introduction

"You cannot hold a design in your hand. It is not a thing. It is a process. A system. A way of thinking." Bob Gill, Graphic Designer

Design is an iterative process and to be able to teach it, we must understand that design thinking happens within each stage of the journey. Different solutions will be produced dependent upon different levels of creativity, practicality and methods.

This teaching pack offers an overview of the stages of the design process and presents example exercises for learning theories and applying methods for generating and resolving ideas.

THE DESIGN PROCESS:

1. ESTABLISH
2. DISCOVER
3. DEFINE
4. DEVELOP
5. DELIVER
6. EVALUATE AND EVOLVE

Remember, when teaching design the fundamental principle is that the role of design is to create a preferred reality, therefore we can get the starting point for any design from the Poem of Rudyard Kipling:

I keep six honest serving–men (they taught me all I knew);

Their names are What and Why and When

And How and Where and Who

DISCOVER   DEFINE   DEVELOP   DELIVER

CREATIVITY
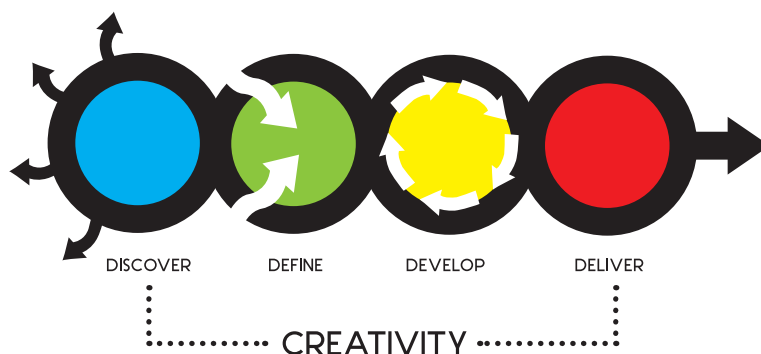
Objectives

ESTABLISH Who & Why

- Define the problem or opportunity for change
- Vision /framework

DISCOVER What & Where

- Uncover challenges & successes
- Understand people & experience
- Support etc.
- Unlock knowledge and generate insights
- Identify/frame core challenges & successes

"Do you understand the client?"

Does the client understand what they are asking for?"

DEFINE How & When

DEVELOP Prototyping: New Learning & Skills

DELIVER Implement Outcome/Solution

- Map strategy to embed & support

EVALUATE & EVOLVE

- Reflection
- Future impact analysis
- Enable ownership
- Discuss future implications

establish

START WITH WHAT YOU KNOW

When class/group members walk through the door at the beginning of the meeting, what do they know/think about the topic?

There are a variety of different ways to garner this information. People can be asked in advance to write down what they know about the problem or the trainer can lead a brainstorming session to try to bring out the greatest number of ideas. Remember that a good organiser will draw out everyone's opinions, not only those of the more vocal participants.

- Decide what information is missing.

- Information is the key to effective decision-making.

- How do you get the young generation to engage with heritage and culture in Jaipur?

- Do you know why they are not engaging? If they are engaging – when and ho are they doing so?

- If they are not engaging with their heritage and culture, why not? Why are they deterred?

THE PROBLEM STATEMENT WOULD THEN BE...

Jaipur is considered a cultural center however; with the globalisation trends are young people taking the rich heritage for granted, thereby placing the sustainability of craft and heritage in danger?

"Where will the solution be used?"

"How will the solution be implemented?"

discover

WHAT IS A PROBLEM?

We usually define a problem fairly negatively: a problem is a hassle; it's a pain in the neck. This is often true, but more generally, a problem can be considered the difference between what is, and what might or should be. And believe it or not, problems have their advantages, too. What are some of the good things about problems?

Most problems are solvable, partially solvable, or at least improvable. We can do something about them. The task may seem overwhelming, but it's not hopeless. Our optimistic assumption is that we can change the world.

Problems are opportunities to make some good things happen. If it weren't for problems, what would be our motivation to create change?

