



# Ideation Part 2

Design Thinking & Innovation  
Process

Section: A10, Week 10



D'source Project



Open Design School



MoE's Innovation Cell



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DESIGN**

# **Design Thinking & Innovation (DT&I)**

Section: A10

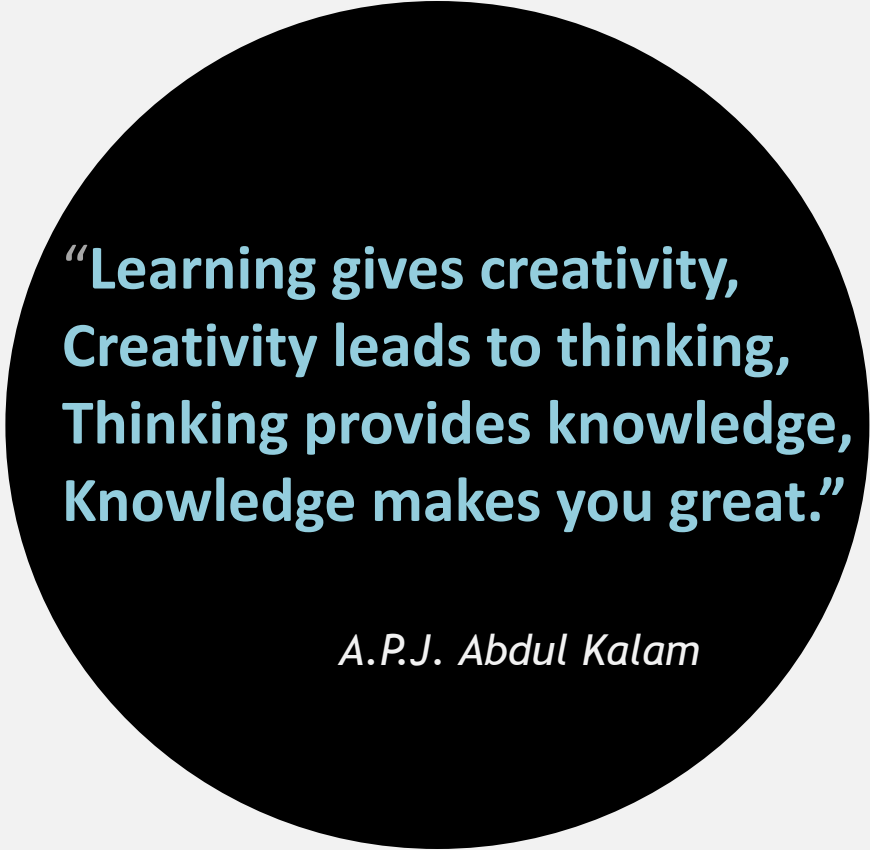
Week 10



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# **Design Thinking & Innovation (DT&I)**

**Prof. Ravi Poovaiah**  
IDC School of Design, IIT Bombay



**“Learning gives creativity,  
Creativity leads to thinking,  
Thinking provides knowledge,  
Knowledge makes you great.”**

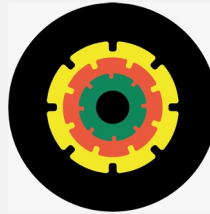
*A.P.J. Abdul Kalam*

# DT&I Course – Week 10:



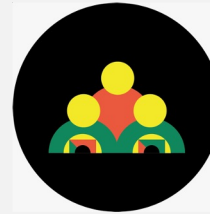
## DT&I Process (20%)

- > Ideation Part 2
- > Generating Creative Ideas
- > Concept Evaluation
- > Concept Maps



## DT&I Tools (20%)

- > Synectics
- > Analogical Thinking
- > Metaphors,
- > Nature Inspiration,
- > Concept Evaluation
- > Concept Maps



## DT&I Project (50%)

- > Apply Synectics, Analogical Thinking, Evaluate Concepts and generate Concept Maps



## DT&I Cast Study (10%)

- > Case Study Project:  
**BPCL Retail Vision and Identity Design**



# DT&I Process

## A10 Ideation – Part 2

Module A10:

