“Never Wonder, Louisa”: Reviving Curiosity through Integrated Learning

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Abstract

Academic curiosity demands risk-taking and a willingness to fail, traits we may find missing in college students. Young college students’ brains have not fully developed; consequently they are more likely to participate in physical risk-taking than intellectual risk-taking. Additionally, traditional structures of the academy restrain rather than liberate curiosity. Students often interact with student affairs administrators as rule-mongers rather than educators, and they perceive faculty as academic authorities who want them to fulfill requirements rather than seek intellectual thrills. When higher education administrators and faculty approach education in terms of integrative learning, however, we have the opportunity to revive curiosity in traditionally aged college students, prompting them to move from simple to complex reflection. Ideally, we will tap into the impulsiveness of the teenage brain and redirect it to excite students to take more risks in their intellectual lives.

Readers are encouraged to download (at no charge) a copy of the Association of American Colleges & Universities’ Integrative VALUE Rubric from the AAC&U online bookstore at https://secure2.aacu.org/store/.

Learning outcomes

1. Examine the way “integrated learning” strategies across academic affairs and student affairs motivate curiosity in student learning.
2. Consider how teenage risky behavior, as described by neuroscientists, might be positively redirected rather than simply guarded and restrained by college administrators.
3. Ponder the risk to our students and to our institutions if we continue to squelch “wonder” while overseeing our students “grind” their way to graduation.

Keywords: curiosity, risk-taking, circus pedagogy, wonder, brain development, Dickens.
Reviving curiosity

There are many kinds of curiosity. American culture feeds “curiosity” with Internet exposés and celebrity magazines. We excuse our inappropriate love of gossip about the people we know by calling it “curiosity.” If I had selected Lewis Caroll’s Alice in Wonderland as a literary lens for this paper, we might be talking about “curiosity” as a marker for the strange and unnatural. “Curiouser and curiouser!” says Alice as her formerly shrinking body begins to telescope open and she says goodbye to her feet.

But as a learning aspiration, we mean something very particular. Academic curiosity drives students to look beyond foundational information, to explore knowledge rather than simply follow directions, to take risks, to allow themselves to fail, and to build the resilience that will help them refine their knowledge by thinking about such failure. Academic curiosity creates an internal thrill that rivals the thrill of physical danger. Unfortunately, academic curiosity is not always the norm and its dormancy may challenge educators. However, curiosity is revivable.

My argument in this paper is that faculty and administrators in higher education have contributed to the dormancy and restraint of curiosity, and I am focusing on two specific ways we have done so. First, when we counter the spectacular risk-taking of the teenage brain with rules and regulations meant to keep them safe, we fail to take advantage of college students’ great potential for openness and risk-taking. Second, as long as we sustain the binary of classroom and outside-of-class learning, we lose an important opportunity to teach students how
to integrate learning, and to build academic curiosity precisely through this integration.

**Never wonder**

I take the first half of my title from Charles Dickens’ nineteenth-century industrialist novel, *Hard Times*. Mr. Thomas Gradgrind, the speaker of the advice, has earned his fortune in an unnamed industry, has been elected to Parliament, and has founded a school based on Utilitarianism and the political and economic theories of Adam Smith and Thomas Malthus. His own children, of course, do not attend the public school, which was set up for the children of workers. But even in their private education, Mr. Gradgrind insists that they follow his educational philosophy:

“Now, what I want is, Facts. Teach these boys and girls nothing but Facts. Facts alone are wanted in life. Plant nothing else, and root out everything else. You can only form the minds of reasoning animals upon Facts: nothing else will ever be of any service to them. This is the principle on which I bring up my own children, and this is the principle on which I bring up these children. Stick to Facts, sir!” (p. 5)

Readers understand Dickens’ satire. The Gradgrind educational method leaves his own children so morally bankrupt that one nearly turns to adultery to escape her loveless marriage, and the other is compelled to sneak out of England on a ship to avoid incarceration for theft. We assume that we would never tell a child, “Never wonder.” We know that, unlike little Louisa and Tom, our children may read fairy stories as well as science books. Our children need not catch furtive glances of the circus clowns and acrobats because we buy them tickets to the show. We never fear
that they will be corrupted and forget their responsibility to the world of “fact.” Our children have had age-appropriate stimulation from birth on, beginning with the black and white mobiles hung over their cribs, up to the camps, special classes, access to libraries, and tools to let them tap into unlimited knowledge online. Surely we are not guilty of promoting Mr. Gradgrind’s curiosity-deadening educational system.

