

## **Groundwork**

Leslie Hirst

How does a new student of art and design transform into a creative and critical maker? Leslie Hirst, Associate Professor, Foundation Studies, argues that critical making is not something that just happens to people with certain gifts or abilities. Rather, critical making—transforming the ordinary into something meaningful—involves absolute focus and an enormous amount of doing that is often hard to qualify while it is being done. Through recollections and a series of lessons, Hirst demonstrates that the path to becoming a creative practitioner is never straight, and is strewn with obstacles as well as inspiration.

Throughout grade school I was accused of being “creative.” For this reason, whenever our class was required to partake in a group art project, the teacher put me in charge. It is easy to recall the burden of this label. It meant that I was expected to pull something foreign or surprising out of myself even though I had always considered my ideas normal and obvious, and I didn’t think I ever demonstrated that I was capable of anything else. I was certain at age seven or ten that others had misidentified my talents. I felt like a fraud. Simply, I was very good at making exactly what I wanted to make look exactly as it should look. It had not occurred to me that most people have no concept how this is done.

I grew up around makers, but not around artists. Perhaps necessity, limitations, and isolation fueled my need to “make” more than the desire to express or adorn. I watched my father soldering circuit boards that led to the booming bass from a stereo speaker, and my mother pour cake batter into two round pans that when baked, she cut, reconfigured, and frosted into a flop-eared bunny, and my grandmother carefully place crumbly bulbs into a plot of dirt that sprouted yellow and red tulips the next year. The transformation of materials by human hands captivated me, and these experiences likely enabled me to see something else when looking directly at any image, object, or event.

I bring up these accounts not only to place myself within a framework for discussing creativity, but also because they establish a ground for disseminating the elastic, ambiguous, unpredictable, and mysterious qualities that surround the term “creative.” Too often, the word is carelessly attached to anything new or different. Just as frequently it is used to denote skill or fanciness even though no real innovation has taken place. Perhaps it is also an accessible word to identify something that (or someone who) is not easily understood. In any case, these casual inferences reflect a host of personal traits and qualities, from free-spirited to analytical, messy to precision-oriented, or just plain difficult to categorize, putting those who are labeled “creative” into a very varied group.

Psychologists and behavioral scientists agree that creativity is a complex combination of attributes, including but not restricted to knowledge, personality type, and environment, and that it manifests differently depending on one's motivation.<sup>1</sup> Likewise, the presence of creative tendencies is believed to be the result of both nature and nurture, as not all children of electricians, bakers, or gardeners will exhibit interest or aptitude in creative practices. It is curious, then, that without a firm definition of what it is, where it comes from, and how it can be measured, creative thinking is a respected human characteristic positioned high on the list of desired student outcomes for most educational institutions. After all, given these variables, it would seem that the ability to teach someone to think creatively is a failed proposition from the outset. Yet, every fall I enter a classroom full of wide-eyed, optimistic, and intelligent young students with that objective in mind.

For most of my academic career, I have taught multidisciplinary studio fundamentals, commonly known as Foundation Studies, to first-year college art and design students. I feel fortunate to be involved with this early stage of students' development as each year a fresh crop of individuals who were similarly deemed "creative types" enter my classes with some sort of vague idea about how their interests and abilities might be channeled to help them become makers of wonderful, important, transformative things. Eager and willing, they are each driven toward something that they can't quite define, with some sort of expectation for what their education will provide, and I want to make their discovery as accessible as it can be. But the bad news is that finding an authentic voice and direction in creative practices is hard and sloppy work, and each individual is responsible for making that discovery in her or his own way.

Helping students to arrive at this understanding is not easy, as the factors that play into developing a creative practice are as fluid and mutable as the definition of creativity itself. Whether we are practicing artists and designers or students wishing to enter these fields, our thinking is shaped by an accumulation of experiences and contacts from every aspect of life. On account

of this, I have often said that I never teach the same course twice since the dynamic of the students' cultures, histories, and interests combine in drastically different ways with every new class roster. I imagine that this imperative subjectivity is not always the case for higher education courses, where, in certain disciplines anyway, a topic is taught and similar knowledge is gained in pretty much the same way by all of the students. In those scenarios, learning a subject is like filling a box with items numbered 1, 2, 3, 4, and 5 as certain achievements are met. However, in art and design education, what we gain is a box of question marks. These are not marks of misunderstanding; rather, they stand for possibilities. They don't ask the question "Why?" but instead ask "Why not?"

