

Design Thinking

(AEC16)

Dr. Dilip Kumar Choudhary

Ph.D. (IIT-ISM, Dhanbad)

Assistant Professor, Department of Electronics & Communication Engineering

Ramaiah Institute of Technology, Bangalore

Email Id: dilip.choudhary@msrit.edu , dchoudhary@ieee.org

Website : <https://sites.google.com/site/dilipiitdh>



COURSE NAME: Design Thinking

Course Code: **AEC16**

Credits: **1:0:0**

Course Coordinator: **Dr. Pradipkumar Dixit**

Contact Hours: **14L**

Text Books:

- 1. David Lee, Design Thinking in the Classroom, Ulysses Press, Korea, 2018**
- 2. HassoPlattner, Christoph Meinel and Larry Leifer (eds), “Design Thinking: Understand – Improve – Apply”, Springer, 2011**

Reference Books:

- 1. John. R. Karsnitz, Stephen O'Brien and John P. Hutchinson - Engineering Design, Cengage learning (International edition) 2nd edition, 2013.**
- 2. Roger Martin - The Design of Business: Why Design Thinking is the Next Competitive Advantage, Harvard Business Press, 2009.**
- 3. Idris Mootee - Design Thinking for Strategic Innovation: What They Can't Teach You at Business or Design School, John Wiley & Sons 2013.**
- 4. Jeanne Liedtka, Andrew King, Kevin Bennett - Solving Problems with Design Thinking - Ten Stories of What Works (Columbia Business School Publishing) Hardcover –2013.**



Course Content

UNIT I: Introduction to Design Thinking, Design and Business, Design Thinking for Education, Design Thinking Mindsets: Six Key Mindsets, Other Mindsets for Success.

- <https://www.youtube.com/watch?v=dAWwFG3X6u0>
- <https://www.youtube.com/watch?v=jPvNkR9d6-c>

UNIT II: The Design Thinking Process, The Five Phases of Design Thinking: Empathize Phase, Self-Awareness and Partnerships, Interviews, Observations, Immersion, Research, Empathy Map, Projects, Define Phase, Synthesis: Finding Needs and Insights, Problem Statement, “How Might We” Question.

- <https://www.youtube.com/watch?v=5CUt2QQsJfc>

UNIT III: Ideate Phase, Demystifying Creativity, Innovation, and Originality, Ideate Principles, Pre-Brainstorming: Mindset, Warm-Ups, and Practice, Prototype Phase, Rapid Prototyping, Prototyping in Action, Facilitation and Mentorship, Makerspace, Tools, and Materials.

UNIT IV: Test Phase, Embracing Failure, Testing with End Users, Testing without End Users, Iteration.

UNIT V: Design thinking workshop on Empathize, Design, Ideate, Prototype and Test.

- https://www.youtube.com/channel/UCOjS4V_nBkylZpnIJFMJnTw
- <https://www.youtube.com/watch?v=-FzFk3E5nxM>

Web links and Video Lectures (e-Resources):

1. Design Thinking Tools & Methods: <https://youtu.be/VTExElJHalk>
2. Stanford: Design Thinking Course <https://www.youtube.com/watch?v=-FzFk3E5nxM>
3. What is Design Thinking? <https://www.youtube.com/watch?v=0V5BwTrQOCs>
4. Design Thinking HBR <https://www.youtube.com/watch?v=z3IbHLfcyWo>
5. How it Works?: Design Thinking <https://www.youtube.com/watch?v=pXtN4y3O35M>
6. Design Thinking: Solving Life's Problems <https://www.youtube.com/watch?v=UQYoWwHg3qA>



Course Assessment and Evaluation:

Continuous Internal Evaluation: 50 Marks

Assessment Tool	Marks	Course Outcomes Addressed
Internal Test- I	30	CO1 & CO2
Internal Test- II	30	CO3

Average of the two internal test will be taken for 30 marks

Other components: · Assignment, Quiz, Presentation, Model/Mini Project, Any Other	20 Marks
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Semester End Examination

Semester End Examination (90 Minutes duration)	50	CO 1 – CO 5
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Calendar of Events- 2021-22

Academic Calendar for the Ist year 2021-2022

ITEM	I Sem B.E/B.Arch
Registration / Commencement of Odd Semester	31-12-2021
IA Test – I	17-02-2022 To 19-02-2022
Last Date for Dropping the Course Initially Registered	25-02-2022
IA Test - II	21-03-2022 To 23-03-2022
Last Date for Withdrawal from the course	29-03-2022
Last Working day of Odd Semester	31-03-2022
Commencement of Practical Examinations	04-04-2022
Commencement of Theory Examinations	13-04-2022
Announcement of result	10-05-2022
Commencement of Even Semester	04-05-2022
Number of Working Days	73



UNIT: I

- **Introduction to Design Thinking**
- **Design and Business**
- **Design Thinking for Education**
- **Design Thinking Mindsets: Six Key Mindsets**
- **Other Mindsets for Success.**



Introduction to Design Thinking

➤ Design Thinking and Why it Matters

- In a world of constant change and innovation, we need to change the education we provide our students, focusing less on *what* students should learn and more on *how* they should learn.
- DT will allow your students to approach any type of problem or circumstance like a designer, becoming agents of change for their community and the world.



LET'S
DISCUSS



AMONG THESE PEOPLE OF DIFFERENT PROFESSIONS, WHO IS THE DESIGNER AND WHY?