Louisa is still a child when her father overhears her start a conversion with her brother with the words, “Tom, I wonder....” Mr. Gradgrind steps toward her and admonishes her: “Louisa, never wonder.” “By means of addition, subtraction, multiplication, and division,” the narrator continues, “settle everything somehow, and never wonder” (p. 41). And so she never does. When the coarse but wealthy and important Mr. Bounderby—a man nearly her father’s age—asks for her hand in marriage, Louisa considers the facts. “Do you ask me to love Mr. Bounderby?” Louisa asks her father, ”Does Mr. Bounderby ask me to love him?” (p. 76).

Mr. Gradgrind, uncomfortable with the questions, advises her to consider the question of marriage “as one of tangible Fact.” So Louisa agrees to marry her father’s friend as she would enter into a business contract, without emotion, without happiness, without hope.

I dwell on this little phrase, “never wonder,” not because we ask college students to avoid fiction or lead loveless lives. This phrase resonates with me because, with good intention, higher education sometimes destroys wonder and constricts curiosity. Have you ever met students who claim they are “no good at science”? Have you asked them if they have forgotten how much they loved rocks,
dinosaurs, bugs, jump ropes, magnifying glasses, tops, and birds’ nests when they were children? They will answer, that’s not science. Science is tests and memorization. I tell them, don’t say that to a scientist.

We are indebted to Pascarella and Terenzini’s decades of research on the ways college affects students to help us think about the ways we can stimulate learning. Simply attending college, they observe in their chapter, “Implications for Research, Practice, and Policy,” increases a disposition for learning throughout one’s life (2005). If we teach traditionally aged populations, we are lucky to receive them just as they are entering a period of growth in which they acquire knowledge and change their values. For some students, curiosity accompanies this knowledge acquisition and reflection upon beliefs, but it is possible to earn a college degree without “wondering.” Sometimes this is by design. We all know students with jobs and family responsibilities who want to keep their heads down, do their required work, and collect their diplomas—although many non-traditional students who are returning to college after time away express more curiosity than members of the traditionally aged cohort. Sometimes a lack of curiosity masks a fear of sticking out. Insecure students—who seem to be in the majority—don’t want their friends to see them sitting in the front row of class, asking probing questions. My argument in this essay is that some limitations on curiosity are self-imposed by young college students whose brains are still developing; but the academy also reinforces insecurity and unwillingness to express curiosity both inside and outside the classroom.
Teenage brains, neurological development, and curiosity

Social scientists as well as neuroscientists who study teenagers’ social development and brain development suggest reasons for both the stifling of curiosity and its liberation. Neuroscientists use brain imaging to examine the changes in neural connectors from childhood to teenage years to adulthood, often to determine the correlation between brain development and mental pathology (Gieed, 2008). Because of the stage of their brain development, teenagers have heightened self-consciousness and greater susceptibility to peer pressure (Sebastian, 2010). This includes an exaggerated sense of their own importance, shown through a belief that everyone judges them with the same scrutiny with which they judge themselves. They enhance the value of others’ opinions, trusting the direction of peers over their own internal compass. Catherine Sebastian and her colleagues studied brain scans of pre-teens, teenagers, and adults in their mid-twenties to determine the relationship between brain development and perspective-taking. The pre-teens and teens exhibited a longer temporal gap between considering a problem from their own or from a third-person’s perspective; whereas the young adults—whose brain scans attested to more developed neural circuitry—assessed the two perspectives with equal ease (Sebastian, 2010).

