

## Addressing Estrangement from Nature with a Night Class in the Forest

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**ABSTRACT** Young people today spend relatively little time in natural environments, and this can lead to problems when they enter college degree programs in environmental studies or sciences. We designed a field course to reconnect undergraduates with nature through focused exercises in wilderness survival. This course integrates multiple learning domains, with a primary focus on the affective. In this case study, we narrate the story of one exercise deployed in this course, a night class in the forest, which has proven valuable for helping our students develop an affective connection with the natural surroundings. The success of the exercise hinges on careful choreography and the authenticity of the nighttime forest setting. Oral testimonies and written reflections following a daytime return visit reveal profound impacts on students, both in their awareness of the environment around them and their sense of connection to it. This article concludes with several questions to help faculty and students critically consider their own teaching and learning in environmental studies, as well as the potential applicability of these exercises in other academic situations.

### KEY MESSAGE

After reading our case study, faculty and students will be able to

- reflect more critically on the ways they teach and learn environmental studies
- consider the application of immersive wilderness activities in their own academic situation

### INTRODUCTION

Children and young adults currently spend much less time outdoors than they did a generation ago, despite systematic efforts to increase their exposure to natural environments (e.g. <https://www.everykidinapark.gov/>). The trend toward sedentary, remotely controlled, digitally mediated activity seems to be accelerating, with numerous well-documented negative outcomes including shortened attention span, obesity, and low academic and professional achievement [1]. The disappearance of hands-on activity in natural environments from the daily lives of young people and the associated feelings of estrangement have been

recognized as pathologies by several scholars, using terms such as “nature deficit disorder” [2], “environmental amnesia” [3], and “shifting baseline syndrome” [4]. There is currently no definitive diagnosis of this estrangement from nature, but in our students we consistently observe the following symptoms: (a) unsubstantiated fear of the outdoors; (b) extremely risk-averse behavior toward the natural world; (c) unrealistic expectations of outdoor experiences (e.g. freedom from biting insects and other discomforts); (d) ignorance of the crucial links between nature and human wellbeing; and (e) a general subordination of material reality to virtual reality.

One of our chief concerns as teachers of environmental studies and science is to position undergraduates for careers as environmental professionals. Inspiring and preparing our students for environmental work is challenging enough given rapid and unprecedented environmental changes, social justice problems intrinsic to sustainable development, and a political backlash against environmentalism underway in the United States. In addition to these systemic issues, we find that most of our majors show signs of estrangement from nature at the

start of college. How do we teach these students, who grew up alienated from their natural environment, how to re-engage for their upcoming careers in environmental management?

We have found conventional classroom education ill-suited for this task, so we designed a course based on immersion in the outdoors. The two primary goals for these students are a keen sensory awareness of, and a deep emotional connection to, the natural world. We hypothesized that forging these connections would enable content learning that has proven difficult in an indoor setting. We tried wilderness survival and awareness training as a way to connect students with nature and simultaneously introduce content on local natural history, ecology, and environmental hazards. The development of this course and a quantitative analysis of its learning outcomes are reported elsewhere [5]. To summarize briefly, we have found that students who take this course experience personal transformations and considerable improvements in content knowledge by the end of the semester.

In this article, we use the depth of understanding afforded by a case study approach to explain the results of that work. We hope this case will inspire students and teachers to consider *why* the activities we chose might have produced the outcomes we observed. We also hope our readers will consider how these activities could be applied in other situations.

A critical reader might ask, “How can immersive field activities such as these unlock student potential for reconnecting with nature?” A host of other questions then follow. For example, what are the limitations of our approach? What facilities and resources are required? Which students are most likely to benefit? We hope our case will inspire reflection and discussion at multiple levels, from the individual to the whole educational institution.

## CASE EXAMINATION

### *Teaching Outside the Classroom Box*

Our choice of wilderness training is indirectly informed by several lines of scholarship focused on high-impact educational practices [6, 7], powerful learning experiences [8, 9], and transformative sustainability education [10, 11]. There has been a great educational shake-up in recent years as students, teachers, and administrators confront the limits of conventional classroom work, particularly in the sciences [12]. For environmental science, outdoor field sites can serve as powerful learning environments [13], where active learning takes place in an authentic context

[8]. Thus, the course in which this case study takes place is taught completely in the field, day and night, rain or shine.

