

Is BiSci for You?

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The year was 1982. I (Chris Uhl) had just accepted a faculty position at Pennsylvania State University in the Biology Department. Shortly after arriving on campus, I was informed by my boss that I would be teaching Environmental Science (BiSci 3 for short). The course had an enrollment of 400 and was expressly targeted to non-science majors.

Part I-A Brief History of BiSci 03

I had never taught a college course, much less a class with 400 students! In my trepidation, I assumed that I had no choice but to adopt the teaching approaches that I had been subjected to during my own years in college. Yes, I would lecture to my students, aspiring to play the role of the “sage on the stage,” filling student’s heads with facts and figures, with a few anecdotes tossed in.

It never occurred to me at the time, to ask such fundamental questions as: What does it mean to teach? What is worth teaching? What is worth learning? How does genuine learning occur? These questions never arose because I, like many people in academia, had been successfully conditioned to believe that there was only one way to teach, only one way to learn.

So it was that with an environmental science text in hand, I proceeded to “cover the material.” There was certainly no lack of “material” to cover, especially when it came to environmental threats. Everywhere I looked, I saw (or read reports of) wounds—forest clear cuts, acid rain, ozone thinning, polluted rivers, toxins in our food, wars on all continents—a world seemingly hurling toward its own demise.

All of this ecological havoc began to get me down; I became sad, angry, even indignant. Indeed, when I began teaching BiSci in the mid-1980s, a “good” class was one where I delivered a rant about the latest environmental calamity. I say “good” class because my venting enabled me to experience some measure of personal catharsis. But the larger truth, now self-evident, is that by dumping my angst onto my students, I was acting in an insensitive, self-absorbed way.

Can you imagine being me—*Dr. Death*—year after year tracking the deterioration of Planet Earth’s vital signs? Or perhaps worse: Can you imagine being a Penn State student having to sit in a room with 400 of your contemporaries, receiving information about how the planet is in decline and that there is probably nothing you can do about it?

This phase of my teaching ended when I realized that my negativity was probably alienating my students *from the* environment rather than creating a connection to the environment—i.e., to the precious Earth that we depend on for our each and every breath.

I had my first epiphany when I encountered the statement “We teach who we are” in Parker Palmer’s seminal book, *The Courage to Teach*. Could that be true? I thought about my most outstanding teachers and realized that, to a person, what they offered me (more than the particulars of their prescribed subject matter) was an example of a unique *way of being* in the world. When it came to their subject, and life more generally, they were curious, reflective, enthusiastic, authentic, vulnerable, compassionate, and more. And what about me? If we teach who we are, as Palmer posited, could it be that I was teaching a *way of living* imbued with suppressed anger and negativity that surfaced as sadness and despair? Ouch!

A second awakening occurred on the last day of class after more than a decade of teaching BiSci. From my perspective it had been my best teaching year ever. I had incorporated some new material into the course, and my lectures were becoming better organized. So, there I stood in a self-congratulatory stance as my students sat with their heads bowed, laboring over their final exam. As the hour wound down, students came up, one by one, to hand me their test sheets. I was feeling light-hearted and ready to wish them well and to thank them for taking the course. My students, on the other hand, appeared somewhat sullen and downtrodden. Only a handful even made eye contact with me, and, yet, only minutes earlier, I had convinced myself that I had done my best job ever in BiSci.

A few days later, still feeling forlorn, I strapped on my backpack and headed to the mountains for a week-long *walkabout*. The simple act of ambling in Penn's Woods reminded me of the wonder, kinship, and full-bodied delight I had experienced on sojourns in the wild in my youth. It was during this woodland camping trip that I realized that I had been teaching BiSci upside down; I was asking my students to care about something—Planet Earth—that many had little contact with. Like almost everyone else in the United States, most were *indoor people*, domesticated, out-of-touch with rock and soil, free-running water, unfiltered sunlight, gusts of wind, woodlands, and wild animals. How absurd of me, then, to expect them to care about something that they barely knew! I further realized that by grounding BiSci in the ethos of negativity, fear and guilt, I was engendering hopelessness, revulsion, and numbness in my students. Stupid me!