Both heightened self-consciousness and limited perspective-taking retard curiosity. At my institution, we see this in the classes many new college students take and the majors they declare, their choice of residence halls, and their participation in Weeks of Welcome activities. Many students don’t want to stand out, and they initially clump into Biology and Psychology programs. My colleagues
in Geography rarely have students declare their major right out of high school, yet they have an outstanding program and an extraordinary rate of graduate school placement. Eventually students find their way to the less familiar, with wonderful results. Is there something that we can tap into by watching this progress?

A similar phenomenon occurs in student life. Although we offer a number of slots for new students in small residential college houses—with focuses on service, writing, and the environment—new students overwhelmingly choose to live in large, generic, first-year residence halls. Many students forced into triple rooms when our housing is overwhelmed by demand elect to stay in the crowded room in a first-year building rather than risk appearing or experiencing something different from their peers. Colleagues at other institutions also describe limited interest in residential learning communities despite the literature on high-impact experiences that indicates students flourish academically, socially, and psychologically in small, experiential learning environments (Brownell, 2010).

I make these observations not to bemoan a shortage of non-conformists. By definition, non-conformists will always be in the minority. Rather, I am interested in discovering what it is about the students who exhibit curiosity earlier than their peers and whether we can adjust our own approaches to student learning to capture their sense of wonder at entering the academy. If the neuroscientists who measure brain development are right, we could just wait four years for the common adult “pruning” of the brain, the cleaning up of neurological static that leads to more independent thinking. For those of us who teach traditionally aged students, however, this is not an option.
Instead, we should look at one other function of teenage brain development, a function more often considered disruptive and destructive, especially when paired with deference to peer approval. I speak of the teenage brain's incomplete cognitive maturation, leading to impulsive action without thought of consequences. Thus, teenagers may engage in risky behavior, such as drug and alcohol abuse, reckless driving, dare-devil antics, and full-powered sports blows. They may venture out in hot and cold weather without protection from the elements. They may have sex rather than form relationships, and they may irretrievably expose themselves on the Internet regardless of how many times we tell them that malicious posts, vulgar photos, and drunken rambling do not impress future coaches, admissions counselors, or employers.

Naturally, we try to contain this impulsiveness. We give them helmets, driving lessons, lectures on substance abuse, sex education, and books on job hunting. On college campuses, we counsel students about alcohol use and hand out condoms. Despite evidence that that our species has survived teenage impulsiveness far longer than history has recorded human deeds, however, we are sure that the current generation takes more risks without regard to consequences than any generation before them. To paraphrase Henry Higgins, higher education administrators—the writers of the rules—seem to be asking, "Why can't a teenager be more like me?"

The answer may well be that the human race has not just survived teenage impulsiveness but has thrived because of it. Our sense of safety is a modern privilege. If early human beings needed to confront nature to hunt and gather food
or to carve out living space, what better participants to have on hand than those who take action without thinking about consequences? Even more recently in human history, no nation would ever be able to raise an army if we could not count on those whose brains are not sending signals to hesitate and contemplate what is likely to result from running into a combat zone. And more globally, is there no better foundation for the pursuit of knowledge through experiment and experience than a lack of the fear of failure? I do not mean cocky self-assurance that we will not fail; I mean not being frozen into inaction because we cannot be guaranteed immediate success in our efforts.

Rather than surrounding teenage impulsiveness with bubble wrap because we fear a self-destructive outcome, we need to focus on the positive promise of this period in brain maturation and development. I do not mean that we should ignore substance abuse or destructive behavior. As college educators, however, we need to worry about how much our protection and restraint are also curbing students’ curiosity and thus their full potential for learning. To explain this further, I will momentarily return to Dickens.

**The Education of the Circus**

In *Hard Times*, the circus is not just a forbidden entertainment for Tom Gradgrind’s children. It represents a world view that is not utilitarian and an educational system that is not based on lecture and facts. Early in the novel, a little girl named Sissy Jupe, who has been traveling in the circus with her father and his trained dog, is forced to remain in Coketown because her father disappears and there is no one in the circus who can support her. Mr. Gradgrind invites her to
become part of his household and sends her to his public school. Sissy does not last long in the school of facts. The teacher, Mr. M’Choakumchild, tries to teach her statistics from the perspective of “the common good,” but she continues to think of the individuals who are starving or the families who have lost their loved ones, rather than the low percentage of starvation or death. Dickens’ implication is that the circus represents human-focused education, not education that churns out diplomas to suit the needs of factories and governments.

