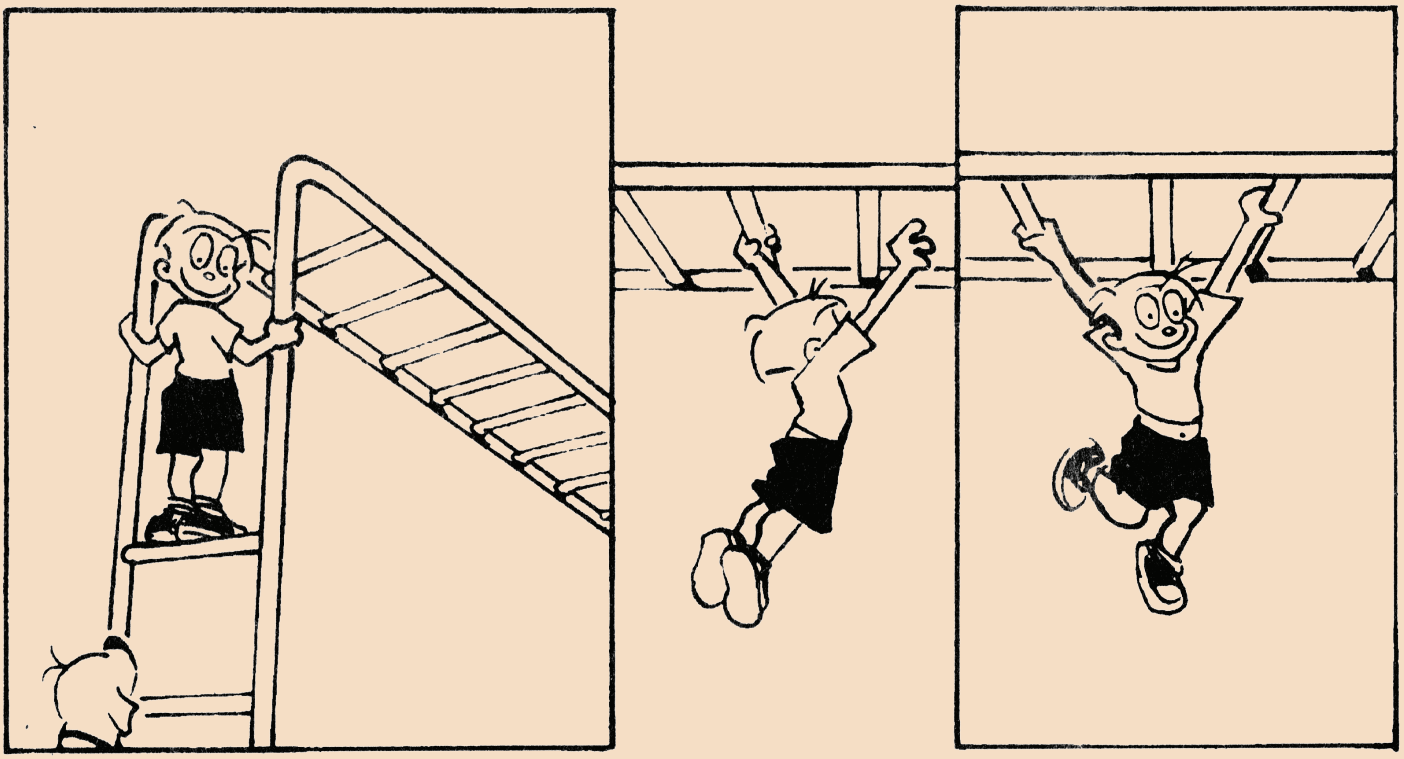

Why Play Pedagogy?

by Ira Livingston

Why Play Pedagogy

1. Rats

Rats denied the opportunity to play with their peers while growing up tend to become anxious, awkward, paranoid and hostile. Coming into an encounter, they are bad at assessing the situation and adjusting their actions accordingly. Negativity and aggression aren't defused but escalate.

Sound familiar? It's easy to imagine what sort of politics such rats might practice. Just look at any newspaper or social media.

Developmental psychologist Peter Gray defines *free play* as *autotelic* (*auto*=self, *telos*=aim); that is, "freely chosen and directed by the participants and undertaken for its own sake, not consciously pursued to achieve ends that are distinct from the activity itself."