### *The Course: Environmental Sentinels*

The Environmental Sentinels course is intended to produce attentive and informed observers of environmental change [5]. It explicitly addresses and purposefully integrates multiple learning domains, including cognitive, psychomotor, and affective [14]. Cognitive learning is the domain of most conventional academic work. Psychomotor learning is catalyzed by bodily movement. Affective learning is the domain of subjective values and attitudes [15], and it is particularly important because it promotes pro-environmental behavior on and off campus [16, 17]. We thus seek in this course to promote an affective connection between our students and their local natural environment.

Rather than appealing to students’ emotions or presenting students with ideology, we demonstrate how the natural environment matters practically, by guiding students through weekly wilderness “survival” activities. While some of these exercises prove to be challenging, our primary aim is *not* to break students down so that they later overcome their fear and achieve personal growth. This process may occur, but we see it as a means toward a different end. When we create these situations, we are primarily challenging our students to exercise keener environmental awareness and to develop a feeling for the experiences of the wild plants and animals that surround them.

The history of our work in this course (nine offerings over nine years) has not yet produced the diachronic dataset that would be necessary for ascertaining long-term educational impact. Elsewhere we report on evidence from pre- and post-testing to show that the course produces personal transformation and improvement in content learning over the semester [5]. Here, we present part of this course as a case study, and invite our readers to interpret our findings in light of their own experiences and expertise.

### *The Night Class Exercise*

The exercise now well known as “the Night Class” takes place in October in upstate New York, just before a mid-semester break, when students have begun to understand the unconventional mode of the course, learned some rudimentary skills, and forged a sense of community. Most students are no longer shocked by the basic fact of holding class outdoors, and some are yearning for more adventure.

Like the Environmental Sentinels course as a whole, the Night Class exercise must be carefully designed and choreographed. We use a cyclical metaphor from wilderness awareness education [18] to help guide students through the experience (Figure 1). We start with preliminary discussions to build excitement and anticipation. Then we enter a period of hard work and detail focus. This is followed by rituals of celebration and community (a feast). The experience climaxes with a solo activity shrouded in mystery. We return to excitement and potential in a group reflection and discussion.

The event starts one hour before nightfall. The weather at night during this time of year can be cool. Rain is relatively unlikely, but in the case of heavy rain or lightning, we reschedule the event. On a given night, we typically have about 30 students whom we divide into four groups, or clans, within which students introduce themselves to one another and apply face markings with the purple juice of a local wild berry. This builds a sense of group identity and creates a recognizable uniform for all participants in each clan. Instructors frankly brief the group on critical safety measures (e.g. emergency protocols, etc.), invite questions, and meet individually with students who have special needs or concerns. By now many students are feeling anxious. With the most important safety measures in place, instructors relate personal anecdotes about nighttime adventures in the wild. Each group is given one match

with which to start a fire at a later time, and all are instructed to gather bundles of kindling on the way to the site.

Instructors then review a skill called “songlining” an indigenous practice of creating and memorizing a song or story based on landmarks encountered while navigating an unknown landscape [18, 19]. Students learn this skill during a normal daytime class period, then apply it to their nighttime situation. Each instructor leads a clan along a different route through the forest to the designated group campsite. Upon arrival, clans are reminded that their return to campus (a distance of about 1km) will be unassisted, and that they will need their songline for navigation.

Each clan builds a fire with gathered fuel and the match they were given (Figure 2). This task can be difficult, and as darkness falls it feels urgent. The first fire lit becomes the cook site, and the other three fires eventually become sites for other small-group work. This is the period of hard work and detail focus in the cycle (Figure 1). One clan makes torches from dried mullein (*Verbascum thapsus*) flower stalks smeared with lard. Another boils water and collects white pine (*Pinus strobus*) needles for tea. The third makes apple *empanada* pastries (Figure 3). The fourth picks meats from black walnuts (*Juglans nigra*) collected earlier in the semester. This group also makes ornaments from gathered oak leaves and cotton string—one for each student (Figure 4).