- Why do we go for a designer?
- What does a good designer provide?

- Take our needs into consideration
- Offer a suitable solution/ design
- Gives ideas to improve the current solution/ design





➤ How does a good designer arrive at the solution?

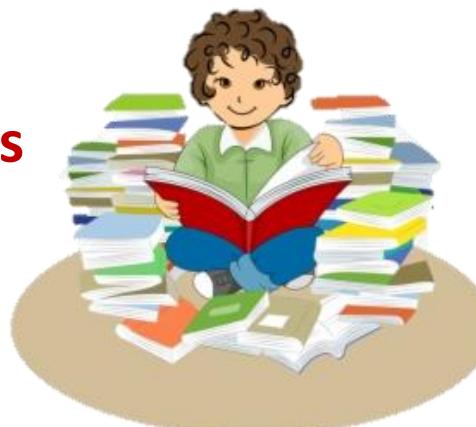
- Randomly



- Use design process/ strategies



- By following instructions from books





Combining the above, can you come up with a definition for design thinking?

Take needs into consideration (human centered methodology)

- Offer a suitable solution/ design
- Gives ideas to improve the current solution/ design

Using design process/ strategies to think, plan and take action



DO YOU UNDERSTAND THAT PEOPLE OF ALL PROFESSIONS CAN BE DESIGNERS





Text Book Definition of DT

- **Design Thinking (DT)** is a human-centered methodology that democratizes the design process by providing the structure and tools for every person to think and behave like a designer.
- **Define Designer ?** A person who uses the design process and strategies to think, plan, and take action in improving a situation/experience or solving a particular problem.



- **Design thinking** is a methodology that designers use to brainstorm and solve complex problems related to designing and design engineering.
- It is also beneficial for designers to find innovative, desirable and never-thought-before solutions for customers and clients.
- Design thinking is used extensively in the area of healthcare and wellness, agriculture, food security, education, financial services, and environmental sustainability, to name a few.
- Design thinking has helped in the digital space, contributed to the development of physical products, spurred social innovation projects and much more.



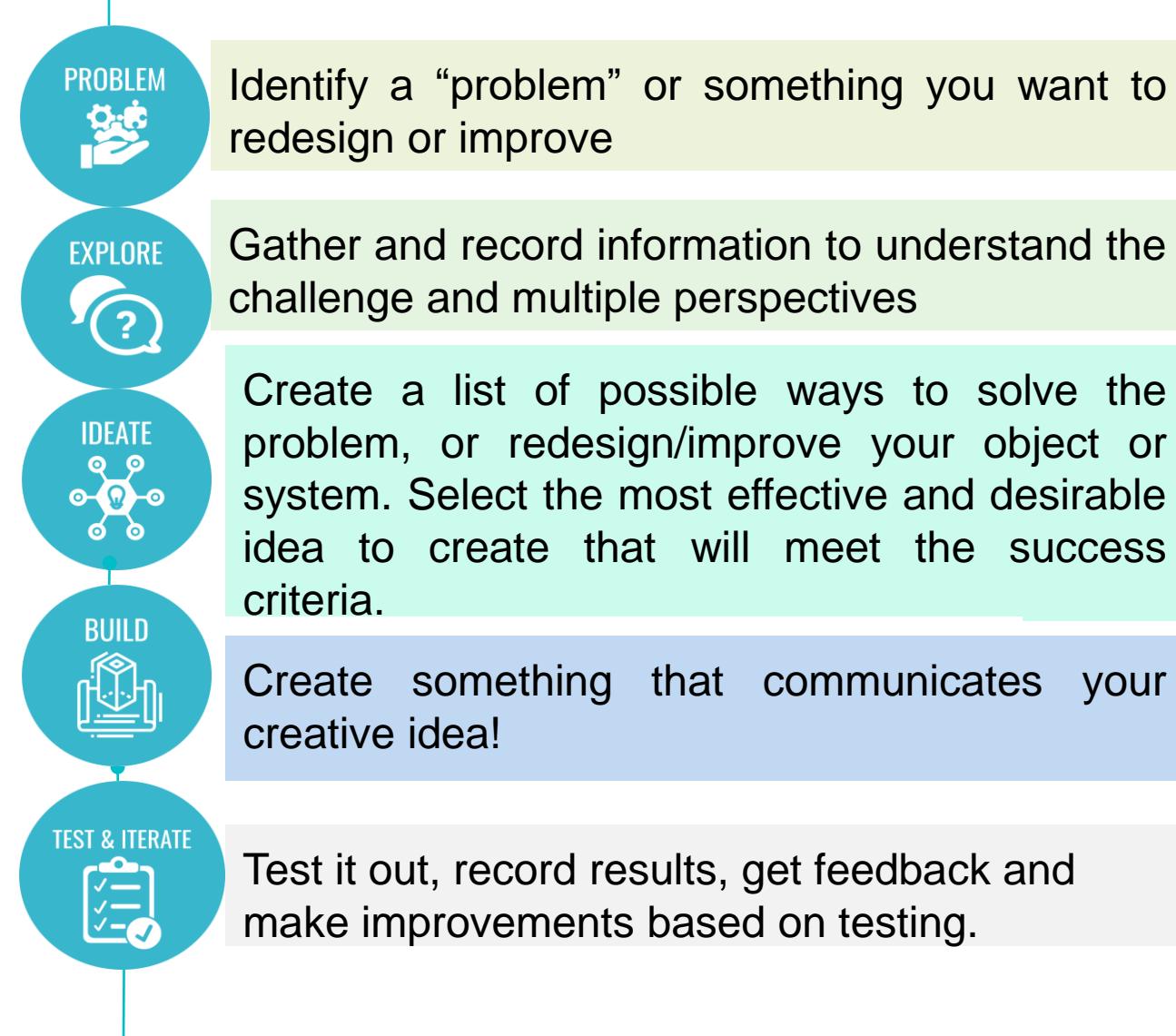
➤ Features of Design Thinking

- Finding simplicity in complexities.
- Having a beautiful and aesthetically appealing product.
- Improving clients' and end user's quality of experience.
- Creating innovative, feasible, and viable solutions to real world problems.
- Addressing the actual requirements of the end users.



