

Communication Design Project 3

Design thinking and innovation in schools

Module: Creativity and innovation

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01 INTRODUCTION

OBJECTIVES

- To explore various ways of introducing the creativity to school children
- To design a fun and engaging module
- Designing assessments to gauge their learning
- Testing the tasks and activities
- Collecting feedback from students and teachers

Possible outcome:

A teaching module involving a lesson plan, tasks and activities and an assessment strategy.

Target audience:

Students of Grade 10 and teachers

CURRICULUM OVERVIEW

Grade 6/7/8	Introduction to elements of design	Form transition + Photography	Introduction to sketching	Introduction to design process	Introduction to creativity methods	Solve simple problems		
Grade 9	Photography to document	2D basics exploration	Need finding and documentation	Design of services	Sketching for ideation/ thinking	3D basics exploration	Analysis through mappings	Design of products
Grade 10	Design for moving images	Story creation in design	Creativity and innovation	Creative exploratory project	Presentation techniques	Design of products and systems	Prototyping techniques	Design innovation enterprise project
Grade 11	Design for publications	Design of video film	Mapping and visualization	Communication design collaborative project	Form from nature	Interface design	Game or toy design	Product design collaborative project
Grade 12	Design for personal spaces	Design for home/office environment	Design for public environment	Design with elements of nature	Observation/ empathy: Capstone project I	Analysis: Capstone project II	Concepts: Capstone project III	Prototyping: Capstone project IV

An exposure course of 18 hours can be taken up in either grade 6, 7 or 8, where the focus is on exposure and discovery.

Grade 9, 10, 11 and 12 are allotted 160 hours each, where students learn about the topic in detail.

In grade 9, students learn design skills with focus on empathy and application of design thinking to solve simple problems. Grade 10 focuses on creativity and problem-solving.

In grade 11, they are introduced to different branches of design.

Grade 12 focuses on the application and execution part with capstone projects.

CREATIVITY AND INNOVATION

Structure of the module:

The subject 'Design thinking and innovation' has been allotted 160 hours of teaching for Grade 10 by the CBSE design team. There are multiple modules of different duration like 12, 18 and 32 hours. This module of 'Creativity and innovation' has been allocated 18 hours, which includes 12 hours of classroom learning and 8 hours of learning at home. The subject will be taught in a 2-hour session once a week, 6 Sessions in total, based on the timetable of the schools.

Learning overview:

- Learning design skills, discovery through creative explorations and problem-solving.
- Learning how to approach a problem in a creative manner.

Learning objective:

- Exposure to different kinds/areas of creativity.

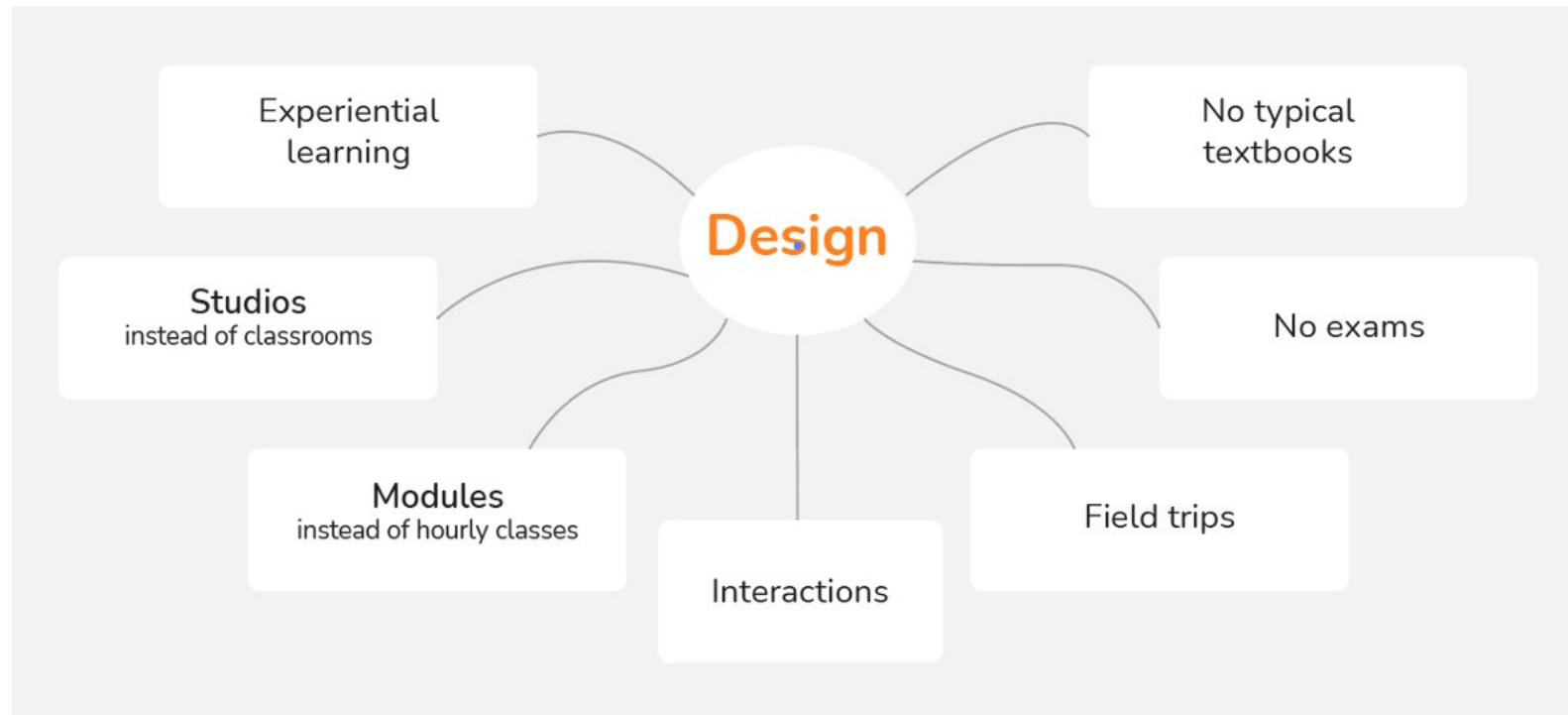
- Fostering creative thinking among students and helping them express their creativity in various ways.
- To encourage innovation, exploration and novelty.
- To familiarise students with the design thinking process.
- To inculcate problem identification and solving skills among students.

Learning outcome:

- 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 learn to interact with others and collaborate with their peers. This also encourages peer learning.
- Students get an understanding of contextual learning through certain activities.

02 DESIGNING THE CONTENT

LEARNING METHODS



As being done in design schools, design needs to be learnt in an experiential manner, in studios rather than classrooms, in modules instead of hourly classes, with ample interactions and collaborations, to provide a conducive environment that sparks creativity among the students.

Typical textbooks are not the best approach to this type of content. It rather needs to be fun, engaging and exciting. The learning has to be assessed with tasks and activities instead of final examinations. Field trips can be included to make it more fun and interactive.

Constructionism

Constructionism is the theory that says learners construct knowledge rather than just passively taking in information. As people experience the world and reflect upon those experiences, they build their own representations and incorporate new information into their pre-existing knowledge. (Constructivism, 2022)

Since 'Creativity and Innovation' is not a typical school subject that can be learnt through reading the textbooks, constructionist theories are much more suitable for learning this type of content where student enhance their skills and creative thinking and learn how to apply them beyond the classroom.

It encourages students to,

- take new information and fit it into an existing schema.
- engage actively in learning experiences rather than passively receiving information.
- work together with classmates and teachers to build knowledge.
- build on what they already know, by exploration and experimentation.
- learn how to apply the newly acquired information.

Peer learning

Peer learning is the process of students learning with and from each other.

Lateral thinking

Lateral thinking is a manner of solving problems using an indirect and creative approach via reasoning that is not immediately obvious.

Divergent thinking

Divergent thinking is a thought process or method used to generate creative ideas by exploring many possible solutions.

Analogical thinking

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.

Contextual learning

Contextual learning takes place when teachers are able to present information in such a way that students can construct meaning based on their own experiences.

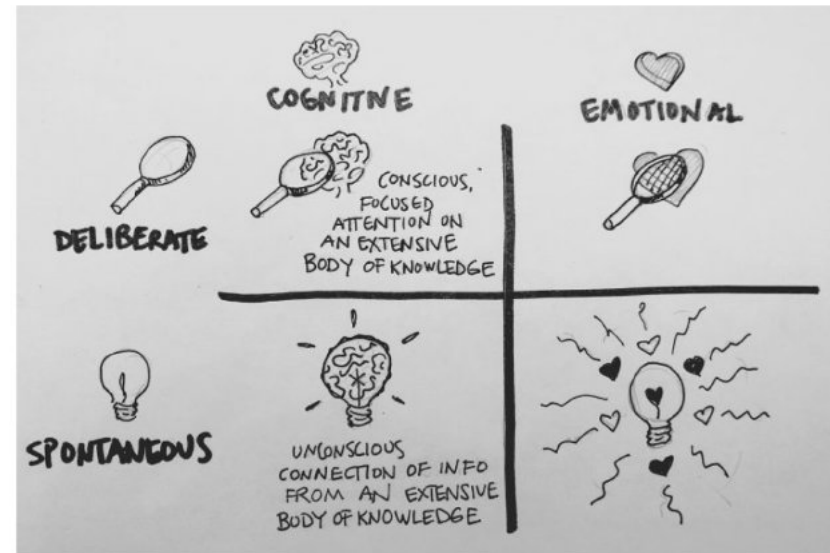
The teaching module is designed to incorporate these ideas into students' learning.

TYPES OF CREATIVITY

This is one of the ways in which creativity can be classified.

- **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.
- **Deliberate emotional creativity** is consciously influenced by our emotions.
- **Spontaneous cognitive creativity** is an unconscious and unpredictable process, but still requires prior knowledge like Archimedes and Newton's discoveries.
- **Spontaneous emotional creativity** is what usually occurs in artists and musicians.

The activities are designed to accommodate all four types of creativity, along with encouraging other ideas like lateral thinking, divergent thinking, iterating, critiquing, avoiding fixation and analogical thinking among students.



[https://blog.grioc.com/2016/09/your-brain-on-cognitive-creativity-with-illustrations.html#:~:text=There%20are%204%20types%20of,%2C%20emotional%20\(Dietrich%202004\).](https://blog.grioc.com/2016/09/your-brain-on-cognitive-creativity-with-illustrations.html#:~:text=There%20are%204%20types%20of,%2C%20emotional%20(Dietrich%202004).)

LESSON PLAN OVERVIEW

Introduction

3 hours in class + 1 hour at home

Students are introduced to the module by taking them on a field trip followed by an introductory presentation.

Medium difficulty tasks

3 hours in class + 3 hours at home

The complexity of the activities increases with learning new skills and ideas.

Exposure

The tasks and activities have to be introduced using exposure presentations, rather than theory or lectures. The exposure presentation should be made easy to grasp and could include images, short videos, mock-ups, etc., which could be modified by the teacher as required to provide an idea about the topic.

Easy warm-up tasks

3 hours in class + 2 hours at home

Simple activities with minimal to no exposure to familiarise students with the learning methods.

Final task

3 hours in class

A final task to be done in class where students could apply their learnings.

Alternate tasks

For most of the tasks, one or more alternate tasks have been provided to avoid repetition over the years. In case a task is already carried out by the students of the preceding year, it needs to be replaced with one of the alternate tasks.

Day	Duration	Brief	Resources	Events
Day 1	2 hours	Introducing students to the field of creativity and innovation	Projector and speakers Team challenge materials	Field visit Presentation_1 Team challenge
Day 2	2 hours	Familiarising students with the learning methods	Projector and speakers A4 sheets Pen, pencils, colors	Warm up task_1 Homework_1 discussion
Day 3	2 hours	Familiarising students with the creative processes and catching up with pending tasks	Projector and speakers Building blocks A4 sheets Pen, pencils, colors	Warm up task_2 Warm up task_3 Discussion
Day 4	2 hours	Acquiring new skills and techniques	Craftboard Pencils, colors A craft repository A4 sheets Cutter/scissors, glue	Medium difficulty task_1 Homework_3 discussion
Day 5	2 hours	Acquiring new skills and techniques	Bindi's Building blocks A4 sheets, pencils, cutter, scissors, creasing tool, glue Water balloons	Medium difficulty task_2 Final task_introduction
Day 6	2 hours	Concluding the module	Water balloons	Final task_conclusion Competition

ASSESSMENT STRATEGY

There will not be any test or exam for this module. Students will be assessed based on the series of activities, homework and involvement in the class. Additionally, a self assessment questionnaire will also be provided to the students, to help them assess their learning.

Task score

The assessment criteria is provided for evaluating the tasks where points will be assigned based on specified criteria, which may vary for different tasks. On satisfying each criteria, a student is awarded 2 points. If a criteria is attempted but not fulfilled to the best extent, 1 point is awarded.

