11.155X: DESIGN THINKING FOR LEADING AND LEARNING

FACILITATOR'S GUIDE

BASED ON P2PU'S LEARNING CIRCLES FACILITATOR HANDBOOK

MIT | TEACHING SYSTEMS LAB

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Welcome to the Facilitator's Guide

Collaboration with users and with other designers is a key component of the design process. Designers at MIT value the opinions and ideas of their colleagues throughout the entire design process, whether they're helping each other define a problem in the Focus stage or bouncing ideas off each other in the Imagine stage. We encourage you to take this class with a **learning circle** so that you can benefit from working with a team of designers. A learning circle is a facilitated, in-person study group for learners who are all registered for the course.

Why should you start or join a learning circle?

Diverse perspectives, experiences, and ideas can help lead to creative and innovative solutions. Ideally, your learning circle will be composed of colleagues from your school or organization so that you can work on common problems together in a common context. As you work through assignments, you'll be able to receive targeted feedback and support from people who know you and your specific context.

We have used learning circles in previous courses, and our learners found them to be a powerful part of their experience:

Head of Academic Technology at a PreK-9 school Megan Haddadi says, "Learning circles [were] one of my favorite parts of this course. To be honest, learning online can feel really impersonal, but having that face-to-face connection with my colleagues on a weekly basis really made a difference for me."

High school computer science teacher Douglas Kiang says, "When we realize that we're really not alone in this, that we can work together and help make this a better place for all of us, that, I think for me, was the real power of the learning circle."

These two former facilitators describe their learning circle experiences in this video.

What is the Facilitator's Guide?

We've created this Facilitator's Guide to give you the tools you need to lead a learning circle. In this guide are suggested agendas, discussion topics, and activities for meetings, but we encourage your learning circle to interact with the course in the ways that seem most valuable and productive for your needs. You might work on the course online independently, and then find time to come together to discuss what you are learning. It might be that members of your group watch certain videos on their own time and discuss those videos in-person. Maybe your group does assignments together each week or you start assignments independently and use your time together to discuss your work.

The Facilitator's Guide has ideas and strategies for working collaboratively, including:

- Suggested schedules for meetings throughout the course
- Questions to prompt discussions about course content
- Strategies for making assignments and activities more collaborative
- Tips from a former learning circle facilitator

Learning Circle Logistics

As the Course Starts (March 14, 2019)

As a facilitator, here are some things we recommend that you do before the course begins:

Gather your learners (learning circles work best with 4 to 10 members)

- Consider inviting people to participate with an announcement during a staff meeting, emailing out invitations, or posting on social media. Directly reach out in-person, via email, or on social media to individuals who you think might be interested.

- In Appendix I of this guide, we've offered some suggestions for how to communicate to your networks, as well as the course flyer.

Answer key questions about logistics

We recommend you determine as many logistics as possible through email or other digital communication so that you can spend the first meeting of your course discussing content. As you and your learning circle answer these questions, try to be as flexible as possible.

When, where, for how long, and how frequently will you meet?

Do you plan to meet every week? When do you want to meet relative to assignment steps? To help you coordinate, we have provided a calendar with key course dates in Appendix II.

What work will be done inside and outside of the learning circle?

Everyone in the learning circle should be registered for the course. However, we know that educators are incredibly busy, and not everyone in your learning circle will have time to do everything every week. **Not all learners have to commit to the same amount of work.** In this guide, we'll offer ways to engage learning circle members during meetings regardless of how much coursework they've done outside of the meeting. Make sure that members of your circle feel comfortable being as flexible as they need to be.

What resources will you need?

How will everyone see the course materials? Does the room have a projector? Will everyone use laptops/tablets/etc.? How will the table be set up? Ideally, everyone will be in a circle. Your role as facilitator is not to stand at the front of the room, lecture-style, but to be an equal member of the learning circle. What other supplies will you need? For example, some activities ask you to use sticky notes and markers. Will someone bring snacks?

Read through the Facilitator's Guide

Read through this guide before the course begins so that you can get a good overview of the course and plan meetings accordingly.

Email Reminders

A few days before the start of the course, email out a reminder. Be sure to convey that you are grateful for everyone's time and excited to begin this course!

> "Some people in your learning circle will fall behind and may feel stressed or overwhelmed. Encourage them to come to your face-to-face gatherings even if they have fallen behind in their work, because everyone has something they can add to the group, and everyone can take some wisdom away from the group as well. It will help to have a backup plan for those who have fallen behind as well. Partner them with one another and encourage them to read the articles together or watch the videos during the learning circle time. In other words, help them get caught up, and assist their progress moving forward through the material."
>
> **- Megan, former learning circle facilitator**

During the Course (March 14 to April 25, 2019)

While this guide provides suggestions for how each learning circle meeting might run, you should customize the learning circle experience to your group. Do not feel pressured to try to cover all of the material that is offered. **We encourage you to spend the bulk of your time doing activities together as a group or discussing your progress with assignments steps.** Choose the activities that seem most exciting and relevant for your learning circle. It's okay to get off-track from the suggested agenda if you are engaged in a productive discussion.

On the next page, we've provided a sample of what an agenda might look like given a one-hour meeting.