Inviting possibilities demands a great deal of trust in the uncertainty of the creative process, even though giving oneself over to uncertainty seems like an unlikely goal. I can draw upon my own, indirect journey to this understanding as a case in point. Indeed, creative impulses and sensibilities were part of my initial wiring, and I followed them into the fields of art and design. I came into academics much later, however, earning my bachelor's degree after a 16-year professional design career. It could be said that I approached my education backwards by learning the practice before learning the purpose of that practice. Having missed out on the aspects of learning that arise in a college setting, I felt the void of what had not been a part of my initial training—the immersive, cumulative, engendered knowledge, from the earliest records of thought until this day, and a constant influx of thinking permeating from all disciplines. These are essential components for bringing one's work to a level of excellence and they congeal when one embraces the wholeness of learning. Not all students understand why they are being taught certain things as some simply want to get to that place on the other side of graduation. But a student's job is to test assumptions, make mistakes, and question everything free from the confines of corporate or institutional protocol. Being a student demands humility and assurance that one's work can founder or collapse without an impact on the bottom line. These are the

benefits of being a student that never happen in any of life's other forums, and they should be relished and exercised fully!

One of the first classes that I was hired to teach was a Foundation course entitled "Two-Dimensional Design." While I had been applying perceptive design skills and principles professionally for many years, in my own education I had been exempted from Foundation courses due to my experience and admissions portfolio, thus I had no models for teaching and learning in this area. I was perplexed to read in my supplied course outline that "color" was considered two-dimensional. This certainly didn't align with my experience, and seemed to be simply a convenient construct. So I referred to books in order to find out what teaching this topic would involve. Many of the sample exercises seemed formulaic and neutral, laying out abstract assignments that didn't reflect intellectual differences and interests. At the other extreme, examples were drawn from work by contemporary artists. Emulating either the conceptual or formal decisions of working artists will not teach one where the artists' decisions came from or how they were arrived at. These examples merely act as shortcuts to creative solutions, since the artists have already done the legwork.

To craft my own syllabus, I decided that presenting recipes was not a useful way to encourage students to think creatively and make critical decisions. Instead, I boiled everything down to the core of the ingredients, introducing the properties, histories, philosophies, language, technologies, and varieties of applications to re-sensitize the students' seeing and understanding, establish a platform for possibilities, and ask them to think and work in entirely new ways. In a manner, it is the classic mode of "breaking beginning students down in order to build them back up." This type of mental overhaul may sound extreme since young people today come into a world that is packed with visual information and process what they see in ways that we could not have imagined a quarter of a century ago. For a typical audience/viewer/user, this aptitude is adequate to navigate the saturated visual landscape. But makers need to exercise different types of mental processing. Our

image-rich culture seduces the population with end products, and students today are drawn into areas of creative practice as they see themselves taking part in the lineage promised by the cool things that they see. Yet, making is not about the end—it is about the process.

In my teaching, I stress the importance of the creative process over the product, but the impact of how or when this shift in understanding takes place came into sharp focus only recently. In preparation for the final in my "Studio Design" course, I took my class to the Study Room at the RISD Museum to view a portfolio of paper folding structures by the artist Tauba Auerbach. The complex structural and color interactions in the portfolio make it a favorite to show to prospective students and parents who tour the collection, and it always garners "oohs and ahs" on those preliminary visits. I thought that seeing it might likewise inspire my students, but just 11 weeks into their first semester, they had a profoundly different reaction. As the portfolio opened, instead of witnessing surprised joy, I watched a roomful of heads and shoulders slump in desperation. I was startled to realize that little more than half-way through their first semester, my students were projecting themselves into this portfolio not with the passive eyes of spectators, but with the knowledge of makers. No longer just an end product to them, this portfolio now embodied hours of toil and experimentation, trial and error, measuring and calculating. Seeing it demonstrated to the students that if they wished to make successful work they needed to build up their creative muscles.

Truly, artists and designers are laborers, and the earlier we learn to roll up our sleeves and get to work, the better. "Possibilities" are tests of endurance, and one must be willing to do something over and over again until it is right or until something else is discovered. But how will we know what "right" is or what discovery looks and feels like? To begin, two main constants must be addressed: one involves identifying and observing underlying rules; the other involves breaking them.