For example, a student satisfying Criteria 1 & 2, but barely attempting 3 for a particular task, would be awarded 5 points. Similarly, on satisfying all 5 criteria, 10 points would be awarded.

Points	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Total
Attempted - 1						
Satisfied - 2						
						Total points =

The task score for the module would be the average of points awarded in all the tasks.

$$\text{Task score} = \frac{\text{Points for task}_1 + \text{Points for task}_2 + \text{Points for task}_3 + \dots + \text{Points for task } N}{N}$$

where, N= total number of tasks

Involvement in class

Students will be scored out of 10 based on their overall involvement in class. This includes their attentiveness in class, enthusiasm towards the subject, the effort they have put towards task completion and their willingness to improve the outcomes based on constructive criticism.

Grading

Grade for the module = Task score (90 %) + Involvement in class (10 %)

Grade Awarded	Grade	Points
Outstanding	O!	10
Above Excellent	A1	10
Excellent	A2	9
Above Proficient	B1	8
Proficient	B2	7
Above Promising	C1	6
Promising	C2	5
Above Developing	D1	4
Developing	D2	3
Above Beginning	E1	2
Beginning	E2	1

FEEDBACK METHODS TO UPDATE THE CONTENT

Self assessment questionnaire and feedback form for students

This is intended to help the students assess their learning in this module. The online link will be shared with the students at the end of the module to help us understand what they have learnt, the challenges faced and how can the learning experience be improved.

1. Name *

2. School *

Mark only one oval.

Dropdown with school names

3. Did you enjoy the module 'Creativity and Innovation'? *

Mark only one oval.

Yes

No

Not sure

4. How creative do you think you are, on a scale of 10? *

Mark only one oval.

0 1 2 3 4 5 6 7 8 9 10

Not creative Very creative

6/21/22, 12:22 AM Self assessment and feedback form for students: 'Creativity and Innovation' - Grade 10

5. How difficult was each task for you? *

Mark only one oval per row.

	Very easy	Easy	Neutral	Difficult	Very difficult	I did not do this task
How does nature solve its problems?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team challenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Art interchange	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Write a short story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyday object doodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Age-old memories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abstraction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An object serves a different function	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Build a sculpture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sound exploration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel the sound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A room of feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An identity for yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surrealistic collage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A monochrome click	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capturing emotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a mosaic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D template	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make your own colors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making a Diya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water balloon race	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Portfolio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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6/21/22, 12:22 AM Self assessment and feedback form for students: 'Creativity and Innovation' - Grade 10

6. How was your performance for each of the tasks, according to you? *

Mark only one oval per row.

	Very good	Good	Neutral	Bad	Very bad	I did not do this task
How does nature solve its problems?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team challenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Art interchange	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Write a short story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyday object doodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Age-old memories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abstraction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An object serves a different function	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Build a sculpture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sound exploration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel the sound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A room of feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An identity for yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surrealistic collage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A monochrome click	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capturing emotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a mosaic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D template	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make your own colors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making a Diya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water balloon race	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Portfolio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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7. When your teacher gave you feedback, did you improve or redo those tasks? *

Mark only one oval.

Yes
 A few of them
 No

8. Select the tasks which were most interesting or enjoyable to you? (you can choose up to 3 tasks) *

Check all that apply.

- How does nature solve its problems?
- Team challenge
- Art interchange
- Write a short story
- Everyday object doodles
- Age-old memories
- Abstraction
- An object serves a different function
- Build a sculpture
- Sound exploration
- Feel the sound
- A room of feelings
- An identity for yourself
- Surrealistic collage
- A monochrome click
- Capturing emotions
- Make a mosaic
- 3D template
- Make your own colors
- Make a diya
- Water balloon race
- Portfolio

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6/21/22, 12:22 AM Self assessment and feedback form for students: 'Creativity and Innovation' - Grade 10

9. Select the tasks which were most boring to you? (you can choose up to 3 tasks) *

Check all that apply.

- How does nature solve its problems?
- Team challenge
- Art interchange
- Write a short story
- Everyday object doodles
- Age-old memories
- Abstraction
- An object serves a different function
- Build a sculpture
- Sound exploration
- Feel the sound
- A room of feelings
- An identity for yourself
- Surrealistic collage
- A monochrome click
- Capturing emotions
- Make a mosaic
- 3D template
- Make your own colors
- Make a diya
- Water balloon race
- Portfolio

10. Do you think this module inspired you to be more creative? *

Mark only one oval.

Yes

No

Maybe

11. What did you like the most about this module? *

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6/21/22, 12:22 AM Self assessment and feedback form for students: 'Creativity and Innovation' - Grade 10

12. What are the challenges you faced in this module? *

13. What do you think could be improved? Mention any comments if you have, for the course material or for the teacher. *

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Google Forms

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Feedback form for teachers

An online link will be shared with the teachers at the end of the module to understand their experience of teaching this module. This will add to the feedback methods to update the content over the years by helping us gain an overview of the experience of the teachers, the challenges faced by them and their feedback on what needs to be modified.

6/22/22, 8:47 AM Feedback form for teachers: 'Creativity and Innovation' - Grade 10

Feedback form for teachers: 'Creativity and Innovation' - Grade 10
Congratulations for successfully completing the module 'Creativity and Innovation'. Fill out this form carefully to help us understand your experience.

*** Required**

1. Name *

2. School *

Mark only one oval.

Dropdown with school names

3. What's your highest qualification? *

Mark only one oval.

Dropdown with qualifications

4. Which other subjects have you taught in schools before 'Design thinking and innovation'? *

5. Did you enjoy teaching the module 'Creativity and Innovation'? *

Mark only one oval.

Yes
 No
 Not sure

6. Rate the overall creativity of the class on a scale of 10 *

Mark only one oval.

0 1 2 3 4 5 6 7 8 9 10

Not creative Very creative

<https://docs.google.com/forms/d/1j9fozD8O4ZjOYHk0wShwSYGm8yztAbswe5uxmeiPeDQ/edit> 1/7

6/22/22, 8:47 AM Feedback form for teachers: 'Creativity and Innovation' - Grade 10

7. How was the students' enthusiasm for each of these tasks? *

Mark only one oval per row.

	Very high	High	Medium	Low	Very low	This task wasn't performed buy the students
How does nature solve its problems?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team challenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Art interchange	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Write a short story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyday object doodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Age-old memories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abstraction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An object serves a different function	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Build a sculpture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sound exploration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel the sound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A room of feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An identity for yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surrealistic collage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A monochrome click	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capturing emotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a mosaic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D template	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make your own colors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making a Diya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water balloon race	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Portfolio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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6/22/22, 8:47 AM Feedback form for teachers: 'Creativity and Innovation' - Grade 10

8. How was the overall performance of the class for each of the tasks? *

Mark only one oval per row.

	Very good	Good	Neutral	Bad	Very bad	This task wasn't performed buy the students
How does nature solve its problems?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team challenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Art interchange	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Write a short story	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyday object doodles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Age-old memories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Abstraction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An object serves a different function	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Build a sculpture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sound exploration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feel the sound	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A room of feelings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An identity for yourself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surrealistic collage	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A monochrome click	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Capturing emotions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a mosaic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3D template	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make your own colors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making a Diya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Water balloon race	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Portfolio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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6/22/22, 8:47 AM Feedback form for teachers: 'Creativity and Innovation' - Grade 10

9. Did the students improve or redo their submissions based on your feedback? *

Mark only one oval.

All of them

Most of them

Some of them

A very few of them

None of them

10. Select the tasks which were difficult for you to carry out. *

Check all that apply.

How does nature solve its problems?

Team challenge

Art interchange

Write a short story

Everyday object doodles

Age-old memories

Abstraction

An object serves a different function

Build a sculpture

Sound exploration

Feel the sound

A room of feelings

An identity for yourself

Surrealistic collage

A monochrome click

Capturing emotions

Make a mosaic

3D template

Make your own colors

Make a diya

Water balloon race

Portfolio

None

11. For the above question, specify the challenges faced for performing the tasks? *

<https://docs.google.com/forms/d/1j9fo2DBO4ZjOYHkQwShwSYGm8yztAbswe5uxmeiPeD0/edit> 4/7

6/22/22, 8:47 AM Feedback form for teachers: 'Creativity and Innovation' - Grade 10

12. Which task(s) do you think should be removed? Why? *

13. How helpful is the assessment criteria? Is it easy to comprehend and follow? Would you like to * change anything?

14. Did you have time to introduce an additional task of your own? If yes, briefly explain the task. *

15. If you had to add another task, what would it be? *

16. Did you get a chance to conduct an online exhibition this year? *

Mark only one oval.

Yes

No

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6/22/22, 8:47 AM Feedback form for teachers: "Creativity and Innovation" - Grade 10

17. Did you get a chance to present the online showcase to the students? *

Mark only one oval.

Yes

No

18. Do you think this module has enriched students' creative thinking? *

Mark only one oval.

Yes

No

Maybe

19. What did you like about this module? (You could mention your thoughts regarding the lesson plan, teacher's manual, resources provided, tasks and activities, etc.) *

20. Are there any other problems or issues that you would like to address? *

21. What do you think could be improved? Mention any comments if you have. *

This content is neither created nor endorsed by Google.

<https://docs.google.com/forms/d/1j0fo2DBO4ZjOYHKwShwSYGm8yztAbzwe5uxmeiPeD0/edit> 6/7

Online showcase

- For the Online Showcase, the teacher uploads the three best works for each activity every year, so that all teachers have access to the best works done by the students of other schools.
- This link will be accessible only to the teachers. It can be presented to the students at the end of the module, or during the exhibition.
- It also serves as positive encouragement for students to get their work displayed online.

03 TASKS AND ACTIVITIES

How does nature solve its problems?

55 mins | Group of 3-4

Take students out on a field trip to a nearby park. Walk around with them and talk about how nature solves its problems with 1-2 examples.

Divide the class into groups of 3 or 4. Let them walk around in groups to observe and collect different leaves, seeds, fruits etc. Select one object for each group to discuss. Encourage them to ask questions - why is a seed shaped this way? Why are the flowers like this? etc. Let them find the answers from available resources as homework and present their findings in class.

Type of creativity:
Deliberate cognitive

Outcome:
Presentation

Students' Learnings:
Divergent thinking, lateral thinking, teamwork



<https://www.huntington.org/verso/2020/07/spines-thorns-and-prickles>

<https://in.pinterest.com/pin/507710557965857540/>

<https://www.pxfuel.com/en/free-photo-oaguy>

Feedback from teachers

- This is a good way of introducing the topic of 'creativity' to students. Experience is the best teacher. Taking inspiration from nature will help in solving many other problems.
- Good task beyond classroom studies. The teacher should be well prepared to address the curiosity of the children in this case. This activity gives the instructor the opportunity to learn more too. Taking them outdoors sparks interest in the subject in young minds. It's not just theory, but practical class too.
- We rarely have group activities for children in our school. This will encourage mutual communication and interactions.

Team challenge

30 mins | Group of 5-6 | Classwork

The groups compete against each other to win a series of tasks. Each group selects one student to perform every task. The teammates can verbally guide them towards victory. Winning each task gets the team 10 points. The group with the highest points wins the challenge.

1. Make a tower using the playing cards (1 deck) in 10 mins. The group with the tallest tower wins. 10 mins
2. Image completion: Each group gets multiple copies of an incomplete figure. Complete the figures in 10 minutes. The group with the highest number of different completed figures wins. 10 mins
3. Using any of the provided items (a bottle cap, 2 straws, 3 toothpicks, tissue paper and 2 pieces of jute rope - 1 ft long each), bring the floating ball out of the bucket of water without touching it directly. The group to finish the task first wins. 10 mins

Type of creativity:

Spontaneous & deliberate cognitive

Outcome:

Task completion

Students' Learnings:

Teamwork, quick thinking, divergent thinking, lateral thinking

Alternate Team challenge

1. Make a tower using the given number of paper cups in 10 mins. The group with the tallest tower wins.
2. Image completion: Each group gets multiple copies of an incomplete figure. Complete the figures in 10 minutes. The group with the highest number of different completed figures wins. Change the incomplete figure provided.
3. Using any of the provided items (2 thumbtacks, 10 paper clips, 2 rubberbands and a pen), place the ball in the circle 1m away, without touching it directly. The group that finish the task first wins.

Feedback from teachers

- This challenge will help the students to understand their teammates better. They will learn to choose people for specific tasks based on their plus points.
- Though the tasks seem very basic, they encourage the students to think on their feet and come up with a creative solution quickly.
- The activities seem a bit too simple for 10th grade. Better to use educational games.

Modification

Initially, this was a 1-hour challenge with 5 tasks. Based on the teachers' opinion that some of them would be way too easy for this age group even as a warm-up, the activity has been modified.

