

**Industrial Design Project III**

# **Playing kit for Visually Impaired children**

**Sanjay B Nair**

08613002

Guide **Prof R. Sandesh**

**2010**

Industrial Design Centre, Indian Institute of Technology Bombay



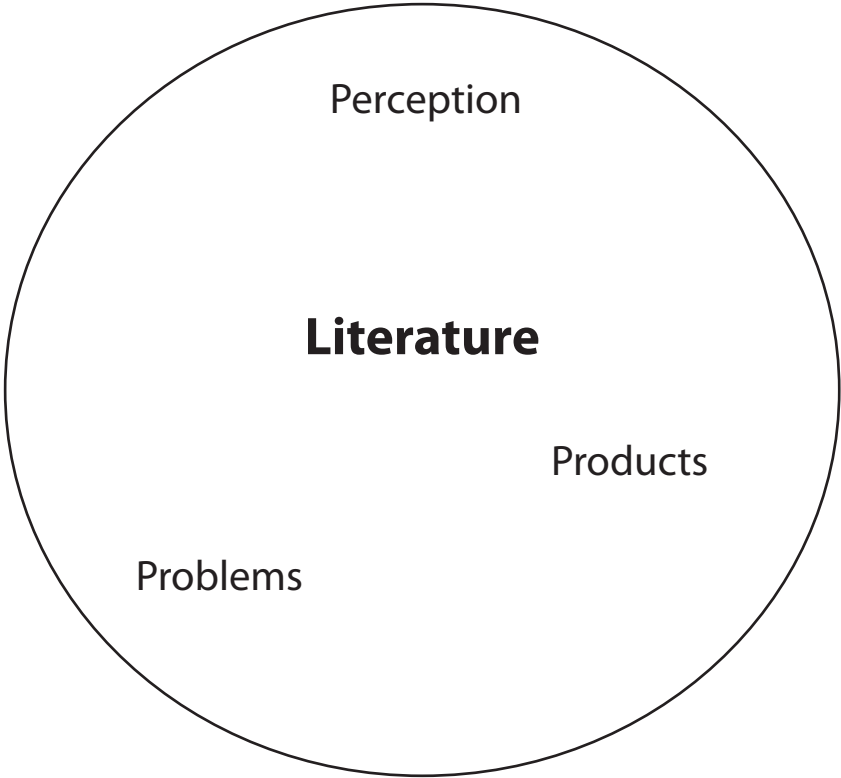
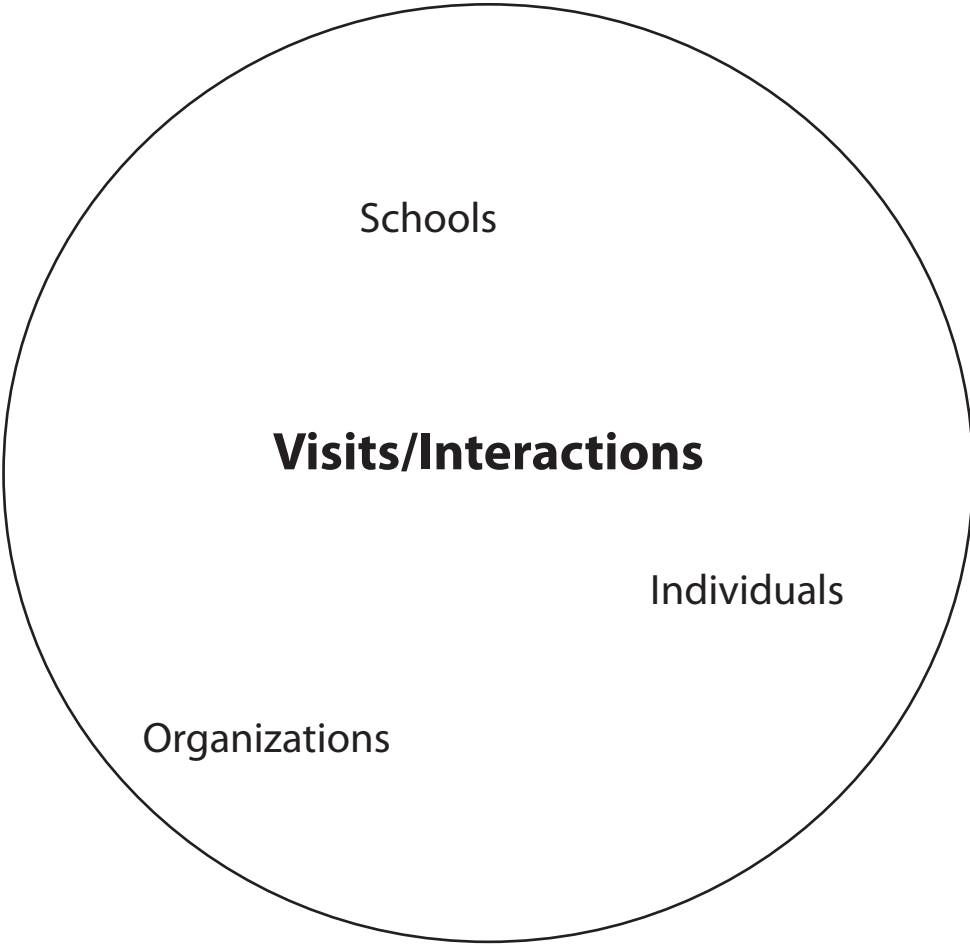
Social

