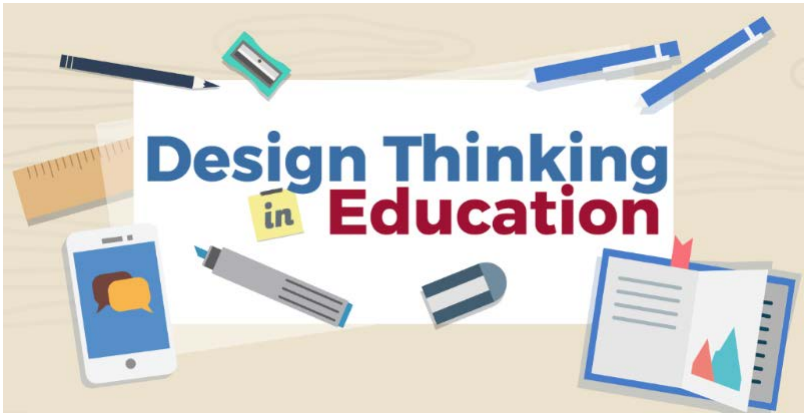
Spring 2017, Issue 2
LEARNING LOOP
A Teaching and Learning Lab Newsletter

Exploring Design Thinking in the Classroom

'Design thinking' refers to the collection of practices and mindsets that enables creative, collaborative problem-solving across domains. The term was popularized within design consultancies and has since demonstrated value across a variety of organizations and contexts, including the classroom. Design thinking differs from previous problem-solving approaches in its prioritization of the user experience and its reliance on continuous feedback and iteration.



As a process, design thinking is a framework for observing and understanding the challenges people experience, defining and positioning those challenges as design opportunities, and generating, refining, and testing possible solutions. As a group of mindsets, design thinking encourages empathy, collaboration, communication, and experimentation. Design thinking holds promise in the classroom across various levels of implementation:

- As an **intervention**, it can strategically help students generate and test solutions to a problem or drive a project forward at an inflection point. A hands-on design challenge in pairs or small groups can provide an active, shared experience for students to explore the process of design thinking in a compressed time frame.
- As an **adaptation**, it can complement other disciplines, such as the scientific method and the artistic process. Infusing a course with more than one of these concepts provides students with diverse ways to engage in deeper learning.
- Fully **integrated**, design thinking can function as a framework for a sustained learning experience. Through embedded and scaffolded protocols students can explore a semester's worth of content in a project-based design.

Read below how three HGSE instructors employ design thinking in their classrooms and

how the Teaching and Learning Lab can support your exploration and application of design thinking.

INTERVENTION

In its simplest form, design thinking can be leveraged as an intervention at one or more points during a course. This activity-driven approach can strategically help students generate and test solutions to a problem or drive a project forward at an inflection point.

A hands-on design challenge in pairs or small groups can provide an active, shared experience for students to explore the process of design thinking in a compressed time frame and provide them with specific feedback or input for next steps in their work. Supporting pre-work before the design session can provide the student with the background knowledge and context necessary to elevate the impact of design thinking beyond simply an activity.

In Connected Teaching in the Digital Age (T525), students work on a semester-long project that asks them to engage with a real-world online learning experience by creating new content, analyzing and transforming some aspect of the experience, or conducting targeted research within online learning. **Barbara Treacy**, the instructor for T525, facilitated a scaffolded 90-minute design challenge for students to collaboratively address roadblocks or challenges in their project work or to identify opportunities to scale their projects to new audiences or settings. Pairs of students worked as design consultants for each other, generating new ways of looking at identified project challenges that were refined through multiple design and feedback loops. After completing the design activity in pairs, students reflected as a class on how the activity informed the direction of their project or enabled new insights.

Many students reported that the activity provided them with meaningful, actionable suggestions that they planned to incorporate into the next stage of their projects. Despite some initial concerns that they would not have enough relevant context to understand and be able to advise on their partner's project work, students ultimately expressed surprise and satisfaction that they were able to be so helpful in supporting other students' progress.

The Teaching and Learning Lab (TLL) was able to support Treacy by suggesting pre-class readings and videos to make sure students had enough context to engage in the activity, by adapting the Stanford d.school activity protocol, and by co-facilitating the design

activity.