Art interchange

Warm-up task | 60 mins | Group of 3 | Classwork

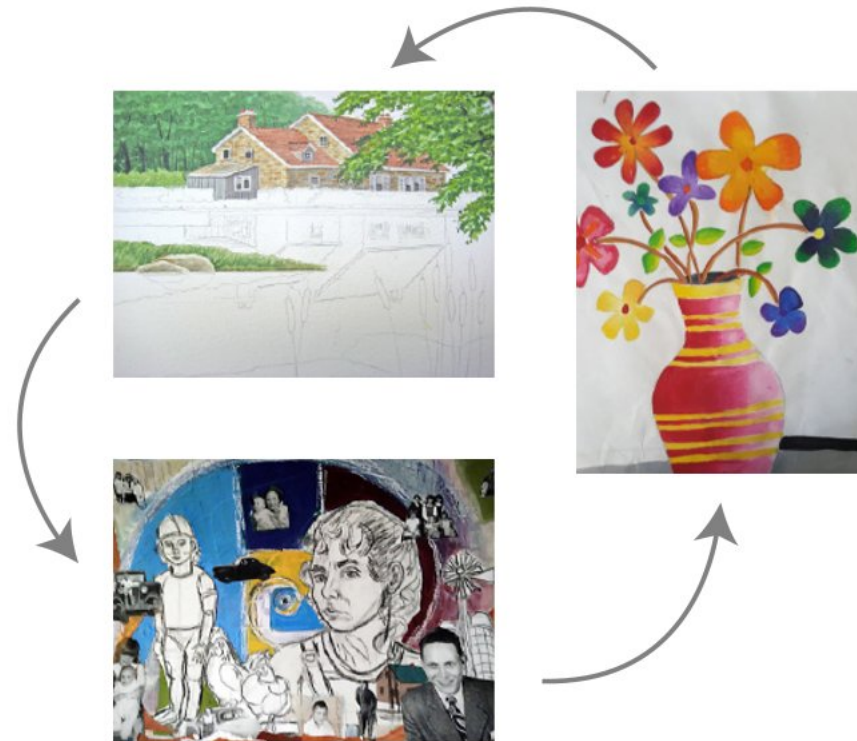
All three students start the task by drawing anything of their choice on separate A4-size sheets of paper. They can use colors. They should not look at the works of their group members.

After 10 minutes, they exchange their sheets in a clockwise direction and continue to draw and paint without any input from their teammates. They repeat this process for an hour, so that each student gets to work on an artwork for 10 minutes, twice. In the end, they'll have 3 paintings with equal involvement from each member of the team.

Type of creativity:
Spontaneous emotional

Outcome:
Artworks

Students' Learnings:
Avoiding fixation, Divergent thinking, teamwork, time management



<https://www.artinstructionblog.com/john-fisher-landscape-3>

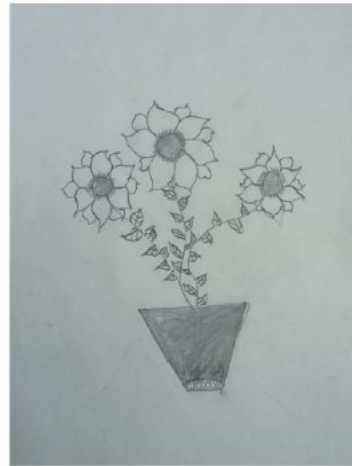
<https://in.pinterest.com/pin/840273242951084574/>

<https://artofschmidt.com/2022/03/09/artists-what-to-do-with-your-incomplete-art/>

Feedback from teachers

- This challenge is also helpful in learning to work with whatever is available. Sometimes, constraints encourage more creativity.
- Students will learn to face sudden changes to their ideas, and to handle twists and turns efficiently.
- Guesswork and understanding your teammates are very important here. Some students might struggle with time management.

Testing



Write a short story

Warm-up task | 60 mins | Individual | Classwork

Each student writes 5 words on separate chits.

1 - a character (person, animal, etc)

2 - a place/setting (forest, city, etc)

3 - an emotion

4 - an occasion

5 - any word of your choice

All the chits are mixed in 5 separate bowls and students are asked to pick 1 chit from each bowl. 15 mins

They have to write a short story (around 10 sentences) using any 4 of the 5 words that they've received. 20 mins

Ask a few students to narrate their stories in class. 25 mins

Type of creativity:

Spontaneous emotional

Outcome:

Story (around 10 sentences)

Students' Learnings:

Forming random connections, Divergent thinking, lateral thinking

Feedback from teachers

- We can never expect to get what we want. Students should learn to come up with creative solutions with whatever resources they have available.
- This activity Increases verbal creativity and divergent thinking.
- Students learn to form connections between random words/things which is very important for the creative thinking process.

Testing



Gokarna is a holy place. It is in Karnataka, India. One day I went to the beach (sea) in Gokarna. I was very excited to see the beach (sea) and to take photos. While returning home I saw the tourists worshipping the cow and doing pooja. I was very happy to see the devotion of the tourists towards the cow.

Moti's story

There was one dog in Kurita. Its name was Moti. On 21st July he was very happy, on the occasion of his birthday. He was very happy that he ^{will} eat the cake. # On that day he went to watch movie with his friends. But unfortunately, he did not get ticket, so became angry and returned back to his house.

Boy, competition, city, angry, Rabbit

Raju was boy. He lives in Damnagasi city. There was a speech competition in his school and he wants to participate in speech competition and he got the topic of Rabbit. He told a lot of things about Rabbit which was interesting. He won the competition, he felt happy.

In a forest, there was a house. An old man was living with his cat. On that day a party was arranged for his cat's birthday. He enjoyed a lot in party eating foods, cake and also by dancing and singing.

Dog, happy, birthday, cook, Desert

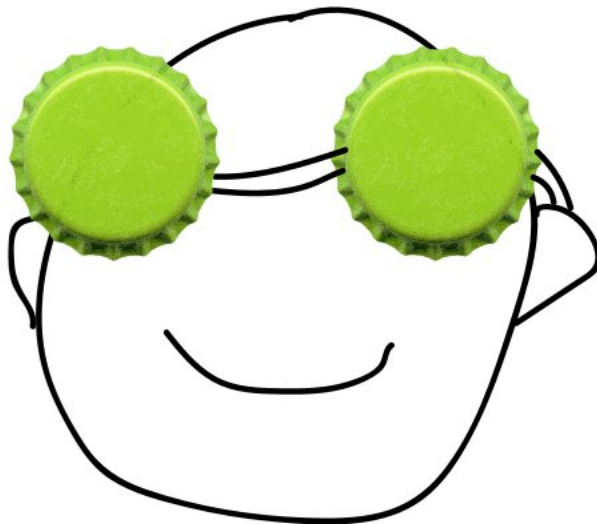
There was a dog. The dog have a dream to go desert. And one day it went ~~was~~ desert with her family. And the dog was so happy. The member of family cooked something. And they were really enjoying happily.

Everyday object doodles

Warm-up task | 60 mins | Individual | Homework

Ask the students to select a few everyday objects found around them. They now have to place one of the objects on an A4 size sheet and draw/doodle around it to create an image. Use of colors is permitted.

For example, bottle caps could be used in place of eyes to make a face. They should try at least 3 different variations using the same object or different ones. The photographs of their creations have to be submitted by the next class.



Type of creativity:

Spontaneous emotional

Outcome:

Photographs

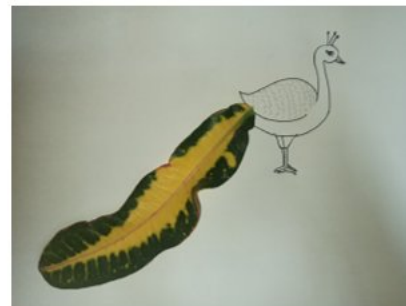
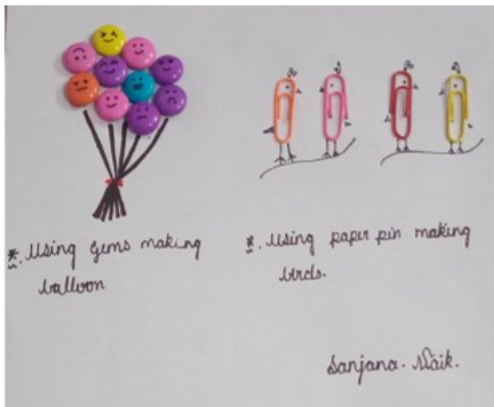
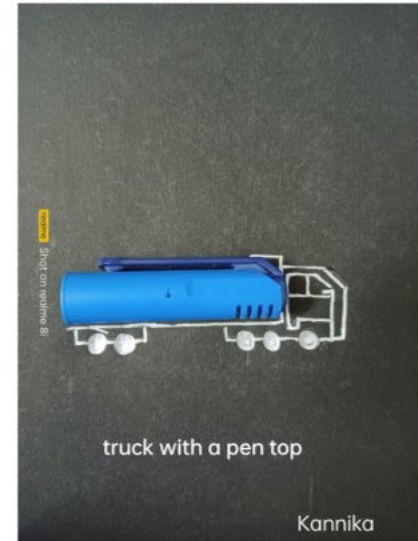
Students' Learnings:

Lateral thinking, divergent thinking, analogical thinking, forming random connections

Feedback from teachers

- Simple but a good task to execute original ideas. Students of this age group are strong learners and innovators. Hence it is definitely a lovely activity.
- This is where they can explore their ideas to a great extent. there is no right or wrong. They can do whatever they want.
- This activity would be very enjoyable for the students to bring out their creative thinking.

Testing



Age-old memories

Warm-up task | 60 mins | Individual | Homework

Students talk to one of their grandparents, relatives or neighbors (preferably above 60 years) and find out about their most memorable childhood experience. They have to summarize it in 5 to 10 sentences.

What was most interesting about their story? Ask them to represent it in a medium of their choice. It can be a sketch or a painting, a poem, a prototype, or anything else too. For example, if you find one of their handmade toys interesting, you can make it yourself and share it in the next class.

Type of creativity:
Mixed

Outcome:
No specification

Students' Learnings:
Lateral thinking, public interactions, contextual learning

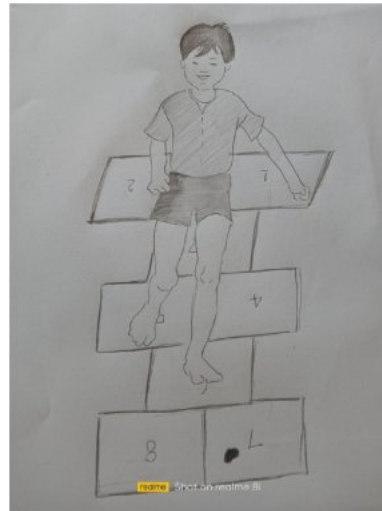
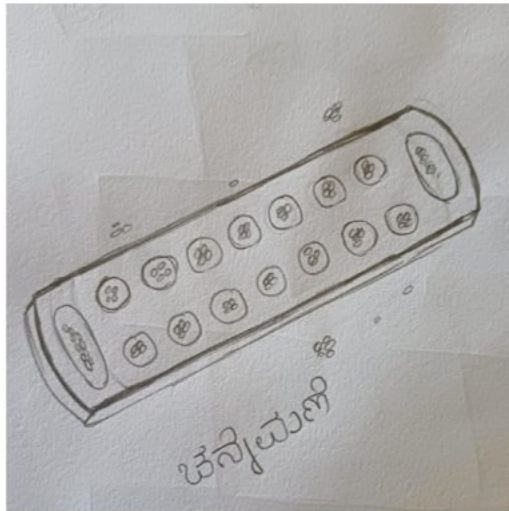


<https://mylittlthoughtslaneblog.wordpress.com/2019/10/15/coconut-leaf-decorations-workshop-and-memories-of-the-natural-handmade-toys/>

Feedback from teachers

- The activity encourages interacting with the people and understanding their memories and ideas. This skill would be very helpful in the creative field.
- Unexpected but innovative task which serves as a bridge between 2 generations.
- This will also give flashbacks of childhood to teachers. Students get to learn how life was back, their customs and traditions in the days in their own region.