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A10.1

# DT&I Process: Ideation - Part 2



# Ideation – Part 2:



## Content

- A10.1: What is Ideation Part 2?  
- Synectics, Analogical Thinking, Metaphors and Inspiration from Nature
- A10.2: How does one evaluate/prioritize different concepts?
- A10.3: What are Concept Maps?
- A10.4: Why is Ideation part 2 Important?
- A10.5: Further Study and References

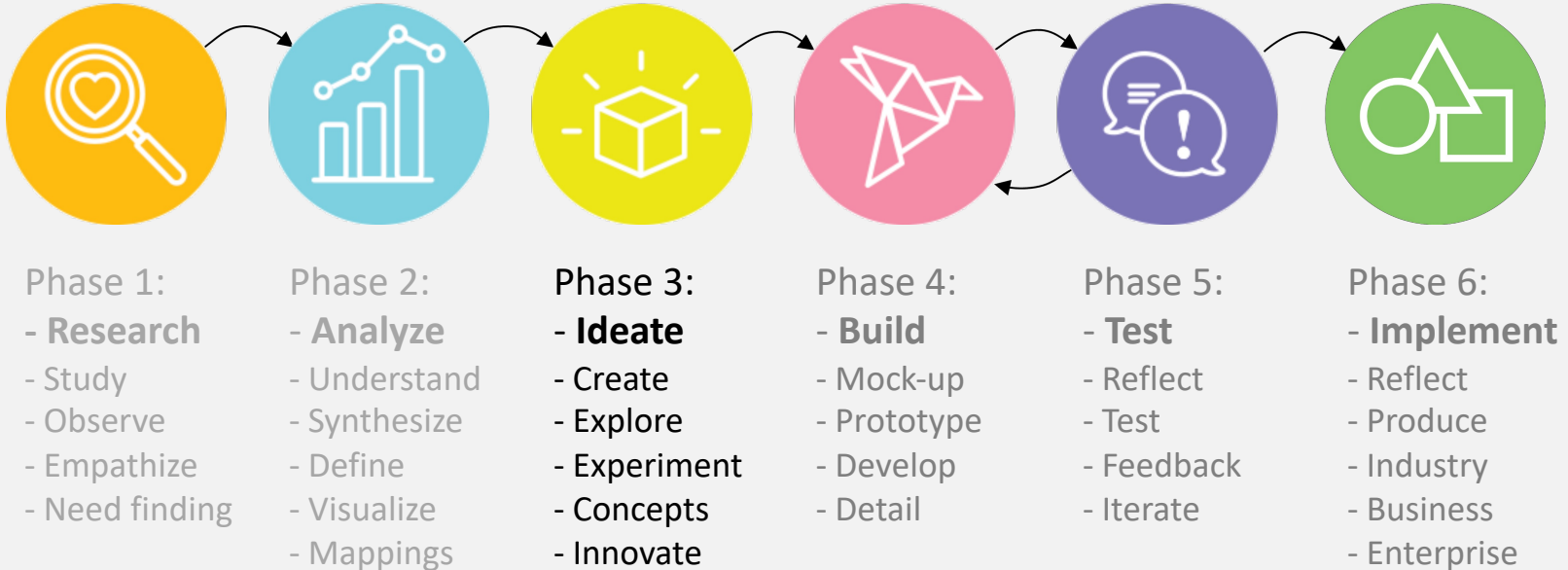


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# DT&I Process and Ideation:

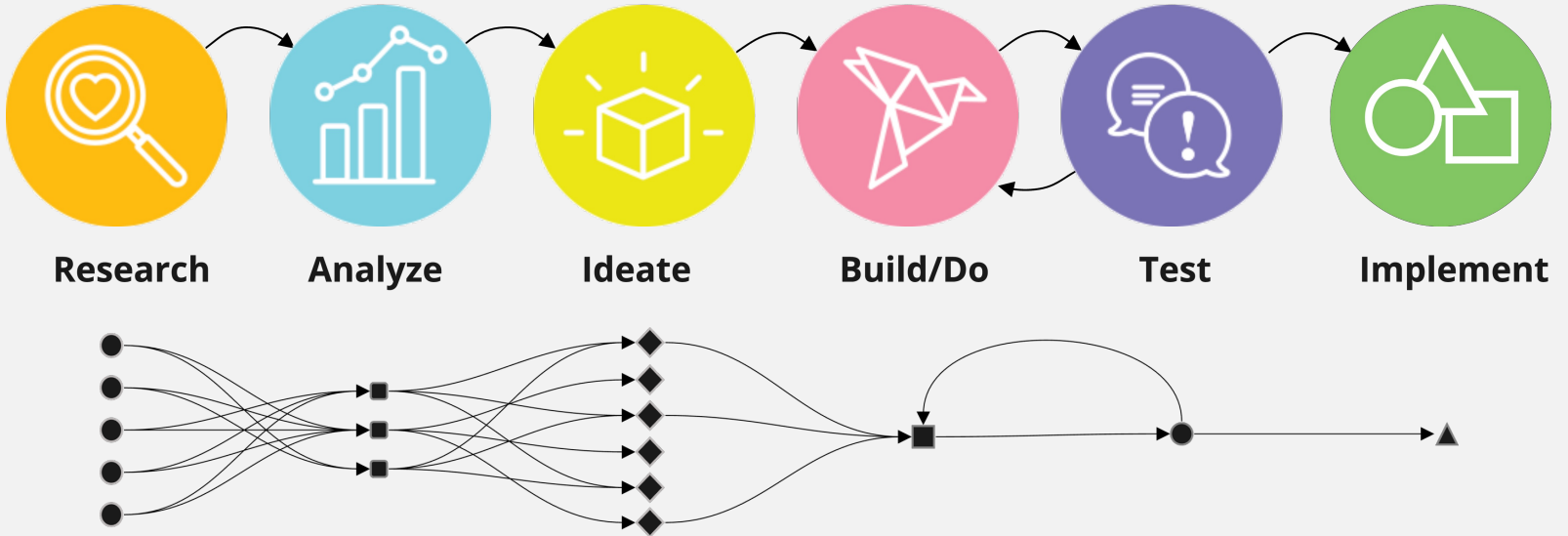
Ideation is the third phase of the DT&I process.





# DT&I Process and Ideation:

Let's summarize:



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A10.2

# What is 'Ideation' Part 2?



# What is 'Ideation' Part 2?



**Ideation part 2** is an extension of part 1 in finding further alternatives as ideas or concepts that are unique, new and innovative.

Ideation part 2 makes use of a creative method known as **Synectics**.

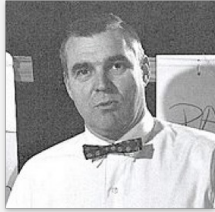
In addition to **Synectics**, we'll look at similar creative methods like **Analogical Thinking**, **Metaphors** and **Inspiration from Nature**.



# What is 'Synectics'?

**Synectics as a creative method** was coined by George M. Prince and William J.J. Gordon.  
(Gordon, 1961).

They adopted the words Syn+ectics from Greek language and it means "the joining together of different and apparently irrelevant elements" in new combinations/connections.



George Prince



William Gordon



# What is 'Synectics' . . .



**Synectics as a creative method** was quite useful in ideation by making a **connection between ideas that are out of box and not connected with each other.**

Gordon realized that making use of '**Analogies**' lets one think of **new and surprising ideas.**

In addition, Gordon encouraged the use of '**metaphors**' to “**make the familiar strange and the strange familiar**".



# What is 'Analogical Thinking'?

'Analogical Thinking' makes use of 'Anology' to generate fresh new ideas and make surprising connections.

These are some of the different types of Analogies:

- 1. Personal Analogy** – imagine yourself as the idea for the Object and tries to role-play the situation with ones experiences and come out with new ideas.
- 2. Direct Analogy** – make use of similar objects or situations in both the man made and natural world and make new connections
- 3. Fantasy Analogy** – make use of your imagination to make the familiar strange



# What is 'Metaphorical Thinking'?

'Metaphorical Thinking' makes use of 'Metaphors' to generate fresh new ideas and make surprising connections.