Art and design are rule-based. This flies in the face of everything that most people have been taught before, namely, that art and design are about

freedom. I remember reading a wonderful analogy about this concept many years ago in an out-of-print, early twentieth-century book on design.<sup>2</sup> The author asked us to imagine flying a kite—the quintessential emblem of unrestricted spontaneity, soaring in the wind. Keeping taut the line between you and the kite, however, is the source of that freedom. Here's another way of putting it: "Creativity arises out of the tension between the rules and imagination."<sup>3</sup>

Setting up a step-by-step framework of procedures is a good initiative toward promoting innovative problem solving, but those are not the kind of rules that I am talking about here. Structured guidelines can easily become comfortable formulas that inhibit noticing unanticipated directives. Imagine a person making an adventurous trek with a tour group versus a native explorer. When following a guide, the routes, stopovers, resources, and timetables have been determined, although each person still experiences a different set of sensations and forms unique responses. The native explorer, on the other hand, has learned to analyze subtleties in the weather, plan for resources, calculate distance, and ponder a host of other nuances that will prompt adjustments to the expedition's course. Needless to say, one route is predictable; the other is not.

The rule-based art and design that I am addressing is built upon standards of relevancy and application. By relevancy, I mean the ability to make judgments about one's own work in comparison to other aspects in life, which is a vital move toward self-criticality and creative thinking. Coming out of high school art programs, students often confuse creativity with originality, and they strive to do something that has not been done before with only a small window into what "before" is. Frequently, they have been directed to engage in personal expression that reflects their feelings and impulses, but have not developed the ability to discriminate between aesthetic concerns that are historical, biological, culturally specific, or merely style and fashion. Few of them have ever heard the word "kitsch," and many believe that "anything is art."

Being a freshly planted, exploratory, and curious thinker has its advantages, but finding ways to ground creative exploration in current events, upbringing, or other cultural traditions provides the surefooted start needed to proceed along a new course. Creativity theorists Peter Frensch and Robert Sternberg point out that we cannot move our thinking beyond a subject if we don't know where the subject exists to begin with. On the other hand, focused and entrenched knowledge about a field can result in a closed perspective that does not encourage a person to view problems any differently than she or he has in the past.<sup>4</sup> Originality, exoticism, otherness...none of these can exist without a standard from which to deviate.

Another rule-based standard is one of application. Most first-year students do not have the skill sets to carry out their ideas, so it is important for them to learn that every material has particular properties that must be handled in particular ways to achieve a particular effect. Nonetheless, no matter the discipline, the standards for superior, sufficient, or inadequate application are transferable. Good film editing is the same thing as precision woodworking, which is the same thing as designing elegant spatial proportions, which is no different from testing appropriate material strength or even using proper grammar when writing. Once we become accustomed to the idea that applications have constant and variable standards (and it could take a lifetime!) we are better able to get out of our own way and let the materials communicate with our instincts to experiment.

The other constant in the work of art and design is a willingness to break the rules once they are understood—maybe even those that we establish for ourselves. Our current K-12 education systems are disserving students since creative problem solving and its potential for failure have no place in a world that recognizes achievement through grades and assessment. The compulsion to work for a grade follows students into college, and I find that they feel pressured to imagine a polished, finished product that they can work toward rather than allowing themselves to venture someplace unexpected. They frequently tell me that they don't know what I want, as if their solutions

should be based upon my needs. In response, I remind them that what I want is for them to think, which will involve more questions than answers at this point and will likely lead them someplace that I could not imagine for them—and could potentially lead them nowhere. I continually remind my students: "This is your research. Learn from it. Your work begins after you graduate." Better yet, print out this advice from Samuel Beckett and tape it over your desk: "Ever tried. Ever failed. No matter. Try again. Fail again. Fail better."

Recognizing that rules and systems—scientific, social, spiritual, and so on—govern all behavior, the consequences of breaking them and combining unlikely behaviors expands exponentially. A person adept at creative problem solving can enter most situations and find a way to resolve them with whatever is at hand.<sup>5</sup> In fact, I have often thought that being an artist or designer is the most difficult job in the world because in order to reflect upon or react against the human condition, an artist or designer must not only know her or his specific discipline but know something about everything else as well. It is difficult if not impossible to try to quantify the malleable and indeterminate processes of creative problem solving and critical making. Regardless, building on the complex context of possibilities, uncertainty, failure, and rules obeyed and broken, here are a few practical lessons that may lay the groundwork for what is possible in a Foundation course of study, along with examples to see what might come of them.

