
LEARNING BEYOND TEXTBOOKS; USING DESIGN TO ENGAGE CHILDREN WITH PLANTS

Project By

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To encourage interaction of children with plants and gardening

Developing sensitivity in kids towards plants.

Learning about the process and efforts that go into growing plants through practical experience. Involving activities experience apart from textbook knowledge.



Which of these images is a more common scenario?

With fast technological advances, gadgets have become an integral part of our lives. This advancement has adversely affected everyone including children.

Children these days are more involved in gadgets and technology than before and lack a connection with their natural environment.



**Need
analysis**



**Preliminary
field study**



**Problem
Breakdown**



Interviews



**Data
Analysis**



Ideation



**Design
Outcome**

Children have a natural curiosity to learn and experience things. Researches and studies around the world have shown that interaction with the natural environment has positive results on physical and mental health of children.

Cognitive ability

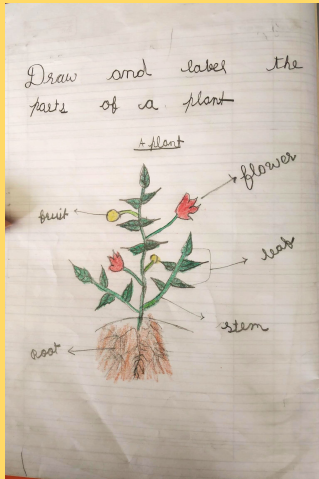
Motor skills

Overcoming learning disabilities

Objectives

To understand the current formal education system in schools.

To observe the methods employed to teach kids about natural environment and its components.



Photograph of a
primary school
notebook

Findings

The interaction children have with nature is in the form of tree plantation ***once a year on World Environment day.***

Processes like germination or growing plants is shown ***through pictures and videos on interactive learning platforms.***

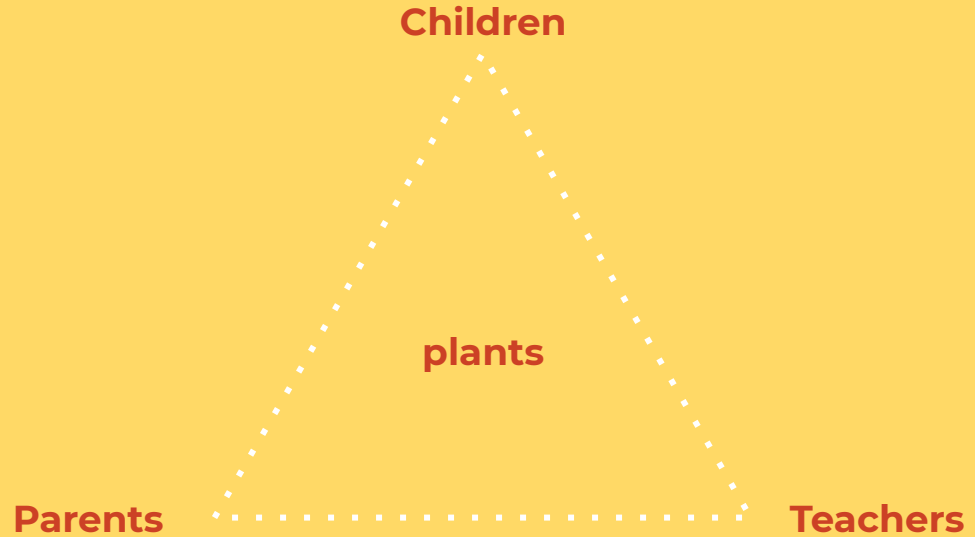
This is followed by a few visits to the garden for younger kids to learn identifying types of plants (subjected to change in curriculum)

The teacher at times feel that the ***information is easily available in multimedia formats and that way the learning process consumes less time.***

Preliminary field study

6 to 8 year old

children begin learning about plants and ecosystem in schools at this age



Stakeholders

Unstructured interviews were conducted with Parents of children aged between 6 to 8 years, School teachers, People involved in urban farming/ organic farming and various garden/ farm workshops.



triggers

Engagement with plants and gardening.

Inspiration behind starting a garden.

Information media and guidance.

Motivation that drives it.

Challenges and constraints.

Interest Building.

Engagement

Terrace gardens
/potted plants



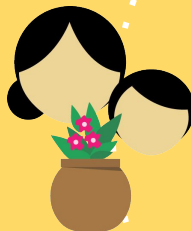
Motivation

growth of the garden
feeling of content



Inspiration

parents or other
family members



Information

groups, workshops
and communities



Challenges

space constraints
Lack of experience



Interest

loss of interest
due to slow progress

findings

Soft Toys/ Dolls

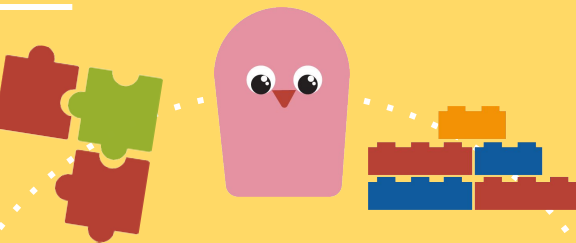
form, colour,
character

Puzzles

engaging activity,
creating pictures

Modelling clay/ Construction toys

Freedom of customisation,
experimenting



What Were Your Favourite Toys/ Games As A Kid? And Why?

Inferences

Informing and guiding the
children to interact with plants.

Keeping them motivated to
complete the process of growing
a plant.

Building a relationship between
children and plants.

Interviews

Companionship building with plants.



Replicating natural environment on a smaller scale.