For psychoanalyst D.W. Winnicot, therapy is a form of play, and if the patient can't play, the therapy has to focus on building that capacity. Economist Steven Horowitz goes further, promoting "the importance of unsupervised childhood play for democracy" (in an article by the same title, https://cosmosandtaxis.files.wordpress.com/2015/11/horwitz.pdf).

The capacity for play is not just a psychological attribute but the *neurological prerequisite* for social, emotional and cognitive intelligence and wellbeing. An argument can be made that its roots go all the way down to the level of physics and thermodynamics, but here I'm just building on the narrower and well-defined case for *mammals*.

Question: how can play be autotelic-- "undertaken for its own sake"-- and yet be so instrumental to so much else? Only if the things for which play is instrumental-- cognition, emotion, democracy, psychological wellbeing, music, acting, dance, sex, and so on-- *serve in turn to enable and enhance the possibility of play.* Play serves itself via these detours.

The political implication is clear: power is ethical when it furthers the possibility of free play. This is what we sometimes call *leveling the playing field*. Regimes in which play serves power-- and power, not play, is autotelic-- are authoritarian. These formulas help counter the caraicature of anarchism as free-for-all: in fact, the conditions for play have to be established and maintained very carefully.

A particular moment in rat play is definitive for the social dynamics of play generally. When two rats are playing and one gets positioned on its back, the other rat-- rather than seizing the advantage to stand alongside its opponent and pummel it at will (what we call *picking on someone when they're down*)-- often climbs up to stand on its opponent's stomach and continues the tussle from this precarious position. That this behavior was initially baffling to scientists (*why give up an advantage?*) says a lot about our paradigms.

The reason is so easy, so obvious. One rat taking full advantage when an opponent is down would end the play, most likely by harming the other or causing it to scurry away. No need to posit altruism or empathy (an argument that remains locked in opposition to the dominant

paradigm of competitive selfishness) but just *an inclination to prolong the play,* remaining in the *sweet spot* where domination and submission stay in play without stabilizing into a binarity or a heirarchy.

Stay in play.

On this principle you could build a creative process, pedagogy, ethics, politics, philosophy.

This is what we do in Poetics Lab.

Since we teach adults, we do not have access to the developmental window in childhood.
We *build bridges* among the creative process, pedagogy, ethics, politics, and philosophy.
As is the case with most learning, the bridges are not just metaphors but actual neurological connections, muscle memory, interpersonal protocols and affective modalities. Of course parents and teachers of small children also use their roles as play facilitators to promote various lessons, but in both cases, the key is using the facilitation to guide and sustain "activity that is freely chosen and directed by the participants and undertaken for its own sake."

We use assorted prompts that function to hand the baton to the participants, but most important is establishing the classroom as a play space and one in which bridges are being built among multiple modalities of play. As it was in kindergarten, so it continues to be in college and graduate school.

Because I'm mostly a theorist, I'd be comfortable with five minutes of activities and 55 minutes of reflection, and because my students are mostly in art and design, they tend to prefer five minutes of reflection and 55 of activities. Fortunately, we only *mostly* conform to our caricatures, so that leaves a lot of room for negotiation-- that is, for meta-play.

The other pieces of this set of essays are mostly a pedagogical how-to manual with philosophical reflections, designed to make both the practice and the reflections replicable and adaptable and evolvable by anyone who's so inclined. This essay stands aside to address, at least in general terms, the timeliness and importance of play pedagogy.

2. Teaching Presence

Social media and cellphones have taken the edge off of absence: increasingly, we are never fully alone or disconnected. Unfortunately, they also tend to take the edge off of presence: we tend to be more distractedly and disconnectedly together.

The virtue of this predicament, for us glass-half-full types, is that it makes it all the clearer and more urgent that presence and realtime engagement be *taught*. We need the classroom more than ever. Teachers and students in classrooms have acquired some of the cachet of the underdog

heroes of the Terminator series: guerilla warriors fighting what seems like the imminent victory of the machines.

Especially when there is so much that can be accessed, learned and transacted online, the main reason to have actual embodied people together in an actual classroom comes into even sharper focus: so that people can learn how to be present and engage in realspace and realtime with other people.

Since I was trained as a lecturer and discussion leader (with the emphasis on *leading*), I have also had to learn to go to the edge of my comfort zone to think and create with my students and co-teachers. And by the way, as I have learned from friends who teach online, *virtual* presence has to be taught also.