Sample Agenda

5 min	**Welcome and Check-in**	Spend the first few minutes reviewing the previous meeting and any action taken since the previous meeting.
15 min	**Video Discussion**	Begin video discussion by asking the group for general thoughts and impressions. What was surprising about the video? What would you like to know more about? What were two important takeaways? We will provide discussion questions as suggestions, but feel free to discuss what your group is most interested in.
35 min	**Assignment Work/ Discussion**	We will provide guidelines for how to begin thinking about the assignment steps and how you might use your meeting to engage with the assignment as a group. If your learning circle has already completed steps before the meeting, use this time to give each other feedback.
5 min	**Reflection and Closing**	Spend the last five minutes sharing something positive about the meeting and what learners hope to improve for the next meeting.

After each meeting, send a short summary email to all learners and a reminder about the next meeting.

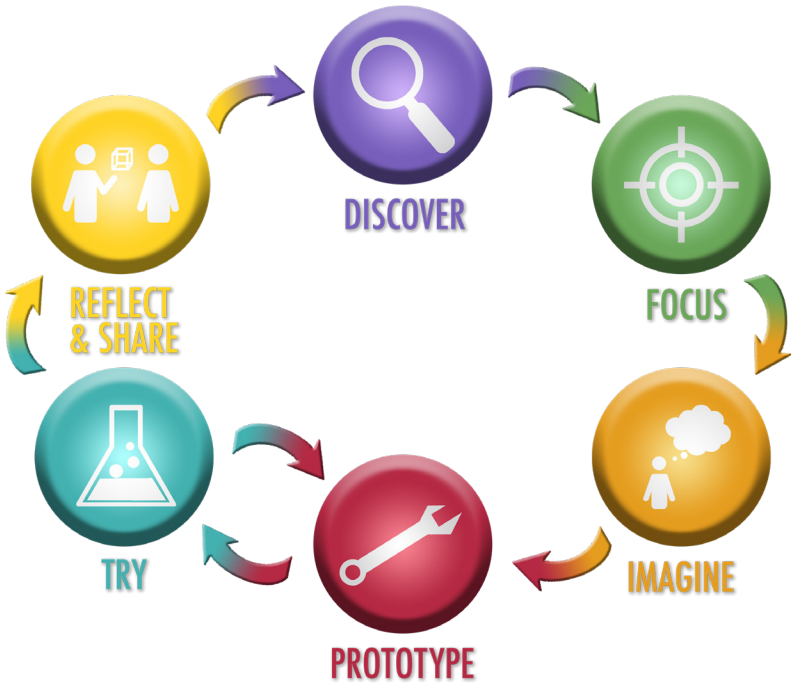
If you find that our sample agenda or suggested discussion topics don't work for your group, **we encourage you to do as much or as little as best suits your group's needs.**

Share Out!

We want to hear from you! Use **#dtllmooc** on Facebook and Twitter to share how your experience in the learning circle is going. In past courses, learners have used the course hashtag to share photos of their learning circle at work, resources related to the course, thoughts on course content and more. Sharing out using social media will also allow people outside of the course to see the great work that you're doing!

Design Thinking for Leading and Learning: Course Flow

In the first two weeks of the course, **all learners will engage with Unit 1: Meet Design Thinking.** This first unit is meant to introduce you to design thinking through the perspectives of designers from MIT. Your assignment will put you in the role of a designer as you go through one cycle of the design process to create something that will improve a specific experience for a user. The various steps of the assignment are interspersed with video content intended to provide support. This Facilitator's Guide includes suggestions for how your learning circle might engage with unit content.



After Unit 1, we will launch the rest of the course, meaning Unit 2 and Unit 3. Take a look at the Course Capsules to learn more about the content in Unit 2 and Unit 3. (Click "Course Capsules" in the side navigation bar in the course.)

Unit 2 explores how design thinking can be used with students. In this unit, you will hear from schools at various stages of introducing design thinking to students. Your assignment will take you through the design process as you create an activity to introduce a phase of the design thinking process to your students.

Unit 3 introduces the idea of applying design thinking to systemic educational challenges. You'll hear both from school leaders and designers who work in large urban school systems. Your assignment will take you through the design process as you think about a systemic problem in your school or organization that you want to tackle.

Because we want to give you the freedom and support to explore these two units in a way that is most meaningful and valuable for you, you will have options regarding how you can proceed for this four week period after Unit 1.

- **Pathway 1** is a great fit for those who want an equal balance of design thinking for learning and design thinking for leading. You spend two weeks on Unit 2 and then the next two weeks on Unit 3. You put an equal amount of effort into both assignments.
- **Pathway 2** is for those who are eager to learn more about sharing design thinking with students. You focus on Unit 2, both the video content and the assignment, but you will spend some time exploring Unit 3.
- **Pathway 3** is for those who feel most excited about using design thinking for systemic change. You focus on Unit 3, both the video content and the assignment, but spend some time exploring Unit 2.

Which pathway you take will depend on which assignment you are more interested in focusing on. **No matter which option you choose, we encourage you to still explore content from both Unit 2 and Unit 3.**

If learning circle members are focusing on different assignments and leveraging the units in different ways, that's great! Your learning circles meetings might look like a mixture of video discussion from both units, then breaking into unit-specific groups to work on assignment steps. Or you might find it useful to spend time sharing what everyone has been working on across units. Find the way that works best for your learning circle members and their interests.

Possible Overall Flow of Learning Circle Meetings

NOTE: You can meet more or less often if you'd like.