In a large group, clan members share stories of their work and present their contributions: fire-roasted apple empanadas and wild black walnuts for food; pine-needle tea for warmth, nutrition, and hydration; torches for light; and leaf ornaments for location. The sense of a supportive community is enhanced as members of each clan teach their procedures so that all students in the group learn what went into each part of the collective wilderness survival experience. This midpoint in the Night Class is the period of celebration and community (Figure 1), an unstructured half hour of rest, sharing, and feasting.

After feasting, it is time to face and embrace the mystery of the night (Figure 1). Darkness deprives students of vision, their most dominant sense, and this usually brings on a sense of anxiety. Students find themselves in an unusually vulnerable position with respect to their natural surroundings at this time. After delivering instructions, we begin the climax of the night class, a 20-minute solo sit in the forest followed by a blindfolded drum stalk back to camp.



**FIGURE 1.** Choreography of the Night Class. Students are guided through four cyclical stages, beginning with excitement, followed by hard work, celebration, and introspection [18].





**FIGURE 2.** Students attempting to build a fire with kindling found on their hike into the woods before nightfall. Each of four subgroups is given one match.

We ask students to hand over mobile phones, watches, flashlights, and all other tools that would compromise the darkness or connect them with civilization. Students holding blindfolds line up and instructors use torches to guide them away from the dwindling fires. Each student is placed alone at a location about 20 m apart from others in a roughly circular pattern around the main campfire (Figure S1). By the time students are stationed, the fires have died down to coals and they are invisible from a distance. Each student hangs a leaf ornament from a nearby branch to create a “sacred” space in the forest. Students carry out a “sit spot” session—a standard exercise used weekly in the course that involves sitting quietly and observing the natural surroundings with all five senses (for details, see Ref [5]). This exercise takes on a new character in darkness. After 20 minutes of total silence alone in the woods, a drum sounds and students apply their blindfolds. The drum then continues at a slow, rhythmic pace, providing an auditory beacon to the blindfolded students as they walk carefully back to camp—for most of them a distance of about 100 m (Figure S1). As students arrive they remove their blindfolds, and the group rekindles the fire.

With all students assembled back at camp, we rekindle the fire just enough to let students know that they are sur-

rounded with the supportive company of their clans, and the instructors open the floor for sharing (Figure 5). Students report their fears, excitement, and other feelings, as well as the practical challenges they faced and surmounted in navigating back to camp deprived of eyesight. During this period, we return in our cycle to a sense of excitement and unlimited potential (Figure 1). The instructors take a back seat as students go around the circle and back and forth sharing stories of their experiences.

The night class concludes around 11 pm, with students (now unencumbered by blindfolds) navigating back to campus by songlining. This part of the experience, in comparison with the solo sit spot in darkness, is relatively easy and non-threatening. Students usually finish the return trip within 15 minutes. Instructors make sure that all students and equipment are accounted for and then everyone goes home. As homework for the following week, students return during daytime to the group site and to the site of their nighttime sit spot (the sacred spot marked by a hanging oak leaf, Figure 4). They reflect on the differences they observe and experience during night and day. These reflections, along with audio recordings of group reflections, form the bulk of material for our analysis below.





**FIGURE 3.** Students roasting apple empanadas on the cooking fire. The subgroup with the first and biggest fire cooks for the whole group. Other subgroups make tea, process nuts, fabricate torches, and manufacture leaf ornaments (see Figure 4) for the whole group. Before feasting, subgroups report on their work and teach their skills and insights to others.