➤ **Design process** to improve or redesign an object or system. Following are the objectives to complete the challenge.

Task: Design and improve something!





PROBLEM



EXPLORE



IMAGINE



BUILD



TEST & ITERATE



Design is a creative problem-solving tool. In this challenge, you will use the design process and mind-sets to **create, redesign, and/or improve any object of your choice.** It is absolutely your choice so this could include a passion! If you don't have an idea in mind, here are some examples of the things you could improve for this challenge...

Instructions

Objects: chair, notebook, calendar, helpful tool, bike, toy, clothes, accessories, sports equipment, stroller, water bottle, backpack, reading nook, desk, instrument, gift for someone, wallet, cardboard arcade game, book cover for your favorite story, rollercoaster, vehicle, watercraft, object in your room, bridge, pencil case, etc.



example “Problem”: *For this design challenge I would like to improve a work desk.*



Here is the first phase of the design cycle, the Problem phase. Please finish the following sentence to identify the “problem” of your design challenge. Also think about who will benefit from your work. Is it for another person, a specific group of people, the general public, or just for you?

For this design challenge I would like to create and/or improve a _____.

My prototype or creation will be for _____.

Post your “Problem” statements.



Gather and record information

Here are some guiding questions that can help you gather information needed for your design.

- What is the purpose(s) of the object? Why is it useful?
- What are its parts? How do the parts help with the purpose?
- How is it used or experienced?
- Who uses this object?
- Where is it used?





“For the Explore phase I used the guiding questions to gather information.



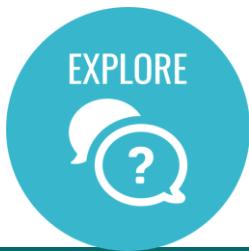
OPTIONAL: Interview and/or Observation

The best way to gather info is to actually **observe** and **talk to** the people who use or experience the object.



- Observe a person using the object. Observe what they care about or what do they value? What does their body language tell you? Do you see any routines or patterns? Look for the unexpected.
- Then use the [interview principles](#) and ask the person questions to learn more about their experience with the object. Here are some possible question-starters: Can you describe how...? What do you think causes...? How do you feel about...? Have you thought of...? Before the interview, you can warm up your Curious Mindset through this [one minute activity](#) (OPTIONAL).





Explore: Success Criteria

Now use what you learned in the Explore phase to list the success criteria for the object you are planning to redesign or improve. This is a list of things your object will need, have, or do for it to be successful.



Example: Success Criteria Work Desk

work area is cluttered with a lot of items and it is hard to get work done. to drinks coffee when working, and spilled a cup once on the desk. Also finds it hard to sit in one place for a long time. Additionally, doing craft activities during her down time.

Here's my success criteria:

- Cleared working surface with space for laptop
- Prevent coffee mug from spilling
- Can stand up and work
- More storage compartments
- Area for crafts
- Exercise





"How might we..." & Brainstorming

It is now time to get creative! Take your list of success criteria and start to think of them as “How might we...” questions. **Check out my examples below.** Then start brainstorming ideas for each “How might we...” question for 15 to 20 minutes. Sketch as many ideas as possible on a piece of paper. Try to fill the front and the back! Remember to use the Imagine Principles when you are brainstorming. **You can see my sketches in the next slide.**

Optional: Here are some warm-up activities to get your creative muscles working.

success criteria:

- Working surface with space for laptop*
- Prevent coffee mug from spills*
- Can stand up and work*
- More storage compartment*
- Area for crafts*
- Exercise*