MEETING	FOCUS
1	Assignment 1: Focus on the Step of Your Choice
2	Assignment 1: Focus on the Step of Your Choice
3	Exploring Units 2 & 3
4	Exploring Units 2 & 3
5	Exploring Units 2 & 3
6	Reflecting on the Course

Unit 1: Meet Design Thinking

This unit will introduce you to the design thinking process through the perspectives of designers at MIT. Your assignment for this unit will take you through the design process as you try to improve a user's specific experience.

For Assignment 1, consider what steps you want to focus on within the learning circle sessions. If you decide to work on specific steps within the learning circle sessions, we've included some guidelines here. If group members are completing work independently, focus on discussing the debrief questions as a group.

Step 1: Select Your User

We recommend that if you meet about this step, you meet early on.

Choose your user for the Unit 1 Assignment and pick one of the following experiences to be the impetus for your design project and the subject of the interview:

- Morning or bedtime routine
- Hosting a party or event
- Preparing for a trip

Review Together: Assignment Overview

Activities and Guidance: Group members should decide if they want to use each other as users or look elsewhere.

- Debrief with the following questions:
  - How did you decide which subject to pursue?
  - For this design project, what are you especially excited about? What are you worried about?

Step 2: Conduct User Interview

Interview user about the subject you chose.

Review: Watch *Amos Winter: Advice for Conducting an Interview*. Review the Discover section of the Design Process Tips.

Activities and Guidance:

- If group members choose to interview each other within the meeting time, try to meet in a location that can accommodate several separate conversations.
- If members choose to interview users outside the learning circle, members should begin by spending 10 minutes generating questions that might help them learn more about the user's motivations and problems related to the experience chosen. Each group member would select 4-5 open-ended interview questions that they think are great and then swap question lists (includes both the bigger list and the selected 4-5 questions) with another member. The two members would then discuss the process.
- Debrief with following questions:
  - What was challenging about conducting an interview?
  - What would you do differently?

Step 3: Select Specific User Problem

Identify insights from user interview to select specific problem.

Review Together: Watch *Blade Kotelly: Advice for Finding Opportunities.* Review the Focus section of the Design Process Tips.

Activities and Guidance:

- To engage with the Focus stage inside the learning circles, group members would start by writing key takeaways and insights from the interview on sticky notes. Members would then divide the notes into categories and themes. These categories could be based on anything from when your user feels negative emotions to a chronological grouping of experiences, etc. Next, members would move on to choosing a problem to focus on and generating a problem statement.
- Members might also come in with key takeaways and insights already organized into categories. Members could then share work with each other and discuss general thoughts for how to make sense of the interview data.
- Debrief with the following questions:
  - How did you decide what parts of the interview were especially important?
  - Which categories/themes did you choose? Why were these particularly helpful?
  - Are there areas of inquiry that you wish you had pursued with your user?

Step 4: Generate and Evaluate Ideas

Generate as many ideas as possible that will help solve the identified user problem. Evaluate solution ideas and select one to move forward to the prototyping stage.

Review Together: Watch *Blade Kotelly: Advice for Finding Opportunities.* Review the Focus section of the Design Process Tips.

Activities and Guidance:

- After generating some "how might we" statements to frame ideation, group members could brainstorm individually on their specific project for 20 minutes regarding their identified user problem, using one sticky note for each idea. After each group member organizes and categorizes his/her solution ideas, they could sit in pairs and discuss each other's work, considering which ideas are especially relevant and promising. (Note: Members should not pair up with their user.)
- Group members could also ideate on their own, before the learning circle. Members would bring in the solution idea they want to move forward with and invite others to suggest tweaks that might make it even more effective. Each group member would provide enough information about the user so that the rest of the group can offer feedback specific to context and user.

- Debrief with the following questions
  - Did you find it easy to generate a bunch of ideas? Did you find that any of your ideas were similar?
  - In the assignment prompt, we recommended that you consider solutions that might seem crazy. Were you able to do this? How did you shift gears in your mind?
  - Did using sticky notes work? Do you have other brainstorming techniques that are helpful that you might like to share with the group? Have you tried techniques that didn't work for you?

Step 5: Prototype Your Solution

Build a model of your solution to effectively communicate your idea to your user.

Review Together: Watch *Yasmine Kotturi: Advice for Prototyping.* Review the Prototype section of the Design Process Tips.

Activities and Guidance:

- If your group members want to prototype within the learning circle, try starting with a warm-up sketch. Set the timer for five minutes. Group members should quickly sketch out their idea in a way that conveys the most important feature of the solution idea. This exercise is just meant to get the creative juices flowing. Each group member should present briefly.
- For prototyping within the learning circle, group members should bring in common, cheap materials such as cardboard boxes, construction paper, foil, pens, tape, or anything else that is relevant considering what group members are working on. Remind everyone that it's not about building something pretty or perfect; instead it's about generating low-resolution prototypes that allow you to effectively and simply communicate your idea to your user. The majority of your time for this session should be spent building.
- Debrief with the following questions:
  - Ask each member to explain why they made the decisions they did when creating their prototype(s). What did they hope to communicate?
  - How does the prototype reflect user needs?
  - What assumptions about the user are evident in the design of the prototype?

Step 6: Get User Feedback and Iterate

Solicit user feedback about your prototype that will help you iterate your prototype into robust solution.