Because the people in a classroom are not completely of one's own choosing, it has often been billed as a kind of laboratory of democracy. The argument for this used to be put in terms of *citizenship* (we learn how to think, discuss and debate rationally) but in this post-rational age, that argument is a bit shopworn. Even so, the stakes have only gotten higher-- or as you might put it instead, *lower*: more fundamental even than social practice, extending all the way down to our brains and bodies. As digital gaming and social media capture more and more neurological and hormonal dynamics (as the web, phones, and games come to be wired more densely into our brains and endocrine systems), and as "society" continues to be emptied out as a fiction, we have to reinvent the social at the molecular level of classroomsful of people, at the neurological level.

3. Against Knowledge

Knowledge is being devalued. To put it bluntly, why should we *know stuff* when we've got the web?

Recently I was taken aback to realize that I've never known my partner's cellphone number-- but why should I clutter up my mind with such trivia when my phone knows it? Along the same lines, why should I spend classtime teaching people things they can look up online?

You may find this attitude vulgar or worse, but it is not among the (many) things that make me feel that humanity is going down the drain. Knowledge always had a downside (as is recognized in Daoism in particular): the more knowledge and know-how you amass-- sometimes, even, the more of what is called *self-knowledge*-- the harder it becomes to practice *beginner's mind* and to explore alternate frameworks (or as Oscar Wilde quipped, "only the shallow know themselves"). This can be a serious and even life-threatening liability, especially in turbulent times.

Where are the leading edges of a knowledge formation? Some must be at the front, where it pushes forward into non-knowledge, expanding its explanatory range, or running up against obstacles and limits or going around them. Some are along the sides, where it is articulated with other knowledges (the space of interdisciplinarity) and some are internal fractures, where it is

articulated with itself (the way a particular field and its subfields are organized). All of these are connected, and repercussions can pass through them all: the *transversality* of a knowledge formation is the loosely cross-articulated dance of this network of fractures via which the whole thing-- like the tectonic plates that comprise the earth's crust-- can morph and evolve.

But the metaphor of leading edges is limited insofar as it implies something already-existing that has enough unity, locality, stability and agency to be a discrete thing with edges. It falls short of accounting for the most important edge of a knowledge formation, which would be the *bottom edge*, *where it emerges from non-knowledge*. This is a rough and heterogeneous terrain. It must include, in no particular order, desire and affect (something you might try to access by asking someone, *why did you become a scientist?*); paradigms and metaphors and models in their various forms (which shape knowledge but are not quite themselves forms of knowledge); all of what you might call *the DNA* or *the unconscious* of a knowledge formation-- all the forces that shape it, especially those that it disavows; for example, the way scientific rationalism continues to be shaped by capitalist economic rationality, or the way notions of matter and energy in physics have followed the money form and its tendency to liquidate everything it can grasp with its stubby little fingers.

While we are learning the content of disciplines, we should also be learning to find this subdisciplinary edge or surface and to stay there long enough, potentially, to retheorize what we do or to reground the knowledge that might be built on it; reproducing and/or altering the DNA of knowledge. I'm not maintaining that everything we teach should be thrown out the window and new things be put in its place but simply that the center of gravity needs to shift a little.

Such a shift is still a pretty big deal: just ask a motorcyclist, an acrobat, or a solar system.

If you want to put a knowledge formation on a new footing or foundation, you first have to have to lift it up and keep it off of you far enough and long enough to give yourself some space to work; this part of the project can be called *making headrooom*. The more disciplinary legitimacy and authority you have (the more capital investment), the harder this can be, and the higher the transition costs.

Play is situated at the *subdisciplinary* edge or surface of knowledge, which is also where those who belong to multiple disciplines can meet. To theorize you need *beginner's mind*. You can't break out of prison horizontally: that's what's wrong with the model of *interdisciplinarity*. You first have to go *down* and *then across*, and you need accomplices. Play is *transverse* to disciplinarity.