#### **Lesson #1: Begin by looking at options, which is different from acting at random.**

Thinking back to that native explorer, consider that preparation and planning lead to positive results. You won't be ready to address possibilities (and might not see them) without knowing your objective and being conscious of what it is asking of you. This is true for all working artists and designers. We don't sit around and wait for a jolt of imagination to jar us into action, or hope for a spark of genius. As the artist Chuck Close said: "Inspiration is for amateurs. The rest of us show up and get to work."<sup>6</sup>

Knowing how to make something involves tactile interaction with materials and substances, and making something innovative requires eye-hand processing that trains the brain as well. If you don't know what it is or how to do it, test it first. If your process is unclear at the beginning, try to envision possibilities for what could be revealed. Make sketches and models and impose variations on your approach. Although going someplace unexpected is a goal, the ability to apply calculated predictions to the route will lessen the chance of an undesirable destination.

An example from my "Studio Design" course shows how testing options can lead to something remarkable. After reviewing the cognitive "malfunctions" that occur when one's perception and conception do not align, students were asked to create a visual illusion. At first glance, it may appear that Daniel Cho's (BFA 2015 Industrial Design) point-of-view illusion involving a shadow (fig. 2) is the result of spontaneously arranged dormitory and cafeteria refuse. In fact, Daniel equipped himself for this expedition by beginning with a basic plan. A poster hanging in his dorm room served as the general map for a goal positioned loosely in his mind. With the help of a stable, fixed light source for reference, he was able to accumulate, arrange, and alter plastic utensils, cut paper, chopsticks, and even a wall clock into a delicately cantilevered and sophisticated table sculpture. Every material and action that went into the installation had to be precisely considered in response to what preceded it, and the finished assembly could not have been determined from the start.

### **Lesson #2: Learn to see by thinking more complexly about visibility.**

Vision and its connection to perception and cognition is a troublesome and fascinating subject since it encompasses far more than physical or sensory function. Learning how vision and thought affect our seeing and understanding is indispensable for a student of art and design, as it would be for a student of science and any other problem-solving discipline. Each week in my "Studio Design" course I orchestrate exercises that force distinctions



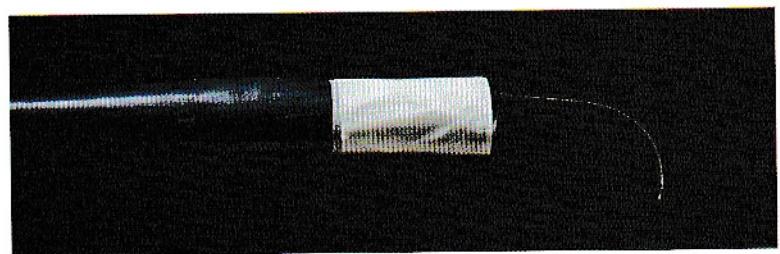
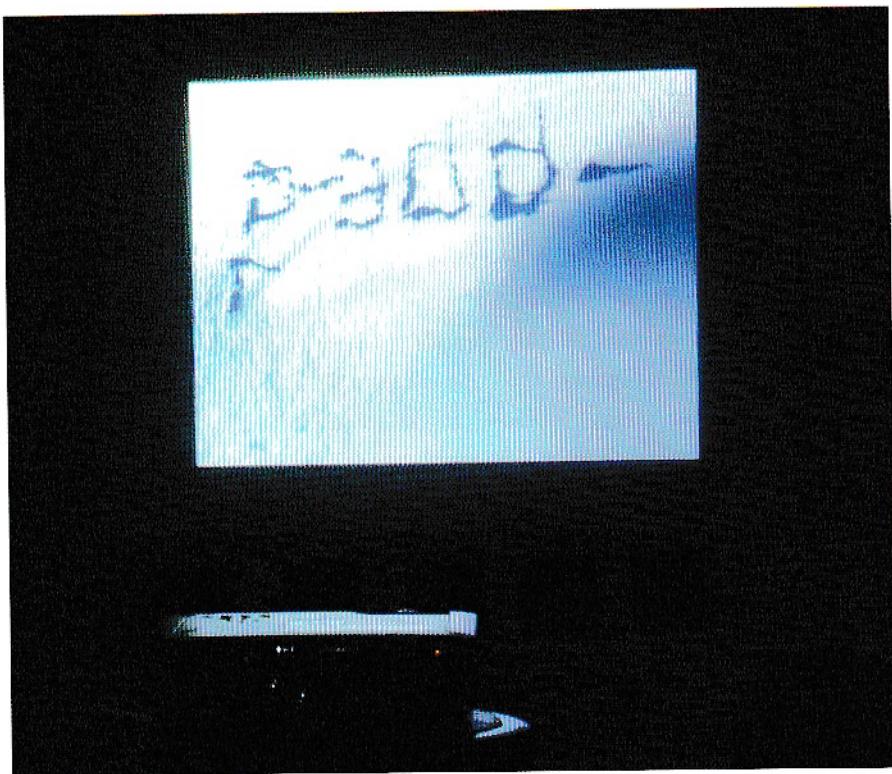
Robert Doisneau  
Sur le pont de l'île Saint-Louis