Review Together: Watch *Meredith Thompson: Advice for Playtesting.* Review the Try section of the Design Process Tips.

Activities and Guidance:

- To engage with the Try phase within the learning circle, each group member could begin by brainstorming a list of questions they have about their solution idea. These questions, which will be used in testing sessions, should reflect what they want to learn about the prototype concept. Use the Design Process Tips to optimize the questions to prompt helpful feedback. Put all the questions in one document. Do many of the questions seem similar, or designed to elicit a similar type of response, even though the subjects and target users are different? Do you see evidence of members asking one type of question in very different ways? Perhaps one version is more open ended than the other.
- Use the rest of your time to test prototypes with others. Prioritize testing with your user (if he or she is in your learning circle), but we also encourage you to test with others as well. Use the Feedback template to take notes.
- Debrief with the following questions:
  - Ask each member to explain why they made the decisions they did when creating their prototype(s). What did they hope to communicate?
  - How does the prototype reflect user needs?
  - What assumptions about the user are evident in the design of the prototype?

Step 7: Reflect and Peer Feedback

Reflect on using the design process with an emphasis on incorporating user feedback into another prototype iteration.

Review Together: Take a look at the questions for reflection in Step 7.

Activities and Guidance:

- Group members could share at least one key insight they gained from the Try stage that would prompt an iteration in the next version of the prototype.
- The group should reflect on ways they think they might use the design process in their daily lives, with students, at work with colleagues, etc. What are some problems they could solve using the process?
- Together, the group could review the Forums and Peer Feedback Guidelines and consider if there are any interesting posts, discussions, or submissions in the forum to discuss as a group. Members of the group should also interact with forums on their own.
- Debrief with the following questions:
  - **What was it like to design a solution for someone?** Focus on the process. For example: What was it like to interview someone and learn about a challenge from their point of view? What was it like to go back and forth between flaring and focusing? What was it like to design a solution for someone else, get their feedback on your idea and then iterate it?
  - What did you enjoy most about the design project?
  - What was most challenging about the design project?
  - If you could do the design project a second time, what would you do differently
  - What do you think about the design thinking process now that you've been through it? Share any realizations or comments.

Units 2 and 3 Roadmap

Now that you have gained familiarity with the design thinking process in Unit 1, it's time to consider **design thinking for students (Unit 2)** and/or **using design thinking to approach systemic challenges (Unit 3)**. Remember that you have the freedom to **explore these two units in a way that is meaningful and valuable for you.** The assignment for Unit 2 will invite you to create an activity to introduce the design thinking process to students. For Unit 3, you'll use use the design process to tackle systemic problem in your school or organization.

Your learning circle should consider the following questions when planning the next few meetings:

- How many people are working on which assignment? Can you group people working on the same assignment together so that they can support each other? Will you continue to meet as an entire learning circle, or will smaller groups meet at different times?
- How will the focus of your time as learning circle change? Will you focus more on sharing progress or soliciting feedback? Which, if any, steps of the design process will you work on during the learning circle?
- How can you best use other members of your learning circle?

Possible Structure for Units 2 & 3 Learning Circle Meetings

0:00 - 0:05	**Welcome and Check-in**	Spend the first few minutes reviewing the previous meeting and any action taken since the previous meeting.
0:05 - 0:15	**Video Discussion**	Groups should choose 1 video from Unit 2 and 1 video from Unit 3. We have provided discussion questions for these videos in the Facilitator's Guide.
0:30 - 0:55	**Assignment Work/ Discussion**	This part of the meeting will look different depending on the group and which assignments members have decided to focus on. It could be that members do a certain assignment step together.
0:55 - 1:00	**Plus/Delta and Closing**	Spend the last five minutes sharing something positive about the meeting, and what learners hope to improve for the next meeting.

Final Meeting

Reflecting on the Course: For this meeting, group members will share their assignment work for Units 2 & 3 and discuss their experience in the course as a whole.

Unit 2: Design Thinking for Students

Video Discussion Questions

Unit 2 Overview

- Your group members have been through one iteration of the design process and have heard from designers about the value of a design mindset. Ask your group how they feel about teaching design thinking to students. What questions or fears do they have? What are they excited about?

Banneker Visit

Getting Started with Design Thinking

- Teachers Virginia Simon and Aolani Evelyn both mention the importance of letting students take ownership of their own work. In your school or organization, how often do students take control of their learning? Consider how this might change the role of a teacher.

Framing a Design Activity

- How might you bring design thinking back to colleagues at your school or organization? Can you anticipate concerns your colleagues may have?

Meadowbrook Visit

Interdisciplinary Design Thinking

- What does your school value? How might those values compare or contrast with characteristics of the design thinking mindset?
- Does your school or classroom tend to assess the process or the final product? What might a classroom look like/feel like/sound like if the final product didn't matter as much as the process? What challenges might arise?

Starting Small

- Does your school have a makerspace? How integrated is your makerspace into other areas of the school?
- If your school doesn't have a makerspace, what might a makerspace look like at your school? What role would it serve?

Meadowbrook Visit continued

Spotlight on a Design Thinking Project

- What existing units in your curriculum lend themselves to a design thinking project?
- How can you utilize the whole school in designing a project? Think about your school's physical environment, community resources, students, teachers, etc. How can you connect a project beyond the classroom?