Sissy is permitted to leave school and her inherent moral fiber remains intact. She acts as a quiet advocate for a mine worker who is falsely accused of a crime, and she watches out for Mr. Gradgrind’s children despite their failings and abhorrent behavior. She never returns to the circus, and she never finds her father, but her circus family also never forgets her. Her goodness seems to stem from her early education among people who took care of each other. A circus education is an apprenticeship that leads to mastery and then responsibility for the next generation of apprentices. It is experiential, it encourages risk-taking, and it allows for failure.

Most of us would hesitate to say that what we study or teach at college is a circus trick. I teach critical thinking, after all—not hoop jumping. But join me for a moment outside my own biases to explore this analogy. Let me begin by invoking Paula Krebs’ wonderful 2012 essay, “Next Time, Fail Better.” Krebs contrasts her own humanities students with students studying computer programming. “The work of coding,” she discovered, “was an endless round of failure, failure, failure before eventual success. Computer-science students are used to failing. They do it all the time. It’s built into the process, and they take it in stride.” This is also the
learning process of the circus trick: until performers learn all the elements of motion, environment, teamwork, and style, they will not succeed at jumping through a hoop, flying from a trapeze, standing astride two horses, or crossing a high wire. Yes, there are nets, but the best artists work without harnesses because they must get used to facing risks. Could we teach critical thinking in the manner of a circus education? If we taught with the patience of Socrates, we would let students fail again and again to improve their logical strategies, to discover the best evidence to support their assertions, to reflect on where their thinking dead-ends, and to enjoy the process of refining their answers.

The analogy breaks down a little bit. Would we really use the same pedagogical strategies to teach research and argumentation that we’d use to learn a stunt? Given the choice, many young college students would try the physical risk of a circus trick before attempting the intellectual risk of an academic problem outside of their comfort zone. Before I stopped looking at YouTube, I saw students at my own institution repelling down the sides of residence halls and climbing up others. We “do not allow” students to use buildings as climbing walls, but some are tempted anyway, regardless of potential concussions, broken bones, shattered windows, or worse. Given the choice, many of these students would risk a stunt with physical consequences ahead of risking getting a grade lower than a “B.” Many of them won’t become physically cautious for a few more years, but they already lack academic courage.

Yet, I’d argue, circus pedagogy is not simply an analogy or metaphor. There may be a physical thrill to walking a tightrope, but curious students who are
encouraged to be curious thrive on intellectual leaps. Educators know this because we have been those students. And we are also often profoundly naïve, because we assume that every student would want to chase the same thrills that drove us to our professions.

**A seeming contradiction**

We know from those who study teenage brains that most young college students still have brains that are not yet wired to be cautious or think about consequences. Thus many student life administrators spend a large portion of their time responding to behavioral problems like excess drinking, partying, missing class, poor eating habits, vandalism, and accidental property destruction. On the other hand, those same students can sit like lumps in a class or at an out-of-class program. At my institution, students insist that they “work hard” so they “party hard.” I repeatedly inform them that they did not invent that phrase, and that the over-used cliché is more truthful about the partying than the “work.” For many good students—“successful” in the sense that they will get commendable grades and graduate on time—“work” is fulfilling requirements, doing what they are told.

“Partying,” in contrast, seemingly has no requirements and generally involves doing what they are told not to do. If we want students to infuse their “work” with curiosity and a willingness to take intellectual risks, however, we might start by breaking down the party-work binary. Or, in Dickensian terms, let’s bring circus pedagogy to campus.
The regulation of risk