“How might we...” Questions

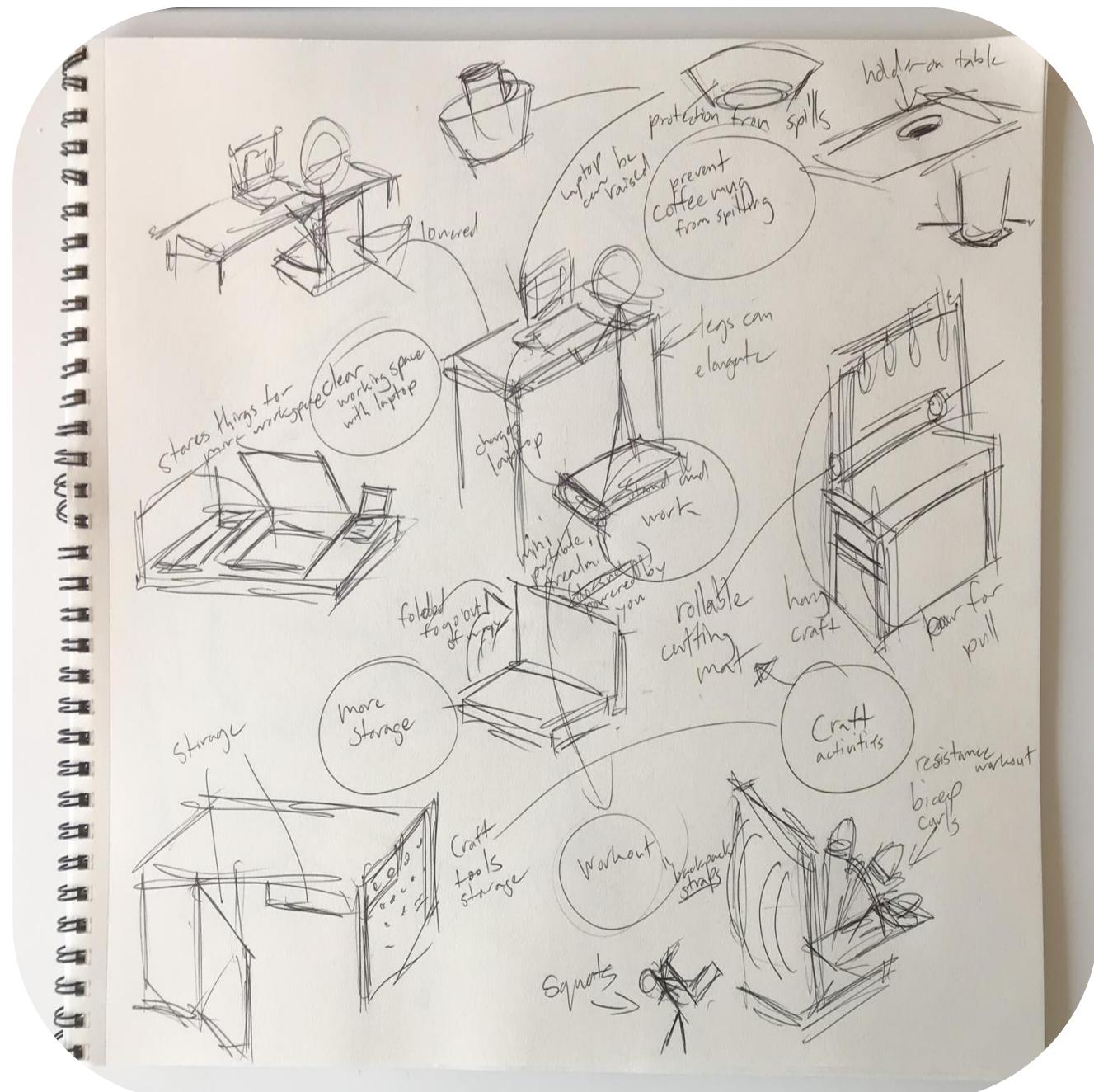
- How might we make sure it is a clear working surface with space for the laptop?*
- How might we prevent the coffee mug from spilling?*
- How might we help him/her to stand and still get her work done?*
- How might we create more storage compartments (while still having work space)?*
- How might we create an area for the craft activities?*
- How might we help to take breaks so that she*



Sketches

Additional questions that can help you brainstorm ideas.

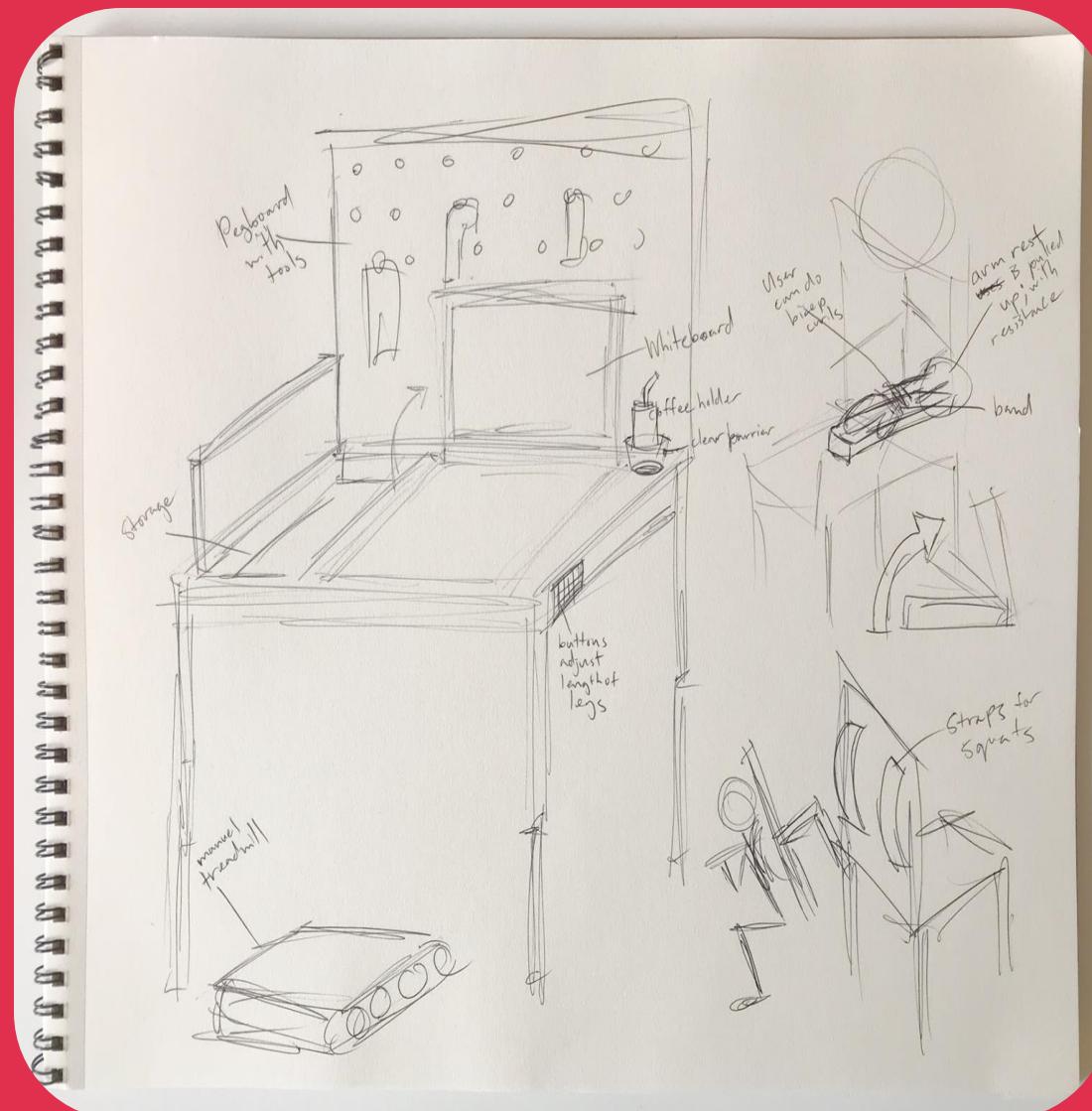
- In what ways could it be made to be more effective?
- In what ways could it be made to be more efficient?
- In what ways could it be made to be more beautiful?





