

3.0 Module 3

Introduction to Creativity:

18 hours (12 in school and 6 at home)

Design
Skills



Design
Sensitivity



Exposure 1
Exposure 2

Exposure 1: Introduction to Creativity and Innovation
Exposure 2: Creativity methods – Lateral thinking and Analogies

Overall Task

Observation and Problem Identification

Task 3.1 (at School + Home)

- Observation of Creativity in Nature
- Creative Doodling

Task 3.2 (at School + Home)

- Creative Art Exchange
- String Stories Creatively

Task 3.3 (at School + Home)

- Creative Uses for an Object:
- Create a Room with Emotions

Task 3.4 (at School)

- Create Music using every Objects

Task 3.5 (at School)

- Creative redesign of a Cart

Final Output

- Make a presentation of your documentation
- + Reflections, Self Assessment and References

3.0 Module 3

Introduction to Creativity:

18 hours (12 in school and 6 at home) = 18 credits



Introduction:

Creativity and innovation module is intended to encourage students to explore, experiment and learn design skills, discovery through creative explorations and problem solving. The tasks and activities would help the students to break away from the usual rigid thinking by learning how to approach a problem in a creative manner.



The module covers the following methods of creativity:

- A. **Lateral thinking** is a manner of solving problems using an indirect and creative approach via reasoning that is not immediately obvious.
- B. **Divergent thinking** is a thought process or method used to generate creative ideas by exploring many possible solutions.
- C. **Analogical thinking** is a process of finding a solution to a problem by finding a similar problem with a known solution and applying that solution to the current situation.

Types of creativity:

This is one of the ways in which creativity can be classified. The activities are designed to accommodate all four types of creativity.

- A. **Deliberate cognitive creativity** is when we are focused and are consciously aware of the process based on our prior knowledge like the inventions of Edison.
- B. **Deliberate emotional creativity** is consciously influenced by our emotions.
- C. **Spontaneous cognitive creativity** is an unconscious and unpredictable process, but still requires prior knowledge like Archimedes and Newton's discovery.
- D. **Spontaneous emotional creativity** is what usually occurs in artists and musicians.

Aim of the Course:	This module will expose students to different kinds/areas of creativity: <ul style="list-style-type: none"> - Fostering creative thinking among students and helping them express their creativity in various ways - To encourage innovation, exploration and novelty - To familiarise students with the design thinking process - To inculcate problem identification and solving skills among students
	Desired outcome from this module: <ul style="list-style-type: none"> - Students learn different manners of creative thinking such as lateral thinking, divergent thinking, analogical thinking, etc. - Students gain exposure to iterating, critiquing each other and avoiding fixation of ideas - Students get familiarised with spatial awareness, abstraction and detailing - Students get an understanding of contextual learning through certain activities. - Students learn to interact with others and collaborate with their peers. This also encourages peer learning.
Place:	Place: Task 3.1, Task 3.2, Task 3.3 done at School and Home and Task 3.4 and 3.5 done at school 
Grouping:	Grouping: Class tasks are done in groups of 3-4 and Home tasks are individually 
Equipment:	Equipment: Smart Mobile phone with Camera for documenting and recording + Notebook/Sketchbook for sketching, Stationary (Pencils, Pens, Colours, Tracing paper, Black Ink and brush or brush pen, colour pens), students may use digital devices like computers or tablets (if available, but not necessary).
Exposures	Exposure 1: Introduction to Creativity and Innovation Exposure 2: Creativity methods – Lateral thinking and Analogies
Design Thinking & Innovation Process involvement:	This task involves the following phases of the DT&I Process: Phase 1. Observe/Empathise/Research (observation of creativity in nature) Phase 2. Understand/Analyse/Define (analysing creativity methods) Phase 3. Ideate/Alternate/Create (trying creative alternatives) Phase 4. Build/Prototype/Detail (making a presentation) Phase 5. Evaluate/Reflect/Implement (feedback from others)
Mapping SDG Goals:	The following SDG goals need to be considered while solving this task. While documenting elements and expressions, do think of gender equality and reduced inequalities and concern for life on our planet.



Task 3:

Task 3 = 3.1 + 3.2 + 3.3 + 3.4 + 3.5

School Hours: 12, Home hours: 6



Task 3.1a



Task 3.1a:

School Hours: 2, Done in groups of 3-4 at School

Task Title:

Observation of creativity and innovation in Nature:

The students need to observe examples and find answers to **how does nature solve its problems?** Then they gather examples from nature and try to make something useful.