A metaphor is a figure of speech in which a word or phrase denoting one kind of object or action is used in place of another to suggest a likeness or analogy between them (Merriam-webster Dictionary).

Examples of some Metaphors:

1. '**Desktop**' as a Metaphor to simulate the working environment on a computer screen
2. My teacher has a '**Heart of Gold**' as she has always supported me.





# What is 'Inspiration from Nature'?

**'Inspiration from Nature' makes use of observing how nature solves problems and adopting these to your problem space.**

We can make use of inspiration from nature to solve problems in design. Mankind has done this for thousands of years.

Examples of some Inspirations from nature:

1. The shape of the beak of the kingfisher bird as inspiration for the shape of the bullet train.
2. The fractal structure found in nature as inspiration for making structurally strong architectural buildings.

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A10.3

What is 'Concept  
Evaluation'?



# What is 'Concept Evaluation'?



The several concept ideas that are generated need to be evaluated to prioritise the concepts:

The way to do this would be to make a matrix of ideas on one axis and the design criteria on the other axis and give weightages to the design criteria based on a scale.

The different design criteria could be based on these:

1. User Experience and Environment (Sustainability)
2. Form (Aesthetics) and Function
3. Creativity and Innovation (Newness)
4. Cost and Maintenance

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A10.4

# What are Concept Maps?



# What are 'Concept Maps'?

Concept Maps visually depict how the idea is interconnected to other components or parts of the problem space that you are trying to find a solution.

Concept Maps are helpful to give an overview of the parts of the solution

Concept mapping for understanding and learning was developed by Joseph D. Novak at Cornell University in the 1970s



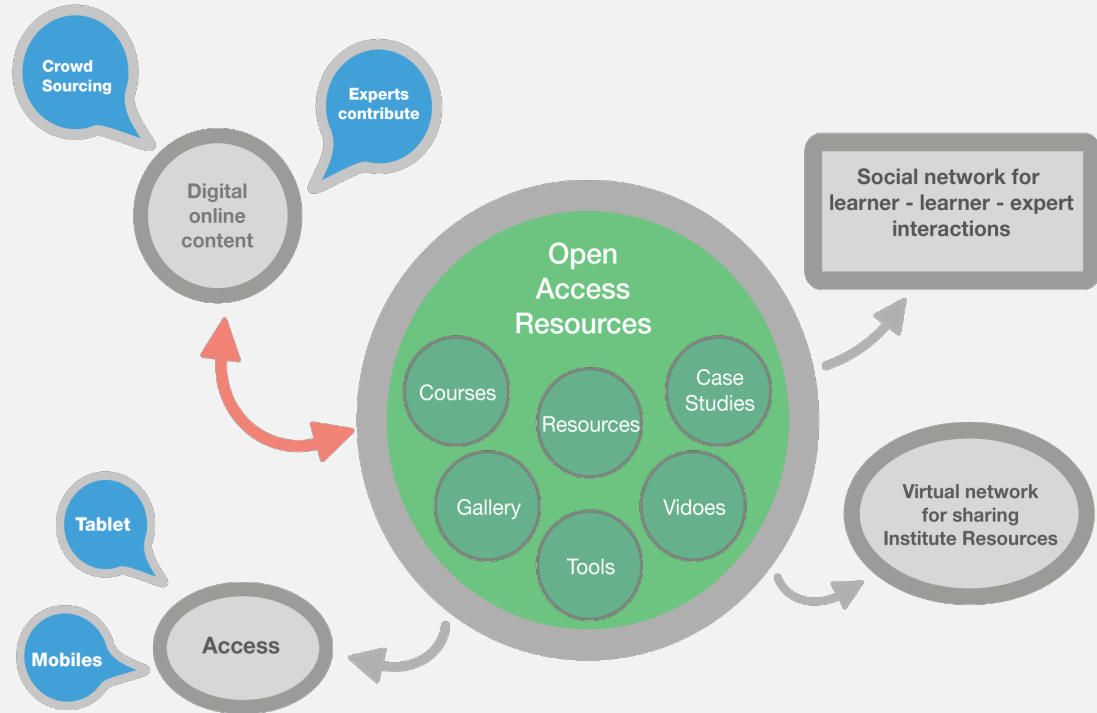
Joseph Novak

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# What are 'Concept Maps'...