Blueprint

- Now that you have sketched out all your ideas, choose your best ideas and create a detailed drawing/description of your object.
- Label the materials/equipment needed to create the object.
- Now you have two options. You can share your blueprint to get feedback or you can actually build the object.
- **Building a prototype is optional.**





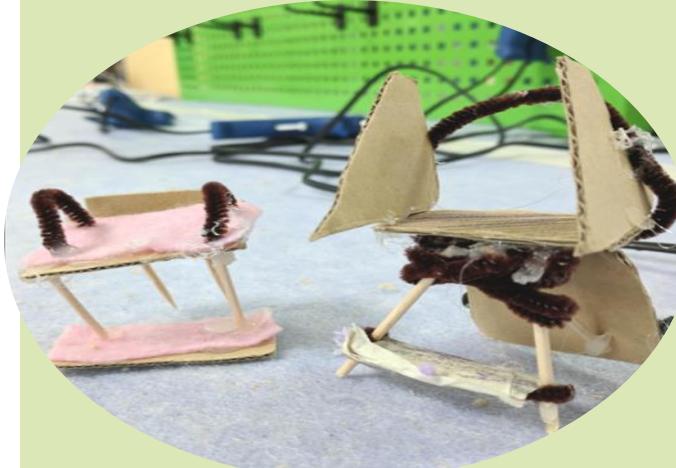
BUILD



Build Your Object

This is the phase where you make your creative ideas into a reality by creating something that people can experience or can possibly be used. Please take a look below to see your two options. **Please work around an adult to make sure you are being safe and responsible.**

Build a Model



You can build a model of your object. This is a smaller-scaled version of your object. This would be the best choice for those whose objects are large, for example the work desk.

Build Actual Object



If you have the materials and tools, you can build the object to scale. This is only for objects that are smaller like a pencil case or as big as a small backpack.

Parameters: All creations should not be bigger than a backpack. Only use recyclables and materials around the house that has been approved by an adult.



Gain Feedback & Improve

Now present your idea to the person you designed for. If you can't, find a family member to share your idea with. Make sure you are detailed in your explanation of your idea. Ask the person the first three questions in white text and jot down their answers. Try to gain as much information as possible. Once you have received feedback, ask yourself what new ideas have emerged. You have the option to use these ideas to improve your current object.

What did you like about your prototype?

How could you improve my idea?



What questions do you have about my idea?
“I wonder ...”



What are some new ideas that were introduced?





DT Process consist of five phases:



Empathy



Define



Ideate



Prototype



Test

- Each of these phases has a particular goal, with actions that help the designers achieve this **Goal**.



Is Design thinking a Process? (Most People Think)

It is much more than that

- To properly utilize the process, designers need to understand the philosophy behind the approach and possess essential attitudes and mind-sets that make them prone to **innovate behaviours and actions.**



Design and Business

- Tim Brown, the CEO and President of IDEO.
- A design and innovation company that popularized design thinking.
- Defines the methodology for the business world as a “human-centered approach to innovation that draws from the designers toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success”.



Change by Design- Universal Definition

that is suitable for Multiple Fields and situations.

- “new ideas that tackle the global challenges of **health, poverty, and education**; new strategies that result in differences that matter and a **sense of purpose** that engages everyone affected by them”.
- Companies/Organization started to transition from designing tangible products to **designing and improving real-world experiences**.
- In 1991, IDEO designed solutions to problems
 - Branding, energy, education, the environment, experience design, financial services, and many other fields.



- One of the IDEO's earliest design was the first mouse(by David Kelley with Costing \$17) for Apple.
 - All these solutions were designed through a combination of human centered design and a culture on innovation that was called “design thinking” on account of Kelley frequently using the word “thinking” to describe what he did as a designer.
 - Today many companies such as
 - The South Korean technology gaint **Samsung** established in-house design group, the corporate design center.
 - **IBM** has changed its focus from engineering to user needs and experience.
- Statistics:**
- In 2012, **1 designer** in the company for every **80 computer programmer**.
 - In 2016, **1 designer** in the company for every **20 computer programmer**.