NuVu Visit

Supporting Creative Learning

- In your classroom, how are you like a teacher and how are you like a coach? Which role do you prefer? What might it look like/feel like/sound like to be more of a coach than a teacher?

Prototyping and Iteration

- During the Unit 1 assignment, did you offer critique to others in your learning circle? How did it feel to give and/or receive critique?
- Do you ask your students to critique each other? How do they feel about being critiqued or revising their work? How might you help them become more comfortable with critique?

In Conversation: Considering Design Work in Schools / Challenges

- **Activity:** Blake and Justin explain that some of what teachers are already doing can map onto the design process. Divide a whiteboard or large piece of paper that is visible to everyone into two columns. In one column, have everyone in the room list projects or assignments that they do with their class or that they've done before in an educational setting. Challenge yourself to then map these projects or assignments to stages in the design thinking process.
- Blake and Justin discuss the challenges of time and assessment. Are these concerns that you share? Are there other concerns that come to mind? Discuss with your learning circle your concerns and how these concerns might be addressed in your school or organization.

Unit 2: Assignment Step Discussion

Step 1: Select Your Users & Implementation Scenario

Choose your students, the stage of the design thinking process, and if relevant, the content area.

- Members of your learning circle could consider partnering up for this design challenge. For example, if two or more members of the learning circle teach the same or similar groups of students, they could design an activity together. Together, they would decide which of the "How might I…" questions is most intriguing and feasible.
  - How might I teach [content area] to [group of students] by using [a stage of the design thinking process] in an engaging way? (Note: This option is best-suited for those who work with students and have experience teaching particular curriculum.)
    Example: How might I teach cell organelles to my 7th grade science class by using prototyping in an engaging way?
  - How might I teach [group of students] about [a stage of the design thinking process] in an engaging way?
    Example: How might I teach high school after-school engineering club students about the discover stage in an engaging way?

- Next, your group members should plan the Discover phase. Consider the following questions:
  - Will the user (student) be interviewed?
  - If two learning circle members are designing together, will each interview the same student or different students?
  - How many students will be interviewed?
  - If members can't talk with a student directly, will they talk with a parent or other person who could help illuminate the perspective?
  - Are other members of the learning circle able to fill in some of the student perspective?

Step 2: Understand Your Users

Think about different and exciting ways you could present design thinking to your students.

Activities and Guidance: Any interview would likely happen outside of the learning circle. However, interviewing is just one way to come to understand a user.

Also consider the following:

- Remember that the student-centered design activity should be presented in a way that best engages students. Group members could discuss what a powerful learning environment for students looks like.
- Is it possible to gain access to student engagement survey data? Perhaps a member could bring in the data and everyone could discuss what students value in their learning process, according to the survey results.

- The group could brainstorm resources that the school or organization (or wherever the implementation environment is) has that might be relevant for the design activity. The design activity doesn't necessarily have to happen in a classroom. What other spaces are available? What materials resources could be used? Group members should think creatively.
- Did group members discover that their user has different values regarding education and learning?
- Did anyone discover opportunities or constraints that they weren't expecting?
- How did group members determine what information from their users was particularly important?

Step 3: Identify Key Insights

Identify insights from users that are most helpful for creating an engaging learning activity.

Activities and Guidance:

- What was surprising? To practice developing understanding of their users, group members could compare and contrast their users' responses to a particular questions with their own. This activity helps group members check that they are designing an activity for their user and not for themselves.
- Members could also share key insights from their interviews or other part of the Discover process. These key insights might be helpful to other members.
- Revisit the Unit 1 experience. What did group members learn in Unit 1 that they think will be helpful for this design project in Unit 2 or the one in Unit 3?
- The assignment prompt asks learners to consider "what stood out." Instead, try the reverse - What doesn't stand out? Group members could look at their interview notes or other material from the Discover process and find information that isn't relevant to their design project.
- How did group members determine what information from their user was particularly important? Did they have a lens that they found to be helpful?

Step 4: Brainstorm Learning Activities & Select

Create a shareable representation of your learning activity.

Activities and Guidance: We know that group members might be focusing on different units. This is a great opportunity for members currently focusing on the Unit 3 assignment to think more creatively about how students might learn about design thinking and to provide some input on another group member's project.

- One member focusing on the Unit 2 assignment could briefly present their work so far, making sure to include any key takeaways from the Discover process. Then other group members could brainstorm engaging ways to share design thinking with their users.
- Next, group members could organize the ideas. This could be using themes and categories from the member who presented earlier, or not.

Next, members can evaluate the ideas, considering the following:

- Which ideas seem especially exciting? Does everyone agree?
- Which ideas seem like they most closely fit the needs of the user?

Step 5: Develop Activity Plan and Peer Feedback

Create a shareable representation of your learning activity. Then give feedback to your peers.

The prototype for this assignment is the **Activity Plan:** 2-3 sentence overview of the activity, activity context, flow of the activity, student instructions/materials, additional materials, and "What does awesome look like?"