Problems are also challenges. They call upon the best of our abilities, and ask us to go beyond what we thought we could do. They make life interesting, and, at least sometimes, fun. Without problems, life could be pretty boring.

WHY IS A GROUP PROCESS PARTICULARLY IMPORTANT?

WHAT IS THE PROBLEM-SOLVING PROCESS?

With all this in mind, what is "problem-solving? Creative industries' authors define problem-solving as:

"An individual or collaborative process composed of two different skills: (1) to analyze a situation accurately, and (2) to make a good decision based on that analysis."

define

define

DEFINE THE PROBLEM

Where and how do your class/workshop find this information? It depends on what you and they want and need to know.

You can review surveys, interviews, the library, and the internet.

With the information in front of you, you're ready to write down a "problem statement" – a comprehensive definition of the problem. Before you do, remember two general principles:

Define the problem in terms of needs, and not solutions. If you define the problem in terms of possible solutions, you're closing the door to other, possibly more effective solutions.

Define the problem as one everyone shares; avoid assigning blame for the problem. This is particularly important if different people (or groups) with a history of bad relations need to be working together to solve the problem.

E.g. Teachers may be frustrated with high truancy rates, but blaming students uniquely for problems at school is sure to alienate students from helping to solve the problem.

You can define the problem in several ways; The facilitator can write a problem statement on the board and everyone can give feedback on it until the statement has developed into something everyone is pleased with, or you can accept someone else's definition of the problem or use it as a starting point, modifying it to fit your needs.

After you have defined the problem ask if everyone understands the terminology being used. Clearly define the key terms of your problem statement, even if you think everyone understands them

define

CHECKLIST

You understand the nature of problems:
- They may occur within or outside of the group.
- They occur at different levels of severity.

You have clarified the problem:
- You have started with what you know.
- You have decided what is missing.
- You have gathered information on the problem.
- You have defined the problem.

You have decided to solve the problem:
- It is important.
- It is feasible.
- You are the best people to solve the problem.
- You have weighed the negative impacts.
- You have chosen among possible problems.

You have analysed the problem:
- You know what the problem is.
- You know why the problem exists.
- You know who is causing the problem.
- You know when the problem first occurred or became significant.
- You know how much, or to what extent, the problem is occurring.

develop

develop

You should now be ready to work together to think up some possible solutions. Listed below are just a few of the many different ways to do so. Your group can try the one that members prefer; all should yield some good solutions.

⊙ Simply go around the room and ask everyone to suggest ideas. No tricks, no gimmicks, but it works.

⊙ Send a piece of paper around the room. People can write down their ideas, which can later be discussed without anyone knowing who suggested which idea.

⊙ Idea writing. Idea writing is especially helpful to people who like to write. It also helps many people generate and comment on ideas in a short amount of time. Large groups should be divided into small groups of five or six. Each person writes a possible solution to the problem on his/her own pad of paper. Then each person puts their pad on a table in the middle of the group. Next, everyone takes someone else's pad and comments on the idea. People keep doing this until everyone in the group has commented on everyone else's idea. During or after the meeting, all the ideas are discussed or summarised in a report.

⊙ Brainstorming. Brainstorming is a tried-and-true way to come up with ideas in a group. The method is simple: The problem is stated, and the recorder stands in front of a room with some newsprint or a blackboard. People in the group say whatever ideas pop into their minds. The recorder writes down all of the comments made.

Helpful hints to keep in mind when brainstorming include:

⊙ Simply giving instructions that people can or should be creative in the brainstorming session may help raise the number and quality of solutions created.

⊙ No idea is too outlandish. The meeting recorder writes all the ideas down. Why? An idea that seems ridiculous on first hearing might turn out to be possible and even desirable. It may also be modified by other members of the group, and end up being the perfect solution to the problem.

⊙ Nobody should comment on how good or bad the ideas are; there should be no discussion about them at this time. Keep producing all kinds of ideas until everyone runs out of steam.

⊙ Ideas can be "piggy-backed" or combined as people see connections during the process.

O The facilitator should keep the energy high and constantly ask for more and different ideas. This may even be done in the manner of an auctioneer, with constant chatter and a fast-paced discussion.