Out of my despair, a new question emerged—namely: What would happen if I were to ground my teaching in awe, delight, compassion, wonder, and possibility? What if my intention was to help my students *fall in love* with Earth... to draw back in awe in the presence of a rainstorm... to open their senses wide to the wild and wonderful Earth that has birthed all of us into being?

I returned from my *walkabout* energized and anxious to re-imagine what might be possible in BiSci. More questions bubbled out of me: Did I really need to use a standard environmental science textbook? And, if I found the current texts arid and lifeless, what was keeping me from creating something new—maybe even writing my own course text? What if I got rid of exams? And how about if I moved away from the safety of the podium, from time to time, and ambled around the room? What if I built the course more around questions rather than answers? How would it be if I created time for students to explore their feelings, ideas, and experiences during and after class? And what if I recast my role, not as *information broker*, but as *midwife*: someone committed to drawing forth understanding from within students, rather than depositing information? With all these ruminations, I was, in effect, asking: What's possible here? These deliberations led me to imagine my course not so much as a subject to be taught as a *journey to be taken*.

It occurred to me, then, that if my intention was to *invite students on a journey*, it would be helpful for them to have a *companion journal* to record the story of their *journey*. That first year my enthusiasm for journaling, combined with my growing disillusionment with testing, prompted me to announce that I would give no tests in BiSci (yes, there was applause). Instead, I told my students, "Your grade will be determined by the caliber of your journal reflections." To this end, I required my students to reflect on each class meeting and on all course readings. So it was that on the last day of class that year, my TA and I collected 400 student journals. This was about 300 pounds of journals, roughly 40,000 total journal pages. The two of us had four days to assess these journals. Think of it as reading and offering commentary on seven journal pages a minute for twelve hours a day over a four-day period. Yes, it was an impossible task; and, in this sense my experiment was a fiasco and, yet, I actually felt triumphant. Though I had not found a solution, I had given myself permission to imagine something different. And how fascinating to be finally reading what students were writing about their lives, their discoveries, their own questions and insights.

Anxious to initiate more experiments, I announced on the last day of class in 1997 that I was looking for volunteers to serve as teaching assistants when BiSci 3 was offered again the following fall. Much to my delight, a cadre of students stepped forward, but then panic struck! Had I once again let my enthusiasm and desperation for change cloud my judgment? After all, these were undergraduates! How could they act as legitimate teaching assistants? Wasn't this status reserved for graduate students? But my fear dissipated as I listened to these TA candidates describe how they had encountered something real in BiSci for the first time since coming to college. Many even spoke about how they were on a *journey*—their own journey—and they were not done!

Looking back, I see that these students, though they lacked the words, were engaged in a *Hero's Journey* a la Joseph Campbell. In the classic formulation, the hero (or heroine) leaves the security and predictability of *home*, and sets off on an adventure into the unknown. There is risk and uncertainty involved. To succeed the hero must be willing to question old, soul-shrinking ways of understanding herself and the world and summon the courage to explore new possibilities—new more soulful ways of being human. If successful, the hero experiences a shift in consciousness—and returns home to share this gift of expanded awareness. This was the story, albeit on a limited scale, that these aspiring TAs were sharing with me. Indeed, just like the classic heroes of mythology, these students wanted to bring something of the awakening that they had experienced in BiSci to their peers. This was their motivation for volunteering. Said one prospective TA: “I wasn't ready to stop learning... This is the best experience I've had in college; I want to stay with this. I feel like BiSci is an underground way of life and I want to bring it to the light and show people, and be like, look at this, this is great...”

Part II—What Happens in BiSci?

