

Learning Design Philosophy

Each learner is unique and has different learning preferences. While many students learn by doing, others learn from exposure to or imitating the work of others; they learn from their peers, still others learn by listening and so on. Most students learn by a combination of these styles. As an educator, I am a facilitator of learning, a mentor and a coach; I focus on students as individuals and connect with each one to help them learn effectively. At the same time I encourage a culture that learns together through collaborative, inclusive, and meaningful hands-on projects. My goal is for learners to acquire the necessary skills to navigate the uncharted waters inherent in solving problems with “no right answers.”

Literacy in design and computation are fundamental to my philosophy. Design literacy is the act of connecting elements that do not obviously belong together and recognizing their relationships. Identifying visual relationships is significant because they apply to any type or level of design.

Literacy in computation enables the student to explore ideas without the bias of a software application. In addition to being passive consumers of visuals (e.g. film, video, print, web apps) and apps that currently both drive and limit their creation, my students learn what it means to work with computational media and all of its implications, including the ability to imitate other media, to visualize data and interact with incoming information.

Effective learning is supported by clear communication and identification of what learners will gain by solving problems with content, processes, and benchmarks. This builds a foundation for lifelong learning.

Teaching Methodology

A large part of my teaching practice revolves around figuring out how individual students learn. As such, I employ a range of strategies and tools to build confidence and create a respectful, supportive and inclusive community, both crucial elements for learning efficacy. I begin the semester with design thinking activities such as having students empathy map their hopes and fears about the course. The students bond through a shared recognition of their vulnerabilities, similarities, and differences, and the process lets me know how to reach them individually.

Another procedure is an ongoing progress/process notebook. Students document their experiments, sketch, record refinement details, and take research notes. The notebook not only gives students a way to remember important thoughts and ideas, but also builds confidence by providing a visual record of their accomplishments.

One aspect of learning to design includes becoming familiar with and informed by recognized designers and current trends. From this starting point, I challenge my students to “look outward,” research their ideas, and broaden their minds by enhancing their awareness of culture and individual differences.

In order to cultivate a sense of ownership in their education, I require students to share knowledge. I ask students to learn and demonstrate a technique or idea from their perspective. Students develop the means to learn on their own, from their peers, as well as from me; and I, in turn, learn from them. Effective teaching requires the teacher to be a student: to practice dynamic, on-going learning and adaptation, and to keep pace with rapidly evolving technology. We learn from teaching; we all teach each other.

Pedagogical Approach

My approach combines blended learning of pedagogical strategies, design thinking, and their application, the process of doing/making. This heuristic approach to learning is designed to help students overcome fear and self-consciousness by letting go of the outcome and develop critical thinking skills that reveal hidden or intended/unintended meaning (i.e. Gricean unwanted conversational implicatures in text and graphics) in addition to obvious, superficial observations. I believe the journey is as important as the result.

Effective communication is key: I have high standards and work hard to communicate them clearly. When criteria can be verbalized and incorporated into the thinking process, students tend to work at a higher level. Sometimes in communication, less can be more: I find that students succeed when I tell them just enough to move forward, but not so much that they depend on explicit instructions. As such, I use modeling as a strategy to demonstrate an approach, process or skill. I lay out my thought process behind each of the demonstrated actions. Then I ask my students to take charge of their own learning, shifting the responsibility from the professor to the student. At first this seems daunting to them, but soon they learn they have the freedom to shape their educational experience.

Students have been trained to be risk averse; in hopes of an “A,” students learn to discern what their teachers want and believe that will bring them success. Aversion to risk is a serious impediment to learning. In my courses they discover that the purpose of coursework is not to please me or even to get an “A,” but rather to commit to mastery and excellence. To succeed in their coursework as well as later in life, students need to know how to think for themselves and navigate change. I emphasize experimenting through iteration and variations even if an approach fails. No one is downgraded for a bad idea, only for having no idea or not doing the assignment.

I use role-playing as well as interviewing and observing users in the field to encourage empathy with the user and to develop multiple perspectives. Students are required to listen to their users, create prototypes, and observe the response to their experiments (in particular small behavioral details) and iterate. While students often resent doing a project over and over again, iteration ultimately inspires optimism—they learn from experience that there can be many solutions to the same problem.

I also use flipped classroom online modules so that students can work in a self-paced manner outside the classroom, leaving class time to be used for answering questions and diving deeper.

Learning by doing is the sine qua non of studio courses. The collaborative, hands-on nature of doing in the studio aligns with the Challenge-Based Learning framework developed at Apple. It is important to create new ways that encourage students to achieve. Problem relevance affects student interest and productivity. I have observed that students are intrinsically motivated when they are work on projects of their own choosing.

When the academic topic is new, I provide an assignment with some basic design constraints. However, they decide how to approach the problem. For example, in a clock assignment, one student chose to measure time based on being in the car and where she was going, while another student measured time by how often he checked the time, what motivated him to look, and where he read the time (i.e. watch, fitness tracker, microwave, smart phone, etc.). In a data visualization assignment, one student collected data from her co-workers at the restaurant where she worked. In the end she realized she would have had a more interesting story had she collected additional data points. While the representation was both beautiful and informative, the most important lesson she learned was how to formulate her research questions to tell a better story with richer data.

The Assignments

I design assignments in phases, where exercises build on preceding ones. Communicating the bridging of assignments as part of the problem definition is important, because students do not necessarily make connections between assignments on their own. Perceptual problems might begin with one principle and its variations, or morph from one principle into others. The complexity of work progressively increases with each year of experience; students are accountable for everything learned to the current stage, in this way, learning becomes a cumulative experience.

1. **Iterate on a square.** Students expand upon the Brazilian artist Lygia Pape's *Livro do Tempo* by creating 100 black and white geometric compositions limited by a 4"x 4" square. Each abstract composition, done on a daily basis, represents time in an abstract way and becomes a page in an unbound book.
2. **Design a clock.** Learners are encouraged to question basic assumptions about time by pondering how they measure time, then making observations and collecting data. Finally they must design a display of their concept of time using whatever tools they choose (i.e. paper and pencil or code), combined with perceptual attributes, color, narrative, and cultural/social significance.
3. **Visualize data.** Students choose what data they want to track, collect the data, create a database in a usable format, and develop a visual story around their data. They master Tableau in the context of storytelling with data.

Final Notes

Information technologies are changing the way we live, work, and relate to one another at unprecedented speed. We live in an interconnected world with easy access to powerful technology and global communities. Blended learning allows me to facilitate investigation of the expressive potential within one medium and create a foundation that learners can translate to other media, explore alternatives, develop variations, and gain a foothold in multidisciplinary experimentation as they prepare for the future of work.