between the collection of visual material (such as how we visually select, simplify, and compare elements) and its context (including placement and memory). These exercises emphasize that to see clearly, we must not only look more closely at visual objects and images, but also learn to imagine and interpret what is not visibly present.

To introduce a problem relating to scale, I asked my students to consider the invisible with regard to the impossibly small (microscopy) and the impossibly large (cosmology). Working with microscopes in the Nature Lab, students are encouraged to look at parts of themselves—their skin, fingerprints, hair, and fibers from their clothing—in ways that they have not done before. They record what they see in their sketchbooks, allowing the imagination to take over whenever necessary. I put forth no strict agenda for how they should respond to the question: “How can you map yourself through time and space using scale as a form of measure?”

Among a variety of responses, one solution spoke to the essence of vision as a process of understanding rather than an isolated act. Anthony Dahut’s (BFA 2015 Furniture Design) six-foot-wide video projection showed a faintly off-color black-and-white scene with a nostalgic, home-movie quality (fig. 3). It looked like a field of untouched snow covered with a thin, crystalline glaze of ice. An eerie, uncomfortable shadow was cast from outside of the frame, and letters were slowly being formed in the snow. Although there was no way to see how the letters were being created, my thought was that this had been shot as a stop animation with some kind of liquid being poured onto the surface of the snow. The video ran through a few sequences of writing and drawing, which included Anthony’s Social Security number, his address, and a self-portrait. When the lights came up, we could see a row of black boards and a black pen handle directly below where the video had been projected. Closer inspection revealed that each black board had a tiny fleck of white paper mounted to it, showing a microscopic view of the drawings in the video. What we were watching was not snow at all! Peering through the microscope, Anthony had discovered that he could push a small amount of



ink around with a strand of his hair, which he had fashioned to the end of a pen handle. He captured images of this process through the microscope, resulting in an animation of text and drawings.

### **Lesson #3: Use everything that you know and record everything.**

In order to invite discovery, creative discourse must bridge multiple areas of interest and fields of study. Only one tool that I know of keeps diverse ideas, research, and reflection in one place so that they can smash together when you aren't paying attention: the sketchbook. However it is used, a sketchbook is the essential resource for recalling how one saw the world, interpreted a thought or observation, or projected imagination into possibilities for future investigations. Embracing a regimen for making and securing ideas so that they exist beyond the firing of the thought may well be the factor that distinguishes between creative types and critical makers.

I stress the importance of maintaining an active archive of ideas in a sketchbook from the outset of the Foundation experience, and types and variations of recording are folded into the first problem that I present in my "Studio Design" course. The problem, in short, asks that students go into the city and see with senses not yet dimmed by familiarity (as almost all of my students are new to the city when they arrive). Observations gathered from seeing, hearing, smelling, and even straining the body are to be recorded, then brought together in a work that expresses what it means to be here and now using the constructs of *progression* and *movement*.<sup>7</sup>

When Anna Riley (BFA 2014 Glass) arrived as a freshman, she brought with her a deep interest in science, including its ineffable brushes with philosophy and spirituality, and she was already an avid sketchbooker. Her sketches revealed paracosmic inventions that dabbled in astronomy and physics, so an exploration of the city piqued her highest curiosities. Intrigued by the interference, obstruction, and reflection of light sources coming from particular windows around the city, she visited their locations several times during the week to chart the cardinal directions and light angles throughout

the cycles of the day. Her records—drawings, notations, and imagined configurations—culminated in an installation of 12 pedestals, each representing a different building or different spots within the same building. A light mounted to a rotating arm traveled in an arc above the platforms, referencing the movement of the sun. The Plexiglas windows cast shadows that became living drawings, plotting along a grid noted with the time of the day and the locations in space (fig. 4). Without question, Anna's fruitful collection of ideas and observations allowed her to play with a concept to arrive at a presentation with great intellectual and technical merit.