Activities and Guidance:

- Using an idea from the previous step, members could pair up and build a prototype together and consider the following:
  - **Why are you doing it like that? What is the purpose of this design choice?** These questions make sure that decisions are intentional, and not made just because that's the way things were done before.
  - **What assumptions are you making?** Assumptions could be about student skill level or interest, how fast students might work, etc. It's always helpful to raise questions and challenge each other's assumptions.
  - **Are you still considering the user here?** Would that be engaging for the students or boring? Would that be confusing?
- A learning circle member could present his/her prototype with a focus on sharing the process, rather than asking for feedback on the artifact. Note: They can get feedback in the next step.
- How does this prototyping experience for Unit 2 feel different than the one in Unit 1?

Step 6: Get User Feedback

Solicit user feedback about your prototype that will help you iterate your prototype.

Activities and Guidance:

In this step, you will get feedback on your design activity and iterate.

- The learning circle is a great way to get feedback on your design activity for another iteration. Not everyone will be able to test their design activity with students. However, even if user testing is planned, more feedback never hurts! Members could test one or two design activities during the meeting. Encourage everyone to give honest feedback, both from their personal perspectives and/or, if possible, the perspective of a student. We recommend that group members come to this meeting already having generated questions for testing so that you can jump right in!
- If you find that you won't have time to do the design activity, consider having group members trade activity plans to get and give feedback.
- Did the activity run as expected? Did students (or other users) interpret instructions or resources in a way different that you expected?

- Have each group member share at least one key insight they gained from the Try stage that they would iterate on in the next version of the activity.
- What advice would group members give to someone testing with students for the first time?

Step 7: Reflect and Share

Consider your design project holistically.

Activities and Guidance:

- **General Reflection:** Reflect with the group on using the design process for lesson planning and teaching the process with students.
    - What surprised you about creating a design thinking activity for students? What was most challenging?
    - What would you do differently?
    - What comes next? Is it related to design thinking?
    - If you've created an activity/lesson plan for students previously, how did you feel about using the design process this time?
    - You used the design thinking process for the Unit 1 Assignment. Compare and contrast your reflections in Unit 1 with your thoughts now.
- **Reflecting on design thinking stages:** Take the time to think about what specific phases of the design thinking process resonate with you. According to Jared Perrine at Banneker, **Reflect & Share** is the most important phase of the process. Sue Fisher of Meadowbrook says to remember to keep sight of empathy (**Discover**) in whatever design project that you do. At NuVu Studio, design projects emphasize the iterative process of **Prototyping** and Testing (**Try**). Reflect now as a group about which design thinking stages you individually value, and which your school might value as a whole.
- **Moving forward:** Reflect on what's next for you, your students, and the design process. Are you interested in doing more? Why or why not?

Video Discussion Questions

Unit 3 Overview

- Your group members have been through at least one iteration of the design process and have heard from designers about the value of a design mindset. Ask your group how they feel about using design thinking to address change in your school. What questions or fears do they have? What are they excited about?

Amelia Peterson: Researching Human-Centered Systems Design

- Amelia talks about the importance of bringing various stakeholders into the design process. She specifically mentions involving parents. What role do parents play in the "system" of your school? When do they find out about new programs and how? What responsibilities or leadership positions do they have? At which stage in the design process would you consider bringing them in?

BPS Experience Lab: Redesigning Schools & Agency: Designing for Complex Systems

- Think about district-level or systemic-level problems your community is faced with. Discuss the following:
  - Who would you define as the "users"? (Users are also called stakeholders.)
  - How does the system collect user feedback? How does it use that feedback?

Benjamin Banneker Charter Public School: Problem-Solving with Design Thinking

- Banneker's culture of trust and respect aligns with a process like design thinking that requires learning from failure. Does your school or organization have a culture that encourages students and staff to learn from failure? How might you facilitate that culture?

Meadowbrook School: Interviews with School Leaders

- Jonathan and Steve share how incorporating design thinking has impacted their community. What aspects of design thinking would you like to impact your community?

NuVu: NuVu and Beyond

- **Activity:** Saba talks about the importance of teachers' adopting the designer mindset. After engaging with the design process and hearing the experience of other educators, how would you define the designer mindset? Discuss with the group, and list 5-6 characteristics of a designer that you think are most important.
- Saeed says that design thinking often appears outside of a student's schedule, for example after school. When and where can students already engage in design thinking in your school or organization? How might you integrate design thinking into the daily schedule?

Bob Vieth: Bringing Design Thinking to Schools

- **Activity:** Bob talks about allowing students to redesign the classroom. Try to think outside the box for opportunities to redesign existing structures or spaces whose design you've taken for granted. This can be anything from the carpool pick-up line to the flow of students getting lunch in the cafeteria. Create a list as a group of these structures, then pick one and spend five minutes brainstorming ways to redesign. This is meant to be a short activity to help you to look at existing systems differently.

In Conversation: School Change & Improvement

- **Activity:** When your school or organization launches a new initiative, what is the usual process? Take a few minutes to discuss the process as a group, and have someone write the process where it will be visible to others. Now compare and contrast this process with the design thinking process. What stages of the design thinking process does your school emphasize? Are any stages left out? Which stage would you like to see more of? What about the key qualities of the designer mindset such as bias toward action, acceptance of failure, iteration, etc.?
- Think about the last new initiative that you or your organization was involved in. Discuss what that process of change might have looked like if the design process had been used. How would rapid prototyping and iteration have changed things?

Units 3: Assignment Step Discussion

Step 1: Select Your User

Select an important challenge related to making change in your school or other organization.