A while back, a colleague asked me what students actually do in BiSci. Rather than offer her a long, drawn-out answer, I simply said that I challenge students to do things that have the potential to transform their relationships with themselves, each other, and Earth. I see it as giving each other permission to become more fully human... more fully alive. This simple act of granting permission provides a space for students (and me, as well!) to awaken to life, to challenge my limiting beliefs, and to explore what my life's meaning and purpose. Here are two examples:²

i-One-Hundred Questions: Geniuses—from Plato and Socrates to Leonardo da Vinci—have known that the cultivation of a questioning mind leads to self-knowledge and wisdom. I share this insight with students by asking them to make a list of 100 personal questions—i.e., things about themselves that they would like to better understand. Their handwritten list can include any kind of question as long as it is something that they deem significant: anything from “How can I save money?” or “How can I have more fun?” to “What is the meaning and purpose of my existence?” I instruct them to create their entire list of 100 questions in one sitting, writing quickly, without filtering out or judging their questions.

When asked, “Why 100 questions?” I explain that the first twenty or so will be off the top of your head; in the next twenty, themes often begin to emerge; and in the later part of this exercise you are likely to discover unexpected and perhaps profoundly important personal questions (Gelb 2002).

Part of the richness of this exercise comes afterward as students study their questions, noting themes and paying special attention to questions that seem to bubble up from some deep place. As students review their questions, I ask them to consider such things as the feelings they experienced while doing this exercise, the patterns or unifying themes they see in their questions, the things (perhaps unexpected) that their questions reveal about them, the questions that hold the most energy for them, and

the steps they could take to begin to answer some of these more important questions. In this vein, one student wrote: "... that whole writing 100-questions thing for the first field assignment... I complained about that to my friends so much, but then when I sat down and actually did it, I was shocked at how much came out."

ii-Walking on Water: When it comes to giving students permission, the biggest challenge I sometimes give my students is to "walk on water." The assignment, inspired by Derrick Jensen (2004), asks students to "commit a miracle"—i.e., to do the impossible! I introduce it by positing that what we are unwilling to experience limits our lives. For example, if we are afraid of failing, we close off possibilities for genuine learning and growth; if we are afraid to make ourselves vulnerable, we close the door to intimacy. Each fear that we give in to diminishes the potential richness of our lives. So it is that I have students begin their *Walking on Water Project* by filling in the following open-ended sentences:

-If only I had the guts, I would _____

-If I didn't care about how people might judge me, I would _____

-If I

weren't worried about my future, I would _____

Student responses to these questions point toward how they might *walk on water*. In the process of choosing what to do, it is common for many students to detect a little voice inside that says, "No, not that, I absolutely could not do that!" When this happens, I suggest that this little voice is actually revealing what it would truly mean for them to *walk on water*.

On the last day of class, students tell their walking on water stories to each other. Sarah tells how she had been led to despise Arabs after her Israeli cousin was killed in the Middle East, but now she has done the impossible: she has befriended an Arab student. Josh, who was freaked out by the sight of blood, walked on water by volunteering to donate blood. Sam summoned the courage to tell his parents—both doctors—that he was not going to follow in their footsteps but instead pursue his own passion, theater. In sum, *Walking on Water*, doing the impossible, shows students that they do, indeed, have the capacity to respond to the call for heroism.

But Why is this Called *Environmental Science*?

Perhaps you are wondering what all this *100-questions*, *walking-on-water*, and *Heroes Journey* stuff have to do with Environmental Science? My answer is "Everything!" It should be no secret to you that the health and wellbeing of Planet Earth—that supports your every breath and movement—is in decline. Indeed, over the past hundred years, all the building blocks of life—soils, air, water, forests, oceans, biota—have been progressively compromised through human activities. We humans have been on a kind of rampage: mining, deforesting, draining, paving, gutting, poisoning, consuming, trashing, fighting, fouling Mother Earth, like there is no tomorrow. And, if our rampage continues much longer there may be no tomorrow! Some environmental scientists have already given up in despair convinced that it is now too late to avoid humankind's impending demise. But perhaps you have chosen to see all this talk of environmental chaos as simply alarmism... After all things seem pretty sweet here in Happy Valley. This course, should you take it, will give you a larger perspective upon which to base your opinions and beliefs.

