

Seeking The Spheres To Connect Them

A paper by Richard Hague, delivered before the Literary Club (via Zoom), No.v 16, 2020

A noiseless patient spider,
I mark'd where on a little promontory it stood isolated,
Mark'd how to explore the vacant vast surrounding,
It launch'd forth filament, filament, filament, out of itself,
Ever unreeling them, ever tirelessly speeding them.

And you O my soul where you stand,
Surrounded, detached, in measureless oceans of space,
Ceaselessly musing, venturing, throwing, seeking the spheres to connect them,
Till the bridge you will need be form'd, till the ductile anchor hold,
Till the gossamer thread you fling catch somewhere, O my soul.

This beautifully balanced poem by Walt Whitman became the philosophical and procedural touchstone for teaching and learning for about the last half of my 45 years in the classroom. For me, it so displaced any and all of the education classes I ever took that I could just as well have gone without them. How to account for such an essential and profound change? This paper is the story of that.

For two or three rookie years, I wildly overprepared my classes in British and American literature, sitting at my desk in front of splayed classics like Mathiesson's *The American Renaissance* or Hyatt Waggoner's *American Poetry from the Puritans to the Present*. From them I copied down long passages, connecting to works I was about to teach, and I would share these passages with my students, allowing for digestion and questions. I got a reputation as a thorough, knowledgeable teacher.

So for about twenty-five years, I thrived as a conventional instructor—I was named Department Chair, I was given a Master Teacher award by the faculty, my Advanced Placement students regularly scored solidly on the national exam. But one day I stopped short, looked at all my notebooks, all my underlinings and marginalia in the works I taught, and realized that I was doing much, if not all, of the work that my students should have been doing. I was studying the texts, reading the critics, thinking, judging, evaluating, then delivering my conclusions. I was, in short, having all the fun. My assessment of students consisted almost entirely of asking them to give back to me what I had given to them, or to

show basic competency in writing and analyzing material I presented to them. How *not* fun.

Despite their general satisfaction, I felt that I was not drawing from the students their full potential as readers, writers, and especially, as creators, thinkers, and synthesizers. Luckily, I encountered the concept of constructivist learning, mostly through two books by TheodoreSizer. The first was *Horace's Compromise: The Dilemma of the American High School* (1984), which I didn't read until almost a decade after it was published, and *Horace's Compromise: Redesigning the American High School* (1992). In these books, which I read and re-read, discussed with my colleagues, and began to apply to my own classroom practice, I discovered detailed articulations of what I'd begun to suspect about my own teaching and about the traditional high school model: both were deeply flawed.

I can illustrate the difference between my "before and after" teaching by embarking on this essay in much the same way that the narrator of Herman Melville's *Moby-Dick* finds himself launched into his great quest for the "phantom of life." On his way to sign up for a whaling voyage, Ishmael seeks lodgings on a cold December eve in New Bedford. He steps into a ramshackle seaman's hotel and sees what is described in this passage, which itself constitutes what we would call in our new teaching and learning a "crucial quote."

Entering that gable-ended Spouter-Inn, you found yourself in a wide, low, stragglng entry with old-fashioned wainscots, reminding one of the bulwarks of some condemned old craft. On one side hung a very large oil painting so thoroughly besmoked, and every way defaced, that in the unequal crosslights by which you viewed it, *it was only by diligent study and a series of systematic visits to it, and careful inquiry of the neighbors, that you could in any way arrive at an understanding of its purpose.* 2x —*Moby-Dick*, Chapter 3

I will return to this passage, but I hope you hold its somewhat confounding contents in mind. In the meanwhile, here's what happened when, in the midst of a fairly conventional career, I gave up most of the control traditional schooling has been built upon.

It was in 1994 that I was teaching a composition course to half of the top A.P. students in the junior class. We had done very well in our exercises in critical essays and personal narratives; so well, in fact, that there was a week or two left at the end of the course when we could pretty much do what we liked. I came in with a suggestion I'd been thinking over for some time, and was excited about: "Let's write a personal essay about chemistry. Write about something in chemistry that really excites us or piques our curiosity, and that we

might develop in a way that would hold some interest for the general reader.” All of these students, I knew, were taking A.P. chemistry at the time; I knew the teacher, knew her enthusiasm for the subject, knew that these students were doing well for her.

My suggestion was met first with silence. Then a few groans. Finally, the young woman who graduated as her class’s valedictorian the next year said, “I know a lot of facts about chemistry. But I don’t know it in a way that I could write about. I know a lot of facts, but I don’t really understand.”