O If the group gets off the subject, the facilitator or recorder should gently remind them of why they are there.

O Discussion, analysis, and idea selection come later so don't dwell on this area.

VARIATIONS ON BRAINSTORMING:

O A period of individual brainstorming can precede the group activity. Each person generates his/her own ideas privately and later shares them with the group.

O If idea generating is done on a day after you defined and analyzed the problem, goup members can be asked to generate solutions as "homework" between the two sessions.

Ensure any concept solutions have been tested within a small group of your target audience before the next step is carried out.

deliver

deliver

MAP STRATEGY TO EMBED & SUPPORT

This is the final stage of the process where the final concept is taken through the last stages of testing, production and approval. This stage will also highlight alterations in the design process to inform and benefit future projects. The feedback and information will allow a more successful and positive outcome in the future.

User Journeys are important because they allow an experience to be delivered effectively and efficiently. A user will partake in a journey through any process they go through, it is their experience from the beginning of the first interaction with a company, to the after care provided. This journey is usually taken to reach a specific goal. The aim of a company is to make the user journey as memorable as possible.

Dice exercises with key stakeholders to test prototypes ideas:

Use dice to randomly select key issues within the design process:

Eg. Branding of Jaipur/Rajasthan within the context of the Creative and Cultural Industries

Dice 1: Inspiration: Folklore, History, Performance, Craft, Religion, Architecture
Dice 2: Design Methodology: Symbols, Picture Story, Motif, Lettering, Mind Map, Colour
Dice 3: Application: Heritage Site, Hotel, Craftsperson, Shopkeepers, Tour Operator, Taxi Driver

Stage 1: 15 minute brainstorming exercise in small groups:

Using the Inspiration and Design Methodology dice, roll for a random selection and combine them to conceptualize ideas that could represent the ideas, the output could be words; sketches; collage... the main purpose of this stage is quantity of ideas not quality.

Each group should share their ideas with all.

Stage 2: 15 minutes consolidating of brainstorming in context:

Combine two groups together, and using the application dice, synthesize the best ideas and mind map how the combination of both of the previous inspiration and design methodology could be used within this application.

Each group should share their ideas with all.

deliver

CHECKLIST

You understand why you should plan your action:
• To provide the framework on which your solution will hang.
• To be sure you have taken care of all the details.
• To save time, energy, and resources.

You have planned your action:
• You have broken down your solution into individual action steps.
• You have decided to what extent each action step will occur.
• You have decided who will do the work.
• You have decided when each action step will take place.
• You have decided what resources you will need and where you will get them.
• You have decided what you will do if something goes wrong.
• You know which steps need to happen first.

You have implemented your solution:
• You have made sure everyone is clear and in agreement about the process.
• The facilitator has asked for new questions.
• Everyone knows how to contact each other (if required).
• You have set another meeting date (if required).

evaluate

The work up to this point should have produced many potential solutions. Now, it's time to decide which idea is best.

There are many possible ways to do this. One approach includes performing the following objectives for each idea:

Judge each idea independently, swap solutions with the next table/group or discuss as the team who created the solution.

LIST ON SEPARATE PIECES OF PAPER:

- What you like about the idea
- What you don't like about the idea
- What the side effects might be

ASK THE FOLLOWING QUESTIONS:

- Is it practical?
- Is it effective?
- Is it cost effective?
- Will it be easy to put into practice?
- How much time will it take?
- Will anyone need to learn new skills?
- Will everyone involved accept it?
- How about the community as a whole?

After looking carefully at each idea, and weighing the pros and cons of each, you're now ready to make your decision as to whether your solution will work as intended or if it needs to evolve further, possibly by incorporating other ideas if required.

evaluate

CHECKLIST

You have evaluated what happened:

• You have evaluated the successes and failures of the solution.

You know what to do if something gœs wrong:

• You know what to do if the solution is taking too much time.

• You know what to do if the solution arouses community opposition.

• You know what to do if a seemingly new and better opportunity arises.

