

Introduction to Design Thinking

Dr. LAM Bick Har



What is Design Thinking?

- ★ Design Thinking is an innovative methodology used for solving complex problems in a user-oriented, needs based and solution-focused fashion
- ★ It is applicable to any fields.
- ★ It seeks to comprehend humans needs ensuring effective solutions



Course Materials *for use in*
TLS3008 & TLS6036 *only*
Lesson Design Thinking Project (TDG)

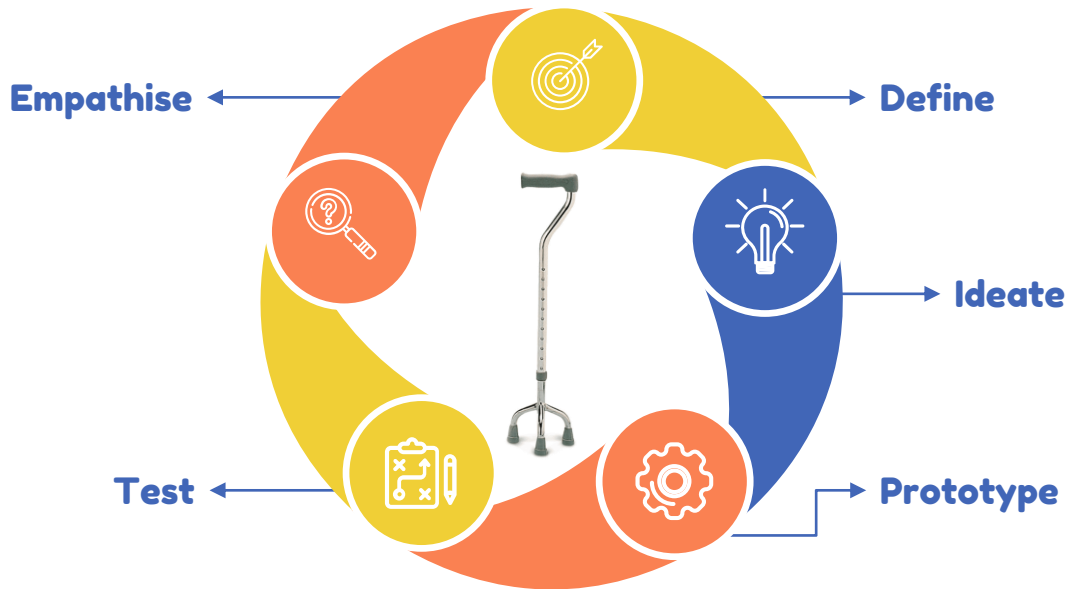


Origin of Design Thinking



The creation of Design Thinking is due to the big corporations' paucity of creativity and ideas of creating novel products and services, resulting in failing to meet the customers' needs and demand.

Five Key Elements



Empathise

- Aims at understanding users' needs and their problems
- If you want to design a product for the elderly, there are several methods to comprehend their needs, including interviewing, conducting a poll or any other possible data collection approaches.
- While you are interviewing, you comprehend their essential needs for daily movement such as climbing stairs.
- Yet, due to their physical impairment or decreased mobility, their needs cannot be achieved.
- Thus, you, as the designer, has to ponder ways that could actualize their thoughts into actions.

Define

- Define is another stage intending to reframe problems.
- By means of interviews, the designer realizes the elderly's actual needs in reality, which may include strolling in the park, eating in a Chinese restaurant and going shopping.
- After analysis, it comes into conclusion that the elderly hope to retain the relationship through contacting others.
- Thus, the designer defines the problem as the elderly's fear of loneliness.

Ideate

- The main goal is to brainstorm as many potential solutions as possible.
- In the case of the elderly's needs, possible ideas include:
 1. the tailor-made VR experiences
 2. handcart
 3. wheelbarrow

The designer can show the ideas to the target, so that he/she can receive feedback from them (i.e. the elderly, in this case).

Prototype

- This stage proposes to create a product based on the existing solutions.
- The designer has to ponder how the proposed solutions could help people adapt in reality.
- The final solution can be a combination between a novel idea and an existing one.
- Eventually, the designer can create his/her own prototype and be ready to test it.

