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Adapting Design Thinking for Library Instruction

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INTRODUCTION

Although most popularly known for its use in product design, design thinking is flexible enough to help anyone approach any design challenge, whether it's building a better can opener or figuring out the best way to reach first year writing students. In this paper, I briefly review the history of design thinking and several design thinking frameworks, and then propose a framework designed specifically for library instruction.

HISTORY

While it came to prominence in the 2000s and 2010s, its origins can be traced much earlier. Some trace it back to the 1940s and the founding of Lockheed Skunk Works, a highly independent engineering group within that corporation. Others (Curedale, 2013) trace it to a series of books and articles published between 1960 and 1990: Herbert Simon's *The Sciences of the Artificial* (1969), Robert McKim's *Experiences in Visual Thinking* (1973), Peter Rowe's *Design Thinking* (1987), and Rolf Easte's *Ambidextrous Thinking* (1988).

For most non-designers, however, the first time they heard of design thinking was in 1999 when IDEO's design process was featured on Nightline in what has come to be known as "The Shopping Cart Video" (IDEO, 2016). IDEO has continued to promote design thinking by releasing publications and toolkits that modify the process for different groups, including k-12 educators and libraries (IDEO 2012; IDEO, 2015).

THE PROCESS

Although IDEO is perhaps its own best known advocate, it's important to remember that, like information literacy, no one company or organization owns design thinking. Each practitioner has the ability to modify the process to meet their needs, although the overall purpose remains the same. For example, below are the ways four different publications describe the steps of design thinking. Note that two are from IDEO, but describe the process in different ways for different audiences.

Stanford D. School Bootcamp Bootleg (Stanford University Institute of Design, 2014)

Empathize => Define => Ideate => Prototype => Test

IDEO Design Thinking for Educators (IDEO, 2012)

Discovery => Interpretation => Ideation => Experimentation => Evolution

IDEO Design Thinking for Librarians (IDEO, 2015)

Inspiration => Ideation => Iteration => Getting to Scale

Design Basics 08: Design Thinking (Ambrose & Harris, 2010)

Define (brief) => Research (background) => Ideate (solutions) => Prototype (resolve) => Select (rationale) => Implement (delivery) => Learn (feedback)

By including four different descriptions of the design thinking process, I hope to encourage readers to modify and shape the process to meet their needs. Below, I propose a new design thinking framework tailored specifically for library instruction that builds upon the four frameworks listed above. Each step will first be described, followed by a vignette featuring two individuals: The Course Instructor (preferred pronouns: she/her) and The Librarian (preferred pronouns: they/their). These vignettes will demonstrate what that step looks like in practice

Step 1: Define

The goal of the Define stage is that everyone is on the same page—that there are shared expectations, shared terminology, and shared desired outcomes. When working with other faculty and librarians in a design thinking immersion and again at a Faculty Teaching Circle, I noticed that many of my colleagues struggled to adapt the commercial concepts of clients and customers to an educational environment. For many librarians, on the other hand, the concept of working with a client (course instructor) to design a product (instruction) for consumers (students) will be very familiar, if not in those terms.

The goal at this stage is to develop what I call the Instruction Brief: a document that outlines what the instruction librarian needs to know before beginning to design the session. The brief should answer basic questions like what class the session is for, how much time the librarian has, etc. It may also include a copy of the assignment, information about the students (e.g., Are they all first year students? Seniors? Have they had library instruction previously?), or about the class (Is it a seminar? Does the professor focus on active learning or lecture?). Both parties should have a shared understanding of the goals or outcomes and any constraints. This is also an opportunity to manage the client's expectations and help them understand what is possible given the constraints. (This will be an especially familiar concept to any librarian who has been asked to give an introduction to the library and research in 15 minutes.)

> *An instructor asks a librarian to come in to her freshman composition class for a session on how to use the library. The initial request asks for "an introduction to the library and how to research." The librarian arranges a meeting with her to gain a better understanding of the students in that class (who), the assignments they will be responsible for (what), how much time is available for library instruction (when), whether the class is in a computer lab or a traditional classroom (where), and the instructor's desired outcomes for the session (why).*

Step 2: Ideate

Ideation (or Ideate) is the most consistently named step in every different design thinking framework. Ideation is simply the creation or collection of many different possible solutions. Note that the goal is *possible* solutions, not probable or likely or realistic solutions. This is where your Instruction Brief comes in handy. Make sure to keep in mind any constraints you identified, but don't let your expectations of what library instruction is or should be define this stage. There are many different ways to approach Ideation, but the most familiar will be brainstorming. Brainstorming, of course, can take many forms, from a room full of people yelling out ideas to a single person taking notes on a sheet of paper. It is absolutely vital that any brainstorming that is done within a group includes a facilitator and shared ground rules to ensure that all members have an opportunity to participate equally. For library instruction focused ideation, you may also want to look at existing solutions from other institutions or industries. For example, if you want to help students understand how to search for books in the catalog, consider other places they might search.

> *Example 1:*
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> *The instruction librarian has taught many instruction sessions that meet this design brief, having regularly worked with the first year composition program for several years, but wants to see if there is a better way to approach the subject. They talk to colleagues about how they teach similar concepts, browse YouTube and PRIMO for ideas, and scan recent issues of library science journals.*
>
> *Example 2:*

The librarian grabs a dry erase marker, sets a timer for 10 minutes, and starts writing out of all the different ways they could introduce students to the library as a source of scholarship and services. They are careful not to think too hard about each idea before adding it to the list, ensuring that they don't restrict to the ideas that they "know" will work. At the end of the 10 minute brainstorming session, their list includes the mundane (take students on a tour of the library), the unusual (stage a murder mystery where students have to explore the library looking for clues), and the possibly unrealistic (develop a virtual reality program where students explore the library from the comfort of their dorm room).