DESIGN THINKING FOR BUSINESS

- **GE Health Care**, a company that provides medical technologies and services. **Doug Dietz** had been working on a specific MRI Scanner



Old MRI machines, and GE adventure series MRI machines



DESIGN THINKING FOR EDUCATION

- DT in the Classroom:

Design thinking is a combination of **human-centered**, inquiry-based scaffolding and innovation-friendly mindsets where students apply **transdisciplinary knowledge/skills** with **creative practices** to collaboratively **discover empathetic insights**, generate and explore radical **ideas**, and **create, test, and improve tangible outcomes**;

- It is having courage and attempting to bring meaningful change to people's (or their own) lives, improve real-world experiences, or develop solutions to complex problems.



Why it Matters

- DT is crucial for students to develop into **future-ready citizens** who can learn and have the confidence to tackle challenges no matter the situation or circumstance, who are able to **learn continuously** in a world of constant change and innovation.
- Some of the DT educational approaches are
 - **Project-based learning(PBL)**
 - **Science, technology, engineering, and mathematics (STEM) education**
- Both in PBL and STEM, Teachers take on the role of **Facilitators**, spark the curiosity of students, and guide their students learning.





- DT provides students the vehicle for
 - Inquiry, teaching them how to think, reason, analyze, empathize, and use their natural curiosity to find solutions in these transformative education approaches.
- DT also provides opportunities for best practices to occur in teaching and learning.
 - e.g: program a virtual wildlife sanctuary
- In technology, students learned basic programming concepts to create their virtual wildlife sanctuary, which they published online to share with the public.



Students who use DT

- More **engaged** because of their challenging and interesting topics.
- Students are responsible for their own learning, going through the different phases of the process to pose
 - questions, investigates, and apply the knowledge and skills they gain to meaningful challenges.
- It also increases the **opportunity** for collaboration and provides multiple instances for meaningful feedback from the **teachers and peers**.



DT can help students

- To see problems and challenges in a **positive light** as **opportunities for improvement, change, and resolution.**
- It empowers them with **skills** and **confidence** to believe they could make a constructive impact on any situation, even if they are not an expert in the issue.
- They'll believe they have the capacity to be **creative designers** who can come up with **new and effective ideas.**
- DT gives them the **permission to fail, learn from their failures, and improve upon their solutions with an optimistic and enthusiastic attitude.**



Imagine if Students learned the DT process starting in Kindergarten?

- What complex problems would they be able to solve by the time they got to high school?
- What new problems would they be able to identify that we were unaware of?
- Imagine them leaving our schools for the real world.
- Imagine them being aware of the infinite possibilities of what they can do and who they can be.



David Wallace, an engineering professor at MIT

Who said, “More than any thing I hope they(Students) have the confidence and perhaps a little bit of arrogance to think that they can solve just about any problem, but at the same time be humble enough that they realize they’re going to have to work really hard to get there”.

- DT has been able to **empower** and unlock **human creative potential**.



More than a Process: Design THINKING MINDSET



- DT was only a process ??
- A magical step-by-step method that had the potential to transform “**unimaginative**” students into wondrous creatives.
- It gave them strategies to think creatively, but the products they produced weren’t particularly inventive or innovative.
- No one seemed to be going beyond the obvious.
- DT is a **specific way of thinking**(hence its name, design thinking).
- The valve and mindset allow creative outcomes to emerge.
- **Culture of DT** is much more valuable than the actual process.



Webinar, “Design Thinking = Method, Not Magic”

Bill Burnett, Executive Director of Stanford’s Product Design Program

- **“Culture eats strategy for breakfast”**
 - It describes how it is ineffectual to use a process that is not compatible with the culture of a group.
 - Group’s Culture that affects how people work, behave, and make decisions.
- Burnett explained, **“If you have the wrong kind of culture it doesn’t matter what process you use... it wont make any difference because culture rejects the process. Culture is always stronger than the process or programs that people put in place because culture is the unspoken rules of behavior of any organization, and that’s how, really, things get done.”**



When Students attempted to solve problems using DT process

- Their **behaviors, actions, and interactions** with one another were not conducive to producing desired results with the DT process.
- They had **difficulty designing a solution** based on end user preferences and needs rather than their own.
- They were **fearful to try new things, make mistakes, and fail in their work**, which many times led to doubt, pessimism, and a tendency to give up.
- Some believed that they held fixed traits in “**lower**” intelligence and talent that correlated to lower work performance.
- **Students were not able to effectively use the DT process because they did not share core values that encompass a culture of innovation, which makes the effective execution of DT possible.**



SIX KEY MINDSETS

A mindset is a set of attitudes that reflect how a person thinks or feels about a particular thing.

- These attitudes can affect the way they behave in a particular scenario.

Example:

- If a student has a fear of failure and never wants to make mistakes.
 - He/She would be likely to hesitate in taking action, making important decisions, and trying new things when working in the DT process.



