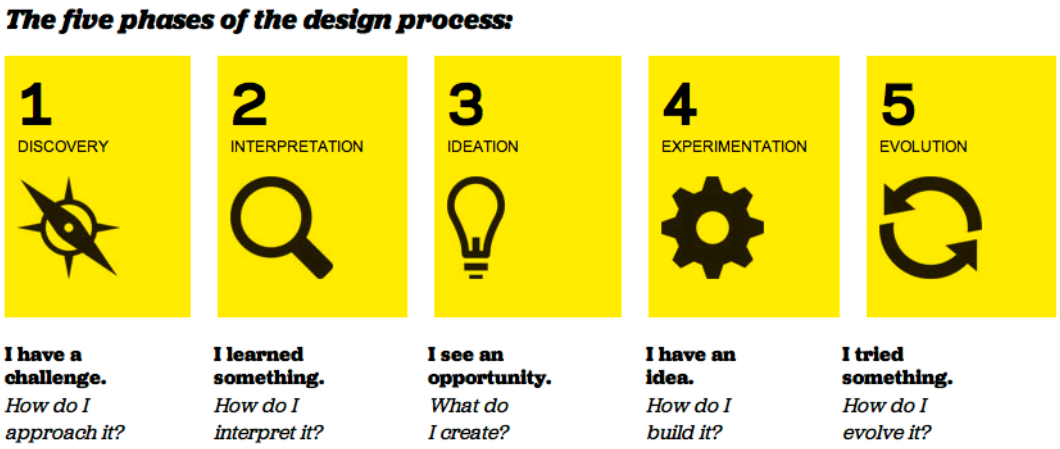
INTRODUCTION:

There are five basic elements to design thinking (figure taken from the Design Thinking for Educators website by IDEO: http://www.designthinkingforeducators.com/). These steps are adapted from the Institute of Design at Stanford which is widely credited with being a leader in design thinking. Design thinking is a creative process based around the generation and layering of ideas stemming from a concept that is often abstract and messy. An example of a design thinking process could have several stages: *define, research, prototype, implement*, and *learn or assess*. Within these steps, problems can be reframed, questions can be asked, more ideas can be created, and the best actions can be chosen. The steps aren't linear; they can occur simultaneously and can be repeated. There is also a strong element of experimentation involved and "failure" is seen as an opportunity to learn rather than something to be avoided. This process allows for a more organic flow of discovery and a shift away from the traditional tool-based approach to Information Literacy. Design research also emphasizes the need for interventions based on the identification of the problem and a subsequent evaluation of the success of these measures.



DESIGN THINKING SESSION OUTCOMES:

At the end of this session, participants will be able to:

1. Define the five-part process of design thinking
2. Reframe tool or skill-based Information Literacy concepts into learning challenges
3. Generate new approaches to teach Information Literacy concepts

Additional Readings

a. Article from IDEO president, Tim Brown:
http://www.ideo.com/images/uploads/thoughts/IDEO_HBR_Design_Thinking.pdf

b. Design Thinking for Educators Toolkit: http://www.designthinkingforeducators.com/

EXAMPLE OF A DESIGN THINKING APPROACH TO THE NEW FRAMEWORK FOR INFORMATION LITERACY:

Outcomes (taken from the dispositions and knowledge practices)

a. Value user-generated content and critically evaluate contributions made by others: see self as a producer as well as consumer of information.
b. Conduct research through the lens of inquiry in order to enhance the impact of their work.
c. Provide evidence of understanding that methods of research leading to new knowledge creation vary by need, circumstance, and type of inquiry.
d. Formulate questions for research based on gaps in information or data available.
e. Demonstrate the ability to think critically in context.
f. Communicate effectively with collaborators in shared spaces and learn from multiple points of view.
g. Recognize that learning is a process and that reflecting on errors or mistakes leads to new insights and discoveries.
h. Reevaluate needs and next steps throughout the process.
i. Articulate the purpose and distinguishing characteristics of various formats.
j. Identify which formats best meet particular information needs.
k. Compare the unique attributes of different information formats (e.g., scholarly article, blog, wiki, online community), and have the ability to use effectively and to cite information for the development of original content.