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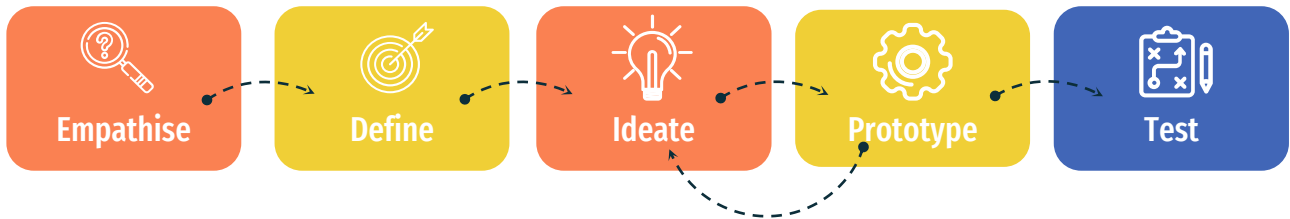


Test

- The designer test the prototype
- He / She needs to seek authentic users to try out the prototype.
- For instance, the product can be a crutch or walking stick.
- The designer has to be open to criticism and opinion
- To consider which feedback is useful and effective and which is not.
- Then gets back to the idea accompanying with the skills.
- Repeat the process until he/she finds a prototype which could address the needs and solve the existing problems.

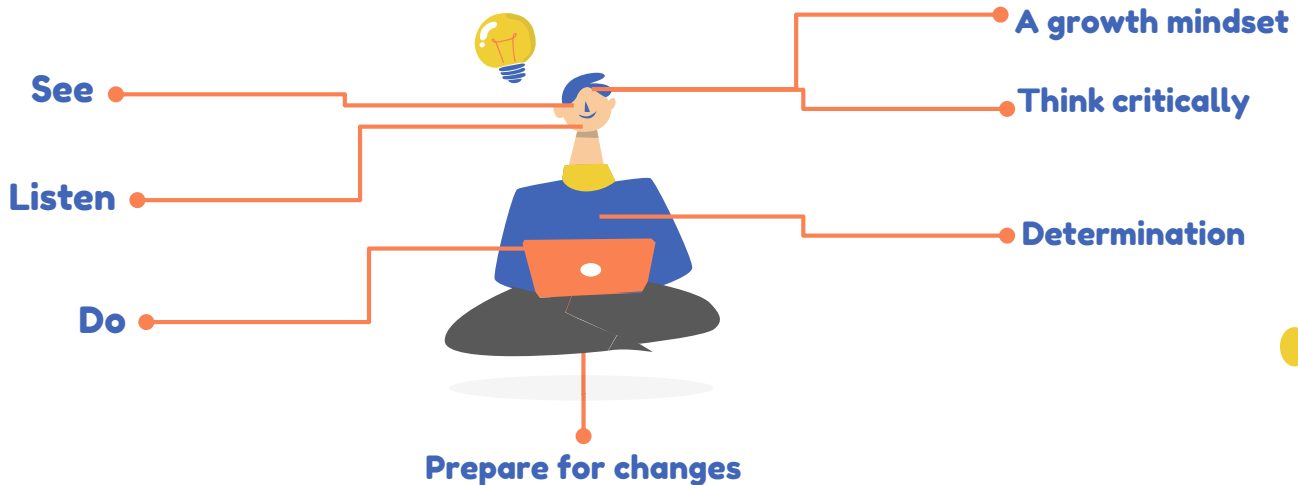


Design Thinking Process

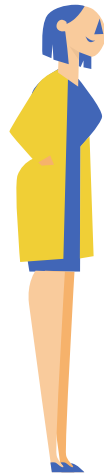


These stages run in an iterative manner; until the designer design a product meeting users' needs favourably through the design thinking process.

What do you need to do in using Design Thinking?



What are the benefits?



- More confident to create
- Enjoy collaboration and teamwork
- More engaged
- Higher quality assignment
- Develop skills for real world situations

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Lesson Design Thinking Process

1. Set the topic / theme & grade level of students



Prepositions (e.g. in / on / at)

Problems:

- Difficult to differentiate between them
- Hard to memorize them
- ...



Culprit:

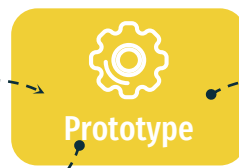
- Pedagogy
- Not authentic enough
- Without hands-on experience



- Use of objects
- Make use of physical movement
- **VR experiences / virtual tour**
- ...



- Microteaching
- Pilot scheme
- Teacher and peer review



How do we apply in the course?

Week 1	Theories of innovation (e.g. Six clusters of innovative pedagogies)
Week 2	Innovative implementation in an authentic school setting (Egg project)
Week 3	Exposure to multiple lesson plans & Evaluation / Critique Theories of cooperative learning (e.g. jigsaw grouping)
Week 4	Lesson plan critique Project sharing: endangered animals
Week 5	Draft of the lesson poster with the aid of the template
Week 6	Teaching delivery skills Continuation of the lesson poster
Week 7	Tutorial sessions Submission of draft lesson poster
Week 8	Innovative teachers and innovative school environment
Week 9	Final lesson poster Peer critique
Week 10	Final project presentation Microteaching Submission of final lesson poster



Empathise



Define



Test



Ideate



Prototype