I was shocked. She was an exceptional student (as a junior, even before taking British Lit., she earned a “5,” the top grade on the national A.P. Literature exam). So to hear her answer in such a way unsettled me. Upon further thought, I saw that she had, without knowing it, put her finger on a perennial problem in schooling, summed up more than a century before in *The Education of Henry Adams*: “Nothing in education is so astonishing as the amount of ignorance it accumulates in the form of inert facts.” Hearing her caused one of those paradigm shifts that comes to us, if we’re lucky, in the course of our careers. It was an “Aha moment” that changed everything. To make a very long and complicated story short, that paradigm shift led to my designing and implementing for four years a program in Writing to Learn and Writing Across the Curriculum, designed to provoke students to something more than the mere memorization of facts (and teachers to something more than mere lecture and traditional testing.) And I embarked, myself, on a program of constructivist classroom procedures.

The fundamental principle of constructivism is that the student is the center of the learning process, not the teacher. Teaching is not the delivery of facts and principles and theorems to a passive group, but the provoking of real thought about disparate facts, construction of new knowledge on the part of the student rather than mere parroting of already-digested and interpreted information presented by the teacher; it is inviting real solutions to real problems, discovered and pursued by the students, not assigned by the teacher, and encouraging complex, rich, interdisciplinary performances of mastery, rather than shallow paper-and-pencil demonstrations of knowledge.

Here’s Sizer himself:

One of the key Essential School principles prods teachers to plan their classes backwards from some demonstrable way students can exhibit mastery at the course’s end—not by requiring students to regurgitate textbook facts, that is, but by asking them to link concepts across the

disciplines, think on their feet, speak and write persuasively about things that matter to them. What should result, the Coalition [Of Essential Schools] argues, is a system of assessment that relies primarily on performances or exhibitions (either at a course's end or at graduation), and on portfolios of student work demonstrating progress over time.

—newsletter *Horace*, Vol. 8, No. 1

I'd already been teaching successfully, by students' and administrators' limited standards, for decades, but Sizer's ideas made profound sense to me. They clarified some unarticulated yet nagging reservations about what went on in most classrooms, including my own. Since then, during years of experimentation and fine-tuning, I have had the good fortune to meet ideas in other contexts that confirm what I am learning, and to bolster my instinct that the traditional "disciplines" and "departments" are, in the actual world of real learning, often quite permeable, indistinct as to their boundaries and directions. Here, just one of many examples, from my study of physics as I was working on a book of poems.

From *Sympathetic Vibrations*, K.C. Coles:

Thinking surely has as many facets as motion or heat. (Or as Bohr said to Einstein during their great controversy over quantum mechanics: "You are not thinking. You are merely being logical.") Which aspect of thinking do we measure as intelligence? The truth is that any attempt to measure something tends to concentrate on what is *easiest* to measure. We measure what lends itself to measurement, in that same way as we tend to judge, say, "success" by such easily definable symbols as cars, college degrees, and corner offices. Intelligence testing started out as a simple measure of things like visual and auditory acuity, strength of pull, and reaction times. It's obvious that when we consider only the measurable, we're bound to miss a lot—not only depth and creativity, but also humor, friendship, beauty, and a score of other things.

If there is a difference between being merely logical and thinking, then what, I asked myself, are the implications for teaching the humanities? Should we always present material in a linear and chronological fashion, so that students don't have to do any organizational work? Is there a place for things being discovered randomly, or incompletely, or partially, intermittently, recursively, accumulatively, much as they might appear in the actual world, and then asking students to discover the meaning and order in them, or to "finish" them off? Should our teaching be based on providing answers, or most frequently, on provoking even more questions?

My teaching changed dramatically. So too did the experience of students in my classes. Over time, I explained to them: "The limits of my knowledge should not be the limits of what you learn in this class. I should not be the sheriff or gatekeeper of information and the

meaning it leads to; you should be your own gate-opener. I will do whatever I can to help you form essential questions about the literature you have selected to read, within the constraints of the class's subject—American or British literature, for example—and I will help you gather information, and, more importantly, I will do everything I can to help you learn how to get the meaning of it, which is something far beyond just knowing facts. And that meaning is going to be personal to each of you. Your interdisciplinary exhibition of that meaning is a matter between you and the meaning you have made, not primarily between you and me.”

