

This workbook is an accompaniment to the Design Thinking for Educators Toolkit, available for free at [designthinkingforeducators.com](http://designthinkingforeducators.com).

# *Designer's Workbook*

*Design  
Thinking  
for  
Educators*

**MY DESIGN CHALLENGE:**

EXAMPLE WORKBOOK

*Design  
Thinking  
for  
Educators*

## What is Design Thinking?

Design Thinking is about believing we can make a difference, and having an intentional process in order to get to new, relevant solutions that create positive impact.

Design Thinking gives you faith in your creative abilities and a process for transforming difficult challenges into opportunities for design.

Design Thinking is:  
**human-centered**  
**collaborative**  
**optimistic**  
**experimental**

## Welcome to the Designer's Workbook.

This workbook includes step-by-step instructions for completing a design challenge using the design thinking process. This workbook is a quickstart guide to the design thinking process and is best used in combination with the design thinking toolkit for educators.

The Design Thinking Toolkit for Educators contains in-depth instructions and explanations as highlighted by each step in this workbook. The toolkit also provides you with examples from educators, like yourself, of how they've been using design thinking in their work.

This workbook is an accompaniment to the Design Thinking for Educators toolkit, available for free at [designthinkingforeducators.com](http://designthinkingforeducators.com).

### THIS WORKBOOK CAN SUPPORT ANY DESIGN CHALLENGE YOU WANT TO TACKLE. THOUGH WE OFTEN SEE CHALLENGES THAT CENTER AROUND A FEW SPECIFIC TOPICS:



#### CURRICULUM

Every day you design ways to interact with your students around content. You can follow a design process to be more intentional about connecting this content to the interests and desires of today's learners by finding out more about the things that they do outside of school and connecting that to the content you are bringing to them.



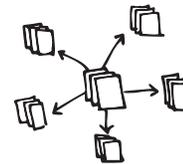
#### SPACES

The physical environment of the classroom sends a big signal about how you want your students to behave. Right now we tend to think of our classroom spaces as standard... kids in rows, sitting in desks. By rethinking the design of our spaces, we can send new messages to our students about how they should feel and interact in the classroom.



#### PROCESSES & TOOLS

Your school has already designed a set of processes or tools that may or may not be setting up your school for success. This is typically outside of the classroom and specific interactions around learning, and more around how the system operates. Every process is already designed, and thus can be redesigned! Sometimes creating tools can be essential to supporting newly designed processes.



#### SYSTEMS

Not everyone can always make decisions for the system that they exist within, but everyone can contribute to the design of that system. Designing systems is about balancing the complexity of many different stakeholder needs with the needs of the operation. When designing systems, we're often setting high-level strategy such as stating visions, priorities, policies, and key communications around these ideas.

## ***Hello Designer!***

Whether this is your first design project or your fiftieth, you are taking a brave step to address challenges in your classroom, school or community by designing new solutions that build from people's needs and desires. Exciting!

This workbook is meant to help you structure your process and capture your thoughts. Use it how it best helps you... you can use some of the methods or all of the methods, it's up to you.

First step... define your challenge and create a project plan.

# Getting Started

## **WHAT'S IN THIS SECTION**

**0-1 *Define a Challenge***

**0-2 *Create a Project Plan***

**0-3 *Create a Project Plan***



## 0-1 Define a Challenge

### Dreams and Gripe Session

Finding opportunities for design often begins by noticing problems. Sometimes it comes out as wishes ("I really wish our school had \_\_\_\_.") Sometimes it comes out as complaints ("It annoys me that we're not \_\_\_\_.") Either starting point is fine. You might want to try this with a friend... share your dreams and gripes and ask them to reflect back design opportunities.

Next, flip these statements into possible design challenges. Begin your question with "How might we..." or HMW for short. This turns the problems you see into opportunities for design!

#### DREAMS/THINGS I WISH WOULD EXIST

I WISH I COULD COLLABORATE MORE WITH OTHER TEACHERS.



#### HOW MIGHT WE...

HMW... CREATE NEW TOOLS FOR TEACHERS TO COLLABORATE?

#### GRIPES/THINGS THAT COULD BE BETTER

KIDS ARE SO ENGAGED ON THE COMPUTERS BUT I DON'T HAVE ENOUGH THINGS WOULD BE BETTER NEWER TECHNOLOGY.



#### HOW MIGHT WE...

HMW... REDESIGN MY CLASSROOM TO BETTER MEET THE NEEDS OF MY STUDENTS?



## 0-2 Create a Project Plan

### Sketch out the End Goal(s)

What will I work to produce?

#### END GOAL(S)

- PROTOTYPES I WILL TRY AND BUILD
- A PILOT PROGRAM
- A VISION DOCUMENT THAT I'LL SHARE WITH OTHERS
- A "PITCH" PRESENTATION TO ENLIST OTHERS IN THE IDEAS
- 
- 
- 
- 

### Define Indicators of Success

What measures and indicators will help me know my ideas are successful?

#### MEASURES

- POSITIVE FEEDBACK I GET FROM STUDENTS
- MY PRINCIPAL FUNDS FURTHER DEVELOPMENT
- OTHER TEACHERS WANT TO JOIN ME
- 
- 
- 
- 
- 

### Establish Constraints

What constraints will I need to manage?

#### CONSTRAINTS

- NEEDS TO FIT WITHIN MY CURRENT SCHOOL BUILDING
- BUDGET OF 50 DOLLARS FOR THE YEAR
- HAS TO BE READY TO TRY WHEN STUDENTS RETURN FROM BREAK
- 
- 
- 
- 
- 
- 
- 
- 

#### OTHER THINGS TO KEEP IN MIND

- 
- 
- 
- 
- 
- 
- 
-



### Write a Brief

Write up a short "brief" that clarifies the challenge you'd like to address. Write it as if you were handing it to someone else to design with. Capture thoughts on why this is a problem, and what the opportunity for design will be.

#### BRIEF

WITH THE ATTENTION SPANS OF STUDENTS DECREASING, AND INCREASING COMPETITION WITH THE LATEST TECHNOLOGY, A 30 YEAR-OLD CLASSROOM, AND MORE STUDENTS BEING ADDED TO THE CLASSROOM EVERY YEAR, THE INCREASED CHAOS DOESN'T SERVE THE LEARNING EXPERIENCE. CLASSROOM SET-UP STRONGLY INFLUENCES LEARNING BEHAVIORS, THERE IS A BIG OPPORTUNITY TO REDESIGN MY CLASSROOM TO BETTER ADDRESS THE NEEDS AND INTERESTS OF TODAY'S STUDENTS.

### How Might We!

Capture the design challenge you've decided to work on...

#### CHALLENGE QUESTION

HMW... REDESIGN MY CLASSROOM TO BETTER MEET THE NEEDS OF MY STUDENTS?

#### WHAT KIND OF CHALLENGE IS THIS? (CIRCLE ONE)



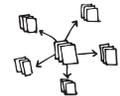
CURRICULUM



SPACES



PROCESSES AND TOOLS



SYSTEMS



#### TIP

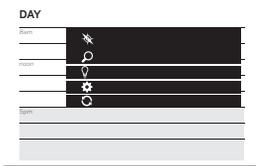
Keep the challenge simple and optimistic. Make it broad enough to allow you to discover areas of unexpected value, and narrow enough to make the topic manageable.



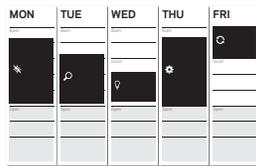
## 0-3 Create a Project Plan

The Design Thinking process is flexible and can integrate into your school structure and timing. The process can be run in a day, a week, a year, or more. What you put into the challenge determines what you get out of it. The depth of insight, opportunity areas, and level of concept refinement and impact will vary depending on the length of your project. For now, choose the timeline you'd like to begin working with. After getting started on the project, you may find that you'll want to evolve this plan to meet the needs of your design solutions.

