Step 5: Testing and Assessment

Testing ultimately means **putting your prototypes in front of your users**. This is how you'll learn what solutions are successful and where there are shortcomings. Testing your prototypes allows you to empathize better with your users, gain additional clarity about the problem, and help stimulate additional ideas. You can test at any point in the process, not just at the end. And, after testing you'll bring what you learn back into the project and continue to evolve. Remember that failure should be expected and is, after, how you will learn.

STEPS TO TESTING YOUR PROTOTYPE:

1) Create a real-life experience: Ideally you will test your product, service or idea within a real life situation. For a physical object, ask people to use it like they normally would, and if they need to allow them to take it home and use it in their normal routines. For an experience, try to recreate a scenario or location that would capture what it would really be like. If you're testing a prototype and you cannot create a real situation, have users take on a role or task as if it was real life.

What will be the setting for your testing?

If it is not a real-life setting or experience, what can be done to make the testing as close to a real-life situation as possible?

In any capacity, will you be asking users to use prototypes without a team member present, such as taking them home? If so, what are the processes involved?

2) Show, don't tell. Put your prototype in the user's hands – or put your user in the experience. Avoid over-explaining how the prototype works. Let them figure it out naturally.

How can you prepare team members for remaining hands-off during testing and giving users autonomy?

3) Observe. Watch how they use, or misuse, it, how they interact with it, and any reactions they have. Resist the urge to correct them or help. Mistakes are valuable lessons.

What behaviors, actions, emotions, thoughts or other factors do you want team members to look out for and note? (Consider creating a list for them refer to and take notes on during observation.)

4) Ask for feedback during the experience. While users are interacting with your prototype, ask them to share with you what they're thinking (if possible). Be careful not to use this method if the process of interacting with them would actually distract them from an authentic engagement with the prototype.

What feedback do you want to know from users who are testing your prototype?

What questions can you ask them to elicit these answers?

5) Ask users to compare. You can create multiple prototypes and ask users to compare prototypes and tell you which they prefer and why. It is often easier to articulate what you like and don't like when you have something to compare it to. You can also have them compare it to an older version, such as your original product.

Will you be having users compare more than one prototype? Or compare a prototype to something else?

What questions can you ask them to elicit this comparison?

6) Solicit feedback. Ask follow-up questions. You can use a similar process to what you did with the empathy interviews. After the testing, you may want to complete interviews or other user inquiry methods again, to compare reactions. Always continue to probe. Ask questions such as, "What do you mean when you say ___?", "How did that make you feel?", and most importantly, "Why?"

What specifically do you want to know about their experience with or thoughts/feelings about the prototype?

What follow-up questions could you ask to elicit these responses?

How will you follow up with the users? (Immediate discussion, follow-up interview, questionnaire, etc)

ASSESSING RESULTS:

Learning from the results helps your team redefine one or more of the problems or develop a better understanding of the users. If the users experience challenges, revisit your list of ideas and potential solutions and establish new ways of solving the problems. Testing may also help identify problem's that had not previously been considered.

You will need to identify specific criteria you will be assessing, such as the results you are looking for, before you test, based on the goals of your project and your unique product and users. See the Define lecture and Outcome Chart if you haven't already.

ANALYZIN COLLECTED DATA:

As you've done in other stages of the design thinking process, it's time to synthesize the information you've gathered from your testing. One way to do this is another group analysis session using story mapping.

Story Mapping: Gather your team, get out your sticky notes, and set up your wall with 4 quadrants, as you've done before. This time using the categories: what worked, what didn't work, new ideas, and new questions.