• You know what to do if the solution dœsn't seem to be working.

Creativity takes Courage

HENRI MATISSE

DESIGN THINKING

What is Design Thinking?

Thinking while doing.... the visualization and development of solutions in a co-operative environment leads the way to innovation.

True innovation happens when there is a cross-fertilisation of three elements: Human Desire, Technological Capability, and Business Imperative.
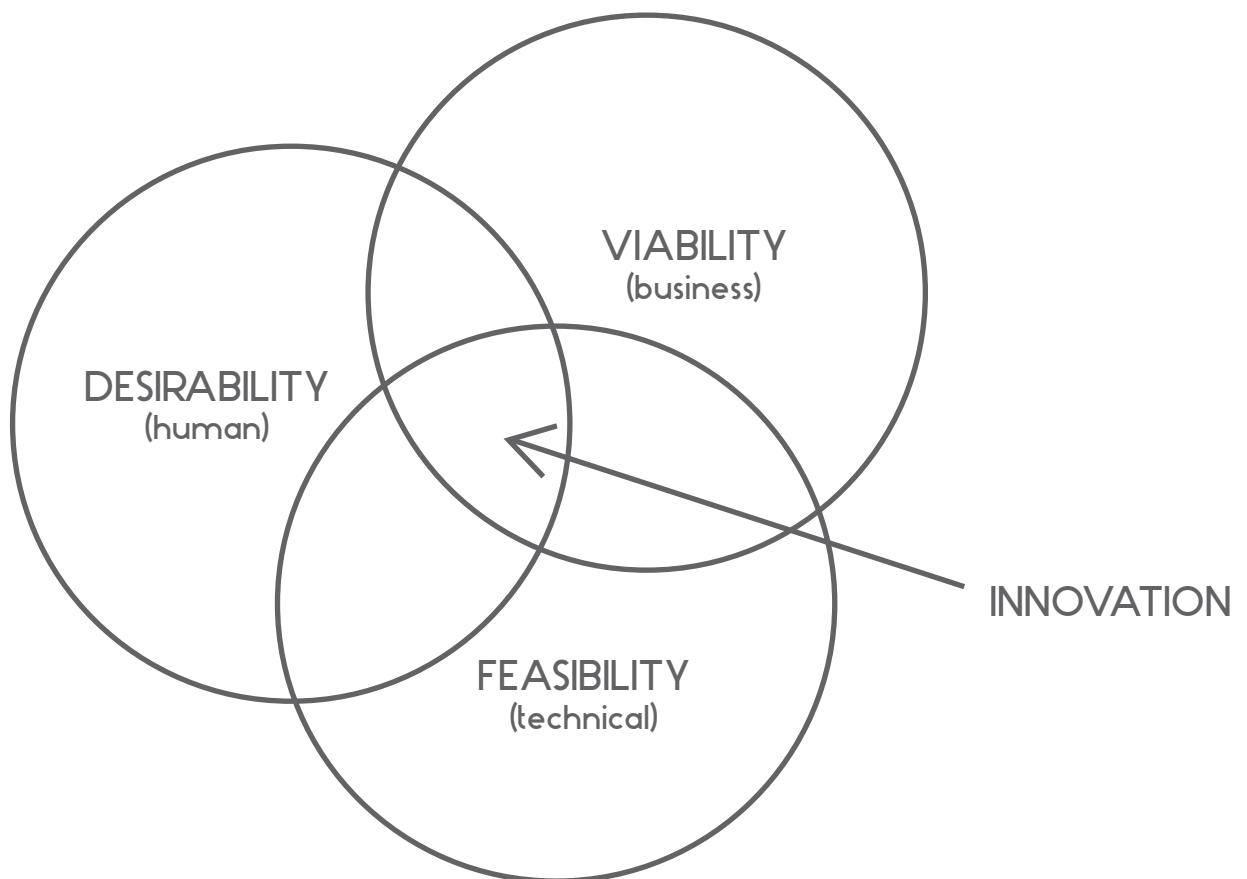

Image 1: Brown, T (2010) Change by Design

10 Principles of Design Thinking:

1. Imagination: Let Imagination drive the process... Imagine what the world could be like not what it already is!

2. Meet the needs: Identify needs and try to meet them.

3. Experiment: Make room for experimentation, divergent and convergent thinking should be a continual process. Explore as many options as possible and then narrow the focus.