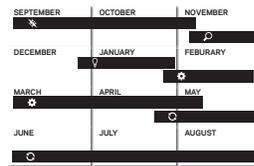
### Circle your Design Plan



In a Day



In a Week or Two



Spread out over Months

### Sketch your Timeline

Create a timeline for your project. What are major dates you'll be working toward? Do you need a prototype to be ready for use after summer break? Do you want to share learnings at parent-teacher night or pitch your concept to the school board? Consider deadlines, meetings, and interim check-in dates.

### Project Checklist

What do you need to get in place to enable you to get started on this project? Do you need to align schedules to conduct a challenge on a professional development day? Do you need to book space or request materials? Who do you want help from?

#### CHECKLIST

- BOOK ROOM
- BORROW CAMERA
- 
- 
- 
- 
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- 

#### TO HELP ME WITH PLANNING, I WILL ENGAGE:

Blank space for writing names of people to engage.



I WANT TO COMPLETE THE FIRST ITERATION OF THIS PROJECT BY:

**Great!**

***You have now defined a design challenge to create new solutions for, and have sketched a work plan for you and your team.***

***Now you are ready to move on to the first phase of the design process... Discovery.***



# 1

## DISCOVERY

### WHAT'S IN THIS SECTION

- 1-1 Understand the Challenge***
- 1-2 Prepare Research***
- 1-3 Gather Inspiration***



## 1-1 Understand the Challenge

### Review the Challenge

What are some things your team identified about the current design challenge? Capture key thoughts, constraints, and barriers from the discussion.

#### THOUGHTS, CONSTRAINTS, BARRIERS

- TOO MANY STUDENTS IN MY CLASSROOM, THERE'S ONLY ONE WAY TO FIT ALL THE DESKS IN THE ROOM
- DON'T WANT TO GET RID OF SUPPLY OVERFLOW BUT I HAVE NO WHERE TO STORE IT

### Share What you Know

What do you believe you already know about this challenge? What would you like to learn more about? Capture your assumptions, and your questions.

#### I ALREADY KNOW

- STUDENTS DON'T LIKE CHANGE. THEY WOULD PREFER TO KEEP THEIR DESK LOCATION IN THE SAME PLACE THROUGHOUT THE YEAR.
- BEHAVIOR CAN BE SHAPED BY CLASSROOM SET-UP

#### I WANT TO KNOW MORE ABOUT

- BEST SET-UP FOR INDIVIDUAL STUDY VS. GROUP WORK
- INTERESTING WAYS OTHERS MANAGE SPACE, PEOPLE & RESOURCES
- PRIVACY IN A PUBLIC ENVIRONMENT

Did your group rewrite the challenge after your discussion? If so, capture it here:

#### HOW MIGHT WE...



### Build your Team

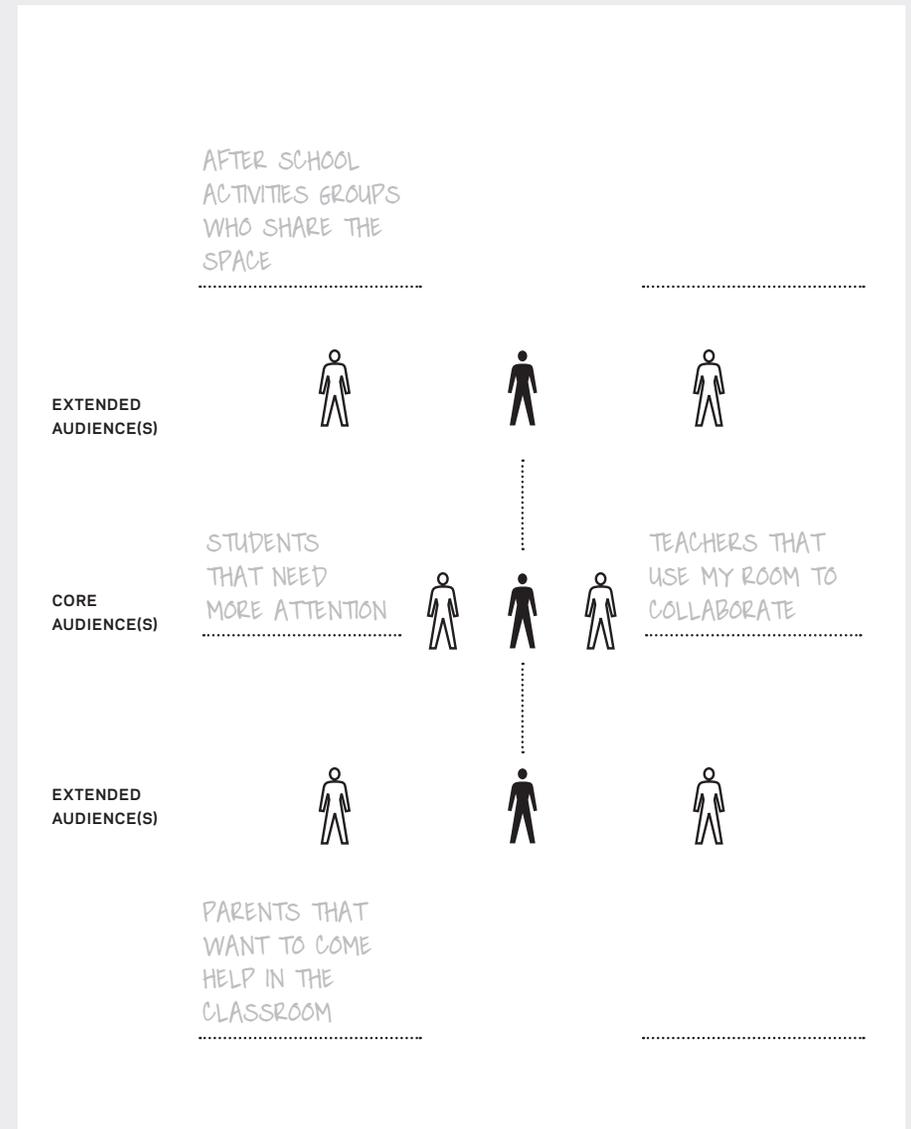
Who is on your team? Who are core members and who are extended members? Through your discussion, what did you determine about the roles that people will play and the unique goals that you each have?

CORE TEAM MEMBER(S)	GOALS AND ROLES
(ME)	TEAM LEADER TO LEAD A DESIGN PROCESS THAT HELPS ME BETTER ENGAGE MY STUDENTS.

EXTENDED TEAM MEMBER(S)	GOALS AND ROLES

### Define your Audience

Who will you be designing for? Consider the core audience and extended audience. Draw a visual reminder.





## 1-2 Prepare Research

### Identify Sources of Inspiration

Who are all of the people involved in your topic? Who might represent extreme behaviors related to your topic? Which experts do you want meet with to learn more about your topic? List the candidates that you think will provide the most inspiration and circle 3-5 that you want to engage with first.

#### USERS, EXPERTS, EXTREME USERS

EXPERTS: INTERIOR DESIGNERS FOR OFFICES, BEHAVIOR EXPERT,  
FENG SHUI MASTER, SPACE ORGANIZATION SPECIALIST  
EXTREMES: HOME SCHOOLED CHILDREN, STUDENTS GOING TO DIFFERENT TYPES  
OF SCHOOLS, STUDENTS ATTENDING AFTER SCHOOL PROGRAMS

### Identify Places of Inspiration

Where can you go to have an inspiring experience related to your challenge? What are analogous settings or extreme experiences where you might witness similar or relevant behaviors and activities in a different context? List the as many locations as you can and circle 3-5 that you are most excited to observe first.

#### INSPIRING LOCATIONS, ANALOGOUS SETTINGS

WORKSPACE ON AN AIRPLANE, IKEA, GOOGLE, PIXAR  
SPEND TIMING WORKING & SITTING IN THE STUDENTS' CHAIR,  
IN A CUBICLE, AT A PLAYGROUND



### Select Research Participants

Who specifically do you want to talk to and learn from? Create detailed descriptions for at least 3 different users or sources of inspiration. Be sure to cover a variety of gender, experience, ethnicity, etc.

