Utilizing Design Thinking to Guide Design and Development of Online Graduate Level Courses

April 3, 2019

Ilana Bayer, Ph.D.
Workshop Learning Objectives

• Describe the key stages of a design thinking approach

• Explain how design thinking can be used to identify challenges and explore innovative solutions

• Identify opportunities where principles of design thinking can be applied to your work
Stages of Design Thinking

- EMPATHIZE
- DEFINE
- IDEATE
- PROTOTYPE
- TEST
Methodology

• **Target end users:**
  – Graduate Students and Faculty member

• **Diverse Team:**
  – Health science student, Director of Learning Technologies Lab / Faculty member

• **5-Step Design Thinking Approach**
Data Collection

- Course feedback surveys
- Course evaluations
- Interviews
- Discussion forum posts
- Formative assessments
- Emails
- Informal discussions
- Focus group sessions
# Empathy Map

<table>
<thead>
<tr>
<th>Think</th>
<th>Feel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Say</td>
<td>Do</td>
</tr>
</tbody>
</table>
Empathy Map

Name: David Combe
Title: Registered Nurse, Course Leader for Nursing course at University of Manitoba.

Education: RN, pursuing online Masters program in Health science education at McMaster University

Status: Part-time graduate student who is early in his career

Lives in: Winnipeg, Manitoba

Age: 34 years old

Family: Wife and 2 children (awaiting a 3rd child)

Think
- Interested in underlying pedagogical principles of each technology.
- The instructor doesn't engage enough in the online setting.

Feel
- Student posts can sometimes get too long.
- I like to avoid being opinionated.

Say
- I want to learn about new technologies.
- I have a current mental health issue.

Do
- Travel few times a year with family.
- English is my second language.

Passionate about Health Science Education

Worried about other's opinions of me.

Feel stressed by large workload.

I get annoyed by technological issues.

Previously completed 2 online courses.

Developed training system for nurses.
# As-Is Scenario Map

<table>
<thead>
<tr>
<th>Roadmap</th>
<th>Stages</th>
<th>Beginning of the Course</th>
<th>Middle of the Course</th>
<th>End of the Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>Say</td>
<td>I want to learn how to develop new modules.</td>
<td>I recognize a few familiar names.</td>
<td>I need an deadline extension.</td>
<td>I learned a lot from this course.</td>
</tr>
<tr>
<td></td>
<td>Students should follow online discussion etiquette</td>
<td></td>
<td>Using personal examples improves discussion!</td>
<td>I wish there were more synchronous sessions.</td>
</tr>
<tr>
<td>Do</td>
<td>Experience with few online courses.</td>
<td>I post near the end of the discussion period for the topic.</td>
<td>Travelled with family.</td>
<td>I answered questions people had about my presentation.</td>
</tr>
<tr>
<td></td>
<td>Not comfortable with new technologies.</td>
<td>Frustrated when recently scheduled activities aren't given enough notice.</td>
<td>Apprehensive about posting; fear of judgement.</td>
<td>Anxious when others listen to my recorded presentation.</td>
</tr>
<tr>
<td>Feel</td>
<td>Intimidated by certain professionals in the cohort.</td>
<td></td>
<td>Annoyed when technology doesn't work.</td>
<td></td>
</tr>
<tr>
<td>Think</td>
<td>I wish they got to know me more before they see my posts.</td>
<td>What is the minimum I need to participate?</td>
<td>People aren't participating enough.</td>
<td>The recorded presentation isn't comprehensible.</td>
</tr>
<tr>
<td></td>
<td>The guest lecture had too much content.</td>
<td></td>
<td>Some presentations are too long.</td>
<td></td>
</tr>
</tbody>
</table>
How might we...?

Brainstorm
How might we improve interactions between students and faculty during an online graduate course?

- Encourage discussion post continuity?
- Help students feel more comfortable posting in the discussion forum?
- Increase engagement without increasing workload?
How might we...?

- Learning efficiency
- Learning obstacles
- Facilitator/student etiquette
- Creating a safe space
Prioritize a meaningful challenge
How Might We...?

How might we maximize active learning in an online graduate course?
# Design Thinking Principles

<table>
<thead>
<tr>
<th>Faculty</th>
<th>ensure presence</th>
<th>manageable workload</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>manageable workload</td>
<td>needs to be interesting</td>
</tr>
<tr>
<td>Content</td>
<td>large capacity for engagement</td>
<td>not too technologically intensive</td>
</tr>
</tbody>
</table>
Innovative Ideas

Innovative Ideas Brainstorm
Innovative Ideas

Examples of possible solutions:

• Assign and switch up roles for discussion threads each week
• Application challenges
• Small group Problem-Based Learning
Prioritization Grid

Impact

Feasibility

PBL

Application Challenges

Discussion forum roles

[Diagram showing a grid with axes for Impact and Feasibility, and various points labeled PBL, Application Challenges, and Discussion forum roles]
Prototype

avenue to learn

Login Use your MacID

Support

Terms of Use

Browser Check

Pop-up Blockers

Maintenance
Sunday, February 11th, 2018
between 1:00 AM and 7:00 AM

Announcements

CALL FOR NOMINATIONS: Undergraduate and Graduate Student Representatives to Governing Bodies
Nomination Period: January 15-February 7, 2018
For details, see the Elections section of the University Secretariat website.

2017/2018 Fall/Winter Course Request Form
The Avenue to Learn course request form is available for the Fall/Winter 2017/2018 Semester. Please make your requests here: http://avenue.mcmaster.ca/course/course_request_check.php. If you have any questions about copyright and Fair Dealing, please visit http://copyright.mcmaster.ca

Office 365 now available to all McMaster students
McMaster students and faculty now have access to Office 365 - Word, Excel, PowerPoint and other tools to support your studies and research. For more information on this, go to www.mcmaster.ca/uts/office365/. For any questions regarding Office 365, please contact the University Technology Services HelpDesk at uts@mcmaster.ca

D2L Pulse App
Thanks to modifications to the way you login to Avenue to Learn, we now are pleased to introduce you to D2L's (the company who makes Avenue to Learn) app, Brightspace Pulse. This free app will assist you in keeping on top of your academic and extracurricular responsibilities.

McMaster University
McMaster’s Online Teaching and Learning Community
Supported by the Centre for Leadership in Learning
Potential Prototype: Difficult or Emerging Ed Tech Case

• Authentic, relevant, interactive
• Multimedia delivery of challenge
  – Video of expert, related articles
• Small group learning
  – Asynchronous / synchronous
• Large group learning
  – Asynchronous / synchronous
Test

<table>
<thead>
<tr>
<th>Things that worked</th>
<th>Things to change</th>
</tr>
</thead>
<tbody>
<tr>
<td>📢</td>
<td>👎</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New Ideas</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>🚛</td>
<td>🔧</td>
</tr>
</tbody>
</table>
Potential Barriers to Process

- Poor brainstorming etiquette
- Insufficient data to identify user-focused problems/solutions
- “Married” to ideas/beliefs/opinions
- Educator’s time commitment
- Need training in design thinking approach
Anticipated Outcomes

• Diverse team with different perspectives strengthens empathy and ideation stages
• Developing user-focused solutions that are both viable and feasible for the educator