This task involving observation, analysis and creativity is an example of both spontaneous and well as deliberate cognitive creativity.

1. The students go on a field visit to the nearby park or garden
 2. The students ask questions - why is a seed shaped this way? Why are the flowers like this? Why does the fruit fall to the ground? etc.
 3. How would you go about finding answers to the above questions?
 4. The students also collect examples of fallen fruits, seeds, flowers, leaves, twigs, stones, etc.
 5. Use these collected examples to create something useful. The students are encouraged to even come out with multiple uses.
- Tips: could be a gift, game, painting, ornament, whistle, etc.
(For example – paint the leaves with different figures and use it as bookmarks, coasters or as greeting cards)

Output 3.1a: Presentation of the creative examples of something useful.

Task 3.1b



Task 3.1b:

Home Hours: 2, Done individually

Task Title:

Creative Doodling:

This task is an example of spontaneous emotional creativity. The student does free instinctive explorations trying out creative alternatives.

1. Students select a few everyday objects found around them
2. They place one or two of the objects on an A4 size sheet and draw/doodle around it to create an interesting image. Use of colors is permitted
(For example, bottle caps could be used in place of eyes to make a face.)
3. The students try at least 3 different variations using the same object or different ones
4. Give titles to each of the explorations
5. Document through photography the different variations

Output 3.1b: Present your creative doodle solutions in the class

Task 3.2a



Task 3.2a:

School hours: 2, Done in groups of 3-4 students

Task Title:

Creative Art Interchange:

This task is an example of spontaneous emotional creativity. The student does free instinctive explorations trying out creative alternatives based on inputs from a colleague.

1. The 3-4 students start the task by drawing anything of their choice separately on a part of A3 size sheets of drawing paper. The drawing can be as detailed as possible and can be coloured.
2. After 10-15 minutes, they exchange their sheets in a clockwise direction and continue and add on to what the previous teammate has drawn
3. They repeat this process for an hour and half so that each student gets to work on an artwork for 10-15 minutes, twice
4. In the end, they'll have 3-4 paintings with equal involvement from each member of the team
5. Give a title to each of the drawings

Output 3.2a: Present the final 3-4 drawings to the class. Discuss about the qualities of the output

Task 3.2b



Task 3.2b:

School hours: 2, Done in groups of 3-4 students

Task Title:

String Stories Creatively:

This task is similar to the previous task and is an example of spontaneous emotional creativity. The student does free instinctive explorations trying out creative alternatives for a story based on inputs from a colleague.

1. The 3-4 students start the task by creating the beginning of an interesting story of their choice separately on A4 size sheets of writing paper
2. After 10-15 minutes, they exchange their sheets in a clockwise direction and continue and add on to what the previous teammate has written
3. They repeat this process for an hour and a half so that each student gets to work on adding to the story for 10-15 minutes, twice
4. In the end, they'll have 3-4 stories with equal involvement from each member of the team
5. Give a title to each of the stories

Output 3.2b: Present the final 3-4 stories to the class. Discuss about the qualities of the output

Task 3.3a



Task 3.3a:

Home hours: 2, Done individually

Task Title:

Creative Uses for an Object:

This task is an example of Deliberate Cognitive creativity. The student has to creatively think out of the box to conceive multiple uses for the same product. The students are encouraged to make use of SCAMPER – a simple, quick

creativity technique. SCAMPER stands for: Substitute, Combine, Adapt, Modify, Put to another use, Eliminate and Reverse.

1. The student can choose an everyday object – could be your pencil, ice-cream sticks, straws, spoons, etc.
2. Discover alternate uses for the product. You could make use of several of the same object
3. Make use of the SCAMPER technique – try to find a solution for each of the words
4. Draw your solutions on separate A4 size sheets
5. In the end, you need to have at-least 3 alternative uses for the same product

Output 3.3a: Present the final alternative uses of the product to the class.

Task 3.3b



Task 3.3b:

School hours: 2, Done in groups of 3-4 students

Task Title:

Create a Room with Emotions

This task is an example of Deliberate Emotional creativity. The student has to creatively design a room based on expressing an emotion. The students are encouraged to think of **Analogies** of Emotions from Nature.

1. Each group selects one of these words: - Joy, sorrow, chaos, fear, calm
2. Each group makes a 3D room of given dimensions out of craft board or similar materials. Floor - 20x20 cm, Ceiling - 20x20 cm, 4 walls - height of the walls can be decided by the students based on the word that has been assigned to them
3. The students have the choice to draw, paint or stick (can be 3 dimensional) on the inner surfaces of the room so that the final outcome makes the occupant of the room get a feel of the word assigned to them
4. The students are encouraged to play with lines, shapes, colors, textures and scale. They can also use additional materials.

