likely to “perceive their campuses as places to heal from whatever is plaguing them” (Rakow & Eells, 2019, p. 69). Community colleges in urban areas may not even have access to green spaces on campus, if they have a campus at all, and have to rely on local parks to access the natural environment. A lack of time outside of class may also negatively affect urban community college students’ ability to participate in nature-based experiences. Urban community colleges should seek to find ways of incorporating nature and nature-based experiences into the infrastructure of the college so that students are not required to travel or spend a significant amount of time outside the class to gain the benefits of these experiences.

The following case study provides an example of how I piloted a NBL experience in a required first year social science course that focuses on understanding workplace culture through ethnographic research. The two course learning outcomes that this NBL experience supported was (1) “Demonstrate the ability to use diverse ethnographic methods and concepts to research and compose a reflective, multifaceted analysis of the experience of individuals working in specific occupations”, and (2) “Show enhanced understanding and practice of responsible and ethical work habits gleaned from ethnographic accounts of people at work in their research sites” (Cochran, 2021, pp. 253–278).

Method

Participants

As part of a course requirement, students ($N = 17$) attended a specialized program at the Central Park Zoo focused on introducing careers related to animal care. Collecting student demographic information was not part of the study, but students were representative of the college’s population which is mainly students ages 18 to 22 who identify as Black/African American and Hispanic.

Procedure

Funding was received from a student success grant to develop an educational experience for students in partnership with a local urban zoo. Drawing on an experiential learning constructivist lens (Fenwick, 2000; Merriam et al., 2006), this activity provided students the opportunity to actively engage through observation, didactic instruction, reflection, and interrogation to learn about careers related to animal care while practicing their ethnographic research skills (Murchison, 2010).

In the class preceding the experiential visit, the students were asked to reflect and discuss in small self-selected groups the following questions: (1) What do you think it is like to have a career working with animals? (2) What type of career options are out there for people who want to work with animals? and (3) Is this a type of career you would like to pursue? Why or why not? Students were then asked to individually develop a research question that would guide their research at the zoo. Research questions mainly focused on the conditions surrounding working in a zoo and about the various types of careers and related responsibilities of the employees.

This three-hour NBL experience was divided up into two parts. First, there was a one hour uniquely designed program presented in the education center that was created by a zoo educator with input from the course instructor. There students learned about careers related to animal care such as zookeeping, animal nutrition, zoo marketing and fundraising, zoo security, conservation, park management, curation, and volunteer coordinators. Additionally, there was a visual presentation, an interactive discussion, and then the opportunity for students to have an animal encounter with a chinchilla. Second, students were led to an animal exhibit where they were able to partake in an animal caretaker task of feeding a variety of animals including ducks, goats, and sheep.

The second component of the experience was data collection. Students used their ethnographic skills, including observations, mapping, photography, video, and interviewing, to collect data on the

research question they set in the previous class. Students had a worksheet to guide their data collection that organized their descriptions of the setting, employee observations, emerging questions, and personal reflections. Students had to code and interpret their data according to their research question. After the experience, students reflected on and interpreted their findings to make generalizations about careers related to animal care.

Feedback form

This study received Institutional Review Board approval as an expedited review (CUNY UI-IRB-2019-0867). All students who attended the NBL experience at the zoo were asked to complete a researcher created feedback form distributed by the researcher in class. Students were not required to complete the form. The open-ended questions on the feedback form inquired about their experience at the zoo including, *What was this experience like for you?; What did you learn about “work” from this experience?; How can this information benefit you as a student, in your personal life; or in your future career; and Is there anything else you would like to share?* It took students approximately ten minutes to complete the form.

Analysis

Eighty-two percent of the student students ($n = 14$) completed the feedback form. Forms were collected by the researcher and underwent thematic analysis (Castleberry & Nolen, 2018). All responses were collectively coded and analyzed in relation to the question, *How can urban community college students experience nature-based learning to enhance outcomes?* The researcher read all responses and made notes about initial thoughts and applicable findings. The responses were read again and categorized into themes. These emergent themes were revisited, and groupings confirmed.

Results

The findings from this case example were used to learn how urban community college students experience NBL. Based on the collective analysis of all feedback responses, the following themes emerged: (1) knowledge gained about “the world of work,” (2) enjoyment of interacting with and learning about animals, and (3) having fun during the experience.

Results from the nature-based learning

Knowledge gained about “The World of Work”

Fifty-five percent of student feedback responses fell into this category. These responses were related to careers in animal care and applicability to the students’ thoughts about their own careers. For example, one student responded, “To be honest, when I saw how much the zookeepers love their jobs it made me realize how much I should be setting goals for myself.” Additional examples include, “You have to work hard in school as a student if you want to graduate and think about your future job” and “It goes to show that it’s always more options for you and you should never settle for less.” These findings help to support course learning outcomes related to showing an enhanced understanding and practice of responsible and ethical work habits of people at work through diverse ethnographic methods.

Enjoyment of interacting and learning about animals

Twenty-seven percent of collective student responses included reference to students’ enjoyment of interacting with and learning about animals at the zoo. Feedback included examples of interactions and observations with specific animals and general statements about enjoyment from being around the animals such as “It was amazing, I love seeing animals,” “The experience was good because I got to

see all the different types of animals” and “This experience was exciting for me because I got to see a chinchilla, sea ducks, goats, sheep, alpacas, and sea lions up close.”

Having fun during the experience

A smaller portion of collective student responses, about fifteen percent, included reference to them having fun during the learning experience. Feedback includes comments related to overall enjoyment, bringing back memories from childhood, and an engaging experience. An example response was, “This experience was so much fun and very nostalgic. It reminded me how much my childhood was so fun and really engaging.” Another student response included a recommendation to implement this type of experience in the future, “For your future classes, I think more trips would be so fun for your students.” Students indicating that they enjoyed interacting with the animals and that they had fun during the experience is important to note because student engagement, especially at the community college level is a major concern (Perrotta & Bohan, 2013). The relationship between student engagement and NBL experiences requires further investigation.

Discussion

Results from this case example supports previous research with primary and secondary students about the beneficial outcomes of NBL experiences (Camasso & Jagannathan, 2018; Chawla, 2018). Findings from the current study, as well as my previous findings (Kras, 2021) with urban community college students show that overall these experiences support course learning outcomes, which in this case was to learn about diverse careers and responsible work habits, as well as participate in diverse ethnographic work methods. In addition, it showed that students enjoy the short-term benefits of these NBL experiences. These pilot findings support the need for further systematic exploration into the benefits of NBLs for community college students and assess possible connections between NBL and academic success.

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