Here is shown an example of concept map visually representing the different components of the D'source.in learning environment as an idea.



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A10.5

# Why is Ideation part 2 Important?



# Why is 'Ideation part 2' important?



- Ideation part 2 shows another creative ideation tool 'Synectics' to support creation of unusual and surprising ideas.
- once there are several ideas, the **ones that are most appropriate can be chosen through evaluation and taken up for further development.**
- It makes sense to present the chosen final ideas as Concept Maps as these would visually represent the interconnections between the components of the system.



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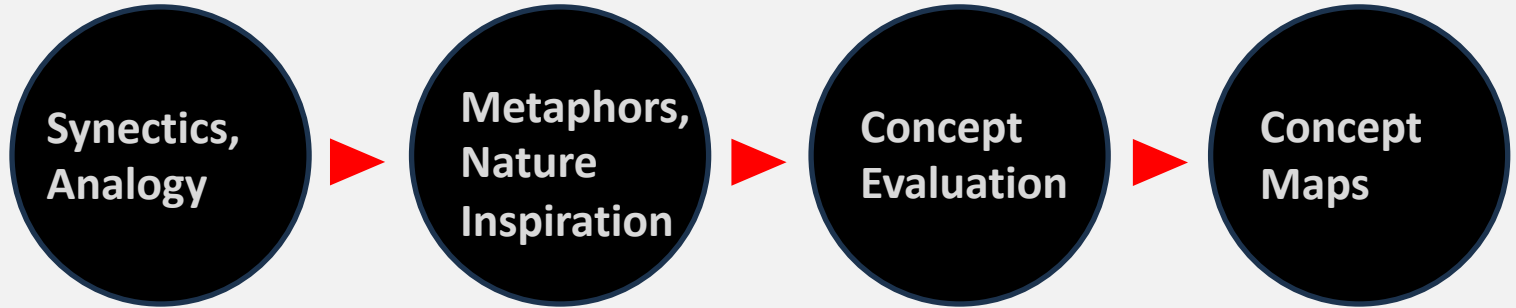
A10.6

What does  
Ideation Part 2  
involve?



# Ideation part 2:

(Synectics/Analogy/Metaphors/Nature Inspiration > Concept Evaluation > Maps)



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A10.7

# Further Study and References



# Further Study and References:

- [www.dsource.in](http://www.dsource.in)  
DT&I, Case Studies, Courses, Tools, and Resources  
<https://dsource.in/dti>  
<https://dsource.in/case-study>  
<https://dsource.in/course>  
<https://dsource.in/tools>  
<https://dsource.in/resource>
- The Act of Creation.  
by Arthur Koestler, Last Century Press, reprint 2021
- Lateral Thinking  
by Edward De Bono, Penguin Publications, 2014
- Creativity: The Psychology of Discovery and Invention  
by Mihaly Csikszentmihalyi, Harper Perennial Publications, reprint 2013


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Design Quote:  
“The best way to  
predict the future  
is to create it.”

*Abraham Lincoln*





**Thanks for  
Listening**

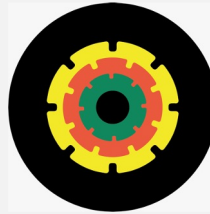
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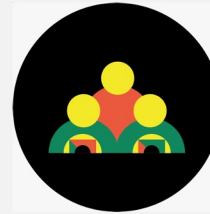
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## Supporting Organizations:



D'source Project



Open Design School



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**Credits:**

**Presented by:**  
Prof. Ravi Poovaiah



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## Credits:

**Camera & Editing:**  
Santosh Sonawane



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## Credits:

Think Design Animation:  
Rajiv Sarkar



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## Credits:

**Graphic Icons:**  
Shweta Pathare



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## Credits:

End Title Music:  
C P Narayan



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