USER TYPE

USER DESCRIPTION

13-17 YR-OLD STUDENT WHOSE PRIMARY LEARNING SPACE IS NOT IN A FORMAL CLASSROOM. LEARNING MIGHT TAKE PLACE IN EXPERIENTIAL LOCATIONS SUCH AS AN OUTDOOR BIOLOGY AND GEOLOGY CLASS, IN A MUSEUM, AT AN OFFICE, OR THROUGH REMOTE MEANS. INTERVIEW TO TAKE PLACE IN ONE OF THESE LEARNING LOCATION OR AT THE STUDENT'S FAVORITE STUDY SPOT. WOULD LOVE TO SEE BACKPACK, FAVORITE BOOK, OR LEARNING TECHNOLOGY.

USER TYPE

USER DESCRIPTION

USER TYPE

USER DESCRIPTION

USER TYPE

USER DESCRIPTION



### Build a Question Guide: Interview

What do you want to learn to better understand the challenge at hand? What are you hoping to understand about people's motivations and frustrations? What do you want to learn about their activities?

#### START SPECIFIC

What are some specific questions you can ask to open the conversation?

TELL ME A BIT ABOUT WHAT YOU  
DID IN CLASS DAY...

#### GO BROAD

What are some questions that can help you start to understand this person's hopes, fears and ambitions?

DRAW YOUR LEARNING SPACE FOR  
ME AND TELL ME WHAT YOU LOVE  
AND WHAT YOU DONT

#### INTERVIEWEE NAME

JOHN, AGE 16

#### TIP

Make a copy of this for each interview.

#### PROBE DEEP

What are some ways you might be able to dig deeper in the conversation, to find even more of the perspective this person has?

TELL ME A STORY ABOUT A TIME WHEN YOU FELT REALLY GOOD IN THIS  
SPACE. WHAT HAPPENED? WHO WAS THERE? WHY DID YOU FEEL SO GOOD?



### Build a Question Guide: Observation

What are you looking to learn in this observation? Capture themes and questions that you want to make sure you get to in the site visit! Fill in one of these worksheets for each observation, so that you can consider what you will ask for each place you are visiting.

#### THINGS TO SEE

What are some things you want to make sure you observe while you are visiting this place?

HOW DO PEOPLE INTERACT WITH INFORMATION IN DIFFERENT LOCATIONS?

WHERE DO PEOPLE SEEM TO FOCUS BEST OR LIKE TO STUDY?

#### OBSERVATION SITE

STARBUCKS COFFEE SHOP

**TIP**  
Make a copy of this for each observation.

#### THINGS TO DO

What are some things you can do to gain inspiration in this place?

PRETEND I AM WORKING ON A BIG PAPER AND TRY TO GET COMFORTABLE

ENOUGH TO STUDY AND FOCUS. WHAT DO I NEED?





# 1-3 Gather Inspiration

## Inspiration Notes

NAME OF PERSON INTERVIEWED/LOCATION VISITED

JOHN SMITH, HIS BEDROOM AND WORKSPACE

**TIP**

Fill this out of this for each interview.

OBSERVATIONS AND QUOTES

- JOHN KEEPS EARPHONES AT HIS DESK
- "I'M VISUAL, SO I USE PINTEREST WHEN I'M WRITING A PAPER."

INTERPRETATIONS

- I THINK MUSIC HELPS JOHN FOCUS WHILE STUDYING
- I THINK JOHN LEARNS BEST THROUGH VISUAL CONTENT AND WANTS MORE OPPORTUNITIES TO SURF THE WEB WHILE HE IS WORKING IN SCHOOL.

**AS YOU ARE INTERVIEWING,** capture what you see and hear during a field visit. Capture direct quotes. Separate your observations from your interpretations so that you know what you saw and what you thought it meant for

that person. Look for work-arounds and adaptations people have made to make a system to serve their needs better such as books stacked under a laptop to make the screen a better height for viewing.



# 1-3 Gather Inspiration

## Inspiration Notes

NAME OF PERSON INTERVIEWED/LOCATION VISITED

STARBUCKS, NEAR THE UNIVERSITY

**TIP**

Fill this out of this for each observation.

OBSERVATIONS AND QUOTES

-THE CAFE MOSTLY HAS ONE PERSON AND ONE LAPTOP PER TABLE

INTERPRETATIONS

- PEOPLE LIKE TO WORK IN PUBLIC BUT STILL WANT THEIR OWN SPACE.

**AS YOU ARE INTERVIEWING,** capture what you see and hear during a field visit. Capture direct quotes. Separate your observations from your interpretations so that you know what you saw and what you thought it meant for

that person. Look for work-arounds and adaptations people have made to make a system to serve their needs better such as books stacked under a laptop to make the screen a better height for viewing.

***Through the Discovery phase, you have gained deeper understanding, empathy, and inspiration for your design challenge.***

***Through, Interpretation, the second phase of the design process, you will now make meaning and define insights from your Discovery observations and interviews.***



# 2

## INTERPRETATION

### WHAT'S IN THIS SECTION

***2-1 Tell Stories***

***2-2 Search for Meaning***

***2-3 Frame Opportunities***



## 2-1 Tell Stories

### Capture Your Learnings

Immediately after interviewing, be sure to capture your learnings. Capture one observation, story highlight or quote per post-it note. Use the prompts to guide you.

WHO DID YOU MEET? (PROFESSION, AGE, LOCATION, ETC)

JOHN, 16, HIS HOUSE

What was the most memorable and surprising story?

JOHN FOCUSES BEST AT A COFFEE SHOP, NOT THE LIBRARY BECAUSE SOME STIMULUS KEEPS HIM FROM ZONING OUT.

What was interesting about the way he/she interacted with his/her environment?

What did this participant care about the most?  
What motivates him/her?

What frustrated him/her?

What questions would you like to explore in your next conversation?



### Share Inspiring Stories

Take turns sharing stories of the people you talked to or the places you visited. While listening to your team, capture their stories and observations on post-it's, using a separate post-it per thought. Capture the most interesting learnings here.

Learnings from my partner/team:



## 2-2 Search for Meaning

### Find Themes

Look for themes, patterns and connections across your wall of post-it notes. Cluster related post-it's around themes that you notice. It's like moving your thoughts around and seeing new patterns as a result. Create headlines for each category that capture these themes and patterns.

#### HEADLINES

- STUDENTS FEEL A LACK OF PRIVACY NECESSARY FOR STUDYING WHEN IN THE CLASSROOM
- STUDENTS DESIRE A VARIETY OF DESK/TABLE WORK OPTIONS WHILE STILL HAVING OWNERSHIP OVER PERSONAL DESKS.
- THE CURRENT CLASSROOM DOESN'T ENCOURAGE STUDENT COLLABORATION AS THERE IS NO WHERE FOR THEM TO WORK TOGETHER.

### Make Sense of Findings

Take a closer look at your themes and find overlaps, patterns and tensions as they relate to each other. Can you group several related themes in larger categories?

#### WHAT ARE THE LARGER CATEGORIES?

- FLEXIBILITY
- STUDENTS WANT PRIVACY BUT ALSO ACCESSIBILITY TO HELP

Did you find any contradictions? Did you have any unexpected learnings or find something that felt surprising? Why?

After having discussed with your team, and/or gotten feedback on the categories, what are you excited to dig deeper into?

#### UNEXPECTED LEARNINGS

- CREATIVE WORK PLACES CHANGE THEIR SPACE CONFIGURATION OFTEN
- STUDENTS FEEL THEY CAN STUDY BEST WHEN AWAY FROM THEIR NORMAL DESKS.