Sample in-class design thinking activity mapped to the first three steps: Discovery, Interpretation and Ideation

Each large post-it is separated into 4 quadrants (+, -, ?, light bulb) for a class-wide topic. Thinking about using this topic for the assignment, have each group add as many small post-its as they can for the following areas:

- Things that are interesting or notable about the topic
- What are the specific problems/issues included in the topic
- Questions about the topic-including audience, type of information/resources needed, visual elements, etc.
- New ideas based on group discussion regarding the topic
- Identify and group themes and look for links between themes: summarize each idea in one sentence (think of paragraph headings)
- Come up with research questions for each of these ideas
- Support your ideas with research-brainstorming keywords and where to look
- What types of resources (format and content) will you need for this assignment and the topic?

We will go around the room and have each group present and we will capture similarities and differences.

Sample out of class homework assignment mapped to the first three steps: Discovery, Interpretation and Ideation

Create a research storyboard with Amazon Storybuilder. A librarian will make comments and provide individualized feedback as needed.

- Re-framed topic (based on feedback from worksheet and in-class work)
- Main problem/challenge statement or question-what are you trying to solve, answer or claim?
- Background information on the topic needed to understand the direction of your paper
- At least 3-5 main points/solutions to your problem statement and for each main point what evidence you will need to support your claims/arguments (think content AND format)
- What information do you still need? What's missing?

Sample out of class homework assignment mapped to the last steps: Evolution and Analysis

1. Based on the feedback from the librarian to your research storyboard and the information you found, answer the following questions:
    - How did the information you found help your topic/assignment
    - How did the content and format of your sources support your arguments?
    - What NEW ideas were you able to generate or in what NEW directions did your research take you?
    - How did the information you found help your topic/assignment?
    - Where did you search?
    - What terms did you use?
    - What worked well either in terms of research strategy or types of sources found?
    - What could be improved about your research process?
    - What questions do you still have?

DESIGN-THINKING ASSIGNMENT REFRAMING FOR AN INSTRUCTIONAL CHALLENGE:

1. Define the challenge/problem: Participants partner up in pairs. Partner A will be the faculty, Partner B will be the librarian and you will have 5 minutes to interview each other. As a starting point, ask your partner to walk you through the basics of the assignment and take note of things you find interesting or surprising. After the 5 minutes are up, switch roles.

2. Interpret your findings:

    a. With the rest of the group, take 5 minutes to collect your thoughts and reflect on what you've learned about the assignment. Synthesize your learning into a few 'needs' that you have discovered, and a few

'insights' that you find interesting. Needs should be verbs describing what they want the students to be able to do as a result of this activity and insights are discoveries (or aha moments) that you might be able to leverage when creating solutions.

b. Now select the most compelling need and most interesting insight to articulate a problem statement. This is the statement that you're going to address with your design, so make sure it's actionable and focused!

Capture Findings

Needs (what should students be able to do?):

Insights (aha!):

Re-Define Problem Statement

The faculty member wants students to (need):

3. Ideate or generate alternatives or solutions to test:

   a. Rewrite your problem statement at the top of the page. You are now creating solutions to the new challenge you've identified. Sketch a lot of ideas, this is the time for generating as many ideas as possible, not evaluation—you will evaluate your ideas later. Take 5 minutes and generate as many ideas as you can think of!

   b. Reminder: Think about generating solutions to the problem statement or in this case what the faculty member wants students to do as opposed to designing the "perfect" activity.

Generate 3-5 ways to meet these needs with this activity

4. Debrief: Compare this new set of ideas with the one you created during the first activity:

   - What changed?
   - How is the content different?
   - How might these new ideas support student learning differently?
   - What are the students doing differently as a result?
   - How did this process feel?

5. One-minute assessment: See Handout