As my approach began to be known, piecemeal and often inaccurately, there arose a distrust of my methods. One colleague, it was reported to me, wished that she could teach English, because then she “wouldn't have to do anything.” She had, of course, no idea of the behind-the-scenes pre-planning and ongoing gathering of materials, the persistent critical questioning of students' often premature conclusions as they proceeded along the path of their discoveries, nor the skills and practices of challenging students almost every day to own their knowledge, to write about it constantly, to explain it to themselves and to others coherently and insightfully, to collaborate with their sometimes laggard or otherwise disinterested or disengaged peers in fruitful ways. Nor of the delicacy with which the teacher-guide-coach had to critique and suggest and confirm much—from the writing, from the quality of student questioning, from the conversational and collaborational skills, coaching not so much *what* to learn, but *how* to learn. After a few semesters of experimenting with the constructivist way, the three of us practicing it by then were “invited” to a meeting of the Academic Council, where for an uncomfortable half hour, we were interrogated.

One colleague, a veteran science teacher and the daunting mother of two of our school's valedictorians, said, “I understand you don't assign homework. I also understand that you use class time for reading. Shouldn't that be homework, too?”

“I suppose,” I said. “But as many of you well know, our students generally don't do much homework, or if they do, it is most often perfunctory. But in this type of teaching and learning, we can actually *see* them do the work in class—and besides making suggestions on learning techniques and habits of thought, we can maintain a quiet, orderly space for them, which is not at all guaranteed to them at home. What we do is to help them generate

enthusiasm about something in British or American literature and then help them to develop some theme or big question about that enthusiasm to pursue on their own. We know from experience that on the way to their answer, a way which is often an interesting meander, rather than a blindered sprint to some finish line, they will learn much of what they would have in a traditionally structured class, but they will be making their own meaning of it, and discovering their own ordering of it. They assign *themselves* homework because they are the ones who know what they need to find out to expand their theme, to answer their big question, as well as to answer all the smaller but indispensable questions along the way. As for reading—you also know they don't read very much on their own, let alone when it is assigned by teachers. So for an early three weeks of the term, once they have, as small, permanent groups, with our guidance and encouragement determined a personal interest in some theme or question—what is the meaning and role of the “Damsel” in British literature and art? So what? Who cares? What do British literature and art and music say about the meaning and value of rivers? So what? Who cares? How many ways are there to write a sonnet, and who are the best sonneteers and why? So what? Who cares? Why did so many Britishers volunteer for dangerous polar explorations in which they were assured they had every chance of dying? So what? Who cares? Then we make sure they have an absolutely peaceful orderly space in which to get a good start on the readings we negotiate together. We call it “The Silence.” (At the time we were on an alternating day 100-minute block schedule—perfect for our purposes, but abandoned by the school after three years when many teachers couldn't or wouldn't adapt their teaching methods to such extended class time. They abhorred having to “be in charge” and to “keep them under control” for that long. On the other hand, a constructivist, student-centered classroom, providing simultaneously a variety of learning situations—regular personal writing in the Learning Log, research via the classroom Internet connection and the carefully accumulated basic texts filling bookshelves and file cabinets all around the room, trips to the school library, field trips to museums and other local resources, on-going group conferences, one-on-one tutorials with me—and yes, in-class reading—provided a rich and full learning environment. For us, one hundred minutes often seemed irritatingly brief.)

The members of the Academic Council were clearly not convinced; the Chair at that time said, “I just can't get my head around it.” We carried on, dealing with occasional

complaints from parents (which we—and eventually our students—were able to successfully and enthusiastically answer, thus enlisting important allies). But sometimes we felt like outsiders in our own school. Meanwhile, discoveries arose.

In regards to the reading issue, for example, I soon noticed an unintended consequence of the three-week “Silence,” which, though the practice seemed worrisome to some of our colleagues, resulted in what I termed “The Reading Renaissance.” Here are two clusters of student testimonials to this part of the experience, quoted from their “Weeklies,” brief Friday in-class metacognitive writings prompted by me to probe students’ experience during the course.

I think reading in big chunks is good. I like to have this time when there are no interruptions and nothing else going on. At home I usually read in big chunks when it is a book I enjoy, but it has been a while since I have read a book [Thomas Malory’s *Morte D’Arthur*] of this length.

—Katie Dame, Weekly #3, Feb. 28, 2002

I’ve read more this week than I have since 7th grade. At first I thought I wouldn’t be able to concentrate by reading in school. There are way too many distractions. So far I’ve had no problems.