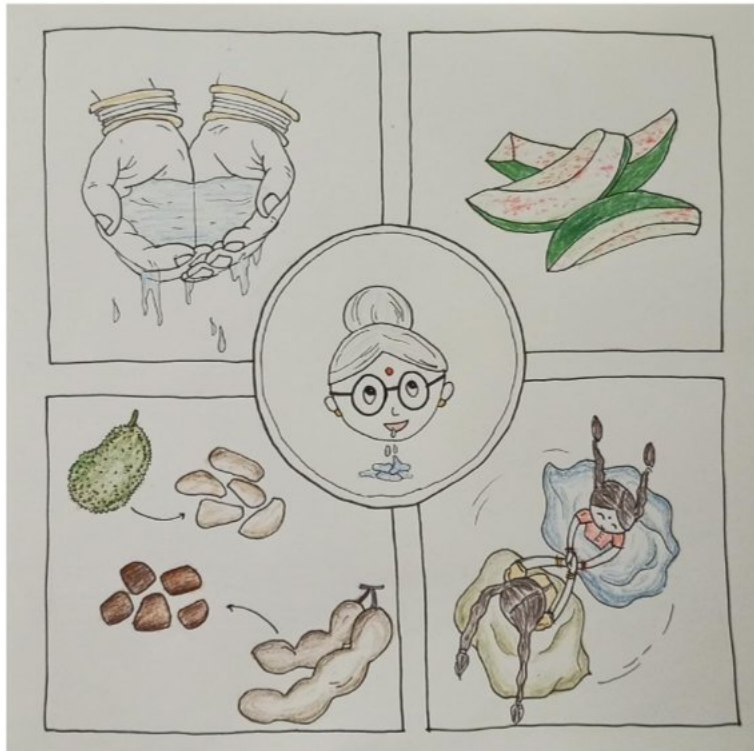
Testing



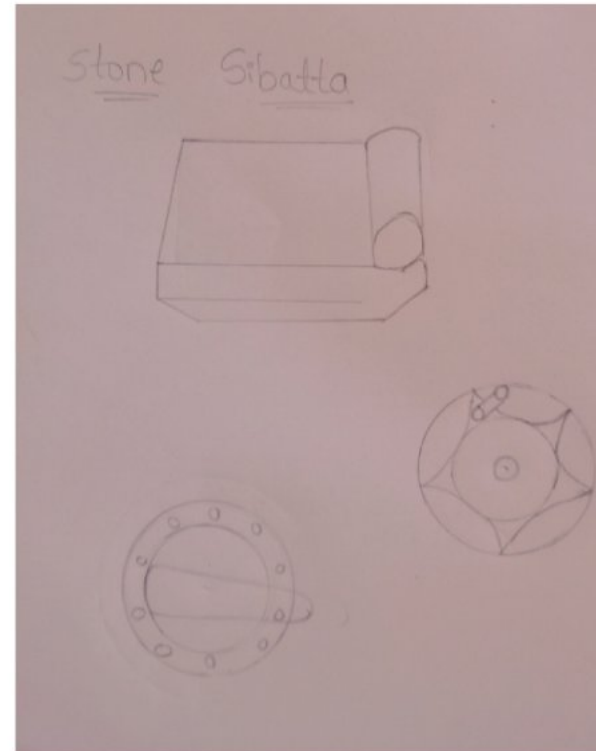
“My grandmother shared many of her childhood experiences with me. Chennemane and kuntebille were the games played by my grandma and her friends. Chennemane means a wooden block with holes. The game is played using large seeds of the local trees like ‘chenne seeds’. Kuntebille is a popular outdoor game in which players toss a small stone into numbered rectangles outlined on the ground.”



“As my grandparents shared their childhood memories..one of them was telephone..at that time telephones were used...early telephones means to enter the phone no and now we have to press buttons and that time telephones were rarely seen ,if anybody wants to talk with their relatives,kids or someone they need to go to their neighbours House and call them...and the toughest thing is to remember all the numbers.”



“My granny always wanted to go to a picnic with her friends when she was young. But in olden days, girls were not allowed to roam outside. It was very hard for them to convince their parents. Once, she called all her friends home and asked them to lie to her mom that their parents have agreed for the picnic. They then went to each of the other friends’ houses and convinced their parents to let them go for a picnic by repeating the same lie. That picnic is her fondest memory. They happily twirled together, holding hands, drank water from the river in their palms and ate raw mangoes with salt and chilli. When she told me the story, her mouth watered thinking about the roasted jackfruit and tamarind seeds, which were their snacks!”



“As my grandmother shared her childhood experience with me. This is how there mother was using a it..from grating coconut,red chillies, Ginger,raw mangoes to coriander seed ,Sibatta or ‘desi mixer grinder’ But now with the use of electrical mixer,grinder it became fast and easy to use, when my grandmother was small she used to help her mom to make chutneys..etc in traditional stone Sibatta. And she told that memory was the best while the chutneys,masalas were more delicious taste to the food.”

Abstraction

Warm-up task | 45 mins | Individual | Classwork

Step 1: Ask the students to collect a few flowers, leaves or seeds from their surroundings. They have to select one and draw it out, carefully studying its details.

Step 2: Encourage them to think about the details that can be eliminated for the object to not lose its essence. They need to draw it in the most minimal way possible.

Step 3: Students continue to repeat the process of abstracting their object till it is represented with the minimum number of lines, but is still recognizable.

Type of creativity:
Deliberate emotional

Outcome:
Sketches

Students' Learnings:
Abstraction, minimalism

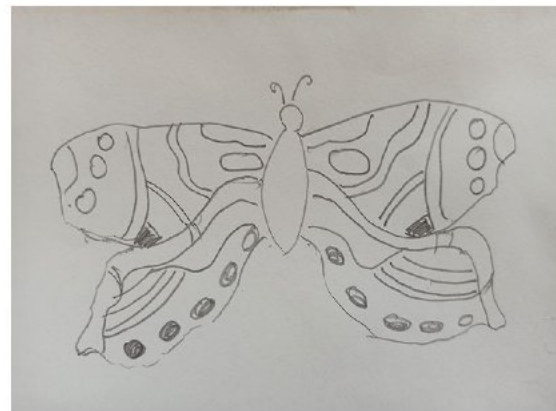
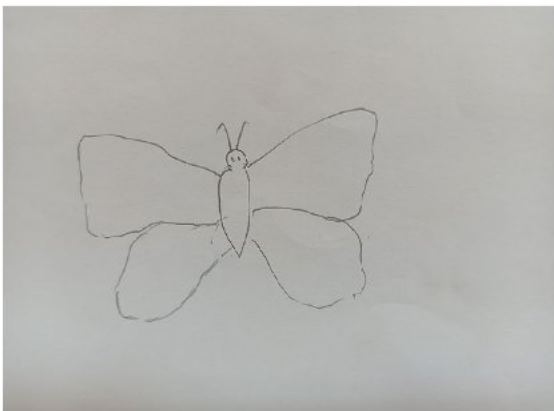
Feedback from teachers

- Learning minimalism is very important. Reducing the unnecessary details to keep only the essentials will help them in any design process, especially logo design.
- Progression challenge is easier compared to abstraction for the students. Abstraction is more challenging and quite interesting, while progression can be done by any one of a younger age too.
- Students can also learn time management from this activity along with learning how to abstract things.

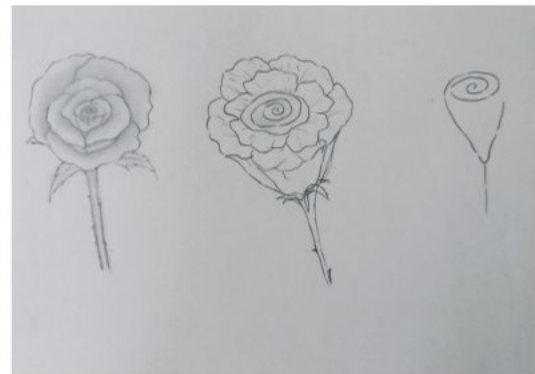
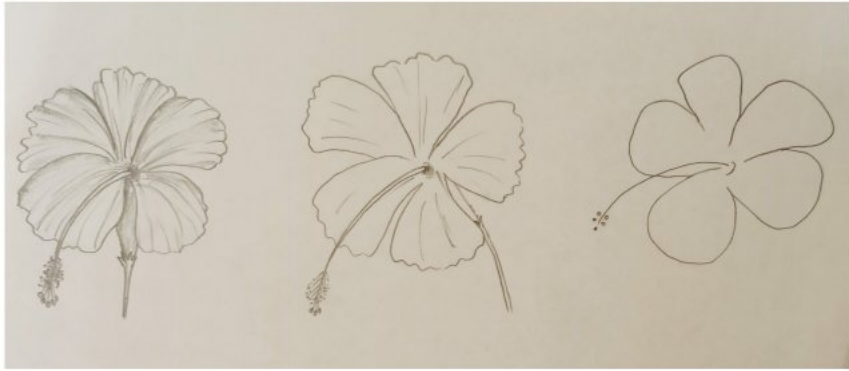
Modification

Initially, this activity also included a progression challenge where students have to draw the same object in 1, 5 and 15 minutes to observe how they have progressed with the availability of increased duration. Since it was too easy for the students of this age group, that part of the challenge has been entirely removed after testing and feedback from the teachers.

Testing - progression



Testing - abstraction



An object serves a different function

Warm-up task | 30 mins | Individual | Classwork

Each student selects any one object from their day-to-day life, like a pencil, a bulb, a water bottle, etc. Ask them to list as many other unconventional functions that the object can serve as possible. (pencil - tie your hair, bulb - terrarium, water bottle- planter, etc)

They select their most original and innovative idea and execute it.

Type of creativity:
Spontaneous cognitive

Outcome:
Real demonstration or Sketches

Students' Learnings:
Lateral thinking, divergent thinking, taking things out of context, avoiding fixation



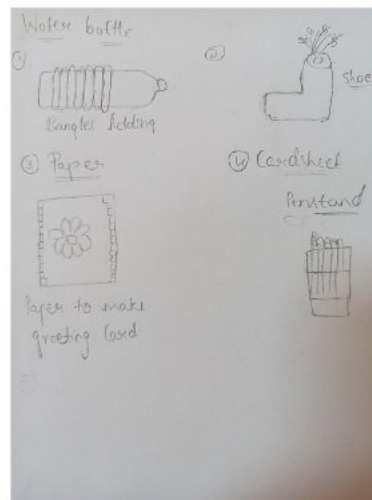
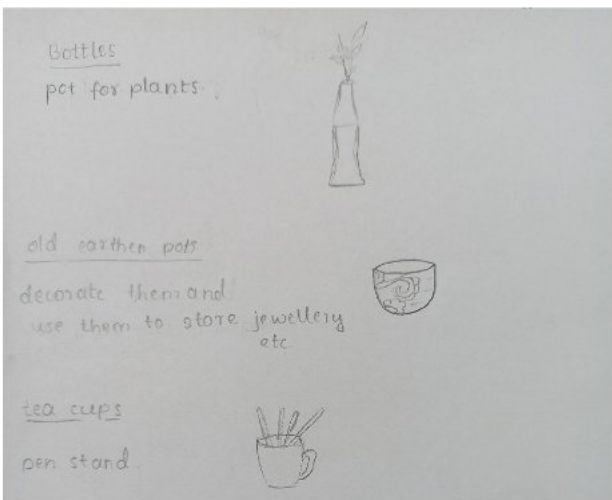
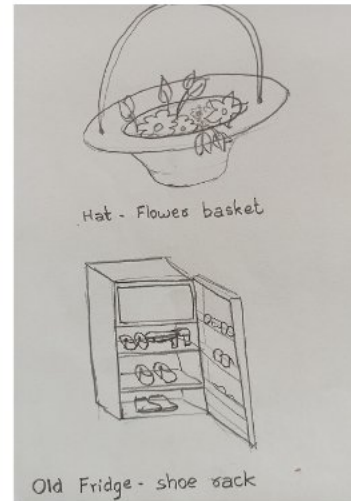
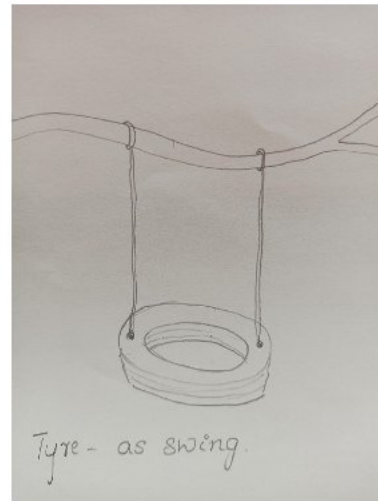
<https://www.wikihow.com/Put-Your-Hair-up-With-a-Pencil>
<https://green-carpet.myshopify.com/products/hanging-bulb-terrarium-bowl>



Feedback from teachers

- Amazing ideas will come from the students if they keep their eyes, ears and minds open. Great task to think outside the box.
- Students will be encouraged to come out of their comfort zone to think of different applications for the same object. It might look like a simple task, but it is time consuming for sure.
- As Edward De Bono said, this task involves breaking out of established patterns in order to look at things in a different way. But sketching out of imagination might be hard for some students.

Testing



Build a sculpture

Warm-up task | 30 mins | Group of 2 | Classwork

One student starts making an abstract form out of a limited number of lego or building blocks. After 10 minutes, the second student continues the task without any involvement of the teammate for the next 10 minutes. Once the structure is ready, they have to come up with 3 or more suitable applications for their form. Select the best one and make sketches incorporating necessary details.

Ask the other teams what they would use your form for. If found better, you may reconsider your submission.

