THE NEW DOT
CREATIVE EDUCATION NEWSLETTER
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A MindBox Initiative

TRANSFORMING CLASSROOMS WITH DESIGN THINKING

INTEGRATING DESIGN THINKING IN CLASSROOM

DESIGN

What is DESIGN? The design is a language. **It is an expression of innovation.** Design means creating impact in the world. Making a difference by painting a picture of future with ingenious ideas that add value to life. To design is to have the sense of the world and the sense of your place in it with the belief that you can make the world a better place with your design.

DESIGN THINKING

Design Thinking is a Mindset. An approach where a diverse group of thinkers sign up to work together and build on each other's ideas. Design Thinking is Human-Centered where the problem-solving is done by understanding the significance of a particular problem.

This process involves five primary steps: Empathize, Define, Ideate, Prototype, and Test. Within these steps, Empathize by interacting and communicating with end-users to get a better understanding of the issues encountered by them, Define their concerns by framing the right question, Ideate multiple solutions by engaging and collaborating with other members, use Prototyping techniques to create replicas for the possible outcomes, and Test the prototype in the real world to see which outcome fulfills the purpose.

DESIGN THINKING IN K-12 EDUCATION

"Design Thinking" is nearly a half-century old, and was applied primarily to address design in architecture. "D.school" at Stanford developed a Proof of Concept for Design Thinking, where students engaged in activities involving Critical and Creative Thinking, Collaborating to discover the right question to answer and finding its optimal solution.

Educators recognize Design Thinking as a binding gel that pulls innovation , hence, educators are transforming the curriculum in schools by Integrating Technology, Project-based Learning, and Do-It-Yourself (DIY) activities with traditional pedagogy in classrooms. Due to its flexibility, Design Thinking can be aligned with the curriculum in a way that it focuses on the understanding of age-specific skills required for students like "Short Attention Span" and "Learning Styles".

One efficient way to deploy Design Thinking in classrooms is through Project-based Learning (PBL). In PBL, students work on STEAM projects, in which they learn the complex concepts of Science, Engineering, and Mathematics while applying the principles of Art and Technology. Design Thinking bridges the gap between Discovery and Reasoning in learning.

In general, Design Thinking is a human-centric approach, while applied to K-12 education makes it more focused on students making it Student-Centric.

This is an initiative by MindBox on transforming Educational Landscape | For suggestions, get in touch **thenewdot@mindbox.in**

STUDENT-CENTRIC APPROACH TO LEARNING

"No two minds are same". Student-Centric Learning simply refers to an instructional method which caters the needs of individual minds. It highlights on each student's interest, abilities, and learning styles, placing the teacher as a facilitator of knowledge for individual students. This ecosystem of education puts the student at the center of the process where they are responsible for their learning while engaging in project based activities and analyzing, synthesizing and evaluating their work by themselves.

It focuses on skills and practices that enable life-long learning and independent problem-solving. It does so by putting student's interest first, acknowledging their views as a center to the experience. In such space, students choose what they will learn, how they will learn, and the medium by which they will assess their learning. Here, teacher's role is to guide students into making a new interpretation of study material by experiencing the content with hands-on projects, encouraging active learning.

THE BIG QUESTION ?

A Food for Thought; If our cars don't look the same as 150 years ago, we have come way far from the desk phones to smartphones then why do our classrooms look the same?

In Swami Vivekananda's words, "Education is the manifestation of perfection already in man". Acknowledging the remarks, it is essential to have a Student-Centric approach to education which demonstrates the perfection inside our children. Our children represent 39% of our population, but, they represent 100% of our Future. We must frame a system for our children that empowers them to be free thinkers and innovators, which transforms them from mere consumers to original creators. One way to ensure that it happens is by bridging the gap between Traditional Learning Method and Innovation Era by integrating Design Thinking as a pedagogy in our current education system.

We as Parents, Teachers, and Educators, have to take charge of this moving train and channel it in right direction. Let us collaborate together to develop spaces where our kids Create, Discover, Reason, Question, and find answers by Brainstorming, getting their hands dirty with hands-on projects while stumbling and failing.

Design Thinking starts with a question. For us, the big question is "Are we preparing the next generation for unseen challenges being the smartest animal on the planet earth?"

CASE STUDY

MINDBOX APPLYING DESIGN THINKING IN CLASSROOMS


Play House

THE PROBLEM STATEMENT

In our quest to create an exceptional environment for 21st Century Learning, we gave a Design Thinking challenge to our students at Gopi Birla Memorial School- Walkeshwar (Mumbai). The aim of this project was to make students understand the working of Industrial Design through Project Based Learning & Design Thinking while applying 4C's of 21st Century Skills Critical Thinking, Creativity, Collaboration, and Communication. The task was designed for the 8th-grade students. They were asked to design a game for a 6-year-old child living in a remote village.

CHALLENGES FACED BY THE CHILD WERE

- **LACK OF RESOURCES**
- **NO PAVED ROADS**
- **FACED HOURS OF POWER OUTAGE**

The child must be able to play and learn at the same time. Students also had to recognize psychological factors like the Short Attention Span, lack of Motor Skills and Physical factors like Balance, Strength, and Hand-Eye Coordination.