—Abby Brunner, Weekly #3, Feb. 28, 2002

You never know how much you can do in an hour and forty minutes until you sit there silent.

—James Bryant, Weekly #3, Feb. 16, 2001

In grade school, I always got good grades, but I read so much when I was younger. Now, I’m back into reading and I’m sorry that I ever stopped. When I stopped reading, it was because I felt I had no time. My grades dropped when I stopped reading. Then, when I began reading again, my grades picked up. I believe that reading, for me, stretches my scholastic mind.

— Amanda Mullins, Weekly #4, February 23, 2001

Usually when I have to read a book, there is a dark cloud that forms above my head. However, for some reason, for an Exhibition it seems more pleasurable to read. Maybe because I actually get to choose the reading and because it’s on a topic that is interesting to me.

—Katie Mumper, Weekly #2, February 8, 2001

I believe that reading, like writing, is one of those skills that, given a basic competency, improves with substantial practice, and with effective, non-invasive coaching. Given a level of adequate beginning literacy, many of my students markedly improved their speed, comprehension, and concentration. Many testified to this in their Learning Logs and in their Weeklies. I had no idea this would happen.

Another unforeen consequence was that by the very nature of their wide-ranging and self-initiated learning, students could demonstrate their mastery in intellectually nimble ways. Here, a student testifies about the experience of presenting her group’s Exhibition to total strangers, prompted by questions from their audience:

The best thing about the untraditional form of the Exhibition was that it was interactive. I love to engage in conversation with people and find out their viewpoints. Not only were those who spoke to us learning, but we were learning also. We found ourselves involved in deep discussions with a circle of ten people standing around us. Another great thing about the style of our Exhibition was that each conversation with each group of people was different and full of rich ideas. It was like every time we talked to a new group we had a different Exhibition.

—Final Narrative of Exhibition Experience, May 15, 2002

That last sentence in particular confirmed for me the value of this kind of mastery: if a student really understands the subject deeply, he or she can approach, teach, and defend it from many directions.

But what a risk! Not only were the students exposed to questions about their topics from all kinds and all ages of people, from all levels of education, but we took students out of school to interesting places that they somehow had to incorporate into their Exhibitions: The old John Hauck Brewery in Cincinnati's West End; Cincinnati's historic Memorial Hall, and even the Cincinnati Observatory, which offered, as an adjunct to our evening of Exhibitions, a viewing of the moon and planets through what once was the largest telescope in America. It was at the old brewery, dating from The Gilded Age, that the group including Kristen Winkfield, whose narrative I just quoted above, presented to strangers in off the street, friends, schoolmates, families, and a few teachers. (In the continuing passive-aggressive attitude toward Exhibitions by some, the first one attended by the then Academic Dean wasn't until more than a decade after we started them. She left early.) The inaugural exhibition, in 1995, was attended by our progressive Principal Jan Kennedy Rich, who later herself joined a faculty Exhibition group I had secured a Marianist Education Fund grant to support. She and her group presented a fine high-risk Exhibition on the literary portrayal of The Other in contemporary American literature—gay persons, people of color—to the parents of scholarship-eligible students come for a special evening performance. She later wrote of the Exhibition as being one of the most exciting learning experiences of her life.

I think the element of "risk" in the Exhibition is a part of its ultimate attraction as a learning assessment and as a way towards achieving meaning and developing intellectual power. I am very much aware of educationists who warn against creating anxiety in learning and testing situations, and I agree with them to a degree. Fear certainly makes us stupid. On the other hand, a certain "edge," in this case arising from self-selecting readings

and other materials, self-teaching, group cooperation, solving logistical problems together, and then planning and rehearsing a major presentation, replete with full and accurate documentation of every source, invigorates and excites. Here is Kristen Olsen Lanier, a veteran teacher-writer, in the newspaper *Education Week*,

This habit of self-education is one of the most profound, and perhaps the least discussed, aspects of education. Within the educational literature it is almost never mentioned. Rarely...does the picture emerge of the student blistering with heat, on their own fiery transit through the material to which the instructor has added propulsion, but not the vividness of the launch.
— “Self Education: Learning From the Kinsmen of the Shelf”

So this after-reading response, from another Weekly:

What is most familiar to me in the article [“Kinsmen of the Shelf” by Kristen Lanier] is the “crave.” Lanier talks about the madness or mania that overcomes a person when they learn a new, intriguing idea. As of yet I have not felt the yearn for more and more knowledge from my Exhibition experience. But, I feel that it is not too far off. I’m actually kind of scared of these all-out learning binges because of their way of totally destroying a way that I previously had thought.