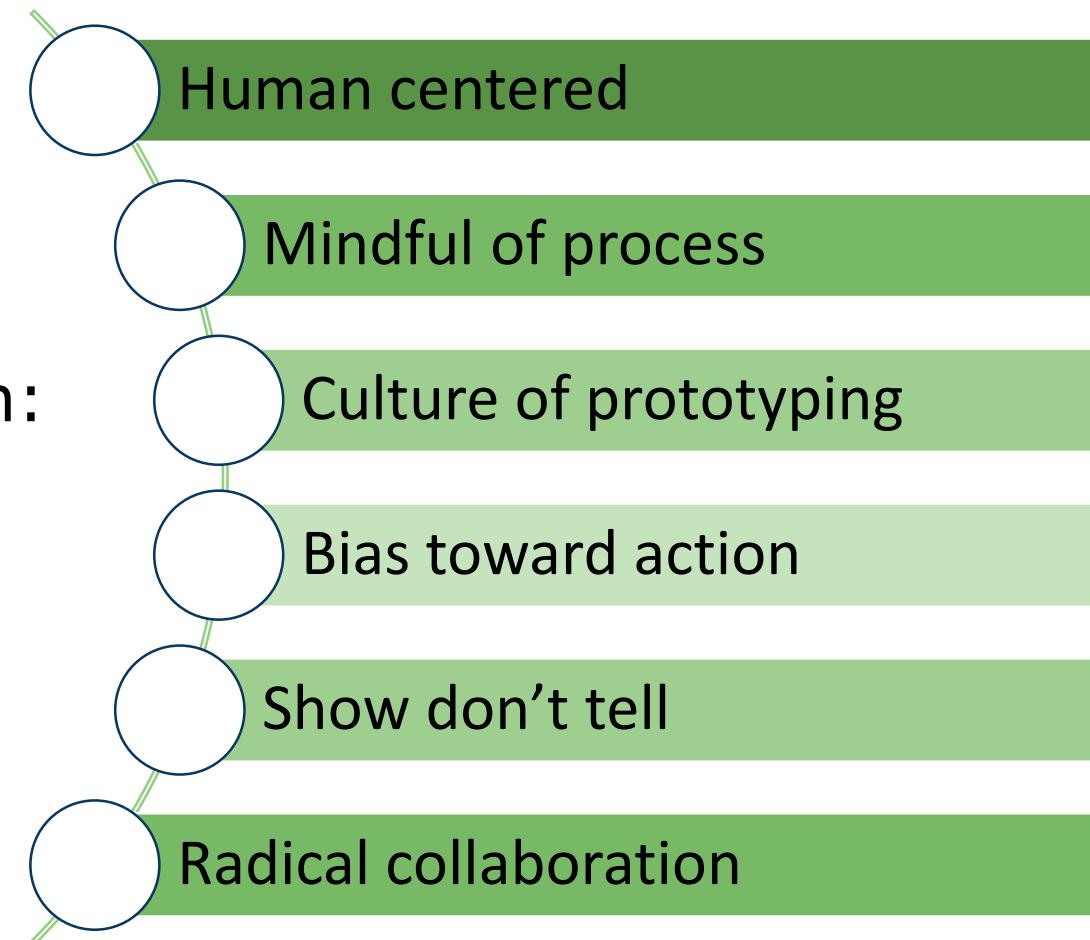
The d.school, Stanford's design institute by David Kelley

- Provides students with learning experiences that “unlock their creative potential” through the application of DT in multidisciplinary, real-world challenges.
- d.school created a program called **K12 Lab Network** that promotes the implementation of DT into classrooms and schools to bring capacity and agency to educators who wants to create positive change in education.



DESIGN THINKING MINDSETS

K12 lab's classification:
6 key mindsets of
designers





Human Centered

Students will be able to gain inspiration and direction from users and respond to human needs by placing the user at the center of all empathy work.

- Students who have a human-centered mindset are able to think in the perspective of others, particularly the person/people they are designing a solution for.
- They can “**walk in the persons shoes**” to gain an understanding of their needs and wants.
- The prevailing focus throughout the DT process and in each phase **are the people we are designing for** (they are the most important factors in the design process).
- Engaging and interacting with these people can results in the emergence of inspirations and insights that direct designs to desired outcomes.



Mindful of Process

Students will be able to be thoughtful and reflective of the work being done, how the work is being done, and how the work will improve.

- It enables students to think about the work they are doing in a particular phase of the design process.
- Each phase has its **own purpose, goals, and strategies.**

Example:

- If a student is in ideate phase, where they are collaboratively brainstorming a solution for a particular problem, they will need to be openminded, defer judgment, think beyond the obvious, build on the ideas of others, and generate a large volume of ideas.
- Being attentive to these **behaviors, goals, and thinking** will allow students to get the most out of each phase in the DT process.
- A crucial part of this mindset is reflecting on **how the work is being done** and **how it can be improved in each phase.**



Students will be able to be thoughtful and reflective of the work being done, how the work is being done, and how the work will improve.



Improvement from traditional suitcases to suitcases that follow you



Culture of Prototyping

Students will be able to explore and experiment, build things to learn and think things through, and engage users with prototypes to elicit and receive feedback.

- With this mindset, the process of creating artifacts or solutions allows students to **continuously learn** and **apply** their new learnings to improve what they've built or developed; ultimately, this **will result in high-quality products or solutions**.
- This **build-to-think** mentality is best described by **David Kelley**:
 - This building, this doing, prototyping, whatever we're going to call it, is a way of thinking as opposed to the kind of grubby thing manufacturing does after all the decisions are made. We spend a lot of time getting the students [...] to kind of think about how can you be really clever about jumping right in and finding out as much as you can from building.
 - A student with a prototyping mindset is inclined to rapidly create and test to quickly learn from failures and receive feedback. They use their creativity to apply what they have learned to make improvements to their artifacts or solutions. This iterative, **trial-and-error** process of prototyping is done so frequently that it results in desired outcomes in a shorter period of time.