IMPLEMENTATION

Our facilitator at school, made small groups of students, comprising 2-3 students in each group. They brainstormed every day for 1Hr. 20 Min. for seven days. Students empathized with this challenge faced by the child. It involved an understanding of the fact that the game must be robust, must run without electricity and something that doesn't need to have surfaced roads. This understanding helped them define the problem. During Ideation, students collaborated their perspective to find a feasible solution. Each group came up with their own innovative game that would help the child to play as well as learn. Later, students used Autodesk Maya, a 3D animation, modeling, simulation and rendering software. Students used it for animation of their prototype. The simulation was the show of absolute brilliance and ingenuity from student's side.

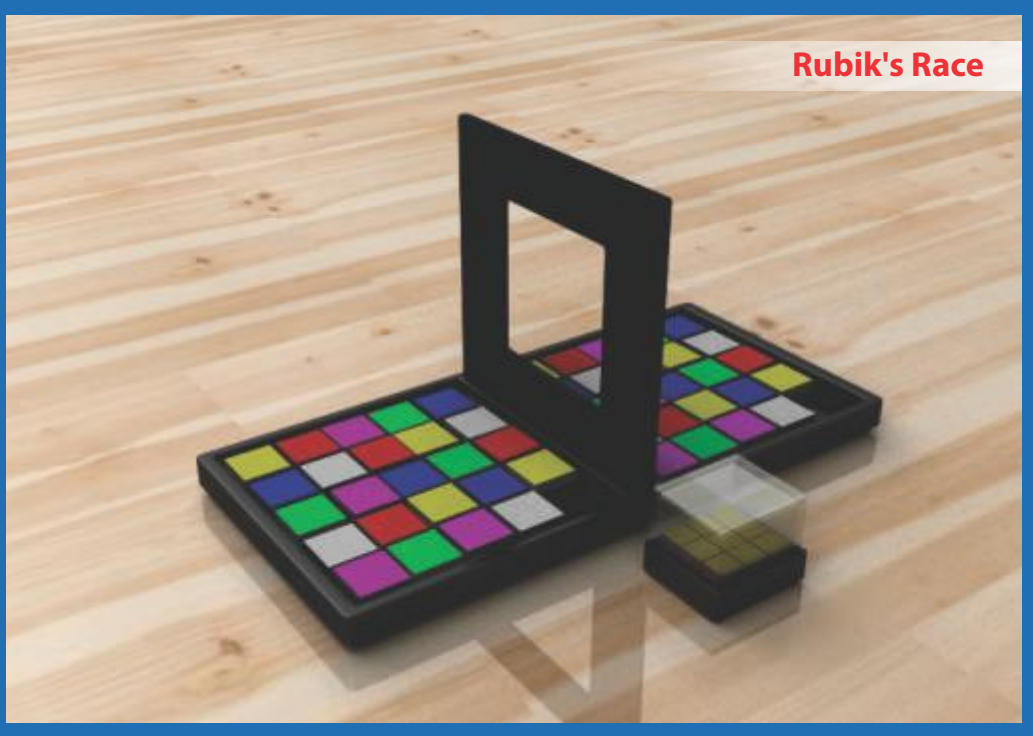
Rocking Horse

GAMES IDEATED BY STUDENTS

Play House – A wooden house made for a 6-year-old with sliders, steps, climber, and open space on the top for indoor activities.

Rubik's Race – A two-player game that will get the child's brain and finger racing. The child shakes the scrambler and goes head to head with his opponent to shift and slide the tiles to be the first to make the 3x3 center match the pattern.

Rocking Horse - A game where the child sits on the horse and as the horse moves to and fro, the screen in front of the child will display Alphabets with word and picture.


Rubik's Race

LEARNING OUTCOMES

After seven days of Critical Thinking, Brainstorming, students came up with creative ideas. The following are the learning outcomes

GAME	VILLAGE CHILD	SCHOOL KID
Play House	Motor Skills, Building Physical Strength, Balancing	Architectural Design, Ratio and Proportions, Dimensions
Rubik's Race	Hand-Eye Coordination, Motor Skills	Critical Thinking, Hand-Eye Coordination, and Motor Skills
Rocking Horse	Balancing, Physical Srength, Language	Mechanism of the Gear System, Shafts & Motors

Our faculty mentored students through the entire execution of the project, by helping them to understand the utilization of gears and its mechanisms, Proportions, Shapes, Spatial Visualization, Geometry, and basic physics like Force and RPM.

Our children are the Sculptors of our Future

and it all depends on our today's Education System

ARE WE PREPARING FOR THE FUTURE ?

but, our current Education System precedes over Child's Creativity

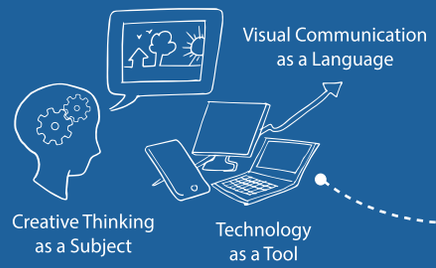
so, we need to Empower Students with Creative and Design Thinikng

where they bring Creative Ideas to Life

Best Program on Creative Education & Design Thinking

EMPOWERING CHILDREN FOR THE FUTURE

we teach..



Visual Communication as a Language

Creative Thinking as a Subject

Technology as a Tool

Output-based Methodology in Every Program

Collaborative and Experiential Learning

Catalyst Subject from Grade 1 - Grade 12

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