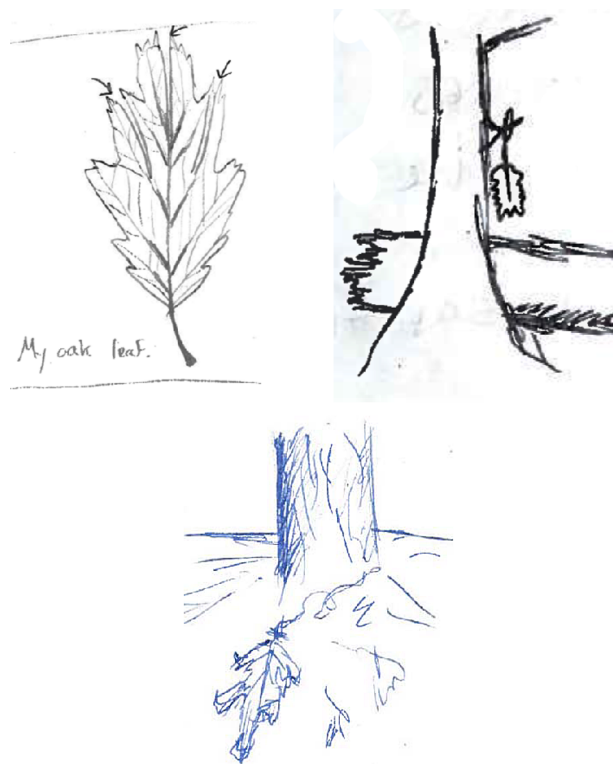
## OUTCOMES AND ANALYSIS

### *Trends and Common Responses*

All students reported profound differences between their nighttime and daytime experiences. One suggested an elevated awareness achieved at night, and speculated on why: “[At night] our senses need to strain to gather the same input, and that makes us feel more aware, even as we are not seeing as much.” Many other students’ reflections also indicated a novel sense of self, the surrounding environment, or the interactions between the two at night. One wrote, “[By day] I feel as though I am seeing a whole different forest,” and later, “It was a palette cleanser that allowed me to appreciate the forest.” Another wrote about how comparing the same forest by night and day gave a new perspective on environmental unknowns: “[By day] I can easily identify at least three ways to get back to college. And all the gaps in my knowledge, like color and texture,

have been filled in... Anything I don’t know now is just a puzzle to solve.” One student saw such value in the sensory deprivation exercise that she wrote, “I feel as though I might have been better off blindfolding myself [by day].” More direct quotes appear in Table S1.

The responses of these students provide a snapshot of one class meeting. However, they echo what we hear from students year after year. The night class has become widely known among students at the college, far beyond those who have taken this course. For participants, the night class is often seen as a turning point in the course. There is a sense of graduation. Collateral benefits then spill over into the latter half of the semester, when students enjoy increased solidarity and community, as well as an equalization of outdoor skills across the class.



**FIGURE 4.** Students sketches of leaf ornaments hung in the forest. These are created by one of the four subgroups and distributed during the time of hard work and detail focus (see Figure 1). Students hang their leaves at the location in the forest where they carry out their nighttime sit spot activities. Leaves later serve as markers for students retracing their routes by day. These sketches come from reflections students write in a field notebook during their return trip.

#### A Powerful Learning Environment

Students clearly felt challenged by the experience, and most students reported some kind of initial fear or anxiety. For example, “When I was sitting alone unarmed, lightless, without food or water, without contact with anyone, and with no idea how to get home, I at first felt extreme paranoia. I was twitching at every slight noise, imagining figures moving around me, and my sense of time [was] distorted.” Another said, “It freaked me out so much I just closed my eyes and focused on the patterns of croaks and chirps... I had no idea how I’d get back... but even stumbling around blindly felt better than just sitting still.” We believe this kind of fear can be productive when channeled in a structured teaching environment. In the wilderness awareness literature, this anxiety produces valuable “edge experiences” [18, 20] that catalyze both learning and

connection with nature. One student remarked that “the Night Class changed how I perceive fear.”

Circumspection, we suggest, is a pathway toward building affective connections with natural surroundings. One student commented specifically on how a sense of vulnerability within the forest came along with a sense of connection to it: “It felt like I was almost at the mercy of the forest, and it felt like I was also connected to it at the same time.” Another wrote, “The longer I sat, the calmer I became, and I felt myself blending in with the world around me... By the time the drum call came... I was having trouble discerning where my body ended and the Earth started.” Other students reported that they felt “suspended” or “transported.” Over the years we have commonly heard students report these feelings of transcendence. One student wrote, “I felt connected to all the life around me, and everything was listening to me as I listened to them. I felt my excitement reflected in the forest.”