Photo credit: Marc Falardeau

ADAPTATION

There are several themes within the mindsets and practices of design thinking that are complementary to other disciplines, such as the scientific method and the artistic process. Infusing a course with more than one of these concepts provides students with diverse ways to engage in deeper learning.

In Art, Design, and Learning in Public Spaces (S316), Senior Lecturer **Steve Seidel** has noticed that "the mirroring of the artistic process and design thinking process engages different students in different ways." In the course, students critically examine the learning opportunities available in socially-engaged and participatory art. Students explore two full project cycles that include four phases: conceptualization and research, sketching and sharing, prototyping and testing, and reflecting, evaluating, and documenting.

Seidel finds that the design process encourages students to get comfortable moving quickly to bring their ideas into the real world and to slow down to reflect on and reconsider their choices. Hands-on studio time in each class ensures students work collaboratively to test their designs and provide each other with feedback. Because of the pace and unpredictability of project work, students can often become frustrated. Seidel takes these opportunities to encourage the class: "Good. That is a powerful feeling and it means you are critically engaged in the process." The design process ensures that all students experience these critical moments while also providing the structure for evaluation and the strategy for moving the work forward.

INTEGRATION

Due to the combination of cognitive skills, collaborative practices, and innovative outcomes, design thinking can also function as a framework for a sustained learning experience. The phases of design thinking are flexible and generative enough to provide a scaffold for students to explore a semester's worth of content in a project-based design.

In Redesigning Education Systems for the 21st Century (A314), Professor of Practice **Paul Reville** has students collaborate in consulting teams with local community partners to reinvent systems of child development and education. While the protocols have varied over the past several offerings, the course has consistently leveraged design thinking as a guiding framework. Throughout the course, students consult with urban districts that have identified a problem of practice. Following the IDEO design thinking process, teams begin by empathizing with stakeholders to understand the challenge, proposing and prototyping solutions, and collecting feedback from the students they are seeking to serve.

Reville sees the design thinking framework as an effective way to elevate the process of design and redesign work. While some students may already be familiar with this type of approach, the IDEO structures give them a clear starting point and guidelines as they tackle a large, complex problem. It helps them consider how to meet the needs of diverse students, enhances the specificity of their designs, and shapes their contact with the users.

TLL Engagement and Additional Resources

With thoughtful design and responsive implementation, design thinking can be an effective way to give students new perspectives, enable greater creativity and collaboration, and impact real systems and learners. The TLL incorporates design thinking throughout our work—from scoping and defining new projects, to generating ideas and testing solutions with groups of learners, to generally bringing more creative approaches and collaborative processes to our portfolio. Working in this new way has enabled us to be more generative in our thinking, more collaborative in our partnerships, and more rigorous in our execution.

Over time, we have sourced, adapted, and implemented design thinking methods that apply to a spectrum of teaching and learning contexts. Whether you are looking for an activity or protocol to bolster a specific session or whether you are considering redesigning your course to incorporate more active, learner-centered experiences, the TLL can work with you to find resources, design activities, and engage learners in exploring the mindsets and practices of design thinking. Please contact Brandon Pousley to learn more about how design thinking can bring value to you and your students.

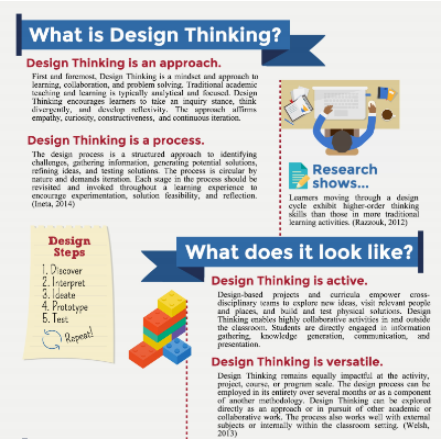
We have also curated several resources on design thinking that you may find helpful as you explore the topic within your work:

Articles and Research

Design Thinking for Social Innovation
Design Thinking in Pedagogy
Transforming Constructivist Learning into Action
Design Thinking Applications in Teaching and Learning
Teaching Design Thinking: Expanding Horizons in Design Education

Frameworks, Tools, and Protocols

90-Minute Design Thinking Crash Course
D.School Bootcamp Bootleg
IDEO: Design Thinking for Educators
IDEO: Design Kit Methods
Business Innovation Factors: Teachers Design for Education



Download the TLL Design Thinking in Education infographic for a quick and visual introduction to design thinking in the classroom