4. Open Process

Starting in the nineteenth century, painters adapted to the emergence and spread of photography by moving away from what the camera was good at-- namely, optical realism-- and cultivating instead those styles that don't come naturally to the camera, starting with impressionism and various kinds of stylization and abstraction. This changing cultural ecosystem did not mean simply the abandonment of verisimilitude and full embrace of abstraction by painting but a shift in the center of gravity. As time went on, photographers also sometimes embraced or incorporated abstraction, and painters began to experiment in new ways with their own realisms and hyper-realisms: in other words, the visual ecosystem complexified, as mature ecosystems do, not by the "blurring" of boundaries (almost always a stupid metaphor that implies, falsely, that boundaries are simple) but by more complex and nonlinear border negotiations.

So how are we now adapting-- how are pedagogy and knowledge adapting-- and how *should* or *might* we adapt-- to the emergence and spread of digital technologies? What should we cede to the technologies, how should we work with them, where should we fight back against them, and how should we cultivate and value the things that we're likely to remain better at doing than they are?

The Web and its ever-expanding databases and ever-more-sophisticated search engines and related artificial intelligences will continue to get more powerful. For example, instantaneous web-based translation recently crossed a tipping point, and it's easy to predict that it will rapidly

get so much better that students will be justified in asking *why should I learn another language when there's an app that will translate for me in real time?*

There will still be compelling reasons for learning a language-- and for amassing other kinds of knowledge-- but the reasons have become harder to articulate now that technology is usurping the go-to practical reason-- that is (in this case), "so you can communicate with people who speak other languages." I do *not* think foreign language teaching should be ceded to machine translation, but it will happen all the more thoroughly unless we get much better at articulating and enacting the other reasons. Now is not the time for nostalgia or a wounded sense of entitlement. It's time to "take what you need, you think will last / but whatever you wish to keep you'd better grab it fast."

I'm not a language teacher, but I can at least point (as theorists do) to the direction of an answer. Hard as it is to believe-- as hard as it is to understand, in opposition to compelling visual evidence, that the earth revolves around the sun-- the paradigm of language being about communication has always been wrong. Language is about play. Does that change all of what might happen in a language class? No, but it shifts the center of gravity.

Similarly, we are used to thinking of knowledge-based professions such as medicine as what we humans are uniquely equipped to practice, combining, as they do, art and science, and requiring a combination of specialized knowledge bases, know-hows, and experiential feel. But as we continue to move into more radically dehumanized medicine, it seems to me that the training of doctors must continually be adjusted to cede more to computers and the web, and to focus more on what computers, robots and the web *suck* at doing.

Within well-defined parameters, computers can now even engage in experimental tinkering, at least by algorithm: trying this and that and seeing what works, and getting better by machine learning. This may in some cases include the exploration of different ways of doing something: say, finding the best routes to take when delivering things to multiple destinations, playing chess or even *Go* or *Jeopardy*, re-combining various features to re-design something, and so on.

So, computers can *in some cases* be programmed to figure out different ways of doing something, but what they can't do is *decide to do something else*. What computers suck at is called *Open Process,* which incorporates meta-cognition.

I thought of the simplest task that can be executed by even the most primitive computer: addition. Almost immediately, I thought of a song lyric: "If three and four were seven only, where would that leave one and two?; if love can be and still be lonely, where does that leave me and you?" (Townes Van Zandt, "Buckskin Stallion Blues"). And then, again almost immediately, this reminded me of a cryptic challenge from the Chinese philosopher Chuang Tzu: "If we go on in this way, then even the cleverest mathematician can't tell where we'll end, much less an ordinary man. If by moving from nonbeing to being we get to three, how far will we get if we move from being to being?" (Chuang Tzu, *Basic Writings*; transl. Burton Watson [New York:

Columbia U. Press, 1964], 39). Funny, isn't it, how both of these share the "if" structure-- and not, as you might expect, to suggest the hypothetical nature of a world where numbers, counting and addition are ambiguous, but to suggest the hypothetical and restrictive nature of the numerable world!

You might describe my thought process here as associational, poetic, nonlinear, *meta*: more often than not, there is a critical or even derogatory subtext to these descriptions. Imagine if a computer worked in this way: "Sorry, Dave: I was going to add the numbers as you asked, but I hopped a meta-cognitive train of thought about numerability, which yielded some interesting results, if you're interested. I'm still working on it, but do you still want me to add those numbers?"