We believe these observations point toward what Bostock [21] calls a “powerful learning environment.” The forest at night not only offers an authentic context for building an affective connection to nature, but the shock of the setting jars students to see and think of *themselves* differently. One student wrote at length about the effect of this environment on her attitude toward her place in the forest, but also on her understanding of the human relationship with nature in general:

*The utter silence and darkness... allowed for, if not required, authentic introspection. Feeling so utterly alone but not lonely is arguably a sensation that can only be found in such a context where everything is evidently bigger than you... To sit surrounded, but without clear visibility of what surrounds you, is a powerful metaphor for the lack of understanding that humans have... Sitting here by day, while peaceful, is more representative, to me, of what we think we understand but ultimately cannot.*

#### Building Affective Connections with Nature

The Night Class experience, for some students, transcended the cognitive learning domain. For example, as one student reported, “it made my entire being feel different.” Many students reported new sensations of comfort, belonging, or home. As one put it, “I have a string hanging on a tree... I hold memories here.” In the end, after all the anticipation, fear, challenge, introspection, and learning, students emerged with a new sense of possibility (see Figure 1).



**FIGURE 5.** Students gather as a whole group after the blindfolded drum stalk activity. Audio-recorded reflections from this circle provided some of the material for our analysis.

In the words of one first-year student, “Ultimately I felt alone with nature, but this was positive for me. I have never felt comfortable or at home in the woods before, and during this sit spot I realized that I had achieved this and it was a fulfilling and proud moment for me.” Although the long-term learning impacts are yet to be determined, at least some students came out of the Night Class looking forward to a new relationship with the forest environment. “I don’t feel at all anxious like I did the first time around. I’m more confident, and not searching for others. The spot seems like I know it well. I will continue to come here throughout the months, to see how it’s been affected or changed.” This student has become an Environmental Sentinel: connected to, and thus invested in, a particular place in nature. This is exactly what we hope students will take away from this exercise and this course.

In several ways, the symptoms of estrangement from nature that we observed in our students have been addressed—perhaps even overcome—by the Night Class activity. The benefits apparent in student reflections on the experience accrued not by accident, but within the framework and structure of the semester-long course. Educators should not expect immediate results from a single night in

the forest out of context. The durability of student learning from the Night Class and other such activities are not known, but could easily enough be assessed through a more diachronic investigation. Future research is needed to assess the longer-term impacts on students, both in academic settings and in their lives outside academia.

### CASE STUDY QUESTIONS

1. Does someone you know suffer from estrangement from nature? What are the symptoms? What might be the causes?
2. What were the most telling reflections written by students in this case study (see Table S1)?
3. Make a table with two columns and two rows. Label the columns “Classroom” and “Field.” Label the rows “+” and “–.” Fill out the table with the most important advantages (+s) and disadvantages (–s) of each learning environment. Evaluate your results and discuss with a colleague or classmate. Try the same exercise contrasting night and day.



4. Consider your own degree program. How could the learning experiences detailed here be adapted for your curriculum? What about for other programs or majors?
5. Could activities such as those described in this case study be carried out in a course at your college or university? Why or why not?

## AUTHOR CONTRIBUTIONS

Conceptualization (of the course)	JGH, JJ, TD
Conceptualization (of the article)	JCB, JGH
Methodology (teaching methods and activities)	JJ, TD, AS, JGH, JCB
Resources (modules and materials)	JJ, TD, AS, JGH, JCB
Writing (original draft preparation)	JCB
Writing (review and editing)	JCB, JGH, AS, TD, JJ
Figure preparation	JGH, JCB
Project administration (of the course)	JGH, JCB
Supervision (of the article authorship collaboration)	JCB
Funding acquisition	JGH

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## COMPETING INTERESTS

The authors declare that no competing interests exist.