4. Zoom in and out: There is a vital balance between having a narrow detailed balance and seeing the bigger picture.

5. Iterate in order to find the best solution: Repeat the process, once the core idea is defined develop the same idea multiple times in order for simplicity itself to be discovered within the idea.

6. Understand your user/stakeholders: See the problem and proposed solution through the eyes of your consumer. Undertake primary research to seek input from the user and social context as early as possible in the design process.

7. Balance analysis and intuition: You are unique. Use that to assist in the multiple decisions but have a criteria list to analyse those decisions against. For example: Usability, Desirability, Viability, and Functionality.

8. Visualise: Visualisation is a way of thinking and sharing the vision of your proposed solution, whether it is a collage or sketch. Visualise as much as possible in order to communicate and share your ideas.

9. Learn by making: Prototype as a tool to test ideas, act out or simulate a scenario or create a rough physical object to test the concept.

10. Have fun: Be optimistic through the process of trial and error, problems rarely have a singular solution... it should be a fun and interesting process.

design

Design's concerns in the commercial sector:

1850s-1920s
Design of better machines to drive more effective production

1930s-1950s
Design of better systems to drive more effective production

1950s-1970s
Design of better experiences to drive increased consumption of products
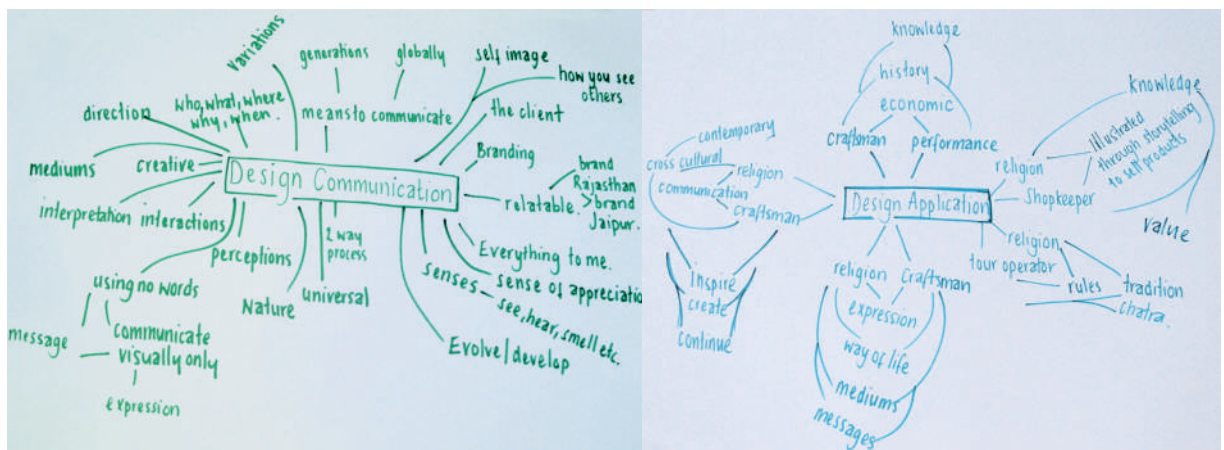
1980s-2000s
Design of better services to drive increased consumption of products

2000s-2010s
Design of better strategies to deliver connected services to drive increased consumption of products

2010s-NOW
Design of better organisation to develop better strategies to deliver connected services to drive increased consumption of products

THE BEST WAY to PREDICT THE FUTURE IS TO CREATE IT

This learning pack was created as a part of the UKIERI (UK India Education Research Initiative) by Sara Grassick and Jana Slovackova, students of BAH Visual Design and Communication, supervised by Christiana Margiotti, Subject Leader Art and Creative Technologies, Perth College UHI.

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