5. Information and Meaning

To put it another way: computers excel at information and suck at meaning. Meaning (as I define it, rather technically), comes from how the relationship among the components of a system-- the internal relationships that comprise a system-- interact with the system's external relationships: the relationships between the system and its environment or between it and other systems. This goes both ways: changes in the way the system interacts with its environment have repercussions for its internal relationships, and vice versa. This is why the idea that thinking can change the world is not necessarily naive idealism or occultism, and this is also why the idea that the world shapes how we think is not necessarily vulgar determinism: meaning is about our relationships with ourselves and others and the nonlinear relationships among these in turn. And we are meaning-making creatures in the same way that plants make life from sunshine, dirt and water.

> ASIDE: Audiology Sci-fi. I went to the audiologist to have my hearing assessed. They put me in a booth, with headhones on, and played various tones, some louder or softer or higher or lower, ascending or descending in pitch or volume, sometimes with changing background noise, and I was supposed to push a button whenever I heard a tone.
>
> I heard what I imagined might be a groundhoglike creature scrabbling in the dirt at what turned out to be the foot of a spaceship. A futuristically-suited alien descended in an elevator that emitted a tone at each level on the way down, and when the alien saw the groundhog, it called for backup and two more aliens descended one by one; then an electromagnetic storm began to whip up, and as it did, birds began to warble, and at the height of the storm, the aliens started firing pulsating rays at the groundhog but these seemed like attempts to communicate rather than an attack; the groundhog was *unphased*.

> I could see it all made into a short film, mixing live action-- alternating between the viewpoint of the audiologist and the patient-- with animated sci-fi sequences noticeable to the audiologist only in the changing facial expressions of the patient.
>
> Computers can hear thousands of times better than I do, but can they spontaneously decide to turn a hearing test into a sci-fi prompt? And by the way, the more my hearing deteriorates, the better I get at it: you wouldn't believe some of the surreal and poetic things that people say when there's lots of background noise! And it's not just me: we're all mutant X-men who turn our disabilities into assets. Only irritated clams make pearls.

Consider how acquiring the information of a foreign language might have meaning for us. Of course it makes it more likely that we will travel to the place where the language is spoken or interact with speakers of the language (or functions as an excuse to have this adventure); and it might make us feel both *more cosmopolitan* and *humbler*-- that is, it might change our relationships with ourselves as well as with others, giving us more respect for culture-crossers and code-switchers generally, and it may well change our relationships with language itself. And all of this can be the realm of pleasure and play (I was going to say, *except in France*).

6. Brachiation

When you're walking on a level surface like a floor or a sidewalk, or a regularly patterned surface such as a stairway, you can set your feet on autopilot. Increasingly, people take advantage of this to text or talk on cellphones as they walk. A downside is obliviousness to others, whom the oblivious assume will get out of their way, or to whom they will adjust only as necessary, usually at the last moment, when their personal space is about to be compromised. Sometimes it's magnified by privilege (*I'm the only person in the universe*) sometimes by lack of privilege (*I reclaim on the street what I'm not allowed in my job*), or some combination of the two. In one sense, it's a small thing: people are slightly less present, slightly less responsible to those around them, somewhat more in their own bubble. But it is also part of a big, ongoing, multidimensional and consequential thing: the destruction of social space by personal space, a feature of capitalism from the beginning (for example, by the systematic privatization of common lands) that is being intensified in what is variously called its postindustrial, neoliberal or late phase.

In contrast, when walking on an irregular surface-- say, walking across a shallow brook on random steppingstones-- you can't put your legs on autopilot or focus your eyes elsewhere; you have to be present. Furthermore, your attention must shift continually between your feet and the way ahead, continually weaving together *means* and *end*, focused and peripheral vision. It would be awkward-- probably paralyzingly so-- if you had to try to verbalize the constant decisions you make and contingencies you calculate as you go:

> I could step on that stone, but in that direction the stones get farther apart several steps ahead so I would have to stretch, but if I step instead on this other stone, the surface is so slanted that I will have to take my next step quickly, then bend over to use my hands to balance on the next higher and slanted boulder...

You can tell this process is complex and nonlinear not just because there isn't only one best solution, but because your attention has to keep looping forward and back, continually adjusting possible futures and presents-- that is, the current step and subsequent steps-- in relation to each other.

This simple example is a version of classic mathematical routing problems such as the "Seven Bridges of Konigsberg" problem (a spur for the development of graph theory and topology) and the "traveling salesman problem" (at the heart of logistical calculations upon which depend the supply chains that form the metabolism of late capitalism); both of these figure into the question of what constitutes an irreducible complexity that separates some problems from others (the "P versus NP problem").