#### I AM EXCITED TO EXPLORE...

CREATING A STUDY SPACE THAT'S QUIET ENOUGH FOR FOCUS BUT ACTIVE ENOUGH TO KEEP STUDENTS STIMULATED



### Define Insights

Insights are a concise expression of what you have learned from your research and inspiration. They are the "aha" moments and unexpected learnings.

Sometimes, it can be helpful to write an insight in the form of a Point-of-View (POV) statement which makes an insight specific to user or user group. A simpler way to create a POV is through the POV equation.

$$\text{user} + \text{need} + \text{interesting learning} = \text{POV}$$

**INSIGHT/POV**

JOHN NEEDS A BALANCE OF PRIVACY AND STIMULUS TO STUDY BECAUSE HE FOCUSES BEST WHEN THERE IS SOME ACTIVITY TO KEEP HIM FROM GETTING TOO BORED.

**INSIGHT/POV**

**INSIGHT/POV**

**INSIGHT/POV**

## 2-3 Frame Opportunities

### Make Insights Actionable

Actionable and successful ideas start with the right question, which identifies important opportunities through great INSIGHTS. Remember, each "How might we" (HMW) question will only address a portion of your challenge so you can create multiple HMW's and prioritize them for ideation.

**TIP**

Avoid brainstorm questions that already imply a solution

Is your question...



BROAD ENOUGH TO SPEAK NOW IDEAS?



NARROW ENOUGH TO FEEL MANAGEABLE?



FOCUSED ON RESPONDING TO YOUR USER-DRIVEN INSIGHT?

**HOW MIGHT WE...**

- HOW MIGHT WE MAKE A CLASSROOM FEEL LIKE A HOME STUDY SPACE?

- HOW MIGHT THE CLASSROOM CUSTOMIZE ITSELF FOR EACH INDIVIDUAL?

A series of horizontal dotted lines for writing additional "How Might We" questions.



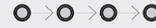
### Create a Visual Reminder

Frameworks, diagrams, and illustrations are great tools for communicating insights or complex information.

#### THINGS TO TRY

Map out the network of connections—people, actions, objects, interactions. Illustrate activity or information flow. Map the actual/figurative journey that people or things take.

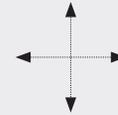
Journey map



Venn diagram



Two-by-two



Relationship map



SKETCH OR CREATE A VISUAL THAT WILL HELP EXPRESS YOUR INSIGHTS.

***Now that you've created a point-of-view and framed opportunities for your design challenge, you are ready to move to the third phase of the design process...Ideation!***

***Ideation will help you come up with many possible design solutions to address your challenge.***



# 3

## IDEATION

### WHAT'S IN THIS SECTION

***3-1 Generate Ideas***

***3-2 Refine Ideas***





## Facilitate Brainstorming

Create, or use some of the suggested some warm-up brainstorm questions from the Facilitate Brainstorming method to get people in the right mood. Which questions will you use?

### WARM-UP QUESTIONS

- HOW MIGHT WE FIND A NEEDLE IN A HAYSTACK?

- "NEVER COULD WE EVER." THINK OF THINGS YOU COULD NEVER DO AT  
SCHOOL, UNDERWATER, IN A TUXEDO.

Which topic will you focus your brainstorm on?

### TOPIC

PERSONAL SPACE CUSTOMIZATION

Which HMW brainstorm questions will you use?

### HOW MIGHT WE...

- HMW DESIGN THE CLASSROOM TO CUSTOMIZE ITSELF FOR EACH INDIVIDUAL?

## ***Feeling stuck?***

Here are a few other things to try:

### **Add constraints**

Change the magnitude of the solution space, using size, price, time commitments, and count. Ask yourself, "What if... it was larger than this room? smaller than a peanut? took 5 years to implement? took 1 minute? was available for all? available for only a few?"

### **Use inspiring brands.**

Ask yourself, "How would McDonald's, Nike, Apple, Urban Outfitters, or Disney do it?"

### **Make it time-specific**

Ask yourself, "What if it were made for the morning? night?"

### **Hone in on a target audience**

Ask yourself, "What if it were only for tweens? kids? athletes? parents?"



### Select Promising Ideas

After you brainstorm, cluster any related ideas and have the team pick their 3 favorite ideas.

Collect the post-its of the favorite concepts from the brainstorm. Include the sketches if applicable. Which ideas received the most votes?

A large grid of plus signs (+) for voting. A sticky note is placed on the grid, containing the following content:

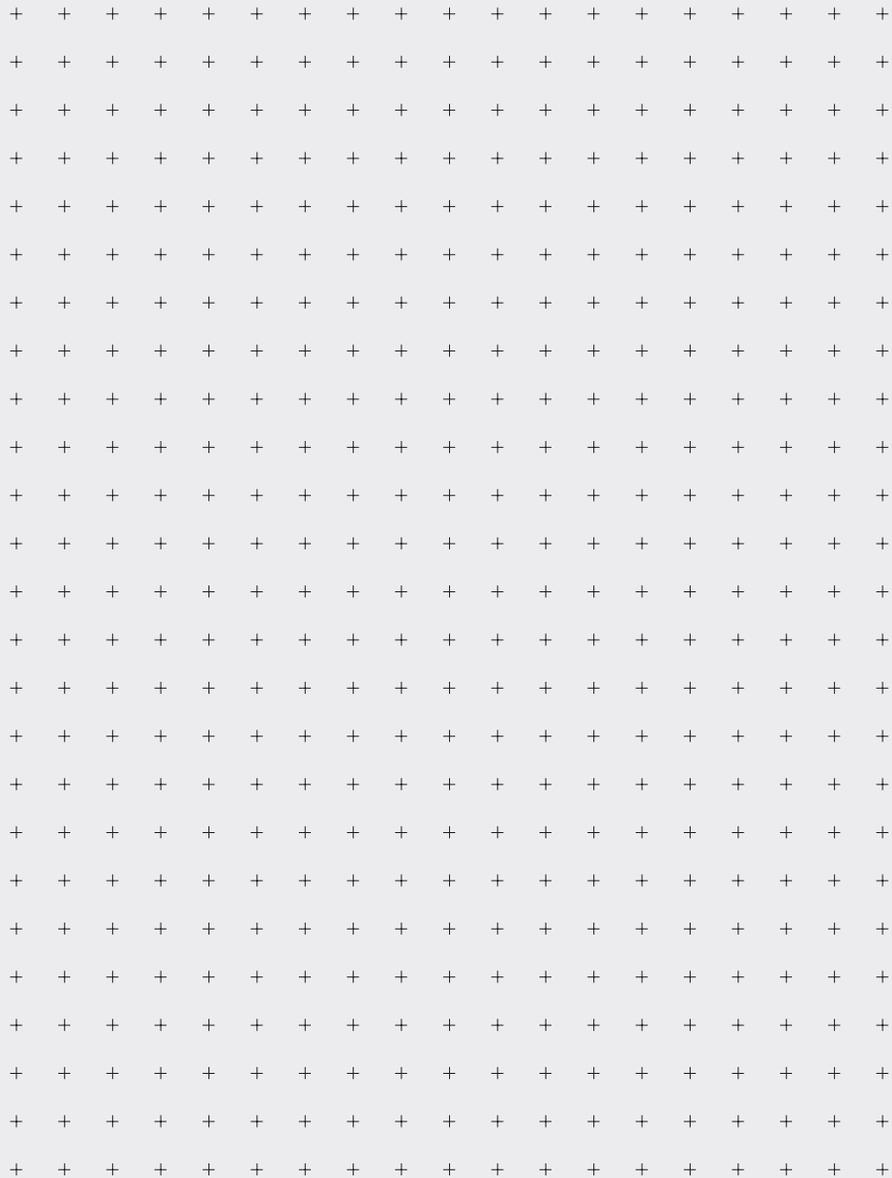
FLIP UP DESK

A large grid of plus signs (+) for voting, identical in format to the one on page 52.



### Sketch to Think

Pick one of the favorite ideas from the brainstorm, and flesh out the concept through a quick sketch or two.