Some analogies from Nature:

- Bright and warm colours make most people feel happy and optimistic, whereas dull, dark colours might make you feel gloomy
 - Congested spaces like a forest can be perceived as suffocating and a wide, open space might make someone feel lost or lonely
 - Crisscrossing lines and shapes can be chaotic to look at while horizontal lines and flat shapes can give the feeling of calmness
5. Ask the students to look at spaces created by the other teams and analyze what colors and elements create or enhance the feelings intended, and think about what would they change in others outcome

Output 3.3a: Present the final design of the room with the chosen emotion to the class

Task 3.4



Task 3.4:

Home hours: 3, Done with family and friends at home

Task Title:

Create Music using everyday Objects:

This task is an example of Deliberate Emotional creativity. The student has to creatively think out of the box to figure out how to make sounds out of everyday objects and create music.

- . Then the student needs to explore rhythms and with the support of family members to create rhythms and
- 1. Students have to create their own sounds using the materials of their choice. The students are encouraged to experiment with different materials and try various tunes, rhythms, volumes and tempos (try clapping normally, try clapping with a rhythm, try an alternative rhythm – this is the way to go)
- 2. The students need to make their own sources of sound (using elastics, cups with different amounts of water, steel railings, spoons, pans, sticks, etc.) (No musical instruments or apps should be used for this task).
- 3. Practice the tune until you feel it's fine
- 4. Take support/help from family members/friends to play multiple materials at the same time as a group
- 5. On a mobile, record short video of the group playing the music

Output 3.4: Present the final music video to the class

Task 3.5



Task 3.5:

School hours: 3, Done in groups of 3-4 students

Task Title:

Creative re-design of a Vendor Cart

This task is an example of Deliberate Cognitive creativity. The students in groups have to creatively redesign a vendor cart and come out with several alternative solutions.



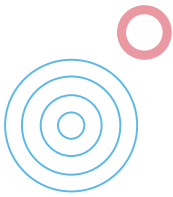
1. The students select a vendor cart – could be for selling fruits, vegetables, street food, juices, etc.
2. Study the cart – its functions, portability, construction, usefulness, convenience, etc.
3. Creatively think or brainstorm of ways to extend the usefulness of the cart, make it easier to use and market, perform activities on the cart, etc.
4. The students are encouraged to look at the cart from several alternate points of view – lighting, shading for rain/sun, storage, display, announcing, sometimes cooking, protection, etc
5. Make use of creativity techniques of group Brain storming, Lateral thinking, SCAMPER and Idea sketching
6. Come out with several ideas and finalize at-least 3 redesign alternatives as sketches or drawings
7. Do a brief write-up about each of your solutions

Output 3.5: Present the final design sketches of the redesigned vendor carts to the class

Reflection:



Assessment:



Questions to ponder:

- Do you enjoy doing these tasks?
- Will you use some of the methods of creativity to ideate solutions for problems at home and in your neighbourhood?
- Will you share the methods of creativity techniques with others?

Assessment Criteria (Task 3.1 + 3.2 + 3.3 + 3.4 + 3.5) - Assess yourself:

- The Observation of Creativity in Nature as well as the presentation of the creative examples of something useful was done well (Group task 3.1a)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

- The presentation of the creative doodle solutions in the class was done well (Individual task 3.1b)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

- The presentation of the creative Art Interchange examples were done well (Group task 3.2a)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

- The presentation of 3-4 creative string stories solutions in the class was done well (Group task 3.2b)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

- The presentation of the final alternative uses of the product to the class was done well (Individual task 3.3a)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

- The presentation of the final design of the room with the chosen emotion to the class was done well (Group task 3.3b)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

- The presentation of the video creating music using everyday objects was done well (Group task 3.4)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

- The presentation of the sketches of the redesign of the vendor cart to the class was done well (Group task 3.5)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<i>Beginning</i>	<i>Developing</i>	<i>Promising</i>	<i>Proficient</i>	<i>Excellent</i>

Other References:

Other suggested References:

1. Lateral thinking:

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4. Book: Lateral thinking: Creativity Step by Step - Book by Edward de Bono:

Bono, D. E. (2015). Lateral Thinking: Creativity Step by Step (Reissue ed.). Harper Colophon.