Type of creativity:

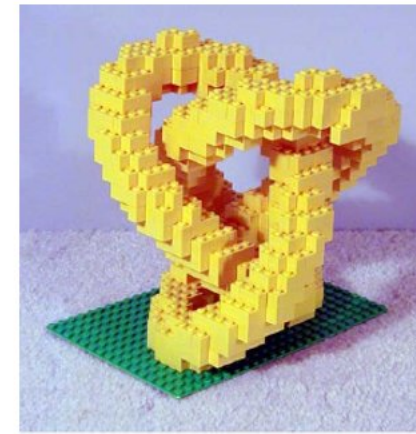
Spontaneous emotional and spontaneous cognitive

Outcome:

3D sculpture, Sketches

Students' Learnings:

Divergent thinking, spatial awareness, avoiding fixation, forming random connections



<https://in.pinterest.com/pin/207236020324513971/>

<https://www.businessinsider.in/thelife/culture/7-works-of-art-made-entirely-out-of-legos/articleshow/24311492.cms>

<http://www.andrewlipson.com/figureeight.htm>

Feedback from teachers

- This activity provides a great opportunity to share creative ideas with one another, and discuss and critique each other. With their combined minds, innovative ideas will emerge which might surprise the teacher.
- Students can be familiarized with iterating and constructive criticism. They are not well exposed to those concepts in schools usually.
- Materials like lego pieces might easily get misplaced or lost over the years. It will not be easy for schools to replace them often.

Sound exploration

Warm-up task | 60 mins | Individual | Homework

Step 1: Students have to create their own sound using the materials of their choice. Encourage them to experiment with different materials and try various tunes, rhythms, volumes and tempos. Any musical instruments or apps should not be used for this task. Instead, they need to make their own sources of sound (using elastics, cups with different amounts of water, steel railings, etc). They can record short video snippets of themselves exploring the sound.

Step 2: Students record an audio track of 10 to 20 seconds using the sound that they've explored.

Step 3: Ask them to think about the situations where their soundtrack could be used. They can draw a scene, take a photograph or record a short video for the same. (For example, if to choose to create a scary sound, you can record a video walking through an empty dark corridor, or even sketch it)

Step 4: They now have to superimpose it with the created sound and submit the outcome before the next class.

They can also submit short video snippets of themselves exploring the sound.

Type of creativity:
Spontaneous cognitive

Outcome:
A sketch, a photograph or a video superimposed with the soundtrack
Duration: 10 to 20 seconds

Students' Learnings:
Divergent thinking, lateral thinking, iterating



<https://www.kixcereal.com/kix-cereal-kid-science-making-sound-waves/>
<https://www.thecrafttrain.com/paper-cup-music-crafts/>

Feedback from teachers

- This is a really good task with an interesting outcome. Not only do they learn to create sound, but to know where it can be applied as well.
- Students can have a lot of fun with this activity, exploring and experimenting with different materials to obtain unique sounds.
- Very good task for children where they have the creative freedom to superimpose the sound with the medium of their choice to express their idea.

Modification

This task is a replacement for another activity, also with sound as an outcome, which was found to be too difficult for grade 10 students, and hence removed.

Feel the sound

Warm-up task | 60 mins | Individual | Homework

Students record any sound from their surroundings that interests them. (traffic noise, a cow mooing, a baby crying)
Duration: 10-20 sec

Ask them to play the recorded audio a few times and draw an abstract representation (with basic visual elements like lines, shapes and colors) based on how they felt while listening to it.

Now they have to superimpose the audio with what they've drawn. Ask them to share it in class and find out if it made their friends feel the same way as they did.

Type of creativity:
Deliberate emotional

Outcome:
A painting superimposed with the audio

Students' Learnings:
Lateral thinking, abstraction, translating one medium to another

Feedback from teachers

- This task might be too hard for the students. Abstraction is a difficult topic by itself. Understanding the emotions and converting them from one medium to another will not be easy according to me.
- Good addition of the task where sound is used.
- The combination of visualizing sound and image together is a little difficult for this age group. But, Proper guidance by teachers might help with better results.

A room of feelings

Medium difficulty task | 90 mins | Group of 3-4 | Classwork

Assign each group with any of the words given below. Make sure that at least 2 groups get the same word - **Joy, sorrow, chaos, fear, calm.**

Each group makes a 3D room of given dimensions out of craftboard or similar materials. Floor - 20x20 cm, Ceiling - 20x20 cm, 3 walls - height of the walls can be decided by the students based on the word that has been assigned to them.

They 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. Encourage them to play with lines, shapes, colors, textures and scale.

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' outcomes.

Type of creativity:
Deliberate emotional

Outcome:
3D model

Students' Learnings:
Divergent thinking, spatial awareness, emotional design, critiquing



<https://webneel.com/daily/5-art-work-yayoi-kusama>

<https://fineartamerica.com/featured/1-trending-modern-abstract-paper-cut-out-background-texture-design-stanley-chota.html>

<https://www.alamy.com/contemporary-abstract-art-illustration-wrinkled-painted-paper-texture-black-and-white-background-expressive-impressionist-modern-painting-banner-postcard-poster-grungy-grey-paper-texture-image417628015.html>

Feedback from teachers

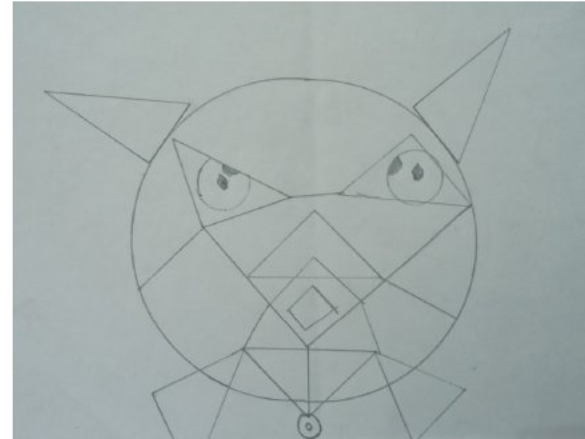
- An abstract art speaks the visual language of emotions with lines, shapes and colors. This task is very helpful in translating the emotion onto the paper.
- The activity can also be done in another way, where students first randomly create something on the walls and then figure out what emotion it conveys.
- It's good that the same emotion has to be done by multiple groups. Children get to compare what are the other ways to express the same thought.

Testing

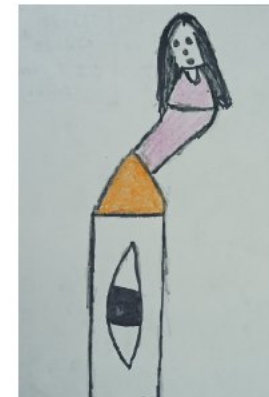
Joy



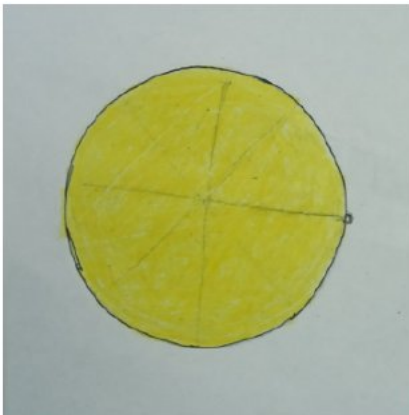
Fear



Sorrow



Calm



Chaos



The students were given some words and asked to represent them on paper in an abstract way. But the teacher's involvement has negatively impacted some students' outcomes. The teacher suggested them to draw direct flowers to represent joy, candles for calm, etc., rather than an abstract representation.

Hence, for tasks involving abstraction, emotions, etc., sample images have been provided in the resources to guide the teachers in making exposure presentations.

An identity for yourself

Medium difficulty task | 90 mins | Individual | Classwork

Students list up to five things that represent them. It can be a word (kind/shy/helpful), an object (paintbrush/guitar/Rubik's cube), their likes/dislikes, where they come from, anything from their culture, etc.

They have to create a visual identity for themselves, using one or more of the words listed. Colors and typography could also be used. Encourage them to do 2-3 iterations before finalizing the design.

Type of creativity:
Deliberate emotional

Outcome:
Logo or icon

Students' Learnings:
Divergent thinking, abstraction, iterating

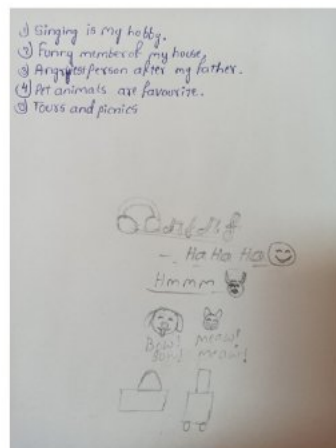
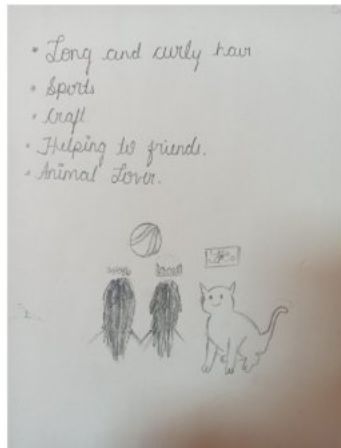
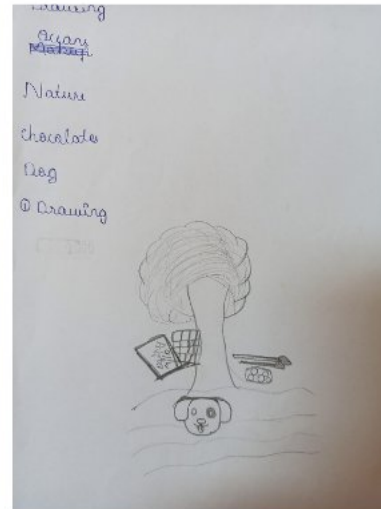


<https://stock.adobe.com/in/images/cat-icon-isolated-on-white-background-pet-shop-logo-cat-lovers-club-logo/207014609>
<https://www.shutterstock.com/image-vector/nature-music-logo-note-icon-637259356>

Feedback from teachers

- It's a really good activity where children can reflect upon themselves and make a symbol for themselves.
- Since the students of this age are not yet exposed to designing a logo and such activities, it would need more time for them to obtain a refined outcome.
- This task is good to learn abstraction, minimalist design etc, and how to represent themselves in the simplest way.

Testing



The testing for this task was carried out in about half an hour, without giving any inputs to the students, just to gauge their knowledge and skills in this area. As a result, it has been decided to include abstraction as a separate activity before attempting this task.

Surrealistic collage

Medium difficulty task | 60 mins | Individual | Homework

Students click 5-10 different photographs of anything around them. They have to print the photographs and observe them. They now need to cut around the shapes that they find interesting, place them on an A4 sheet and play around with the arrangement to create a surrealistic image. At least 5 cutouts are to be used. Once they are happy with the results, they can stick them together to create the collage. The initial photographs clicked also need to be submitted along with the final outcome before the next class.

Students can also do this exercise digitally using photoshop or other similar software.

Type of creativity:

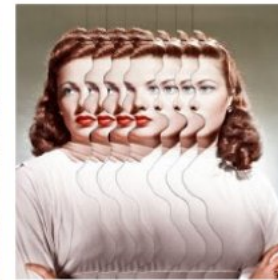
Spontaneous emotional

Outcome:

A collage made out of photographs

Students' Learnings:

Divergent thinking, lateral thinking, avoiding fixation, analogical thinking



<https://cauchonphotoclass.edublogs.org/photography-assignments-2-2-2/>

Feedback from teachers

- Very interesting challenge. It involves photography and creatively merging them to get something unrealistic. Good exercise for the brain.
- Here, one could combine imagination with illogical things in one frame to obtain unexpected results. A fun type of challenge for students.
- This is a very good activity to do something out of the box without worrying about whether it is right or wrong. A very good example to convey that there's no one right answer when it comes to design.

Testing



Since the participants did not have access to printers, they were asked to cut out images from the magazines or newspapers and make the collage out of them.

A unique look

Medium difficulty task | 60 mins | Individual | Homework

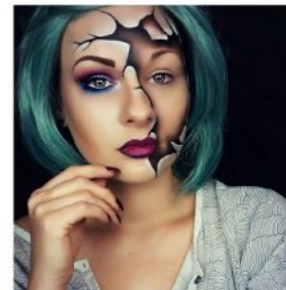
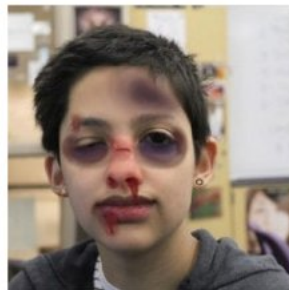
Students are asked to click a picture (portrait) of their friend or a family member in plain clothes, without makeup. They need to print 3 copies of the same image on separate A4 sheets. Using color pencils or other supplies, they create two unique makeup for the portrait. Leave the other one as it is. They can also give a strategic title to their creation.

Ask them to compare the Before and After versions and observe the difference.