Ask other group members for feedback about their favorite part of your sketch as well as aspects where they see room for improvement. What did they say?

#### NOTES

Area with horizontal dotted lines for taking notes.



## 3-2 Refine Ideas

### Do a Reality Check

What is at the core of your idea: what gets you excited about it? What is the most important value for your audience? What is the real need that this is addressing?

Make a list of all the challenges and barriers you are facing with your idea. What are you missing? Who would oppose the idea? What will be most difficult to overcome?

Starting from the list you created in step one of this worksheet page, describing the core values of your idea, what are other ways in which you could address the needs differently?

#### VALUE, NEEDS

- LETS STUDENTS HAVE PRIVACY IN PUBLIC SPACE
- ENABLES STUDENTS TO COLLABORATE USING EXISTING DESKS
- LETS STUDENTS KEEP PERSONALIZED DESKS

#### CHALLENGES, BARRIERS

- NOT ENOUGH HELP OR FUNDING TO HACK ALL THE DESKS IN MY ROOM TO WORK THIS WAY

#### NEW CONCEPTS

- IF STUDENTS NEED PRIVACY, MAYBE I CAN REARRANGE MY ROOM TO GIVE THEM A SENSE OF PRIVACY WITHOUT HAVING TO BUILD NEW DESKS INSTEAD OF MODIFYING ALL THE DESKS, MAYBE WE PROTOTYPE A LARGER COLLABORATION TABLE THAT CAN STOW AWAY IN MY ROOM WHEN NOT IN USE (LIKE A FOLDING TABLE)



### Describe Your Idea

Create a concept description for the idea that you would like to prototype and repeat for each idea.

#### CONCEPT NAME:

FOLD-UP LEAF-DESK

#### SKETCH

#### HOW DOES IT WORK?

ADD A HINGE AND DESK LEAF TO EACH DESK TOP. THE LEAF WILL FOLD UP TO OFFER STUDENTS PRIVACY WHEN THEYRE TRYING TO BE HEADS DOWN, OR FOLD OUT TO GIVE THEM MORE WORKSPACE WHEN THE STUDENTS WANT TO WORK AS A TEAM. ADD CASTERS TO THE DESK SO STUDENTS CAN EASILY MOVE THE DESK AROUND FOR COLLABORATION. DESK CUSHIONS!

#### WHAT NEEDS OR OPPORTUNITIES DOES THE CONCEPT ADDRESS?

LETS STUDENTS HAVE FLEXIBILITY TO COLLABORATE IN THE CLASSROOM BUT ALSO PUT UP THEIR "DESK BLINDERS" WHEN THEYRE TRYING TO FOCUS. ENABLES STUDENTS TO CONTINUE TO HAVE PERSONALIZED DESKS THAT ALLOW FOR FLEXIBLE WORKSTYLES.

#### ONE-SENTENCE CONCEPT DESCRIPTION:

THE MURPHY DESK, FOLD UP THE LEAVES FOR PRIVACY, FOLD OUT TO CREATE EXTENDED DESK SPACE FOR COLLABORATION.

#### WHO DOES IT INVOLVE, BOTH IN BUILDING AND IN USING IT?

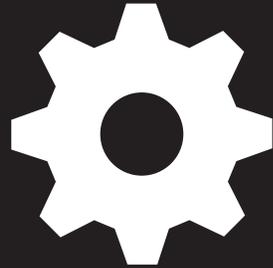
- HELP FROM A WOODWORKER, SOMEONE WHO CAN SEW AND/OR HANDY-MAN VOLUNTEER PARENTS
- CLASSROOM STUDENTS AND AFTER-SCHOOL ACTIVITIES GROUP WILL BENEFIT

#### WHAT DO YOU HOPE TO LEARN MORE ABOUT THROUGH PROTOTYPING THIS IDEA?

TEST THAT THE IDEA WORKS ON A FEW DESKS TO GET FUNDING FOR THE ENTIRE CLASS.

***You have now generated lots of ideas and chosen a few concepts to move forward.***

***In the fourth phase of the design process—Experimentation—you will prototype in order to bring your concepts to life.***



# 4

## EXPERIMENTATION

### WHAT'S IN THIS SECTION

***4-1 Make Prototypes***

***4-2 Get Feedback***



## 4-1 Make Prototypes

### Take Photos

Since your prototype should be out in the world, take photos of it and place them here.

### SOME THINGS TO TRY

#### CREATE SEPARATE SIMPLER PROTOTYPES

"Works like" (how the back end functions), "acts like" (how the "front-end" interaction works), and/or "looks like" (how it looks).

#### TRY "EXPERIENCE PROTOTYPES"

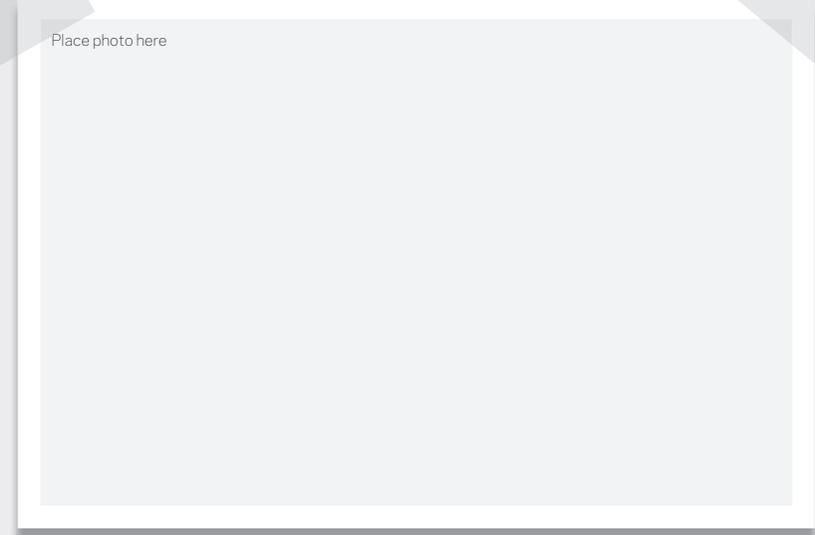
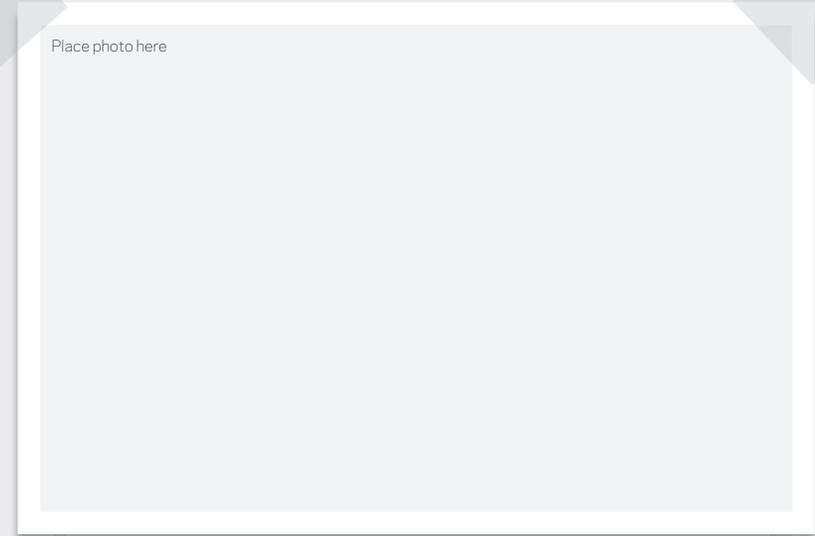
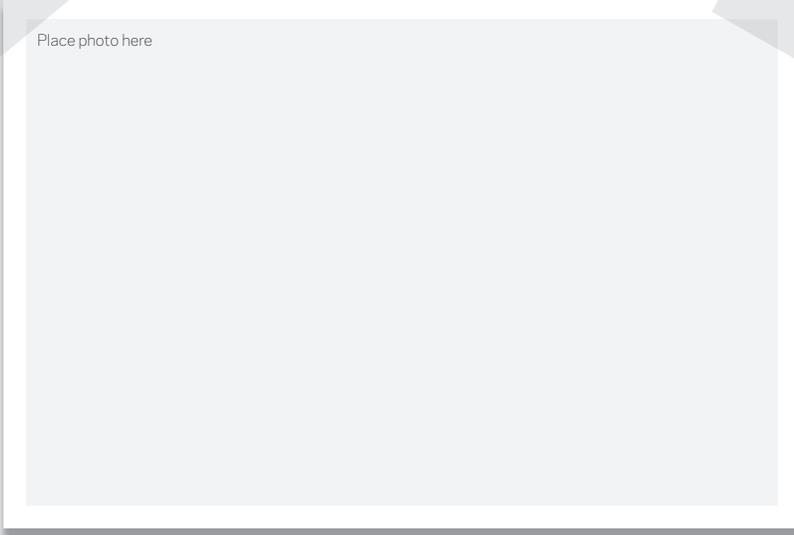
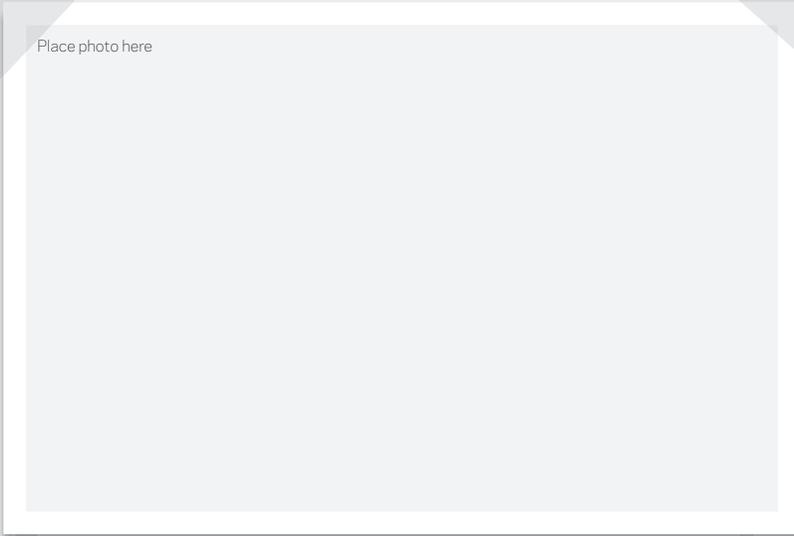
Have people roleplay or bodystorm using props and prompts.