The same process is formalized-- that is, *quantized* into discreet moves-- in games like chess, where you must continually look several steps ahead, scanning an exponentially branching flow chart of possible moves and countermoves, and feeding all this analysis back into the question of which move you should make now. *Quantization* means here that, at any given time, it is either your move or your opponent's move-- black or white-- and that the move itself is exactly one of a countable, finite set of moves. This is unlike the stepping-stone walk, where a potentially infinite set of nuances-- leaps, stutter-steps, stretchings, foot angles, leg stiffnesses, crouchings, surface textures and slipperinesses, and so on-- are on the ever-changing menu.

The same process is more fluid, instantaneous, and social in games that involve continuous bodily interaction, and again it is fundamentally complex and nonlinear. In such games, you are continually adjusting where to move your feet, hands, eyes, shoulders, and the ball in relation to where your teammates and opponents are moving. Accordingly, prediction also has a social dimension. It involves what is sometimes called *theory of mind* or even *empathy*: you think yourself into the heads of your opponents (or into their shoes) as you read them and respond to subtle cues-- say, your opponent's eyes beginning to turn in the direction they anticipate that you'll be going. Obviously, this all happens in the moment, but even if everything were happening in super-super-slow-motion, the multiple loops would likely make verbalization crippling.

Note how much more viable verbalization of one's choices is in a game like poker, which also has a significant social and theory-of-mind dimension but, unlike kinetic play, is far more formalized and quantized-- that is, characterized by rigorous turn-taking, a small and countable set of options at each turn, and a small and rigidly hierarchized set of outcomes.

It has been hypothesized that human brain development was spurred along at a key point by the

continual nonlinear calculations that characterize moving among tree-branches, known as *brachiation*. Such movement is easy enough for small primates but gets trickier the larger you get, and the cost of mistakes increases. For our ape ancestors, then, brachiation is a "complex locomotor strategy" which "involves fine sensory motor control, but it also involves a need to plan your route so that you can avoid accidents" (*New Scientist* July 7, 2018, p 38). This planning is mostly done in the moment as you are moving and the choices present themselves, just as in the stepping-stone walk-- and, not coincidentally, *just as in speaking and writing*!

It seems likely to scientists who study such things that brachiation was involved with the evolution of the cerebellum in primates. It has long been understood that the cerebellum is a key player in our capacities to "learn, plan, predict and update" (39) for motor function, but neuroscientists are now realizing that the predictive apparatus participates in cognitive and emotional functions too, which both involve something like running hypothetical simulations of what is likely to happen (a process at the heart of emotion and cognition).

Sure enough, "when the apes split off from other primates . . . the ape cerebellum had a runaway growth spurt, becoming disproportionately larger as it evolved in the lesser apes, the great apes and then humans" (38).

You might say-- about walking across a stony brook, swinging through tree branches, dribbling a basketball past opponents, jamming improvisationally with fellow musicians-- that you learn to do it *without thinking*-- or, in each case, you could say that, the better you get at it, the more you are able to "download" improvisation (into what is sometimes called "muscle memory" but clearly involves the cerebellum and other parts of the brain as well) so that it becomes "second nature" and frees up neurological resources for other stuff. This kind of learning acts as a bridge between conscious thought and the complex nonlinear orchestrations of your metabolism that come pre-installed and already operate on autopilot.

What is the relation among all the instances in which our metabolisms and other bodily systems are constantly making nonlinear and predictive decisions-in-the-moment, autonomically, and the way that we make such decisions physically (*I see you're anticipating me going right, so I'm gonna fake right and go left*), emotionally (*I see you're trying to bait me but if I avoid the gambit I can shift the terms of our encounter and maybe we can avoid escalating*), cognitively (*I see that if I choose between two apparent options I'll get stuck, so I need to step back and reframe the question*)? How much is the cerebellum involved in each of these? In other words, to what extent is there some kind of a "central nonlinear processing unit" shared by them, or even if it is reductive to imagine such a unit, how much could these various faculties be networked (even without a CPU) to reinforce or enhance each other?

How are physical, emotional, and cognitive intelligence linked, and can learning to play and improvise with others contribute to making you a better person socially, ethically, emotionally, cognitively?

What if teaching and learning were an ongoing experiment in response to these questions?