

Drawing Inspiration in the Eastern Sierra Nevada

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Field-based teaching has long been an essential component of natural history education, providing students with spatial, temporal, and sensory context for the study of natural history. The field journal, or nature journal, is used by many natural history educators to augment field-based teaching and help students develop systematic approaches for documenting observations and practicing communication skills (Farnsworth and Beatty 2012, Farnsworth et al. 2014).

The field journal offers students opportunities to use multiple modes of observation, inclusive of writing, diagramming, quantification, and drawing to describe, explore, and gain perspective on natural history subjects (Laws 2016). Whereas college students in natural history courses are generally comfortable with using most of these observational modes to record information in the field, many initially lack confidence with using drawing to do the same. Yet drawing, because it requires students to pay such close visual attention to natural subjects (Keller 2011), is an observational mode particularly *apropos* to teaching natural history as it embodies, like natural history itself, “a practice of intentional, focused attentiveness and receptivity” (Fleischner 2001, 2005, 2011a,b).

In 2013, we began to incorporate an element of field sketching into a natural history field course that we teach in the Eastern Sierra Nevada Mountains of California. Our intention was to offer students an opportunity to develop drawing as part of a larger skillset that would encourage observation, attentiveness, and curiosity.

We were motivated to take this approach through reflection on our own prior experiences as students, in which we spent considerable time observing, learning,

and practicing geology in the field as part of our training in the earth and environmental sciences.

Some of our field-based education had involved formal training in mapping techniques. More typically, however, our field experiences consisted of trips involving numerous, brief stops at points of geologic interest – without opportunities to formally study methods of observation or integrate geological observations with other aspects of natural and environmental history.

As we developed our course, we envisioned a field-based experience that would provide students with an observationally focused and holistic approach to learning about natural history, in a place that had long inspired our own love of learning about the natural world: the steep eastern escarpment of the Sierra Nevada, the neighboring White-Inyo Mountains to the east, and the valleys and inland seas cradled by these great ranges.

The geologic bones of the Sierra Nevada and White-Inyo Mountains are sheathed in a living skin that responds to steep climatic, bioregional, and topographic gradients with a blossoming of diverse biotic communities, ranging from sagebrush scrub to juniper-pinyon woodlands to shady subalpine forests to fell-fields sheltering pincushion flowers among frost-heaved blocks of talus. This region is the ancestral home of the Paiute people, and it continues to play center stage in California’s enduring conflict over water.

The Eastern Sierra’s biological diversity, stunning lithological variety, geologic exposure, palpable human and environmental history, and proximity to the Stanford University campus all made the region a particularly appealing locale in which to offer our

course. There is also a numinous current in the big, old mountains that reminds us of a primal, ancient order of which we are a part.

As much as we desired to offer a course that would introduce students to a practical skill, we also desired to share with them a landscape we had come to love for its luminous and dramatic natural beauty. We hoped that such a landscape might help inspire students to slow down and encourage them to practice an attentiveness that could inspire curiosity and foster a sense of place – as it invited them to make independent observations and discoveries about natural history generally, and about this place in particular.

Our course, *Natural Perspectives*, incorporates four main elements: (1) mini-lectures, taught in the field, that focus on specific aspects of the natural and social-environmental history of the sites we visit, (2) instruction in the use of a field journaling protocol for systematically making and recording field observations, (3) instruction in basic techniques of field sketching with pen and ink and watercolor, and (4) time for students to use drawing to observe and record the natural features of the places we encounter.

The third and fourth elements are of particular importance in that they enable students to build comfort and competence with using drawing tools and techniques over the course's duration.

Our journaling protocol builds on schemes described by Farnsworth et al. (2014) and Laws (2016). Students are asked to use multiple modes of observation, with an emphasis on drawing. They are provided with a template for the kinds of information they should record at each stop, where they are also asked to complete a longer drawing assignment that emphasizes the use of a particular drawing technique or approach. The protocol

also emphasizes reflective synthesis, with students prompted at the close of each day to integrate their insights and observations with the themes discussed.

Figure 1 illustrates an exemplar of a page from a student field journal in which several of these elements have been incorporated. Requiring students to adhere to the protocol helps us strike a balance between providing students with structure and encouraging open-ended inquiry with direction and purposiveness. Lastly, students have opportunities to share their journal observations with one another, a practice that helps build community among the student cohort and enables students to learn from and encourage one another.

What exactly do students gain from our time in the Sierra, learning to pay attention through drawing and keeping a field journal? Since we started teaching the course, many students have noted how much they have appreciated the opportunity that the course provides for them to spend time in a beautiful place with a clear intention and purpose.



Figure 1. Photograph of a page from our student Kelly Dunn's field journal illustrating elements of the journaling protocol used in *Natural Perspectives*.

One student noted, in a comment representative of many we've received in our course evaluations over the years, that "the class really made me stop and take in the world around me." Another student, a talented ecologist and poet – shared with us that using drawing to observe the natural world is "so amazingly

different from using words – it enables you to notice details that you wouldn't otherwise."