#### SHRINK BIG THINGS DOWN

Use scale models and mockups.

#### GO 2D

Use storyboards or diagrams.





## 4-2 Get Feedback

### Identify Sources for Feedback

How do you need to test your prototype in order to receive the most relevant feedback? Can you let people experience your prototype without further explanation by leaving it in various places? Do you need to walk people through the experience of your prototypes? What will your testing session look like?

#### I WILL TEST BY...

ASKING STUDENTS TO USE DURING STUDY HALL OR AFTER-SCHOOL WHEN MY CLASS ISN'T AS BUSY

What about your idea do you need to test? What kind of feedback do you need in order to iterate and refine your idea? What is the most important question you want to ask? Are you trying to learn whether people would participate in a new activity you designed? Are you wondering whether people will change behaviors over time because of your concept?

#### LIST FEEDBACK GOALS

WANT TO KNOW IF THE PRIVACY BLINDERS MAKE THE STUDENTS FEEL MORE LIKE THEY'RE WORKING FROM THE COMFORT OF THEIR HOME WITH PRIVACY.  
WANT TO SEE IF THE ADDED SURFACE SPACE ENABLES MORE COLLABORATION

### Select Feedback Participants

Who do you want to engage in the feedback process? Who will you learn the most from? Include people you have met during your field research as well as new participants.

#### FEEDBACK PARTICIPANTS

JOHN SMITH

WOODWORKER





### Facilitate Feedback Conversations: Capture Prompts

Use these prompts to help people give you constructive feedback, and to help you consider what parts of the experiment you should keep or change.

#### KEEP

FLEXIBLE PERSONAL WORKSPACE.

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#### INCREASE

COMFORT IN THE DESK AND ABILITY TO COLLABORATE.

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#### DECREASE/STOP

PUTTING 2 DESKS TOGETHER DOESN'T WORK BECAUSE OF THE CRACKS  
IN THE SURFACE AREA.

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#### KEEP

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#### INCREASE

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#### DECREASE/STOP

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### Integrate Feedback

What was the original intent of your concept? Review the feedback from your testing sessions. Based on the feedback you have received, do your earlier learnings and ideas from your research and ideation phase hold true?

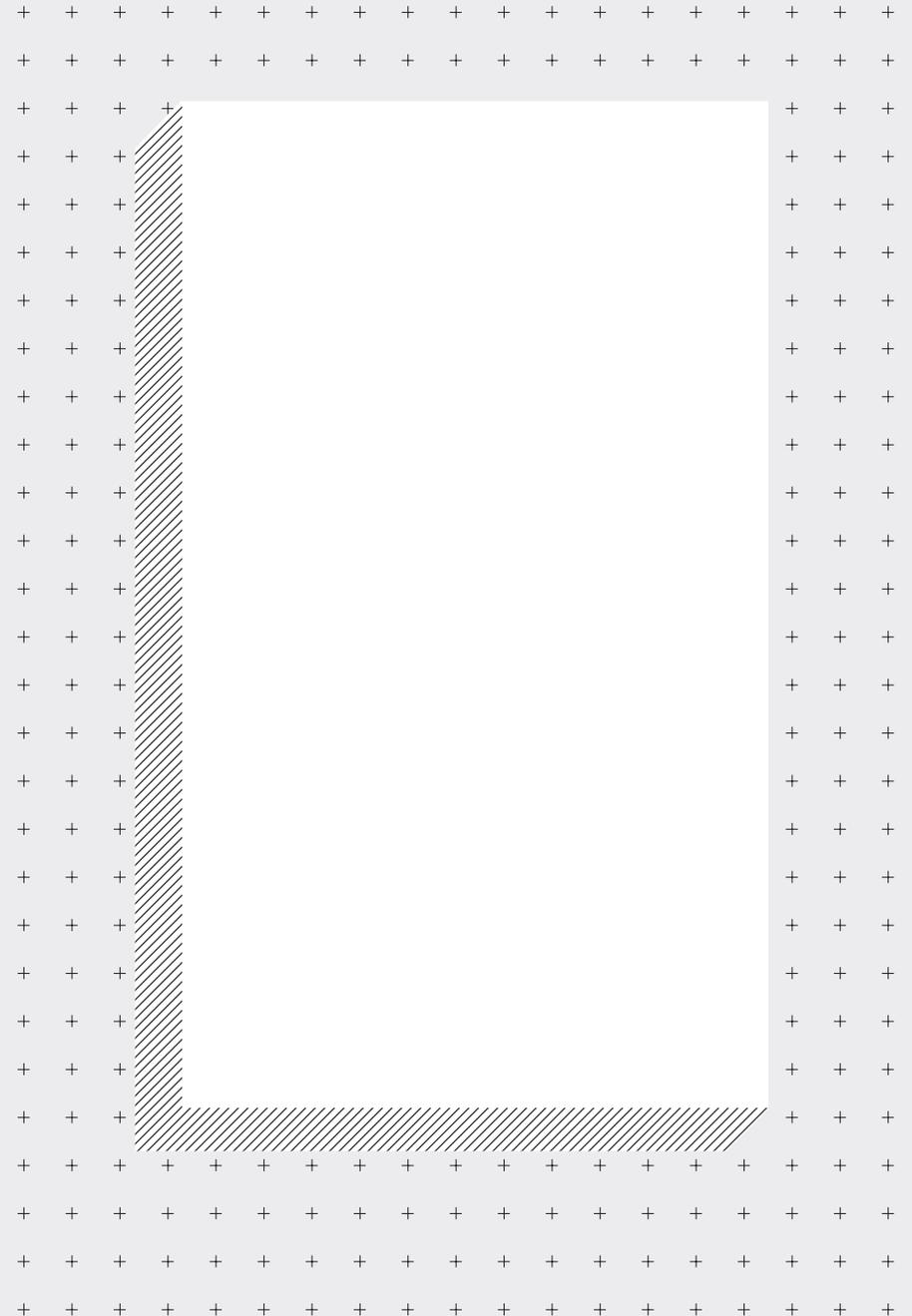
#### REFLECT

THOUGHT I NEEDED TO BUILD NEW DESKS BUT REALIZED THAT I COULD OFFER  
PRIVACY AND FLEXIBILITY BY REARRANGING THE ROOM AND ADDING ONE NEW  
TABLE. I DIDNT HAVE TO REINVENT THE WHEEL.