Type of creativity:
Spontaneous emotional

Outcome:
Photographs

Students' Learnings:
Divergent thinking, lateral thinking



<https://cauchonphotoclass.edublogs.org/photography-assignments-2-2-2/>
<http://www.styledbycharlie.com/2016/10/9-unique-halloween-makeup-looks.html>
<https://in.pinterest.com/pin/590534569865961981/>
<https://in.pinterest.com/pin/603763893785385824/>

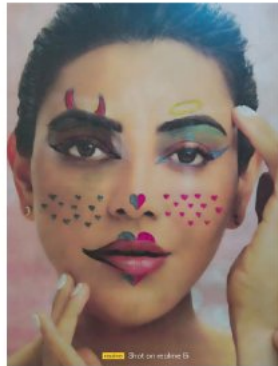
Feedback from teachers

- This is a fun activity that the teenage kids would enjoy. It can be made a little more complex by giving a theme or any other means.
- My opinion is that this task is a bit childish for grade 10 students. Though it is fun, they might not learn anything much here.
- It should be taken care of that the children create something unique and original, than just drawing regular makeup on the face.

Modification

After testing and the feedback from the teachers, this activity has been removed since the students aren't learning anything significant from the task. Other alternate activities involving photography have been introduced as a replacement.

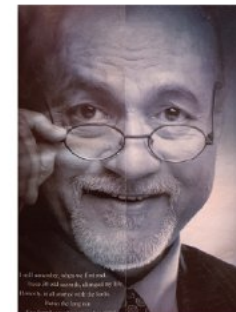
Testing



Demonic angel



Barbie to baddie



Again, the participants were asked to use the images from the magazines or newspapers since they did not have access to printers.

A monochrome click

Medium difficulty task | 60 mins | Individual | Homework

Assign a color to each student. They need to photograph containing only the given color. Different shades of the same color can be included. Remind them to make use of the principles of photography that they have learnt in grade 9.

They have to give a suitable creative title to their photograph and submit it before the next class.

Type of creativity:
Spontaneous cognitive

Outcome:
Photograph

Students' Learnings:
Divergent thinking, lateral thinking



<https://www.indulgexpress.com/food/2020/jul/10/bear-in-mind-26345.html>
<https://phototeach55.edublogs.org/2018/06/06/monochromatic-product-10/>
<http://learntoblogwhitme.blogspot.com/2006/04/color-blue-photography.html>

Feedback from teachers

- Revising what they have learnt in the previous grade and applying it in the activity is really important. This task takes care of it.
- Here, the students are not forced to capture the world as it is, instead they can stage things as they would want them to be.
- When you eliminate an aspect, color in this case, you will be able to concentrate more on other aspects in the photograph like balance, harmony, hierarchy, etc.

Testing



Capturing emotions

Medium difficulty task | 60 mins | Individual | Homework

Photo-1: Students should capture a photograph where the subject(s) depicts an emotion. (Joy, sorrow, anger, fear, chaos, confusion, shock, surprise, etc.)

Photo-2: Now, they have to capture another photograph that depicts the same emotion, but without showing the subject's face.

Photo-3 (optional): In the third photograph, they need to capture the same emotion without the presence of a subject i.e., with the background itself. Inanimate objects can be used.

Remind them to make use of the principles of photography learnt in grade 9.



Type of creativity:
Deliberate emotional

Outcome:
Photographs

Students' Learnings:
Divergent thinking, lateral thinking, analogical thinking, emotional design

<https://umarali2017ualfad.wordpress.com/2018/03/20/emotion-photography/>
<https://wallpaperaccess.com/sad-life>
<https://www.everypixel.com/q/sad-background>

Feedback from teachers

- I assume that option 3 has been kept optional because it might be too hard for many students. But, it might mean that the students won't even attempt it. Instead, it can be mandatory but not scored.
- Exciting task for students to play with the camera. Including photography as an outcome is really interesting. And, students that age love clicking pictures. So they would enjoy doing this.
- This is a very good task where option 3 especially makes you think out of the box.

Make a mosaic

Medium difficulty task | 60 mins | Individual | Classwork

Students are provided with bindis of different colors and sizes. They have to stick them on a white A4 sheet anyway they like to make an artwork. Students have to work with what they have received. They need not use all the bindis. They can cut some of the bindis if required, but using additional materials or colors is not allowed.

If bindis are not available, ask the students to cut squares (10x10 mm, 15x15 mm & 20x20 mm) from color papers.

Type of creativity:

Spontaneous emotional

Outcome:

Mosaic artwork

Students' Learnings:

Divergent thinking, working with constraints

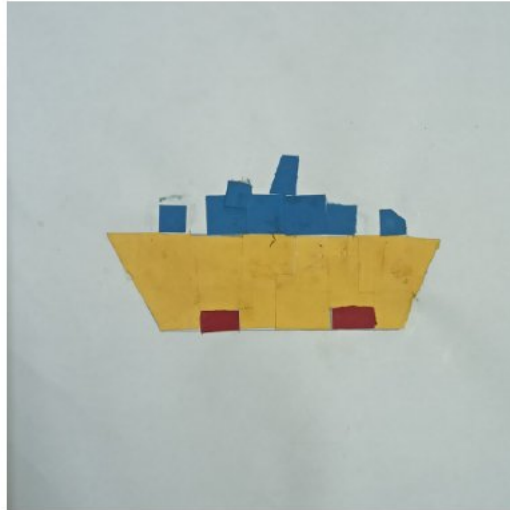


https://funny.pho.to/circle_mosaic/

Feedback from teachers

- Students can learn to reproduce lovely creations from very small objects available in our surroundings. A great task to explore their ideas.
- What they do majorly depends on the color of bindi that's provided to them. This way, they'll learn to use the available resources to a full extent and work with constraints.
- It is a time consuming task. But, doing this activity will make them more patient and concentrate better, according to me.

Testing



3D template

Medium difficulty task | 60 mins | Individual | Classwork

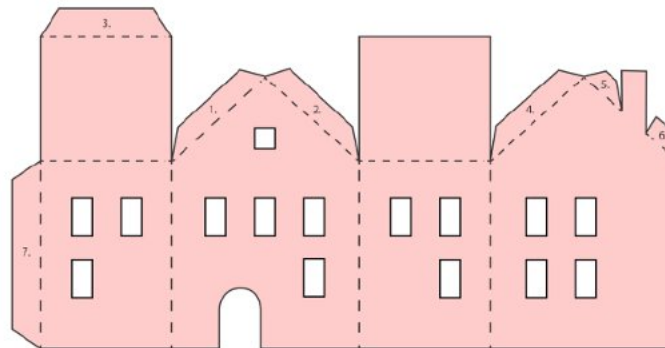
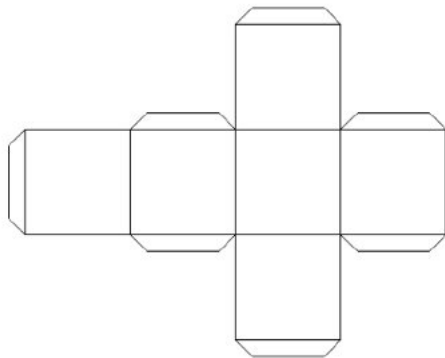
Students create a solid object of their choice by making a template and folding it. Multiple sheets of paper can be used to make different 3D shapes.

If they choose to make a house, for example, they could do it either with a single piece of paper or by placing a prism or a cone over a cube.

Type of creativity:
Deliberate cognitive

Outcome:
3D model

Students' Learnings:
Divergent thinking, spatial awareness, lateral thinking

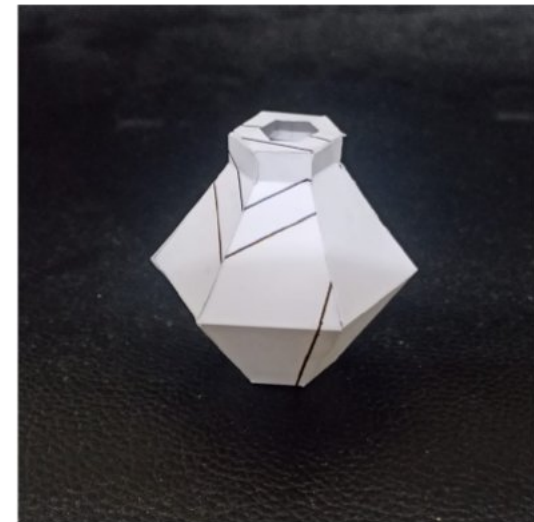


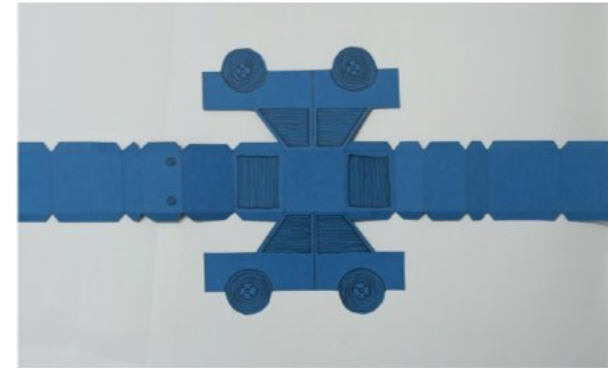
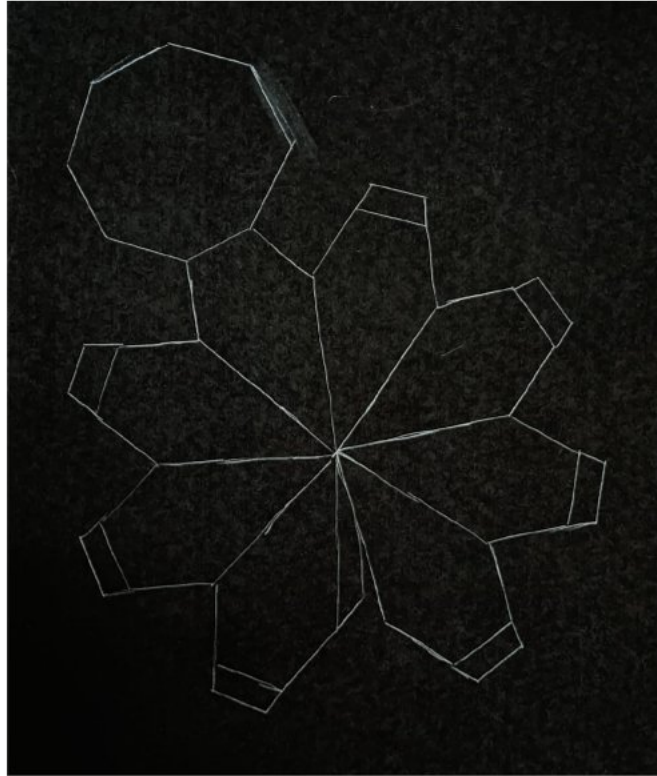
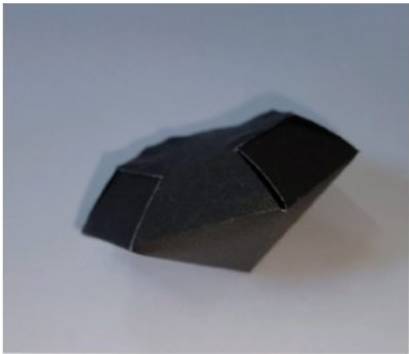
https://www.printablee.com/post_printable-paper-house-template_164390/
<https://i.ytimg.com/vi/G02mAh6tu00/maxresdefault.jpg>

Feedback from teachers

- This craft work develops students' imagination and geometric intuition. This task is basic for product design, architecture and many more related fields.
- Students have to use their brains to do the necessary calculations here. It's not just creativity in art.
- I am not sure if many students will be able to figure out this task successfully. They might need constant guidance from the teacher.

Testing





Make your own colors

Medium difficulty task | 60 mins | Individual | Homework

Using natural ingredients (plants, fruits, etc.) to make dyes is an age-old method that can be often seen in the many traditional folk art forms. Taking inspiration from these, students try to make a color(s) of their choice using any natural ingredients. They can also use multiple ingredients to obtain a single color.

Using the colors that they've created, they need to make an A4 poster briefly depicting their color making process.

Type of creativity:
Deliberate cognitive

Outcome:
Color & poster

Students' Learnings:
Divergent thinking, contextual learning, avoiding fixation, iterating

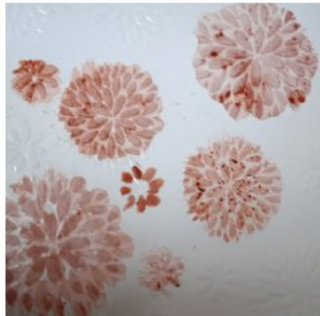


<https://www.katmakes.com/blog/2017/07/09/turmeric-dyeing-part-1>
<https://theimaginationtree.com/homemade-natural-colouring/>

Feedback from teachers

- In the age where everything is made using synthetic chemicals which might cause harm to us as well as nature, this task motivates kids to go back to nature for ideas and materials. Learning sustainability and self-sufficiency is very important.
- A really good challenge to interact with and understand nature. Students can easily pick from a wide range of leaves, vegetables, fruits, nuts, tree bark, etc. around them and try to make colors with it.
- What I like the most in this task is that it encourages students to go back to our roots where our ancestors used a variety of techniques to obtain colors organically. It is a very important lesson to teach our youngsters.

