DESIGN THINKING

Key Definitions

Walking another's path and feeling another's life is known as empathy. It is perhaps the greatest characteristic people can bring to the design process for it affords the designer the ability to identify with others and capture a perspective that is different from their own. Empathy is the humanity we practice throughout the design process because it allows us to momentarily understand the experiences of others long enough to envision a solution to a particular need. All design is human-centered, so it is important to use the process of design to investigate varying solutions to human need.

Design is the process whereby things are invented, improved, or inspired and human-centered challenges are solved. The process is iterative, collaborative, and involves a toolkit of methods for improving ideas. The design is the process. Creativity is the magic.

All ideas begin with questions. Questions are the expression of curiosity — the entry point into any challenge. Inquiry helps create the insights that are the starting point for design thinking and innovation.

Real human-centered research emerges from what we read, what we connect, and from what we observe. Research broadens our perspective. Broadening our perspective means becoming fluent in some subjects and literate in many. Research needs thinking that is broad, deep, and connective.

Think

Design thinking begins with the best information at hand, even if the information is incomplete. Think reminds us of the design balance between art and science, intuition and certainty, the known and the unknown, and between research and exploration. The best place for thinking to begin is with ambiguity.

Draw

Many ideas are hard to put into words, so make your thinking visible by drawing, sketching, mapping, or scaling your idea. Label parts and materials. Your drawing can be cartoon-like, whimsical, or technical. It is important to capture your ideas on paper. Visual communication captures what words alone cannot.

Make

Design thinking possesses a bias toward action. Make a model, make a doodle, make a plan. Make something visual that expresses your thinking.

Prototype

A culture of making produces quick, low-resolution objects called prototypes. Prototyping values function more than aesthetics, allowing the user to compare alternative designs and make mistakes early in the process, where the stakes and costs are lower.

Testing is central to good design thinking. In order to be innovative, design ideas must work. Test the characteristics of the design against the original constraints and use direct observations to confirm the prototype's form and function in real settings.

Unless you write, chart, quantify, draw, photograph, or otherwise capture the results of your tests, your investigation into the usefulness of your prototype or idea is meaningless. Record every part of the process.

A culture of creativity requires an environment of purposeful reflection, which will assist the process of iteration and testing.

Design thinking is a process of exploring, experimenting, making, and improving. The rapid refining and reframing of the problem and solution are called iteration. Mistakes are the hallmark of iteration. Iteration is a form of research and mistakes to accumulate knowledge, and — like a compass — direct the next steps in the process. Design thinking requires multiple cycles of iterative refinement and reframing.

While reflection is one aspect of the design process, critique is a qualitatively different aspect of the process. Meaningful analysis is a conversation that interprets the successes and challenges of a particular design. Evaluation considers the goal and the proximity of the design to achieve this aim.

Great critique, testing, and reflection lead to substantive refinement and improvement of ideas. Once refined and improved, ideas are ready to reenter the process with new prototypes, tests, and feedback.

Now is the time to present the verbal, computational, and visual forms that were processed through design thinking.