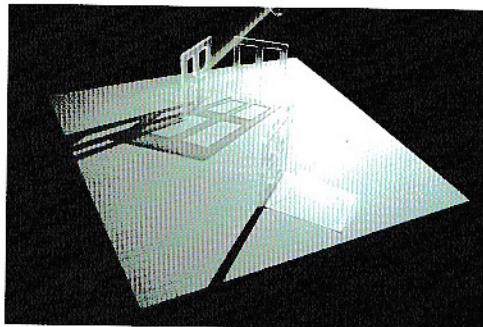
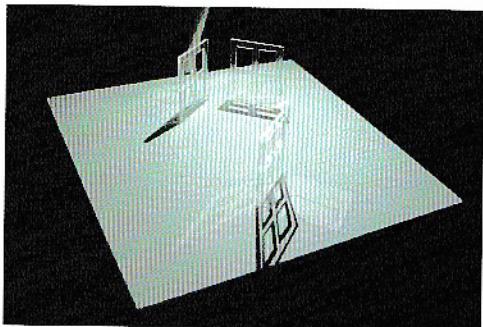
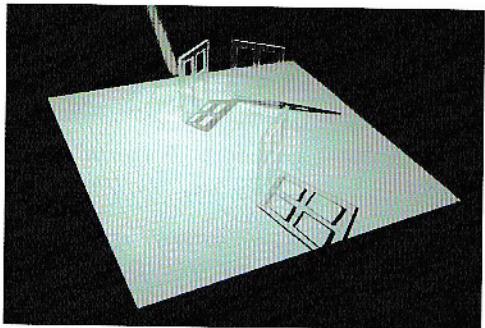
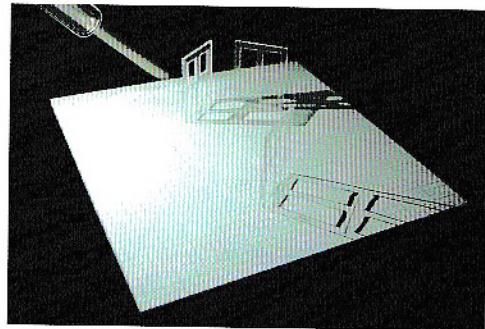
**Lesson #4: Don't try to get to the end without taking all the steps necessary to get there.**

The final problem in my "Studio Design" course is complex; it encompasses several weeks of exercises, presentations, readings, and research just to arm students with the criteria that they need to set the standards of relevancy for solving the problem. Still, it never fails that some students approach me within minutes of reviewing the problem outline to ask if their immediately formed concept is acceptable. I tell them, "You can't know the answer yet. You haven't put your ideas to the test or pushed them through any options!"

I've learned to instruct students to dangle the final goal somewhere out of their reach and vision, not like a carrot on a stick in front of them but as if it might be suspended over their head. Always keep the goal in mind, but not as a destination. Keep it as a guide. You do not need to move toward it. In fact, you may need to pull away entirely and go in another direction, but the objective will remain with you. Those who are willing to just start making something no matter where those steps are leading will go much farther than those who timidly walk a direct line, because every step of the journey amounts to something.

The students are asked to create a game inspired by a work of art or design that they have viewed in person with the class, focusing specifically on the color palette. In preparation, we look extensively at color theories

**Fig. 4**  
Anna Riley, *Set in the City* (details), 2010



throughout history and across disciplines, including a viewing of Josef Albers's monumental *Interaction of Color* portfolio and his subsequent *Formulation: Articulation* portfolios in the Library Special Collections. Eun Sang (Ernie) Lee (BFA 2015 Furniture Design) was moved by Albers's work. He wanted to create a visual game based on the same aspects of color interaction that Albers was engaged with, but the similarities stopped there. Ernie abandoned Albers's rational, geometric compositions in favor of a gestural camouflage that was possibly influenced by his training in traditional Korean sumi brush painting. In Ernie's game, color swatch cards are placed behind trap doors, and players must determine matches between subtle hues even though the surrounding ground fools the eye into seeing slight variations in the colors (fig. 5).