Testing



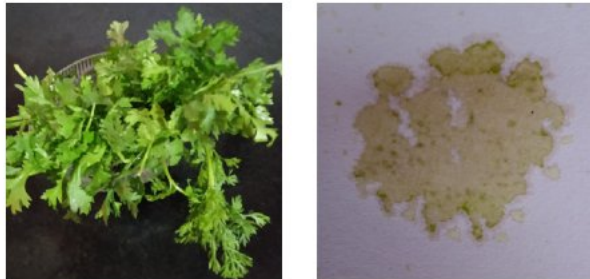
Blending dry teak leaves and mixing with water to create a paste



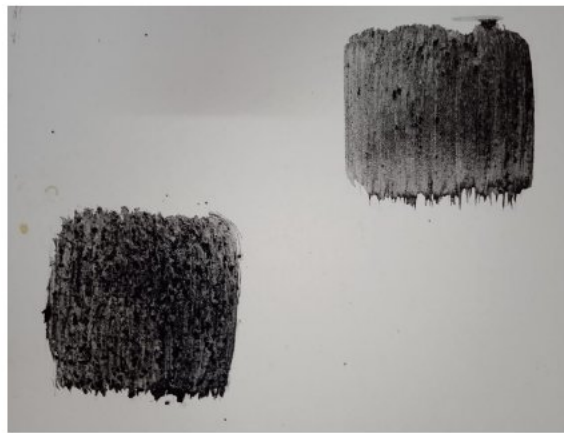
Mixing water with 'Shedi', a locally available clay



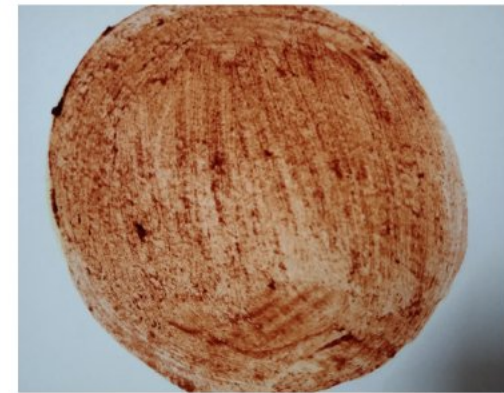
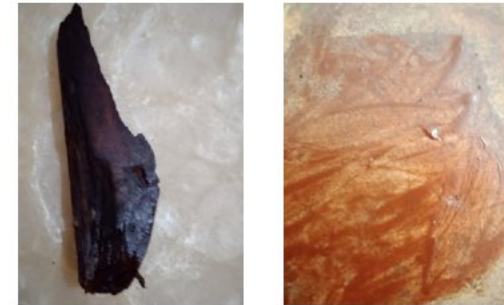
Directly imprinting banana stem on paper



Blending coriander leaves



Charcoal



Blending dry teak leaves and mixing with water to create a paste

Make a diya

Medium difficulty task | 60 mins | Individual | Homework

Diya or clay lamps are one of the most unique and distinguishing features of Indian culture. Students attempt to make a diya with any materials found in their home, other than clay. Encourage them to repurpose any items that they would throw away. They need not imitate the exact shape of a traditional diya. But the product should be functional and not just a decorative item.

Type of creativity:
Deliberate cognitive

Outcome:
Product - diya

Students' Learnings:
Lateral thinking, divergent thinking, contextual learning, avoiding fixation, iterating



<https://www.redtedart.com/wp-content/uploads/2018/10/Diwali-kids-ideas-3.jpg>
[pinterest.ch/pin/416653403005041489/](https://www.pinterest.ch/pin/416653403005041489/)

Feedback from teachers

- Learning to repurpose the materials around us could lead to very creative and imaginative explorations. And, making it functional also helps students learn to eliminate their ideas which are not working.
- Students have the creative freedom to make the diya with any material. We can expect some unique out of the box ideas for this task.
- A good exercise to bring out the 'Indianness' in the students, not only by making a Diya, but also by recycling the materials that they would otherwise throw away.

Testing



Popsicle sticks



Plastic spoons



Wheat flour



Nutmeg shell



Pista shells



Mango seed



Amla



Sea shells



Wheat flour

Water balloon race

Final task | 150 mins | Group of 4-5 | Classwork

The intent of the activity is to make a holder for a water balloon to be thrown from the 2nd floor. The last one to reach the ground without breaking wins. Students can use any materials for this task (balloons, rubber bands, polythene bags, cotton, sponge, etc.).

Students start the activity by brainstorming in groups with keywords, sketches, etc. Each group selects their 2/3 best ideas and executes them. Let the students test their solutions in groups and modify them as required. They can repeat the process and arrive at the best solution possible. Guide them to finalize the design with necessary alterations and prepare their final holder for the competition.

Conduct a competition to test the holders made by all the groups. Let them drop their holders containing the water balloon, one by one. Record the time taken by each group's holder to reach the ground. The group with the last one to reach the ground without breaking the water balloon wins the challenge.

Type of creativity:
Deliberate cognitive

Outcome:
Product

Students' Learnings:
Lateral thinking, divergent thinking, iterating, critiquing, avoiding fixation, analogical thinking

Feedback from teachers

- Doing repeated experiments until you obtain a fail-proof result is something that the students need to learn to become better designers. Their execution might turn out to be completely different than the initial sketches. Working in a group adds to the experience.
- Making the water balloon reach the ground without breaking itself is challenging. Additionally, they need to think of a way to make it slower too. This is a very nice activity with an appropriate level of difficulty.
- Students will definitely have a lot of fun competing against each other. They must think in as many different ways as possible to come up with the best solution. The materials used, the shape, and the velocity, are few of the things that they would have to address.

Portfolio

Final task | 150 mins | Individual | Classwork

Students need to make a portfolio combining all the activities that they've done in this module. They don't have to follow the traditional book design. The portfolio can open or close in any way they like. Encourage them to explore using elements like threads, rubber bands etc. to make a unique portfolio.

Let them start by brainstorming their ideas through sketches and prototypes. Encourage them to try out multiple options before finalizing the design. Students can continue the explorations, finalize their design and make the portfolio.

Type of creativity:
Deliberate cognitive

Outcome:
Physical portfolio

Students' Learnings:
Lateral thinking, divergent thinking, iterating, analogical thinking, documentation



<https://www.nextdayflyers.com/blog/5-of-the-most-impressive-graphic-design-portfolios/>
<https://bashooka.com/inspiration/outstanding-mini-portfolio-designs/>

Feedback from teachers

- It's important for students to learn to showcase their work, especially in the design field. Along with this, they can also think of making a unique kind of book.
- This activity teaches the kids thorough documentation and consistency. It prepares them well for their future by teaching them how to keep track of their processes as well as the outcomes.
- A much needed activity the students should learn at this stage. The part where they need to make a book which can open any way they like is interesting.

04 TEACHER'S MANUAL

The teacher's manual is introduced to assist the teachers in getting accustomed to the new way of instruction where the teacher plays a passive role as a moderator in providing learning experiences to the students.

Since currently there are no Design teachers at schools, it would be taught by one of the existing teachers itself, most probably by the art teacher. Hence a teacher's manual would come in handy while instructing the new subject, especially in the initial years.

The teacher's manual includes,

- Introduction to the teaching module
- Detail descriptions of tasks and activities
- Resources and references
- Presentation guides
- Assessment strategy
- Self assessment questionnaire for students
- Assessment sheets
- Feedback form for students
- Feedback form for teachers
- Online showcase link

Creativity and innovation

A teaching module

Grade 10
Design thinking and innovation
Duration: 12 hours in class + 6 hours at home

Overview

Creativity and innovation is an 18 hour module which 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.

Learning Objectives

- Exposure to different kinds/areas of creativity
- Fostering creative thinking among students and help them express their creativity in various ways
- To encourage innovation, exploration and novelty
- To familiarise students with design thinking process
- To inculcate problem identification and solving skills among students

Desired outcome

- 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 to spatial awareness, abstraction and detailing.
- Students learn to interact with others and collaborate with their peers. This also encourages peer learning.
- Students get an understanding of contextual learning through certain activities.

Structure of the module

The subject 'Design thinking and innovation' has been allotted 160 hours of teaching for Grade 10 by the CBSE design team. There are multiple modules of different durations like 12, 18 and 32 hours. This module of 'Creativity and innovation' has been allocated 18 hours, which includes 12 hours of classroom learning and 6 hours of learning at home. The subject will be taught in a 2-hour session once a week, based on the timetable of the schools.

Instructions

- Go through the teacher's manual (which you are currently reading) and resources provided prior to the class, and make arrangements for the materials needed for the upcoming classes.
- Preparing yourself with the recommended reading materials is highly encouraged.
- The tasks and activities have to be introduced using exposure presentations, rather than theory or lectures. The exposure presentation would be easy to grasp and could include images, short videos, mock ups, etc., which could be modified by the teacher as required to provide an idea about the topic.
- For most of the tasks, one or more alternate tasks have been provided to avoid repetition over the years. In case a task is already carried out by the students of the preceding year, it needs to be replaced with one of the alternate tasks.
- Note that, there is no one right answer for any of the activities, encourage students to come out of their usually rigid curriculum and express their ideas freely.
- Create a submission portal, especially for homework as per your convenience. This could be a google drive link, google classroom, etc. Students could also email their work to the teacher or bring it on a pendrive for next class.
- Ensure that all the students follow the same size specifications (preferably A4 size sheet) for every task involving sketching, painting or writing. This will be helpful while making a physical portfolio by the end of the module.
- Remind students to safely keep the outcomes of activities and/or document them by taking photographs for the portfolio.
- Students can be given more time to complete any pending tasks. For such late submissions, 1 point per week can be deducted.
- Use of mobile phones, cameras or laptops are advised for homework only, to comply with the school rules. The homework would be individual activities for convenience of the students.
- You can include an activity of your choice, in case there is an availability of time, or if you find that any of the provided tasks or their alternatives can not be performed due to certain reasons.

DAY 2

2 hours

LEARNING OBJECTIVE:

To familiarise students to the learning methods.

MATERIALS REQUIRED:

Projector and speakers
A4 sheets, pen, pencils, colors

1. Warm up task_1: Art interchange | 60 mins | Group of 3

All three students start the task by drawing anything of their choice on separate A4 sizesheets of paper. They can use colors. They should not look at the works of their group members.

After 10 minutes, they exchange their sheets in a clockwise direction and continue to draw and paint without any inputs from their teammates. They repeat this process for 1 hour, so that each student gets to work on an artwork for 10 minutes, twice. In the end, they'll have 3 paintings with equal involvement from each member of the team.

Materials required:

A4 sheets - 1 per student
Pencils, colors

Type of creativity:

Spontaneous emotional

Outcome:

Artworks

Instructions:

- Make sure that each student is contributing to all 3 artworks.
- Collect the paintings at the end of the class for assessment.

Exposure:

None

Prerequisites for students:

Sketching & painting

Students' Learnings:

Avoiding fixation, Divergent thinking, teamwork, time management

Assessment criteria:

- C1: Participation in all 3 artworks
- C2: Submission of 3 complete artworks
- C3: Variety across the artworks (all 3 artworks very different from each other get maximum points)
- C4: Creative or novel ideas
- C5: Quality of the outcome

On satisfying each criteria, a student is awarded 2 points. If a criteria is attempted but not fulfilled to the best extent, 1 point is awarded. For this task, all 3 students from a team are awarded same points.

Points	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Total
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Attempted - 1

Satisfied - 2

Total points =

Alternate Warm up task_1: Write a short story | 60 mins | Individual

Each student writes 5 words on separate chits.

- 1 - a character (person, animal, etc)
- 2 - a place/setting (forest, city, etc)
- 3 - an emotion
- 4 - an occasion
- 5 - any word of your choice

All the chits are mixed in 5 separate bowls and students are asked to pick 1 chit from each bowl. 15 mins

They have to write a short story (around 10 sentences) using any 4 of the 5 words that they've recieved. 20 mins

Ask a few students to narrate their story in class. 25 mins

Materials required:

A4 sheets - 2 per student
Pen

Type of creativity:

Spontaneous emotional

Outcome:

Story (around 10 sentences)

Instructions:

- The story needs to be meaningful.
- Make sure that the students are using atleast 4 words picked by themselves, and encourage them to form random connections.
- Collect the stories at the end of the class for assessment.
- Students struggling can complete their stories at home and submit during next class.