Opportunity

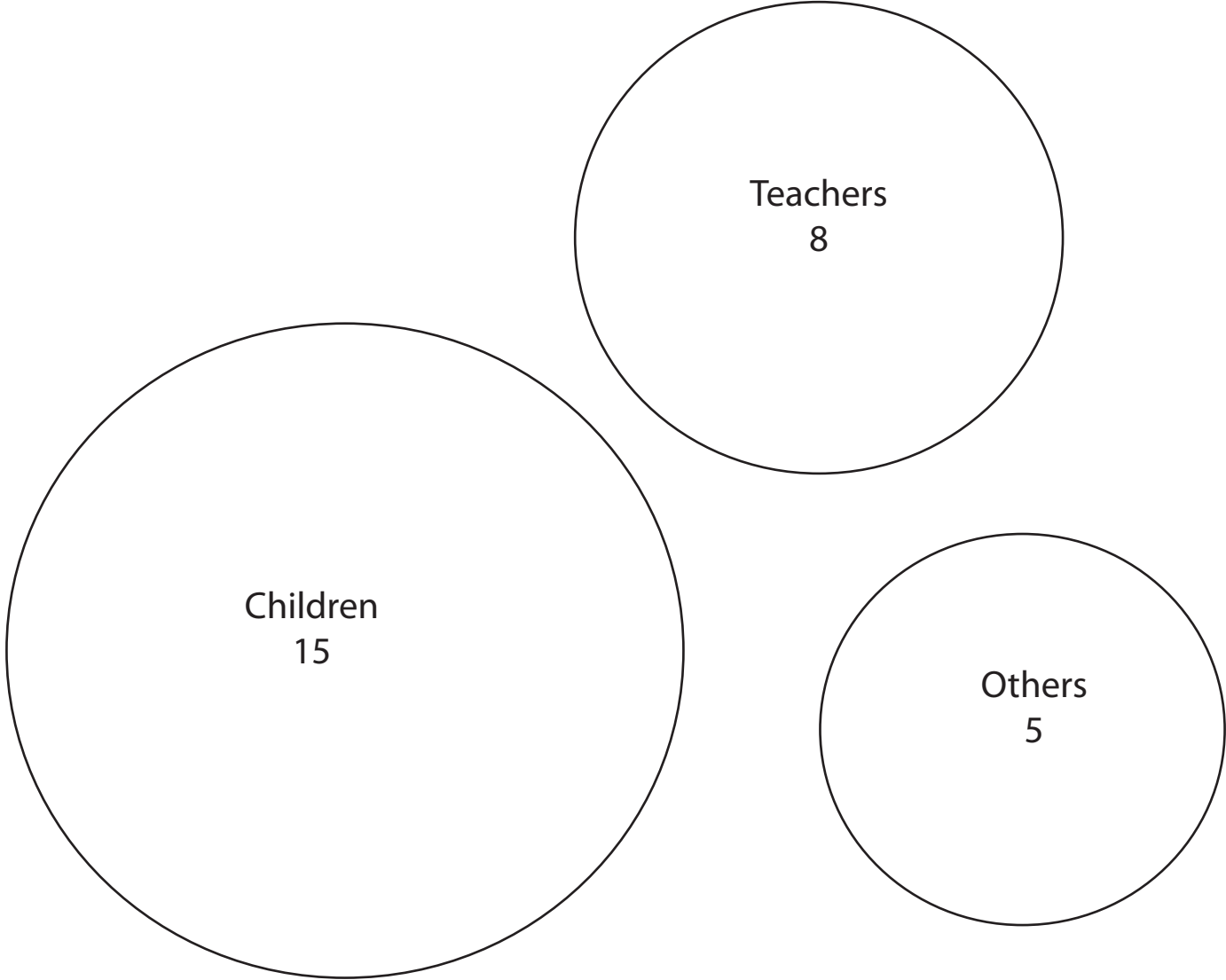
**Why?**

Challenge

# Research for Need Areas



# Statistics of