The unifying theme for BiSci 03 is *The Heroes journey*. In fact, each class meeting will offer the possibility of a small-scale heroic journey, in so far as I will invite you to join me in considering a thorny life question from multiple perspectives. The questions, in effect, will challenge you (and me!) to "leave home"—i.e., to leave the comfort and security of familiar modes of thought and action and—and, in so doing, to *try on* new ways of seeing and being that are potentially transformative.

Part III: Should You Take BiSci 3?

You may not be ready for this course. As a college freshman, I certainly would not have been ready! At that time, it hadn't occurred to me to question things very much; I was *just going along with the program*. In fact, I never even asked the question, *Should I go to college?* For me, college was simply what one did after graduating from high school. What's more, I didn't even ask the question, *Which college should I attend?* I simply went to Notre Dame because that's where my brother went! And he went there because our family was Catholic and Notre Dame was ordained as the right college for the Uhl men. So, I followed my family script but during my sophomore year I finally began to look around and ask questions. Real basic questions like: Why was I in college? Why was my country fighting a war in Vietnam? Why, was there widespread poverty in America, given all our wealth? Why did my country permit the use of chemicals and mining practices that were causing the death of fish in our streams and songbirds in our skies? Why were there race riots in our cities? In hindsight, I see that I was slowly waking up! No longer simply accepting what I was told, for the first time in my life I was asking my own questions and seeking my own answers.

I mention all of this because this course—BiSci 3—has its roots in my own college history—especially in the shift I experienced at that time from complacency and indifference to excitement, curiosity, broadened awareness, and empowerment.

As for you, I don't know where you are on your own life path. I do know that, as is true with many things in life, *timing is important*. So, it may be that this is not the best time for you to be taking this course. To aid you in making your decision, read over the six questions below:

- Do you have a deep desire to participate in the creation of a healthier, more sane world?
- Are there things that you know are rotten, wrong, hypocritical in the world but that you have been reluctant to speak about, even among family and friends?
- Are you willing to reflect on your beliefs—how you came to have them—how they might actually limit your freedom or is this kind of stuff off limits for you?
- Are you open to taking risks, provided they lead to greater authenticity and self knowledge?
- Are you disappointed that your time in college is not leading you to a fuller and more exciting understanding of yourself and your life's purpose?
- Do you sense that there is *something* inside you that is growling with discontent—some powerful energy or passion—that is yearning to be released into the light of day?

If you answered “Yes” to most of these questions, you will likely thrive in BiSci 3. But if you mostly responded “No” or if you found these questions to be odd or irrelevant, I urge you—for your own sake—to **DROP** this course **NOW** and substitute it with another Gen-Ed. See this simply as a way of extending respect to yourself and to me.

Notes

1. The “I” in this story refers to Christopher Uhl. Interview quotations from former students and teaching assistants are provided by Greg Lanckenau, who studied BiSci 3 as part of his dissertation research at Penn State.
2. See: www.chrisuhl.net and <http://www.personal.psu.edu/cfu1/index.shtml> for more examples of field studies, descriptions of the weekly experiential learning labs led by student guides, and details on the use of role play, ritual, and body awareness work in the course.
3. During the first half of my career, I divided my time between research and teaching. Like other professors I thought of research as scholarship, whereas teaching was simply telling students what I believed to be true. Given this formulation, it took me a long time to realize that teaching and scholarship need not be mutually exclusive. Indeed, BiSci—a seemingly ho-hum general education course at Penn State—has turned out to be the primary source of my scholarly endeavors over the last decade. For example, my dismay with cookie-cutter environmental science texts was the catalyst for writing *Developing Ecological Consciousness: The End of Separation* (Uhl 2013). In a similar vein, the lessons learned in introducing ten generations of BiSci TAs to the craft of teaching prompted me to write (in collaboration with my colleague Dana L. Stuchul) *Teaching as if Life Matters: The Promise of a New Education Culture* (Uhl and Stuchul 2011).

References

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*Amended version of chapter 24 (pp. 291-302) in Sustainability in Higher Education: Stories and Strategies for Transformation, MIT Press, 2013