## SUPPORTING INFORMATION

Table S1. Quoted student reflections on the Night Class gathered from field notebooks (Fall 2015 semester) and audio recordings (Fall 2014 semester).

Figure S1. Night Class diagrams and time log.

## DATA ACCESSIBILITY STATEMENT

None

## REFERENCES

1. Tremblay MS, LeBlanc AG, Kho ME, et al. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. *Int J Behav Nutr Phys Act*. 2011;8: 98. doi:10.1186/1479-5868-8-98.
2. Louv R. *Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder*. Chapel Hill, NC: Algonquin Books; 2008.
3. Kahn PH Jr. The child's environmental amnesia—it's ours. *Children Youth Environ*. 2007;17(2): 199–207.
4. Papworth SK, Rist J, Coad L, Milner-Gulland EJ. Evidence for shifting baseline syndrome in conservation. *Conserv Lett*. 2009;2(2): 93–100. doi:10.1111/j.1755-263X.2009.00049.x.
5. Brenner JC, Hamilton JG, Drake T, Jordan J. Building local environmental knowledge in undergraduates with experiential wilderness skills and awareness training: the case of environmental sentinels. *J Environ Stud Sci*. 2013;3(4): 404–415. doi:10.1007/s13412-013-0145-9.
6. Kuh GD. *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter*. Washington: Association of American Colleges and Universities; 2008.
7. Vogt BJ, Skop E. The Silverton field experience: a model geography course for achieving high-impact educational practices (HEPs). *J Geogr Higher Educ*. 2017;41(4): 574–589. doi:10.1080/03098265.2017.1331421.
8. Rowland G. Powerful learning experiences: what we have learned. *Perform Improv Q*. 2013;26(2): 39–43.
9. Rowland G, DiVasto T. Instructional design and powerful learning. *Perform Improv Q*. 2001;14(2): 7–36. doi:10.1111/j.1937-8327.2001.tb00207.x.
10. Sterling S. *Sustainable Education: Re-Visioning Learning and Change*. Schumacher Briefings. Bristol, England: Schumacher UK; 2001. <http://www.eric.ed.gov/ERICWebPortal/detail?accno=ED464791>.
11. Wilson BG, Parrish PE. Transformative learning experience: aim higher, gain more. *Educ Technol*. 2011;51(2): 10–15.
12. Powell K. Science education: spare me the lecture. *Nature*. 2003;425(6955): 234–236. doi:10.1038/425234a.

13. de Corte E, Verschaffel L, Entwistle N, Van Merriënboer J editors. Powerful Learning Environments: Unravelling Basic Components and Dimensions. In: Advances in Learning and Instruction Series, Vol. xviii, Oxford, England: Pergamon/Elsevier Science Ltd; 2003.
14. Krathwohl DR. A revision of Bloom's taxonomy: an overview. *Theory Into Pract.* 2002;41(4): 212-218. doi:10.1207/s15430421tip4104\_2.
15. Shephard K. Higher education for sustainability: seeking affective learning outcomes. *Int J Sustainability Higher Educ.* 2008;9(1): 87-98. doi:10.1108/14676370810842201.
16. Axon S. The good life': engaging the public with community-based carbon reduction strategies. *Environ Sci Policy.* 2016;66(December): 82-92. doi:10.1016/j.envsci.2016.08.007.
17. Coy AE, Farrell AK, Gilson KP, Davis JL, Le B. Commitment to the environment and student support for 'green' campus initiatives. *J Environ Stud Sci.* 2013;3(1): 49-55. doi:10.1007/s13412-012-0100-1.
18. Young J, McGown E, Haas E. Coyote's Guide to Connecting with Nature. 2nd ed. Santa Cruz, CA: Owl Link Media; 2010.
19. Chatwin B. The Songlines. New York: Open Road Media; 1987.
20. Mueller M, Bardy H, Bannister B, Drake T, Hall D, Jordan J. Not Your Typical Classroom: An Introductory Guide to Primitive Pursuits. Ithaca, NY: Cornell Cooperative Extension - Tompkins County; 2009.
21. Bostock S. Powerful learning environments. *Br J Educ Technol.* 2005;36(2): 347-348.