According to your feedback, what do you think is most important to making your idea a success? How might you improve your prototype? How can you emphasize what was well received about your prototype?

#### FEATURES TO ITERATE

STUDENTS STILL LIKED PERSONALIZING THEIR SPACE. HMW ENABLE SPACE  
PERSONALIZATION WITH SHARED COLLABORATIVE WORKSPACES?





### Identify What's Needed

List the materials you will need to build your refined concept. Are these supplies available at your school? Will you need to purchase any new assets?

#### AVAILABLE AT SCHOOL

OLD DOOR THAT I CAN TRANSFORM  
INTO LARGE WORK SURFACE

#### NEED TO BUY

CASTERS TO EASILY ROLL THE  
TABLE OUT OF THE WAY WHEN NOT  
IN USE

How much do I need to make this concept a reality?

#### COST

20 US DOLLARS

Who can help you realize your idea? What capabilities are you looking for? Who is invested in supporting the concept? Do you need to find someone to champion the idea?

#### PEOPLE

JOHN'S DAD CAN BUILD IT

How can I get funding or materials support?

#### SOURCES

LOCAL HARDWARE STORE DONATION?

How long will it take to bring this concept to life in a more refined way?  
Do you need time for preparation? Does anyone need to be trained?  
Do you want to use an existing meeting time differently?



***You now have a prototype out in the world. Congratulations!***

***Now it's time for the Evolution step of the design process, where you'll collect learnings and consider how you can scale and engage others to further your design solution.***



# 5

## EVOLUTION

### WHAT'S IN THIS SECTION

***5-1 Track Learnings***

***5-2 Engage Others***



## 5-1 Track Learnings

### Define Success

Review the goals you set out in the getting started section of this workbook. Reflect on how your vision maps to where you are today. How has your concept been used? Is the prototype being used by the people you intended it for? What do they appreciate about your concept?

#### CONCEPT USE

STUDENTS ARE SO EXCITED BY THE COLLABORATION TABLE THAT THEYVE  
STARTED "RESERVING" IT FOR USE.

STUDENTS ARE USING THE PRIVACY CORNER TO STUDY, AND HAVE MY HELP  
NEARBY, RATHER THAN GOING TO THE LIBRARY WHICH USED TO BE  
THEIR PRIVATE ZONE.

What does success mean to you? What do you wish to see happen with this project? Are you hoping that a large number of colleagues attend an event? What would you tell the school's leadership in order to receive more funding? What would you like to hear a student say about your idea?

#### IMPACT I AM LOOKING FOR...

ULTIMATELY, BETTER GRADES.  
FEWER EXCUSES FROM STUDENTS ABOUT WHY THEY CANT GET MORE OF THEIR  
WORK DONE WHILE IN CLASS. AND SIMILARLY, FEWER COMPLAINTS  
FROM PARENTS.

How will you track and measure the success of your design solution? Will you ask people about the concept? Are you waiting for someone to approach you?

#### METHOD FOR TRACKING

NUMBER OF TIMES MY CLASSROOM IS REQUESTED FOR AFTER-SCHOOL ACTIVITIES  
ASKING STUDENTS ABOUT WHICH CLASSROOM CONFIGURATIONS ARE BEST



### Document Progress

Document progress of your concept. What different behaviors have you noticed since implementing your concept? Have the relationships between people changed? What comments have you received from your students or peers?

#### NOTES

THE COLLABORATION TABLE HAS RESULTED IN LARGER PROJECTS, PHYSICALLY RESULTING FROM STUDENTS. THIS MEANS THAT EACH STUDENTS, LITERALLY HAS PHYSICAL ROOM ON A PROJECT TO INCORPORATE HIS/HER WORK.

MORE STUDENTS ARE CHOOSING TO WORK IN TEAMS VERSUS ALONE ON PROJECTS.

BECAUSE THE PRIVACY CORNER IS NEAR MY DESK, SOME OF THE MORE INTROVERTED STUDENTS HAVE BEEN ASKING MORE QUESTIONS.

What do you need to illustrate the "before/after" impact overview of the design solution? Do you need to gather images? Quotes?

#### ASSETS I NEED...

QUOTES FROM STUDENTS

PHOTOS OF THE STUDENTS WORKING IN THE DIFFERENT AREA OF THE CLASS

EXAMPLES OF THE BEFORE AND AFTER WORK, AND HOW THE COLLABORATION TABLE HAS ENCOURAGED THAT CHANGE.



## 5-2 Engage Others

### Plan Next Steps

What are all the actions that need to be taken to build your concept? Capture any open questions. Who will be responsible for each task? Who will be responsible for finding answering to any open questions?

#### ACTIONS, QUESTIONS

HOW CAN WE MAKE THE PRIVACY CORNER MORE "PRIVATE" AND SOUNDPROOF AND STILL LET LOUDER STUDENTS COLLABORATE NEARBY  
BUILD A STURDIER AND MORE FLEXIBLE COLLABORATION TABLE THAT CAN EASILY BE STORED/FOLDED UP WITHIN THE CLASSROOM.

#### PERSON RESPONSIBLE FOR FOLLOW-UP

(ME): CONNECT WITH PARENTS TO SEE IF ANYONE HAS ARCHITECTURE OR SOUNDPROOFING EXPERIENCE  
MR. ARCHER WILL REACH OUT TO HIS FURNITURE MAKING FRIEND.

Create a timeline which includes your deadline for evolving this concept along with any other major meetings or dates.

#### TIMELINE



### Pitch Your Concept (optional)

Who are you pitching to? Create a provocative statement for your idea that will get your audience excited about the opportunities you see. Frame it as "What if...?"



**TIP**  
Use this method when you are trying to gain support from others in order to bring your idea to life.

#### WHAT IF...

THERE WAS A BETTER WAY TO SHARE PHYSICAL AND HUMAN RESOURCES ACROSS THE SCHOOL? WHAT IF WE RESTRUCTURE OUR CLASSROOMS TO SHARE THEM ACROSS GRADES? WHAT IF WE KNOCKED DOWN THE WALLS OF OUR CLASSROOMS TO ENABLE MORE SPACE FLEXIBILITY? WHAT IF WE COULD HAVE PRIVACY CLASSROOMS OR LOUD COLLABORATION SPACES ALL WITHIN AN ARMS REACH OF A TEACHER?

Tell a brief and engaging story, focusing on the most important aspects of your concept. What story will you tell? What inspired your idea and how does it respond to the needs you uncovered? Why is this idea valuable to the various people involved?

#### STORY, INSPIRATION, VALUE

ALL STUDENTS DO NOT STUDY, LEARN, OR WORK ALIKE. AS WE NEED TO BE FLEXIBLE IN OUR TEACHING STYLES, AS DO OUR CLASSROOMS NEED TO BE TO SUPPORT US. STRUCTURAL BARRIERS IMPACT LEARNING AND BEHAVIOR. OFFICE SPACES ARE FLEXING TO NEW WORK STYLES, OUR CLASSROOMS SHOULD BE ABLE TO LEVERAGE THOSE LEARNINGS.