Step 3: Resolve

During the Ideation step, the goal is to broaden the universe of potential solutions as much as possible. Once we move on to Resolve, our goal is to narrow down all of our ideas based on the instruction brief and other constraints (e.g., time or budget). This step can be very challenging, since it's easy to get attached to your ideas—no one likes to discard their hard work. Start by grouping like ideas together. Often you'll notice a theme or themes like in class activities or graded assignments, or more specific categories like digital objects that could be embedded in a course management system. It's ok to combine ideas at this stage (taking a graded assignment idea and pairing with it a digital object in the CMS, for example), but be careful not to combine too many disparate ideas into one potential solution. The goal is to narrow down your options, not to use all of them.

After letting their brainstormed list of class activities sit for a little while, the instruction librarian reviews their ideas. Some can be easily eliminated due to time or budgetary constraints (the virtual reality program, for example). Working with the remaining ideas, the librarian groups similar ideas, noticing that they have three main themes. Out of those three groups, they pick two ideas that they think have a lot of potential: an in-class activity that has students working individually with library resources and an in-library scavenger hunt where small teams work together to solve a research based problem.

Step 4: Plan

In many other design thinking frameworks, this stage is called Prototype, but with an instructional design focus it makes more sense to emphasize the development of a lesson plan, which would function as your prototype. The goal is to interact with your idea in the real world and get feedback from potential stakeholders. There are many different types of prototypes and plans, from a wireframe (useful for a relatively static resource like a LibGuide or website) to a script (for a video) to a PowerPoint presentation (for a lecture).

Your plan (or prototype) does not have to be perfect, nor does it lock you in to using that idea. Think of this stage as a proof of concept, your opportunity to see if the idea feels right or if you can do it in the allotted time. You want to "fail early and often." Maybe the room you have reserved isn't the right fit for a certain activity, or the linear design of PowerPoint doesn't work with the concepts you're covering. It's ok to move on to a different idea if the one you originally chose to plan doesn't work.

The librarian sits down at their desk during quiet time to create a rough outline of their two ideas. For the in-class activity, they comes up with a sample worksheet that asks students to quickly work through the research process with an assigned topic. Students will pick a topic out of a hat, then develop keywords and search terms and use the library's catalog and databases to find a book, a scholarly article, and a news story on that topic. They will scan each and explain how the sources differ in terms of format and content and how they could each be used in the assignment for that class. For the scavenger hunt, the librarian writes a scenario and the first clue: "You are up late studying in your dorm room when a note is slipped under the door. Instead of a promotional flyer or invitation to a campus event, you find a handwritten note hinting that a campus legend about a secret society is more than just a legend. You should keep studying, but this looks a lot more interesting than your textbook. The note tells you to find a library book about the history of your university written by a former president." The outline of the scavenger hunt continues with a few other examples of what resources or locations students would be asked to interact with, including databases, maps, and study rooms. Neither of the prototypes is a finished product ready to be presented to a class, but each is complete enough to get feedback from the course instructor.

Step 5: Feedback

One of the key parts of the design thinking process is iteration—seeking feedback and tweaking the design based on that feedback. Ideally the librarian will be able to present their idea/outline to the course instructor and receive feedback at least once (especially if the proposal is outside the realm of "traditional" library instruction), adjusting the original plan. While this stage will not be possible in every instance, it should be considered best practice.

> *The librarian presents their two ideas to the course instructor, who thinks the scavenger hunt sounds like fun, but would prefer to use the in-class activity with this group, who have previously struggled with group work, but have great insights when asked to provide written comments. On the other hand, she really liked the emphasis on physical spaces in the library that the scavenger hunt included, and asked the librarian to somehow include that in the session. They decide that in addition to choosing a research topic out of a hat, students will also draw the name of a study area or service within the library. Students will be required to visit that area or service at some point during the session and write a short reflection on how they or another student could use that space.*

Step 6: Implementation & Assessment

The final step in this library instruction oriented version of design thinking combines implementation and assessment, since the two are often already paired in library literature and practice. After the planning, research, brainstorming, and prototyping the librarian has already done, implementation may seem like the easy part, but it is inextricably intertwined with assessment. In addition to outside feedback, self-reflection is an important tool and should be conducted not just on the final product (the instruction and how well students and faculty received it), but also on the design process. Did the instruction brief accurately reflect the instructor's needs and the situation? Did the librarian keep their mind open to all of the possibilities in the ideation phase, or did they lean heavily to a certain solution?

> *At the end of the class session, the librarian collects the student worksheets and distributes a short paper feedback form. They review the student worksheets and grade them based on a rubric they developed while writing the assignment. This allows them to assess whether students were able to complete the tasks requested of them. They also review the feedback forms to better understand student impressions of the session and their learning. Later, they meet with the course instructor to discuss what went well, what didn't, and how they might modify the session based on student feedback.*

CONCLUSION

Design thinking is a powerful tool to challenge assumptions and a great way to reinvigorate your instruction. It is also time intensive, and may require more back and forth with course instructors than other instructional design methods. Like every other instructional design framework, design thinking may not work for every individual or every situation. But given the idea's prominence in other sectors, including in education, instruction librarians should consider whether design thinking has a role in our work.

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