Activities and Guidance:

If your learning circle is composed of educators from the same school or organization, consider tackling the same systemic challenge related to your school or organization OR forming small groups, each tackling a different challenge. Having multiple people focused on the same problem will allow the exploration of more resources and perspectives and hopefully result in more action and a greater impact by the time this course ends.

- Think back to a recent staff meeting, assembly, professional development session, etc. Invite each group member to list organizational problems that were identified. Categorize the problems in terms of group members' interests and urgency.
- Ask group members to write down the first thing that comes to mind in response to the question "What would you change about your school/organization?" Were there any commonalities among responses? That could be a good area for exploration.
- Group members should put themselves in the perspective of students. What would students say if asked to identify an important challenge related to making change in the educational environment?
- Determine which challenge(s) the group(s) will work on, and write the challenges in concise, clear one-sentence statements. Consider the following questions to make decision-making easier:
    - Is the challenge important to other stakeholders besides those in the room? For example, is this an issue that students and parents share?
    - Is your challenge manageable in scope? Ideally, your challenge is large enough to be worth investing substantial thought and energy, but not so large as to feel impossible. Aim for a challenge that could keep a community of educators busy for 1-3 years in order to make substantial improvement.

Step 2: Research

Think about which stakeholders your challenge affects and how it affects them. Look into ways other schools and organizations have responded to the identified challenge.

Activities and Guidance:

- Consider ways to leverage the learning circle. Does one member have contacts in a certain area of the school organization that could be useful? For instance, maybe one member works closely with parents.
- Ask members to make a list of tools the school or organization uses to learn about the perspective of various stakeholders. For each tool, think about how it might be helpful in gaining a better understanding of the challenge.

- After the Discover process has been completed, the group could discuss the following questions:
  - What did you expect the discover process would reveal? Did it work out the way you expected?
  - Was there a resource that you especially wished you had?

Step 3: Thinking About Needs

Craft a problem statement that reflects user(s) needs.

Activities and Guidance:

- To leverage the different resources available to group members, the group could share key insights from the Discover phase.
- This challenge is probably something that you and your colleagues have been thinking about for a while now. Have the Discover and Focus stages encouraged you to think about the problem in a new way? Are you thinking about your school or stakeholders in a new way?
- Though your learning circle may be working on multiple challenges, it's possible that your users overlap and that your users' needs overlap. As a group, members could write their users' needs on sticky notes and group the needs based on themes.
- To practice developing understanding of their users, group members could compare and contrast their users' responses to particular questions with their own. This activity helps group members check that they are designing an Action Plan that is suitable for the users and context and not just for themselves.

Step 4: Brainstorm Solutions

Generate solutions for the problem you identified and choose one that is especially promising.

Activities and Guidance:

We know that group members might be focusing on different units. This is a great opportunity for members currently focusing on the Unit 2 assignment to think more creatively about how to use design thinking to tackle systemic challenges and to provide some input on another group member's project.

- Choose one school challenge to focus on. Group members could briefly present their work so far, including key takeaways from the Discover stage and needs from the Focus stage. Once the group understands the background, begin the brainstorm for the solution idea.

Step 5: Develop Action Plan and Peer Feedback

Create a prototype of your solution idea in the form of an Action Plan that can be shared with others. Then share your prototype with your peers and give feedback.

The prototype for this assignment is the **Action Plan:** A description of the challenge and user need, the solution idea, a few first action steps and their impact, help that may be needed, and indicators of success.

Activities and Guidance:

- If prototyping is done within the learning circle, group members could focus on building parts of the Action Plan for a specific project together. Group members could create a number of visual prototypes that communicate the strengths of their solution idea. This could be a sketch, storyboard, wireframe, or any other prototype best-suited to communicate the idea. Other group members could offer advice or probing questions that encourage creative thought. Possible questions might include: **Why are you doing it like that? What is the purpose of this design choice? Are you still considering the user here?**
- Leverage the various kinds of expertise in the group, especially when building the "Action Steps & Impact' and "Help Needed" sections.
- If prototyping is done outside of the learning circle, group members could discuss their prototyping experience. Consider the following questions:
  - With which parts of the Action Plan did you struggle the most? Did you seek help to move forward?
  - Was it difficult to make your prototype reflect other stakeholders' point of view?
- Group members could also discuss the upcoming Try experience. Sharing ideas with others and taking first steps can bring about both excitement and nervousness. Consider the following questions:
  - What do you expect to go well when you take your first step toward change? What do you expect to go poorly? Can anyone in your group help fix that problem before the Try phase?
  - What are you excited to present? What in your Action Plan are you proud of?

Step 6: Test Action Plan & Iterate

Get feedback from a trusted colleague (or if possible, a stakeholder). Apply that feedback to make your Action Plan better. Take a step from your Action Plan.

Activities and Guidance:

- This Action Plan is meant to be shared with colleagues with intent of sparking their interest. Group members should use their time in the learning circle to get feedback! Members could share one or two Action Plans during the meeting. Encourage everyone to give honest feedback, both from their personal perspectives and/or, if possible, the perspective of a student. We recommend that group members come to this meeting already having generated questions for testing so that everyone can just get started!

- It is possible that the learning circle will meet after members have already received feedback and taken initial steps. In this case, group members can reflect on what happened. Have each group member share at least one key insight they gained from the Try stage that they would iterate on in the next version of the activity.

