A Design Thinking Educational Intervention to Augment Public Health Training

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Background

**Design Thinking:** A creative and resource-efficient approach to solving complex problems; involves empathizing with end-users, crafting a concise problem statement, and a rapid, iterative process of idealizing and testing potential solutions (Hasso Plattner Institute of Design, 2019).

**Public Health Education**

- Design Thinking is a teachable, effective framework for solving multifactorial problems (Huang et al., 2019; Ku & Lupton, 2019).
- Design Thinking has facilitated improvements in patient and provider satisfaction, and can increase efficiency of intervention development (Altman et al., 2018; Design Thinking, 2018).
- There is a strong potential to improve the usability and effectiveness, cost, and efficiency of public health interventions by adapting Design Thinking tools (Mummah et al., 2016).
- The integration of Design Thinking training in public health education may equip public health leaders with essential skills necessary to overcome historically intractable challenges, improving lives for populations.

Workshop Development

**Time, Concepts, & Activities**

A review of literature and input from stakeholders (faculty in Jefferson’s Health Design Lab and College of Population Health and professionals in public health innovation) were synthesized to inform the development of a two-hour workshop. Material was drawn from the Health Design Lab curriculum and the Stanford Hasso Plattner Institute of Design online “Design Thinking Crash Course.” To facilitate hands-on learning and maximize participant engagement, the workshop developed was primarily activity-based, integrated with short (under 10 minute) segments of didactic learning and group discussion.

**Concepts:**

- Empathize, Define, Ideate, Prototype, Test
- Human-centered design
- Co-design
- Fail fast
- Bias towards action

**Activities:**

- Interviews
- Crafting a Point of View (POV) problem statement
- Prototyping & user testing

**Space & Materials**

The workshop was designed to take place in a large open space with ample table space and incorporate as materials a Prototyping Cart, markers, paper, and worksheets.

**Evaluation**

- Specific, Measurable, Attainable, Realistic and Timebound (SMART) Objectives were developed to assess the process, outcomes, and impact of the workshop.

**Process Objectives:**

1. On April 19, 2019, Design Thinking workshop will be piloted with 10 MPH students.
2. The workshop will take less than 3 hours, and involve a combination of didactic learning, activity-based learning, and group discussion.

**Impact Objectives:**

1. Immediately following workshop, students who attend will report workshop was clear, enjoyable, and interactive (at least an average of 4/5 on a Likert scale survey).
2. Immediately following workshop, participants will understand at least three Design Thinking concepts, and appropriately identify at least one potential opportunity to use Design Thinking in their careers (assessed through survey).
3. By 2024, at least 10 Jefferson MPH graduates who attended workshop will report having used Design Thinking in their work to improve the health of individuals or communities (assessed through survey).

Workshop Pilot

**The workshop was piloted on April 19, 2019 at Jefferson’s Health Design Lab. Ten current Master of Public Health (MPH) students participated.**

**Didactic Learning**

- **Clarify fail fast concept**
- **Build in paper/space somewhere for notes**
- **Good recap!**

**Gaining Empathy**

- **I’m familiar with Design Thinking concepts and how to apply them.**
- **Please describe three aspects of the Design Thinking process.** (Number of correct responses)

**Defining the Problem**

- **I thought that the material in this workshop was presented clearly.**
- **I enjoyed this workshop.**
- **This workshop provided a good balance of hands-on and didactic learning.**

Responses to the knowledge items indicated that students were unfamiliar with Design Thinking prior to the workshop and were able to identify key concepts and potential applications for these concepts immediately following the workshop.

**Rapid Prototyping & User Testing**

**Debrief & Review Key Concepts**

At the beginning and end of the workshop, participants completed a brief survey to assess their knowledge about Design Thinking and attitudes about their learning experience.

Reflection & Refinement

The pilot workshop met all process objectives, and survey responses demonstrated that all impact objectives were also met. Following the pilot, materials were refined based on participant and faculty feedback.

**Design Thinking Knowledge**

- **I’m familiar with Design Thinking concepts and how to apply them.**
- **Please describe three aspects of the Design Thinking process.** (Number of correct responses)

Responses to the knowledge items indicated that students were unfamiliar with Design Thinking prior to the workshop and were able to identify key concepts and potential applications for these concepts immediately following the workshop.

**Workshop Attitudes**

**Faculty Feedback**

Drs. Frasso and Plover observed workshop and delivered feedback about the Environment/Space, Activity, and Content/Presentation. Positive feedback included:

- “Good introduction of topics and their flow through the presentation”
- “Slides engaging, colorful, good balance of content”
- “Good recap!”

Constructive feedback included:

- “More clarity of roles may have helped at the beginning”
- “Build in paper/space somewhere for notes”
- “Clarify fail fast concept”

**Next Steps**

- Integration into Jefferson MPH curriculum (Foundations of Public Health course) beginning Fall, 2019
- Publish “Tools for Public Health Practice” manuscript in a pedagogy journal to inform other public health practitioners and educators of workshop development and outcomes
- Additional opportunities:
  - Expand into full course
  - Offer at additional universities

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