Exposure:

None

Prerequisites for students:

None

Students' Learnings:

Forming random connections, Divergent thinking, lateral thinking

Assessment criteria:

- C1: Participation in class, story not complete
- C2: Submission of a complete story (deduct 1 point for late submission)
- C3: Meaningful story using atleast 4 words
- C4: Good story with a beginning, middle and end
- C5: Very interesting and novel storyline

On satisfying each criteria, a student is awarded 2 points. If a criteria is attempted but not fulfilled to the best extent, 1 point is awarded.

Points	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Total
Attempted - 1						
Satisfied - 2						
Total points =						

2. Discussing Homework_1 | 55 mins

Students share their findings in class using the presentations that they have made. Each group gets 5 minutes to present, followed by a discussion of 5 minutes with the teacher.

Materials required:

Projector with speakers

Type of creativity:

Deliberate cognitive

Outcome:

Presentation

Instructions:

- Study about the objects chosen by different groups and be prepared for the discussion in class.
- Note the involvement of each student during field visit, presentation and discussion.
- All groups need to present and discuss their findings. Continue the session on another day, if it exceeds the time.

Exposure:

Completed on Day 1

Prerequisites for students:

Making a presentation

Students' Learnings:

Divergent thinking, lateral thinking, teamwork

Assessment criteria:

- C1: Participation during field visit
- C2: Submission of presentation by the team
- C3: Participation in presentation
- C4: Correctness of the information presented
- C5: Participation in discussion

On satisfying each criteria, a student is awarded 2 points. If a criteria is attempted but not fulfilled to the best extent, 1 point is awarded.

For example, a student well involved in the field visit, presentation and discussion is awarded 10 points for this task if the presentation submitted by the team has correctness of information.

Points	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Total
Attempted - 1						0
Satisfied - 2	√	√	√	√	√	10
Total points =						10

3. Introducing Homework_2 | 5 mins

Everyday object doodles | 60 mins | Individual

Ask the students to select a few everyday objects found around them. They now have to place one of the objects on an A4 size sheet and draw/doodle around it to create an image. Use of colors is permitted.

For example, bottle caps could be used in place of eyes to make a face. They should try at least 3 different variations using the same the object or different ones. The photographs of their creations have to be submitted by next class.

Materials required:
Pen, pencils, colors

Type of creativity:
Spontaneous emotional

Outcome:
Photographs

Instructions:

- Do not show any examples or give ideas to students before they attempt the task.
- Novel ideas which are not directly off the internet have to be appreciated.

Exposure:
None

Prerequisites for students:
None

Students' Learnings:
Lateral thinking, divergent thinking, analogical thinking, forming random connections

Assessment criteria:
C1: Submission of 1 outcome
C2: Submission of 2 outcomes
C3: Submission of 3 outcomes
C4: Quality of the outcome - neatness, completeness, etc.
C5: Unique or novel ideas

On satisfying each criteria, a student is awarded 2 points. If a criteria is attempted but not fulfilled to the best extent, 1 point is awarded.

Points	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Total
--------	------------	------------	------------	------------	------------	-------

Attempted - 1

Satisfied - 2

Total points =

Alternate Homework_2: Age-old memories | 60 mins | Individual

Students talk to one of their grandparents, relatives or neighbors (preferably above 60 years) and find out about their most memorable childhood experience. They have to summarize it in 5 to 10 sentences.

What was most interesting about their story? Ask them to represent it in a medium of their choice. It can be a sketch or a painting, a poem, a prototype, or anything else too. For example, if you find one of their handmade toys interesting, you can make it yourself and share it in the next class.

Materials required:
Up to the student

Type of creativity:
Mixed

Outcome:
No specification

Instructions:

- Students have the creative freedom to choose a medium best suited for representing their idea.
- Go through their submissions and give them feedback to improve, if the outcomes are not found to be satisfactory.

Exposure:
None

Prerequisites for students:
None

Students' Learnings:
Lateral thinking, public interactions, contextual learning

Assessment criteria:
C1: Attempted to interview
C2: Completed the interview and submitted a summary in 5 to 10 sentences
C3: Submitted the outcome
C4: The memory well captured in the outcome
C5: Quality of the outcome - neatness, completeness, etc.

On satisfying each criteria, a student is awarded 2 points. If a criteria is attempted but not fulfilled to the best extent, 1 point is awarded.

Points	Criteria 1	Criteria 2	Criteria 3	Criteria 4	Criteria 5	Total
--------	------------	------------	------------	------------	------------	-------

Attempted - 1

Satisfied - 2

Total points =

05 CONCLUSION

FEEDBACK ON THE TEACHER'S MANUAL

- The activities are cleverly designed to attract students to the new topic. Both indoor and outdoor activities are included along with individual and group work. I appreciate that many tasks encourage students to be more inclined towards nature, sustainability, culture, etc. The instruction manual for the teachers is well designed with assessment criteria for each activity so that a person new to the subject would have minimal issues. The system of online showcase is good. Since it is only shown at the end of the module, the risk of influencing the students' thought process is reduced. Since the resources are also provided, the teachers could train themselves at home. Overall, a well designed teaching module from the perspective of students as well as teachers.

- Overall good activities. Starting from easy tasks and gradually increasing the difficulty level is a good technique. The module is designed based on the types of creativity which I really liked. Detailed day-wise plans with instructions would help teachers a lot since this is a new subject to teach. A task about color combination could be included.

- The challenges are engaging and interesting for both students and teachers. The addition of alternate tasks to make the content less repetitive is an advantage, as a teacher. A bit of theoretical learning could be included for some activities. The introduction of online showcase and exhibition is a really good idea for the subject. Building the sculpture, water balloon race and the tasks with various types of outcome, especially 'sound' is a very good addition since only drawing or painting is usually considered as design. Also, including breathing spaces like time for catching up on activities or discussing the doubts are good additions. Assessment criteria for the tasks are really good and detailed but will be a bit time consuming for the teacher. It could be simplified a bit.

OBSERVATIONS THROUGH TESTING

The tasks were tested without much input from my side so that I don't influence their thought process in any way, to gauge their prior knowledge and creative ability. Some of these activities were tested online.

- Children were occasionally interacting with each other. After completing their work, they were curious to look at what others have done and comment on them.
- Most children were creative but lacked drawing skills. It was hard for them to put their thoughts on paper.
- The activities that were not found to be age appropriate during the testing have been modified or replaced, to ensure that they are not too easy to bore the students, nor too hard to try.
- Some students found it hard to work as a group, even though their groupmates were chosen by themselves. They struggled to arrive at a decision together and work as a team.
- The quality of outcome was better with the online testing, i.e., when the students did the activities at home. This may be because they had more time to think, they could work in their own space and at a preferred time, or they could take inputs from other sources.



- Students were struggling to come out of their rigid curriculum.
For example, when asked to eliminate a few things while creating a visual identity, they were still trying to include as many elements as possible. This reflects their current way of answering questions in an examination, where they try to write down everything that they know.
- The teacher's involvement has sometimes negatively impacted the students' outcomes.
For example, for the task 'A room of feelings', the teacher guided the students to draw direct objects to represent the emotion other than an abstract representation (flowers to represent joy, candles for calm, etc.).
- Many students were not very willing to improve or iterate, even though they were excited to attempt new tasks.
For example, while making their own diya, a student had used plastic spoons. On suggesting that the material would melt, and hence is not suitable for the task, the student didn't come up with another option or iteration. This is also because of their conditioning. Currently, they are used to the idea of one answer for a particular question, and if it's wrong, they just lose marks, but cannot do anything about it.
- Overall, the students enjoyed doing the activities and were very involved and enthusiastic. They expressed their desire to take the subject as an elective if provided an opportunity.



FEEDBACK FROM STUDENTS

A feedback form was floated among the students who had participated in the testing.

1. Name *

2. How was your experience with doing the tasks for creativity and innovation? *

3. Did you enjoy doing the tasks? *

Mark only one oval.

Yes

No

Not sure

4. How creative did you think you are, on a scale of 10? *

Mark only one oval.

0 1 2 3 4 5 6 7 8 9 10

Not creative Very creative

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5/19/22, 12:59 PM Feedback for 'Creativity and Innovation'

5. How difficult was each task for you? *

Mark only one oval per row.

	Very easy	Easy	Neutral	Difficult	Very difficult	I did not do this task
Write a story (from random words obtained through the chits)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Progression challenge (where you had to draw the same object in 1 minute, 5 minutes and 15 minutes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designing a Visual identity for yourself using the words that describe you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An object serves a different function (sketching how an object can be used for different purposes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyday object doodling (completing the image using pen cap, buttons, paperclip, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating a 3D object using a template	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Age old memories (talking to your grandparents)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a Diya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A unique look (Make-up on a photograph)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surrealistic collage (pasting pieces from different images)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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5/19/22, 12:59 PM Feedback for 'Creativity and Innovation'

6. How was your performance for each of the tasks, according to you? *

Mark only one oval per row.

	Very good	Good	Neutral	Bad	Very bad	I did not do this task
Write a story (from random words obtained through the chits)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Progression challenge (where you had to draw the same object in 1 minute, 5 minutes and 15 minutes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Designing a Visual identity for yourself using the words that describe you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An object serves a different function (sketching how an object can be used for different purposes)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Everyday object doodling (completing the image using pen cap, buttons, paperclip, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Creating a 3D object using a template	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Age old memories (talking to your grandparents)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Make a Diya	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A unique look (Make-up on a photograph)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surrealistic collage (pasting pieces from different images)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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7. Select the tasks which were most interesting or enjoyable to you? (you can choose up to 3 tasks) *

Check all that apply.

- Write a story (from random words obtained through the chits)
- Progression challenge (where you had to draw the same object in 1 minute, 5 minutes and 15 minutes)
- Designing a Visual identity for yourself using the words that describe you
- An object serves a different function (sketching how an object can be used for different purposes)
- Everyday object doodling (completing the image using pen cap, buttons, paperclip, etc)
- Creating a 3D object using a template
- Age old memories (talking to your grandparents)
- Make a Diya
- A unique look (Make-up on a photograph)
- Surrealistic collage (pasting pieces from different images)

8. Select the tasks which were most boring to you? (you can choose up to 3 tasks) *

Check all that apply.

- Write a story (from random words obtained through the chits)
- Progression challenge (where you had to draw the same object in 1 minute, 5 minutes and 15 minutes)
- Designing a Visual identity for yourself using the words that describe you
- An object serves a different function (sketching how an object can be used for different purposes)
- Everyday object doodling (completing the image using pen cap, buttons, paperclip, etc)
- Creating a 3D object using a template
- Age old memories (talking to your grandparents)
- Make a Diya
- A unique look (Make-up on a photograph)
- Surrealistic collage (pasting pieces from different images)

9. What did you learn from doing these tasks? *

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10. Do you think these activities inspired you to be more creative? *

Mark only one oval.

Yes

No

Maybe

11. Would you be interested in taking this subject in school as an elective? *

Mark only one oval.

Yes

No

Maybe

12. Anything you want to add? Any feedback?

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Google Forms

<https://docs.google.com/forms/d/1H1aDXQZwZdkGwGzXFVaNM9ImZkyt9K9K6fGjuxso/edit>

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Outcome

Most difficult/challenging tasks

- 3D template
- Surrealistic collage
- An identity for yourself

Most interesting tasks

- Everyday object doodling
- A unique look

Most boring tasks

- Write a short story
- 3D template

Students' learnings:

- I have to improve my creative thinking by doing such tasks.
- I learnt some new ideas to work on. These tasks helped me to improve my drawing skills.
- I believe doing these tasks made me more creative. I would like it if we had this as a subject at school.
- I spent more time thinking, than actually doing the activities. That's not how I usually did creative work. I was not used to that method in my drawing class at school.

LEARNINGS

Working on this project gave me an overall idea about instructional design. Being a design student, I was able to empathize with the target audience and create learning experiences that would help them comprehend and retain their learnings.

The background study conducted on topics like creativity and constructionism has helped me form a basis for designing the lesson plan. Creating conducive systems for students to acquire the necessary knowledge and skills and preparing them to apply what they have learnt beyond the classroom was challenging.

During the project, I got to interact with students and teachers, and learn from them. Along with making sure that the contents of the teaching module were not too easy for the age group to make them bored, or too difficult to even attempt, addressing their conditioning was a priority. The activities are designed to help them break out of their rigid curriculum where there is one 'right' answer for every question.

Collecting feedback from the students and teachers has given me an overview of their experience and the module has been modified accordingly. After several ideations, I have arrived at a teaching module focusing on experiential learning, consisting mainly of tasks and activities addressing various ideas of creativity with short exposures from the teacher while introducing new topics or ideas. This kind of learning is not typical for the school students and the teachers.

Thinking from the teachers' perspective has helped me update the content so that they get well accustomed to this new way of instruction where the teacher plays a passive role as a moderator in providing these learning experiences to the students.

FUTURE SCOPE

- Testing the remaining tasks.
- Designing the layout of the workbook.
- Designing the online showcase.
- Improving the content based on feedback over the years.

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