What are you asking for from your audience? Clarify your list of needs.

#### NEEDS

HELP FROM ARCHITECTS, PARENTS, INTERIOR DESIGNERS, TO RETHINK THE BEST USE OF THE CLASSROOM OR HELP US TO START FROM SCRATCH



### Build Partnerships (optional)

Which organizations or individuals that have capabilities you are missing in order to realize your idea? What is your relationship with them? How can you reach out to them?

#### TIP

Use this method when you need the resources or capabilities from others to realize your idea.



#### WHAT IF...

Dotted lines for writing

#### NOTES

Dotted lines for writing

What are you asking from them? Consider adapting your pitch to speak directly to this audience. Why would they be interested in helping? How do both parties hope to benefit from a partnership?

#### BENEFITS

Dotted lines for writing

#### NOTES

Dotted lines for writing



## Share your Story

Outline the presentation you'd like to give to share your story. Consider these prompts...



### TIP

Use this method to when you want to share your design experience and solution with broader audience.

What was the initial dream/gripe that kicked off this challenge?

Who was part of the team or contributed to the project?

What partners did you integrate?

What partners did you integrate?

What needs did you learn about?

What needs did you learn about?

What was the most surprising thing you learned while looking for inspiration?



### Remember your process

Use photos to illustrate where possible.

What was the most absurd brainstorm idea?

Share a few of your initial concepts or prototypes.  
What kind of feedback did you receive on these concepts?

Concept

Feedback

Concept

Feedback

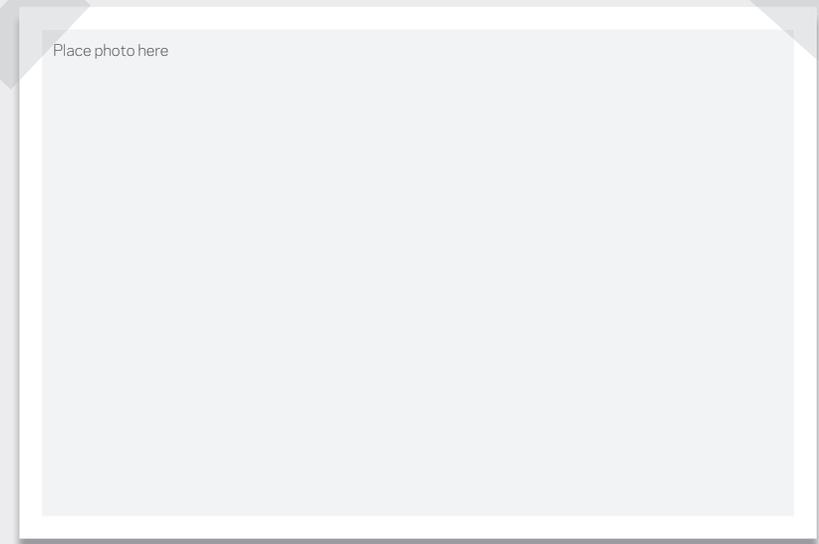
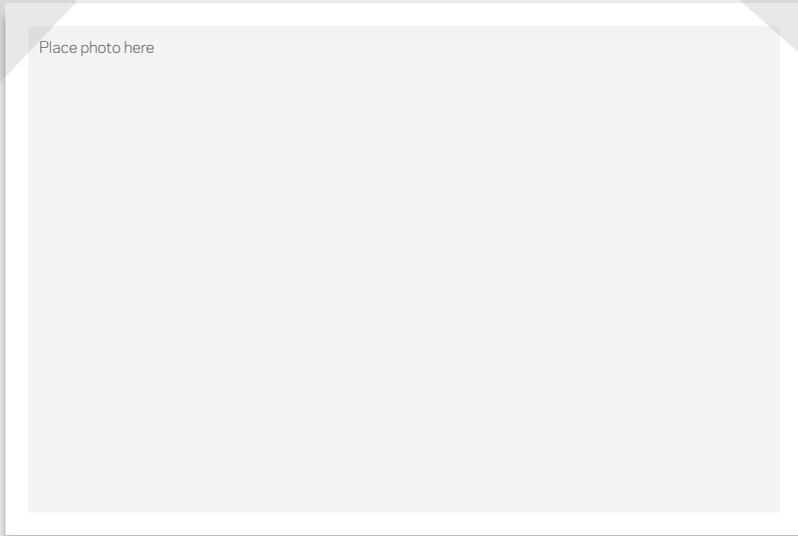
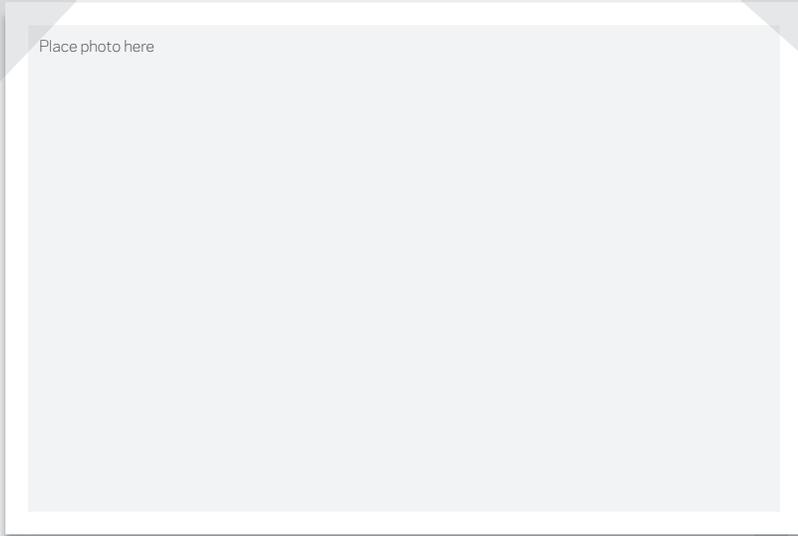
Concept

Feedback



### Show us where you've gotten

Use photos to illustrate where possible. Share your concept.



**HOW HAS YOUR PROTOTYPE BEEN SUCCESSFUL?**

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**CAPTURE QUOTES YOU'VE HEARD RELATED TO THE DESIGN AND/OR IMPACT**  
you've seen around the students/school/classroom.

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### Build a Community

Advancing your understanding of Design Thinking is best done through repeatedly undergoing the process with new design challenges. Having a network of people you can bounce ideas off is essential to moving your thinking forward. Who will you invite to your design network?

#### DESIGN MEETING TIMES

How often will you meet? How long will your meetings last? Where will you meet? What dynamic do you want to establish? What will you discuss?

Who you will meet?

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When?

How often?

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**Now that you've completed one challenge, it's time to start the process over again. Define a new challenge and work your way through the process. refer to the Design Thinking for Educators Toolkit to bring more depth to your work!**

What design challenge will you tackle next?

CHALLENGE QUESTION

WHAT KIND OF CHALLENGE IS THIS? (CIRCLE ONE)



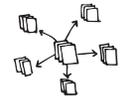
CURRICULUM



SPACES



PROCESSES AND TOOLS



SYSTEMS



**ABOUT THE TOOLKIT:**

At IDEO, we've been using similar processes, methods and tools for years in tackling some dauntingly complex challenges. More often than not, we've experienced how Design Thinking helps to get to the next step. That's why we are excited to see how it can impact the world of education. Teachers at Riverdale Country School are starting to use design process to address challenges in their classrooms and schools, and together we've created this toolkit in order to share these processes more broadly.

**Riverdale**

Riverdale Country School is a Pre-K through Grade 12 independent school in New York City.

[www.riverdale.edu](http://www.riverdale.edu)



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# *Designer's Workbook*

***Design  
Thinking  
for  
Educators***