Take for example my ongoing bout with philosophy. Ever since my driving instructor introduced me to *Menos* and ideas like “everything is numbers” or “everything is color,” I have been snatching up anything I can get that relates to philosophy. I love the new insights created by Nietzsche, Heidegger, and Kierkegaard. But along with those comes the total “blowing out” of my bubble. Realizing how much of a molecule of water I am in an ocean! That doesn’t stop me, though. It’s like that women’s saying, “You can just slap it on my thighs!” when they eat something fattening. I feel as if my head is getting bigger, that is, in a good way.

—Michael Wocher, Weekly #4, Feb 23, 2001

And finally, this:

For the past three years I have looked forward to coming to lit. class because it is a place you know you will *use* your own mind, explore thoughts you come up with, answer open-ended questions by probing your own intellect. When you are able to do this and actually put yourself into a discussion and explore ideas and concepts, you get a natural high because you’re altering your mind on your own terms by yourself.

—Bruce Greer, Weekly #1, Feb, 24, 2006

Despite its redundancy, “On your own terms by yourself”: Yes.

The touchstone reading, the intellectual home base for any Exhibition class has been the Whitman poem I quote at the beginning of this paper. It’s so important that everyone memorizes and recites it. We refer to it frequently. Here it is again:

A noiseless patient spider,
I mark’d where on a little promontory it stood isolated,
Mark’d how to explore the vacant vast surrounding,
It launch’d forth filament, filament, filament, out of itself,

Ever unreeling them, ever tirelessly speeding them.

And you O my soul where you stand,
 Surrounded, detached, in measureless oceans of space,
 Ceaselessly musing, venturing, throwing, seeking the spheres to connect them,
 Till the bridge you will need be form'd, till the ductile anchor hold,
 Till the gossamer thread you fling catch somewhere, O my soul.

The poem is in part about Lanier's "crave" —analogous to the spider's instinctive urge to build a web, which in the poem is also analogous to the soul reaching out for meaning in the universe "till the bridge you will need be formed, till the ductile anchor hold,/ till the gossamer thread you fling, catch somewhere." The crucial phrase describing the spider-soul's longing, as it is "ceaselessly musing, venturing," is "seeking the spheres to connect them." I encourage students to understand that "spheres" has multiple meanings, including the one operative in the phrases "spheres of knowledge" and "spheres of influence."

Which brings us again to the passage from Melville at the beginning of this essay.

On one side hung a very large oil painting so thoroughly besmoked, and every way defaced, that in the unequal crosslights **by which you viewed it**, it was only **by diligent study** and a **series of systematic visits to it**, and **careful inquiry of the neighbors**, that you could in any way **arrive at an understanding of its purpose**. —*Moby-Dick*, Chapter 3

Now: If constructing connections is a way to knowledge and meaning, one piece of information confirming, complementing, enriching, and deepening another, how about this?

We know, not by a direct and simple vision, not at a glance, but, as it were, by piecemeal and accumulation, by mental process, by going round an object, by the comparison, the combination, the mutual correction, the continual adaptation, of many partial notions, by the employment, concentrations, and joint action of many faculties and exercises of the mind.
 —John Cardinal Newman, "The Idea of the University."

Exactly. Melville's humorous description of Ishmael's head-scratching wonderment over the painting in the Spouter-Inn and his struggle to understand it is the same process that Newman describes in more pedagogical language. We don't learn deeply or comprehensively in a straight line or by being told something, but by involving ourselves in an ongoing struggle with information, by bumping this new thing up against similar—or completely different—old things we know, by conferring about it with others, by intense solitary study, by wondering aloud and discussing among others and by writing and

hypothesizing and guessing until slowly, gradually, (or in a flash—the “aha!” moment, the “eureka” moment) its meaning for us emerges.

Two passages from vastly different works, from two utterly different domains, at least one of them completely unknown to the other (*Moby-Dick* was published in 1851; Newman didn't publish “The Idea of the University” until 1854.) But there they are, nevertheless, bridging time and place, the Old World and the New, bridging fiction and nonfiction, experience and intellection, yet totally spliced in their essential meanings. “Till the bridge you will need be formed, till the ductile anchor hold, /till the gossamer thread you fling, catch somewhere, O my soul.”

Yes indeed. “Seeking the spheres to connect them.”

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