It is not my intention to propose that colleges and universities abandon their codes of conduct or condone illegal or socially harmful behavior by undergraduates. But we must ask ourselves how much we contribute to the message many traditionally aged undergraduates have received that their campus lives are painfully restricted. They correctly observe, for example, that concerns about alcohol abuse collapse controlled social drinkers with those whose drinking threatens their physical wellbeing. They correctly observe that quiet hours enforced for the sake of the rule rather than residents’ needs contribute to disrespect for community standards rather than empathetic compliance. We responsibly remind them not to smoke indoors, not to trash the bathrooms, not to ignore fire alarms, not to use offensive speech, not to sneak into classrooms after buildings are locked, not to use campus internet for illegal file sharing, not to represent other people’s work as their own, not to miss deadlines, appointments, and bill payments—all very important rules for running a functioning higher education community. But when do we remind them how and when to wonder?¹

When to wonder

In 2007 the Vice President for Student and Campus Life at my institution lured me out of my full-time teaching responsibilities in the English Department to become a full-time student life administrator who taught on the side. Our then College president, who was also a member of the English Department, insisted that I

¹ I am indebted to Robert Bonfiglio’s 2006 essay, “College: A Time of Wonder” for much inspiration on this subject.
retain my tenure and connection to English, in case things didn’t work out. Although I haven’t put that safety net to any practical use yet, the possibility of return has been a comfort during the most frustrating moments of student affairs work. When I speak about students’ need to learn to fail, I bring my own knowledge of failure: student affairs work is challenging; bringing about institutional change is the hardest work I have ever attempted, and I have learned from many mistakes. I have taught Plato for three decades; for most of that time, the Socratic method has been a theoretical exercise. But the process of curiosity, failure, and refinement that defines my current work is riskier than the classroom teaching I have done. I must now think constantly in terms of the whole student. Consequently, when I am back in the classroom teaching Humanities or my course on Jane Austen, I have become a better teacher.

One framing document that has been essential to my work has been the AAC&U “VALUE rubric” for integrative learning. This rubric has been applied in many contexts to help students, faculty, and staff define the learning they do and talk about the connections they make across learning domains. An extraordinary example of this is the University of Iowa’s Iowa Grow® project, through which students make connections between jobs they hold on campus and their academic studies. I am interested in the way integrative learning enhances curiosity in student learning and gives us direction for breaking down the binaries of risk and restraint that hold our students back.

The rubric defines “integrative learning” as
an understanding and a disposition that a student builds across the
curriculum and co-curriculum, from making simple connections
among ideas and experiences to synthesizing and transferring
learning to new, complex situations within and beyond the campus
(AAC&U).

Each row of the Integrative Learning rubric describes developmental and scaffolded
learning outcomes; the benchmark for “Connections to Experience,” for example, is a
student’s ability to relate life experiences to academic study. The focus is individual:
how do the texts you read relate to your personal interests?

The milestones on the rubric describe a student’s intellectual maturation,
moving from self-interest to broader applications. The second “milestone” under
the category, “Reflection and Self-Assessment” is, “Evaluates changes in own
learning over time, recognizing complex contextual factors (e.g., works with
ambiguity and risk, deals with frustration, considers ethical frameworks).” To get to
this point—from a benchmark of describing one’s performance simply in terms of
success and failure—students cannot learn in social isolation or be passive
recipients of knowledge. If students remain stuck at self-interested reflection, they
will not be motivated to work in groups or to share their curiosity. The neuro-
science literature suggests that first-year students who walk into many English 100
classrooms are self-conscious and fixated on the judgment of their peers. They
aren’t thinking about improving the intellectual community of the classroom
through a free exchange of ideas; they are worrying about being typecast as nerdy,
ambitious, or suck-ups. They might engage in risky behavior on the weekend, but
not here. Do we need to wait for their brains to develop more before we can expect them not only to identify but also express intellectual curiosity?

At my own institution, we are running a science-focused living-learning community. It is in its second year. The LLC still has a ways to go, but as a laboratory for integrative learning, it is teaching us a great deal. At the beginning of this fall term, a participating Calculus professor observed that her students “got the ‘community’ part more than the ‘learning.’” This is a faculty member who has been an enthusiastic participant in the LLC because her pedagogical practice depends upon students learning from each other. When she said the students focused too much on the “community,” she didn’t mean that the students were not learning Calculus—they were—she meant that their strong bonds of friendship took over the classroom so much that they started pep rallies when she turned back quizzes, high-fiving each other on their successes. This was fine for those who scored well, but humiliating for those who didn’t. It also divided a boisterous band of males from the women in the class, who were quieter and less well connected.