Step 7: Reflect and Share

Reflect on your experience with this design cycle.

Activities and Guidance:

- **General Reflection:** Reflect with the group on using the design process for approaching a systemic challenge.
  - How do you feel about your solution idea? Do you plan to work on it in the future?
  - What would you do differently?
  - If you've launched a change initiative previously, how did you feel about using the design process this time? How did you feel about framing students as the primary user?
  - What advice would you give someone working on this type of design project for the first time?
  - You worked on a design project in Unit 1. Compare and contrast your reflections in Unit 1 with your thoughts now.

- **Moving forward:** Reflect on what's next for you, your school or organization, and the design process. Are you interested in doing more? Why or why not?

Appendix I: Social Media Templates

TWITTER

Join @bjfr & @MOOCsTSL for a free online course for school leaders: Design Thinking for Leading and Learning. Starts 3/14! #dtllmooc

https://www.edx.org/course/design-thinking-for-leading-and-learning-0

FACEBOOK/LINKEDIN

Join Executive Director of MIT's Teaching Systems Lab Dr. Justin Reich on **March 14, 2019** in a free, online course for school leaders: Design Thinking for Leading and Learning.

Over six weeks, you will explore how you might use design thinking both as a pedagogical framework to use with our students as well as a set of strategies that school leaders can use with their colleagues to improve the systems in their own schools.

At the end of the course, you will have directly applied design thinking to different contexts and made connections with peers who are also undertaking the important work of re-imagining the future of education for students.

Register now to receive updates as we get the course ready to launch!

EMAIL

Dear Colleague,

I want to invite you to join a new free online course for school leaders called Design Thinking for Leading and Learning beginning March 14, 2019. The course is taught by Executive Director of MIT's Teaching Systems Lab Dr. Justin Reich who has studied and supported innovation in education systems for many years. Below is a short blurb about the course.

You can register now and receive updates as the course gets started.

I would also like to invite you to be part of my learning circle for this course. **A learning circle is a peer-facilitated, face-to-face study group for learners who are all registered in the course.** As a learning circle, we will discuss course videos and support each other's assignment work.

> *"As we think about the future of schooling and learning, one of our central concerns is how we can prepare students for their future. For students to thrive, they need to become great communicators and be comfortable solving ill-structured problems. This course is for school leaders of all kinds (from teachers to principals to superintendents) who are interested in a new set of tools for solving complex problems, for preparing students for their future, and for helping the schools of today become the schools of tomorrow.*
>
> *Over six weeks, you will explore how you might use design thinking both as a pedagogical framework to use with our students as well as a set of strategies that school leaders can use with their colleagues to improve the systems in their own schools.*
>
> *At the end of the course, you will have directly applied design thinking to different contexts and made connections with peers who are also undertaking the important work of re-imagining the future of education for students."*

STARTS MARCH 14!

DESIGN THINKING FOR LEADING AND LEARNING

How do we prepare K12 STUDENTS for a future that requires skills like CREATIVITY, PROBLEM-SOLVING, and COMMUNICATION?

How do we bring together PASSIONATE SCHOOL LEADERS to create solutions to SYSTEMIC EDUCATIONAL CHALLENGES?

Join Justin Reich and MIT Teaching Systems Lab on March 14, 2019 for Design Thinking for Leading and Learning, a massive, open online course (MOOC) for educators interested in learning about design thinking and how to leverage it.

UNIT 1

How do designers at MIT describe and use the design process?

UNIT 2

How might educators use design thinking in their classrooms?

UNIT 3

How might K12 institutions use design thinking to address systemic change?

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Appendix II: Course Calendar

March

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
24	25	26	27	28	**1**	**2**
3	**4**	**5**	**6**	**7**	**8**	**9**
10	**11**	**12**	**13**	**14** **COURSE BEGINS**	**15**	**16**
17	**18** **Welcome Live Event | 3:00 PM UTC**	**19**	**20**	**21**	**22**	**23**
24	**25**	**26**	**27**	**28** **UNITS 2 AND 3 LAUNCH**	**29**	**30**
31						

April

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	**1**	**2**	**3**	**4**	**5**	**6**
7	**8**	**9**	**10**	**11** **Assignments 2 and 3 - Step 5** Suggested Due Date	**12**	**13**
14	**15**	**16**	**17**	**18**	**19**	**20**
21	**22** **Assignments 2 and 3** Suggested Due Date	**23**	**24** **Final Live Event | 6:00 PM UTC**	**25** **COURSE ENDS**	**26**	**27**
28	**29**	**30**	1	2	3	4

Appendix II: Course Calendar List

- Course Launches: **March 14, 2019**
- Welcome Live Event: **March 18, 2019 3:00 PM UTC**
- Assignment 1 Suggested Due Date: **March 27, 2019 11:59 PM UTC**
- Units 2 and 3 Launch: **March 28, 2019**
- Certificate Upgrade Deadline: **April 3, 2019**
- Assignment 2 and 3 Step 5 (Prototype) Suggested Due Date: **April 11, 2019 11:59 PM UTC**
- Assignment 2 and 3 Suggested Due Date: **April 22, 2019 11:59 PM UTC**
- Final Live Event: **April 24, 2019 6:00 PM UTC**
- Completion Checklist Due: **April 25, 2019 11:00 PM UTC**
- Course Ends: **April 25, 2019 11:30 PM UTC**