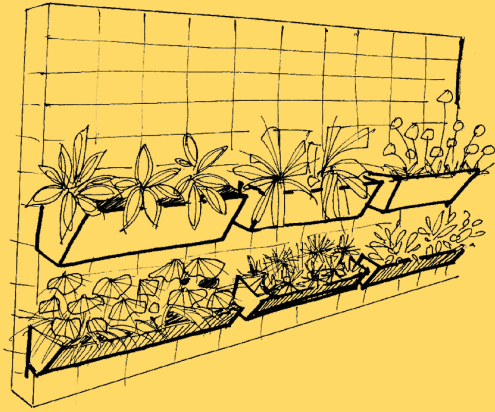


Hands on activity for plant growth.

Building from scratch.

Interaction with plants by gamification of garden.

Miniature landscape

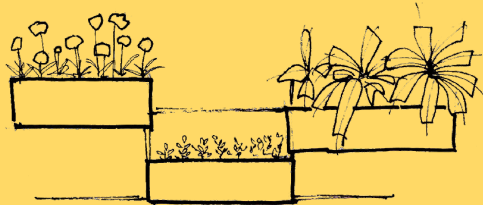


Garden wall for every classroom, with active involvement of students.



Companionship building with plants.

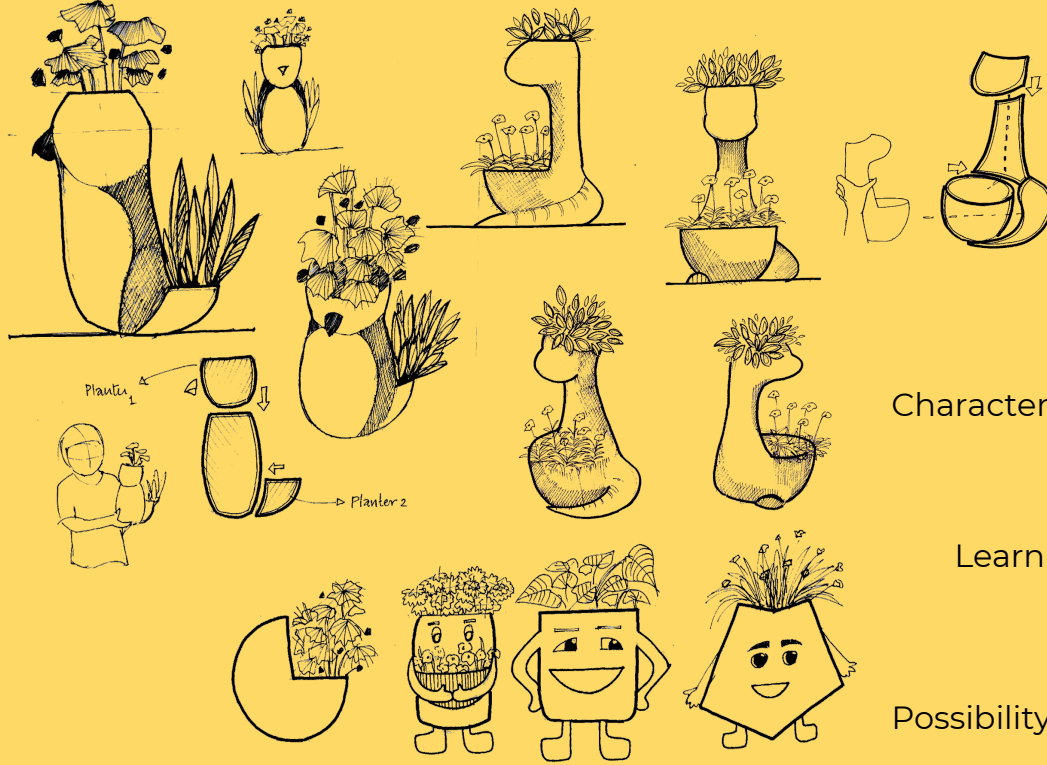
Learning through practical experience along with textbook study.



Encouragement to ask and answer questions.

Classroom Green Wall

Ideation



Motivation to build and complete the character.

Character development to depict plant life.

Learning about a variety of plants.

Possibility of customisation of a character

Plant Buddy

Ideation

A plant buddy

The plant becomes a part of this character and completes it.

Variety of characters can be designed for kids.

Type of character defines the type of plant grown.

Possibility of various character designs allows introduction to a large variety of plants.

It will also motivate a child to try growing different plants and identify their characteristics.



**Planter
+
Character**

..... The plant forms a part of the character and completes it

..... The appearance of plant defines the overall character design

Mockup

Design Outcome

Engagement through activity of building a character using given components

A child can observe a plant closely right from germination to growth. It also ***allows a kid to go through all the phases of plant growth*** along with its successes and failures.

This can be made a part of classroom activity to encourage teamwork while caring for a plant. It can also be an individual kid's activity that encourages them to bond with a plant and observe how it grows.

Use of plants that produce fruits or flower can also act as a reward of the whole growth and caring activity for a child.



Mockup

Design Outcome

- **Exploration with different materials**

The product needs to be explored using a variety of materials that suit the forms and are suitable for children to interact with.

- **Testing the product**

Testing this design would require a long term interaction with the children while they explore growth of a plant.

- **Customisation for better engagement**

The activity can be designed to allow customisation in the form of the character which could lead to a better engagement of the user with the product and plant.

Discussion

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- *Gardening with Children | Eartheasy Guides & Articles | Eartheasy Guides & Articles*
 - *Increasing-Inclusion-in-the-School-Garden.pdf (schoolgardenproject.org)*
 - *How Community Gardens Can Help Children with Special Needs (seewhatgrows.org)*
 - *Gail A. Langellotto¹ and Abha Gupta*
Gardening Increases Vegetable Consumption in School-aged Children: A Meta-analytical Synthesis
 - *Deanna Marie, Pecaski McLennan*
“Ready, Set, Grow!” Nurturing Young Children Through Gardening

References



Thank You