I did not take this opportunity to discuss the virtues of “circus pedagogy.” But this example shows that our clustering and support of students in their living-community does not automatically translate into their ability to integrate co-curricular and curricular learning. These Calculus students acted as a group, but functioned as individuals, stuck at the benchmarks of self-interest, simple success and failure. Our challenge is to capture the “pep rally” energy of friendship and teach students to use that energy in intellectual pursuits.
The first milestone in the fifth area of the Integrative learning VALUE Rubric, “Reflection and Self-Assessment,” challenges students to transfer their understanding of success from one area to another. Rather than squelching the pep-rally enthusiasm, the Calculus professor will prompt her students to consider the way their celebration has divided the class. Because her goal is to have the students learn from each other as they work on problems inside and outside of class, she needs to make sure they are learning social skills as well as mathematical skills in order to meet her learning outcomes. This is integrative learning. Her initial reaction—wanting to tell the enthusiasts to stop celebrating—might have comforted the outsiders who either didn’t do well on their quiz or who weren’t part of the dominant group. But it would have done nothing to further her goal of students learning from each other.

Because the Living Learning Community allows us to control and observe students’ experiences outside of class, we are intentionally prompting them toward the next milestone for “Reflection”: evaluating the changes in their learning over time. We have three groups in this learning community: students who plan to major in Biology, students who plan to major in Physics, and students who have expressed an interest in teaching—at any level, in any subject. The students self-selected into the community knowing that it would be science-focused. Our goal is to create a shared interest in science regardless of academic major, and to have science majors consider the social consequences of scientific research. Outside of class, in the residence hall where all the students live, we have two pizza-discussion series. One is on specific science topics, depending on faculty interest, such as how rockets work
or the potential of space exploration. The other addresses current global or regional topics, such as the Ebola crisis in Africa or the use of soldier flies for composting. Attendance at the discussions is not required, nor are they directly related to course work, but they are popular. Even the non-science majors realize that they are engaging with scientific knowledge when they talk about current events. Our goal—and intent is always easier than practice—is to scaffold these discussions so that they address topics that are increasingly complex and ambiguous. We deaden curiosity when we accept simple answers. So our “teaching-interest” students, who are taking a writing seminar focused on autism, will need to wrestle with the scientific, social, and emotional facets of their topic—perspectives that do not line up in neat agreement with each other.

We are looking at how well the students can evaluate their own learning over time. We have combined a quantitative assessment survey on flourishing and wellbeing with a qualitative assessment to discover how effective the LLC is in supporting student learning, persistence, and retention. Most students completed the first assessment within the first two weeks of class. The focus groups will follow this fall, and a second assessment of wellbeing will be administered in the spring. The year-long assessment will lay the foundation for our understanding of how well students make connections between their curricular and co-curricular learning, how well they handle challenges and frustrations, and how much they take the initiative in pursuing academic learning.

We are not trying to measure curiosity. We are attempting to measure the barriers to curiosity and the opportunities that might mitigate those barriers. We
must also be willing to learn from our students. If reflection is the starting point for propelling curiosity through integrative learning, we must also be willing to reflect on our processes. We must join my colleague who teaches Calculus and reflect on the breadth of what we teach, including the way that our subject matter is embedded in social relations and communication. We must examine our roles as student affairs administrators and admit that when we lead with rules rather than the excitement of discovery, we stifle curiosity. Within the increasing strictures of government regulation, we must make sure that the first words students hear from us describe education as a magnificent transformation, not a set of barricades to negotiate on the way to collecting a diploma. Mr. Gradgrind did not know how to advise his daughter because romantic love did not fit neatly into his structure of facts. As we near the middle of the second decade of the twenty-first century, we must rethink higher education so that everything fits. The thrill of learning needs traditional classrooms, online forums, experiment, experience, and reflections. Our words must replace Dickens’. Louisa, we must tell our students, always wonder.
References