While Ernie's first-year piece was thoughtfully conceived and carefully executed, it was not until later as a junior Furniture Design major that his curiosities about color interaction, gesture, geometry, and compartmentalization expanded. His cabinet exemplifies that every project we undertake builds upon that which came before it, and that nothing worthwhile can be achieved in a short amount of time with the least amount of steps (fig. 6).

#### **Lesson #5: Understand that what you are learning is not the same thing as what is being taught.**

It is hard to convince a student—especially a freshman—that all of this is for them and not for a grade, a teacher, a parent, or a job. Most of the things they learn won't be labelable, and they probably won't recognize that learning is taking place. I often partake in informal, verbal evaluations at the end of the course by asking students: "What is the most important thing that you learned in this class?" After a long silence as each of them searches for the answer that will earn them an A, I am always surprised by their answers. Once, an insightful young man blurted out: "That the food pyramid is not real."<sup>8</sup> If successful teaching and learning of critical thinking are measured by the re-establishment of a student's belief structures and assumptions

**Figs. 5 and 6**  
Eun Sang (Ernie) Lee,  
*Color Play*, 2008;  
*Untitled*, 2011



while underpinning or replacing them with knowledge gained either by empirical techniques, logical reasoning, or abstract comparison, then this student's answer exceeded my greatest hope.

As teachers of aspiring artists and designers, we do little more than allow our students' experiences to be mediated through a critical stance based upon the definitions, theories, and demands of art and design as they exist within our concept of society. Somehow, we have come to be in this place at this time as an assortment of individuals for the sake of our experiences, understandings, and curiosities to explore topics in ways that we could not have considered before this gathering took place. And, with every new accumulation of individuals, none of us has any idea where our interactions will lead. Year after year, I remain completely unable to explain how any of this happens, but I have a great deal of faith that my students get it—whatever it is. Whether it occurs during my course, the following year, or five years down the road, this is where they learn to identify and sort through possibilities with confidence and initiative, and begin to discern what they can do and how it can impact their lives and the lives of others.

### Notes

1. See T. M. Amabile, *Awakening Genius in the Classroom* (Alexandria, VA: ASCD, 1983); R. J. Sternberg, "The Theory of Successful Intelligence," in *Review of General Psychology* 3; and R. J. Sternberg and E. L. Grigorenko, *Teaching for Successful Intelligence* (Arlington Heights, IL: Skylight, 2000).
2. I only recall the casual reading of this metaphor, but it changed the way I thought about creativity.
3. Ian Hodder, "Creative Thought: A Long-term Perspective," in *Creativity in Human Evolution and Prehistory*, Steven Mithen, ed. (London: Routledge, 1998), 62.

4. P.A. Frensch and R.J. Sternberg, "Expertise and Intelligent Thinking: When Is It Worse to Know Better?" In R.J. Sternberg, ed., *Advances in the Psychology of Human Intelligence*, vol. 5 (Hillsdale, NJ: Erlbaum, 1989), 157–182.

5. I recall an episode at an artist residency years ago when the groundskeeper spent the entire day trying to retrofit his backhoe with a new front-end loader. He was a spry, capable, sun-hardened man whose stature revealed a life of physical labor, but wrestling with the misaligned coupling on the equipment was getting the best of him. I stopped by with another resident, artist Andrew Ginzel, to see what was going on, and after assessing the situation for a few minutes, Andrew put on the welding mask, took the torch from the groundskeeper, and proceeded to complete the job while dressed in a silk shirt and khaki shorts. That was cool.

6. Joe Fig, *Inside the Painter's Studio* (New York: Princeton Architectural Press, 2009), 42.

7. The criteria for the problem are deliberately open so that I can ascertain what a student already knows and is capable of from the outset of the course.

8. We had discussed the food pyramid in an earlier class in relation to systems of organization and hierarchies. A common visual tool for organizing the kinds and amounts of food necessary for a nutritional diet, the food pyramid's guidelines—initially developed by the National Dairy Council and the Meat Board—have been challenged by scientific communities.