Another student, also trained as an ecologist, noted that although he'd participated in other field courses in which he'd been encouraged to "look around and notice things," never had he done so in "such a systematic and intentional way" as he had in our course. Although he acknowledged that drawing and keeping a field journal at first "seemed daunting," he also noted that it provided

him with an observational tool that led to insights about the ecology of the Sierra Nevada, and in particular aspects of the structure of the range's conifer forest that he had not noticed or appreciated before, even though he'd traveled through the region many times throughout his life.

Another student, reflecting more philosophically, reminded us that "nature journaling affords an opportunity to cultivate a practice of delight and wonder." She noted that the practice of nature journaling situates the practitioner at a "nexus of the scientific and the spiritual" and "enables one to hang on to delight and joy" that for so many students can be easily lost when engaged in the consuming work of scholarship in the natural sciences.

We've found in our course that teaching students how to use drawing to observe the natural world enables them to slow down and pay attention. It is an especially important opportunity for our students at Stanford, who are so frequently overcommitted, overscheduled, and overworked. Despite the busy demands of university life, many of our students have continued to maintain a nature journaling practice using techniques they learned in the course.

Two former students went on to develop their own nature journaling class, which they taught at Stanford's Jasper Ridge Biological Preserve (Chay et al. 2018). This past fall, another former student created a short documentary about the practice of nature journaling that featured several course alumni. In providing instruction to help students use drawing and maintain a field journal in our class, our aim was to offer them a tool to encourage attentiveness and observation as part of a natural history practice. Yet what we did not anticipate was how impactful and enduring this learning would be for so many students.

Using drawing as an observational practice invites us to look carefully – to see a thing as it is – not as we think it is supposed to be (Keller 2011). Drawing invites us, and challenges us, to concentrate our attention on relationships of shape, proportion, color, value, and form. More than just perceiving visual relationships though, drawing trains our powers of observation to notice that, upon close study, things are more nuanced, more interesting, and more complicated than we might have imagined otherwise.

Drawing is a practice that invites students to pause and wonder and ask questions about the world in front of them – why volcanic landforms running south of Mono Lake are arranged in a line, why the species of plants

growing in a recently burned area are distinctive from those that preceded them, or why some heaps of glacial moraine have a softer, more rounded appearance than others. Drawing not only leads students to deepen their intellectual inquiry, but it also directs them to channel attention in a way that can serve, as noted by Sewall (1995), as a "first step in ecological seeing" that draws us to beauty "and thus to loving the landscape."

We are drawn to paying attention, as part of a natural history practice, for the way it can help us maintain connection with the beauty, wonder, and mystery of the natural world – and in the case of the Eastern Sierra, with the beauty, wonder, and mystery of a particular place. Students return from their experience in the Eastern Sierra having developed a skill that, if they continue to practice it, can enable them to deepen their relationship with nature.

Teaching students how to cultivate drawing as part of a natural history practice within the context of field journaling provides them with a specific, focused entry point for learning how to practice attentiveness. The value of drawing in a course such as ours is that it leads students to make more acute and insightful observations, just as it offers the potential for providing an engaging way to deepen curiosity, sharpen observational power, and increase students' intellectual ownership of and commitment to their learning about the natural world.

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References

Chay, F., H. Black, and R. Nevle. 2018. Quick capture and questions: A curriculum for introducing natural history through field journaling. *The*

Journal of Natural History Education and Experience 12: 5-14.

Farnsworth, J.S., L. Baldwin, and M. Bezanson. 2014. An invitation for engagement: Assigning and assessing field notes to promote deeper levels of observation. *The Journal of Natural History Education and Experience* 8: 12-20.

Farnsworth, J.S., and C.D. Beatty. 2012. The journal's the thing: Teaching natural history and nature writing in Baja California Sur. *The Journal of Natural History Education and Experience* 6: 16-24.

Fleischner, T.L. 2001. Natural history and the spiral of offering. *Wild Earth* 11(3/4) [Fall/Winter]: 10-13.

Fleischner, T.L. 2005. Natural history and the deep roots of resource management. *Natural Resources Journal* 45: 1-13.

Fleischner, T.L. 2011a. The mindfulness of natural history. Pages 3-15 in T.L. Fleischner, ed. *The Way of Natural History*. Trinity University Press.

Fleischner, T.L. 2011b. Why natural history matters. *The Journal of Natural History Education and Experience* 5: 21-24.

Keller, J. 2011. Why Sketch? Pages 161-185 in M.R. Canfield, editor. *Field Notes on Science and Nature*. Harvard University Press.

Laws, J.M. 2016. *The Law's Guide to Nature Drawing and Journaling*. Heyday Press.

Sewall, L. 1995. The Skill of Ecological Perception. Pages 201-215 in T. Roszak, M.E. Gomes, and A.D. Kanner, eds. *Ecopsychology: Restoring the Earth, Healing the Mind*. Sierra Club Books.

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