Bias Toward Action

Students will be action-oriented to quickly think and learn, as well as make decisions

- A **bias toward-action** mindset gives students the tendency to take initiative, make decisions, and take self-directed actions.
- This **mindset** is extremely important to DT because all the phases in the process require students to have action-oriented behavior.

Example:

- In the **empathize phase**, students need to engage with people and experience their perspective to gain a deep understanding of the challenges they face.
- In the **test phase**, students need to perform repeated tests to gain valuable data and feedback that is later synthesized and used to make improvements.
- To have a **bias toward action**, students need to overcome their fear of failure so that they don't simply try and give up when obstacles arise.
- Fear and self-doubt can debilitate students from taking risks or acting upon a spark or revelation. Overcoming this fear and embracing failure allows students to be creative, generate a wide range of ideas and possibilities, and try out novel and audacious things.
- **Action-oriented behavior** occurs when students realize that failure is not the outcome but part of the process, and with an ample amount of iterations, their prototype will transform into high-quality product or solution.



Show don't tell

Students will be able to communicate and share ideas visually for clarity, understanding, and decision-making.

- With the **show-don't-tell mindset**, students communicate and share ideas through visual representations in the form of a **sketch, tangible prototype, or digital visualizations**.
 - These visuals can make a complex idea easier to understand and bring clarity to information that might be perplexing
 - A simple sketch can stimulate further discussions, identify unanticipated problems, and bring everyone on your team on the same page.
- **Showing your ideas can also help organize your thoughts and improve the information you want to communicate clearly.** Since sharing visual ideas is a great opportunity for gaining feedback from stakeholders, it is important for students to be open-minded to constructive criticism and refrain from defensiveness so that they can learn and their ideas can improve.



Radical Collaboration

Students will be able to collaborate and create partnerships with people of different disciplines as well as the users to develop innovative ideas and solutions.

- Students who have a **radical-collaboration mindset** are able to learn and work together effectively using social and interpersonal skills to complete a common goal.

Example:

- Designers can **collaborate with the people they are designing for**, creating an inclusive partnership where the end user is seen as a viable expert.
- Additionally, since DT is used for real-world challenges and problems, it is important for students to **work with experts from multiple disciplines**.
- This mindset values **teamwork—students** and teachers working together effectively and efficiently for one common goal.
- Teamwork takes place in a **family-like atmosphere** where students build positive relationships **based on trust and appreciation of one another**. In **caring for their teammates**, they also apply empathy with the emotions and feelings.
- Valuing **teamwork minimizes** the occurrence of hierarchical relationships where a few individuals assert dominance in a project. **Minimizing competition** between students also helps **increase morale, improve relationships, and reduce discouragement**.



OTHER MINDSETS

Other important
mindsets for
success





Improve/Learn from failures

- Must change the way they view failure and see it as a way to identify what needs to be improved.
- “Don’t think of it as failure,” explains Tim Brown.
- “Think of it as designing experiments through which you’re going to learn”

Creative Confidence

- David Kelley- Creative Confidence is believing one has the ability to come up with new ideas and the courage to try them out.

Creative “Courage”

- David Clifford from K12 Lab and Design School X uses the term “Courage” instead of “Confidence”.



Growth Mindset

- In her book **Mindset: The New Psychology of Success**, Carol Dweck identifies two mindsets.
- Some people have either a “**fixed mindset**” and the later mindset is essential for students when using the DT process because it gives them practical optimism.
- **Continuous learning, practice, and dedication, students gain a hopeful Confidence. They understand that obstacles are not permanent barriers.**

Beginner’s Mindset

- A beginner’s mindset is concept from Zen Buddhism that involves the attitude of thinking and seeing from a novice’s point of view.
- Few principles Students should follow to obtain a beginner’s mindset
 - It is important for design thinkers to not judge or advance their own opinions.
 - They also need to respectfully listen
 - Question Everything



Liberatory Design Mindsets

- Liberatory Design is an adaptation of Stanford d.school's DT process that includes two additional phases.
 - Notice and Reflect.

The following are the mindsets required for designers to use the Liberotory Design process effectively. The mindsets are expressed as actionable statements.

- Practice self-awareness to minimize harmful, effects of privilege and oppression to the design process.
- Focus on human values to place the users at the center of all empathy work.
- Recognize oppression to identify inequalities and their causes to address deeper needs.
- Embrace complexity to remain patient and stay open to possibilities.
- Seek liberatory collaboration to reframe the user-designer relationship as one of partnership.
- Build relational trust to authentically collaborate and gain emotional trust.
- Have bias toward experimentation and action, and build to quickly think and learn.
- Share your work humbly without trying to convince users to provide feedback.



- References:
- David Lee, Design Thinking in the Classroom, Ulysses Press, Korea, 2018

Thank You...

Dilip Kumar Choudhary,

Ph.D. (IIT-ISM, Dhanbad)

Assistant Professor, Department of Electronics & Communication Engineering

M S Ramaiah Institute of Technology, Bangalore

Email Id: dilip.choudhary@raisoni.net, dchoudhary@ieee.org

Website : <https://sites.google.com/site/dilipiitdh>