What Worked	**What Didn't Work**
New Ideas	**New Questions**
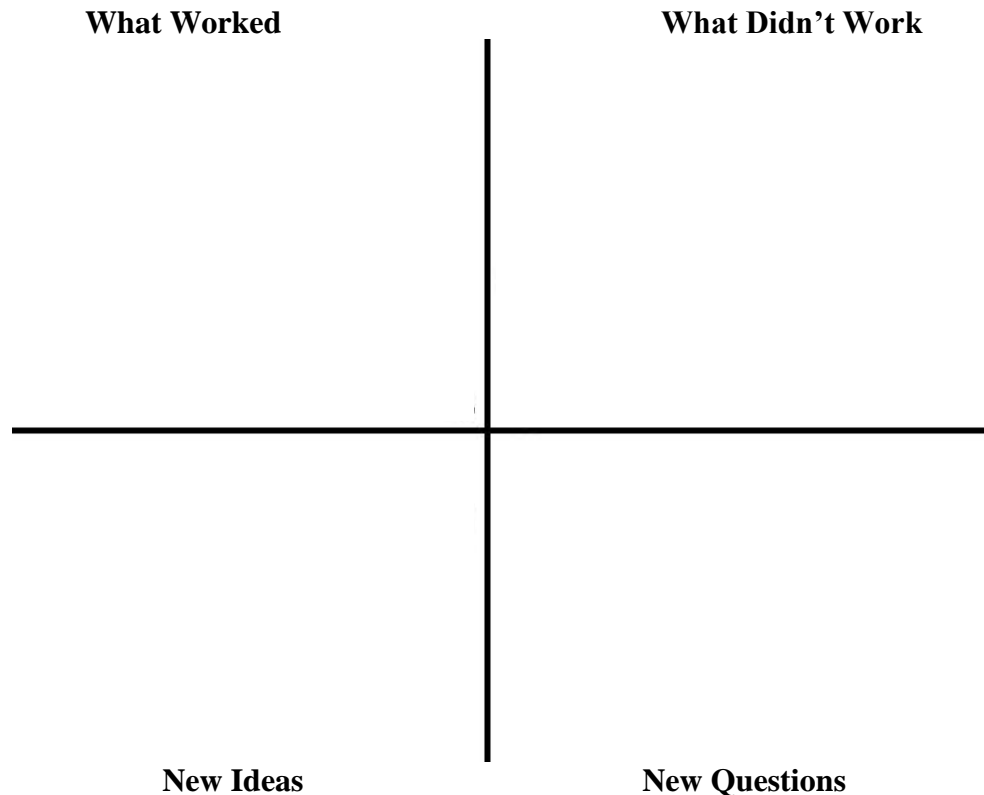
Rate Your Prototypes: Another way to analyze your testing results is to discuss the results of the prototype(s), rating its effectiveness on a scale of 0 to 3 in the 3 key areas that define the end goal of every design thinking project, and those are: desirability, feasibility, and viability. These criteria are ultimately how you will know whether your prototype is ready to move forward into full implementation and production.

Below are criteria to consider in these three key areas:

Desirability means the prototype is the solution that solves the end user's problem. It's what they want and need. It fulfills the purpose it was designed for.

Feasibility is about practicality. Even if your prototype works, is it a realistically implementable product, service, or process? Can it be developed and launched without incurring costs or other

hurdles that would make implementing it not worth the cost or effort? Does it require any technology that either hasn't been invented yet or isn't ready? Does it require any regulations, collaboration, or other factors that are outside of your organization's control? If your prototype is not feasible yet, what needs to occur in order for you to move forward? You can use the design thinking process to ideate on these challenges in order to continue forward progress.

Commercial viability requires the solution to make business sense. This means, ultimately, that it has to be profitable or meet a need that is worth the cost. Is there an existing business model that is appropriate to use to implement this idea? Is it self-sustaining? Would it require continued investors or donors? What would it take to make this work from a business perspective?

Rate each prototype on all 3 areas, using the following scale:
- 0=Little or no improvement
- 1=Prototype provided a partial solution
- 2=Prototype provided a solution for the user's needs or problem
- 3= Prototype provided a solution and was tested thoroughly

Prototype	Desirability	Feasibility	Commercial Viability	Overall Success	What Worked/ Didn't Work

Iterate (or Repeat):

In most cases, you will cycle through the design thinking process multiple times, taking what you've learned from testing and applying it further development in other areas. After coming to the testing phase multiple times, you'll move more narrowly toward finer details that eventually lead to a clear winning solution. Be sure to track improvements and progress for each revision of your prototypes, as there may be times when an earlier prototype contained elements that were more successful than newer iterations. Keeping good notes is the key to learning from the process.

Also, you can also create multiple prototypes or variations that are tested concurrently and even with multiple groups. Remember, this process is not linear.

Celebrate!

The testing phase is not necessarily the end. However, when you've identified a prototype of a product of service that satisfies the desirability, feasibility, and viability tests, it's time to celebrate! Break out the happy dance! Not only does this mean you can move forward and implement your idea, it means that you've created a solution that will impact people the lives of those you serve.