people interviewed



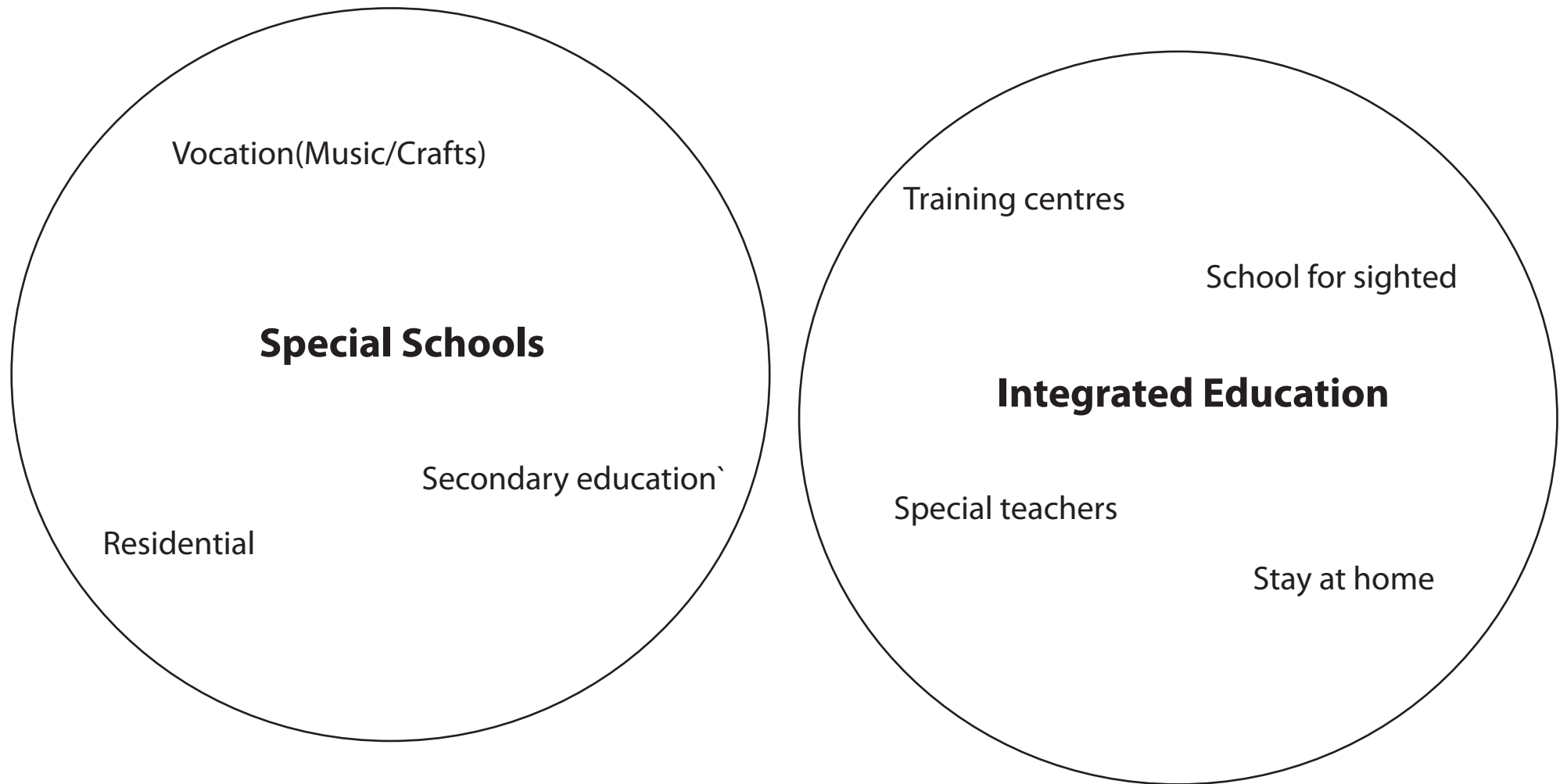
# Kamla Mehta School



## Low Vision



# Modes of Teaching



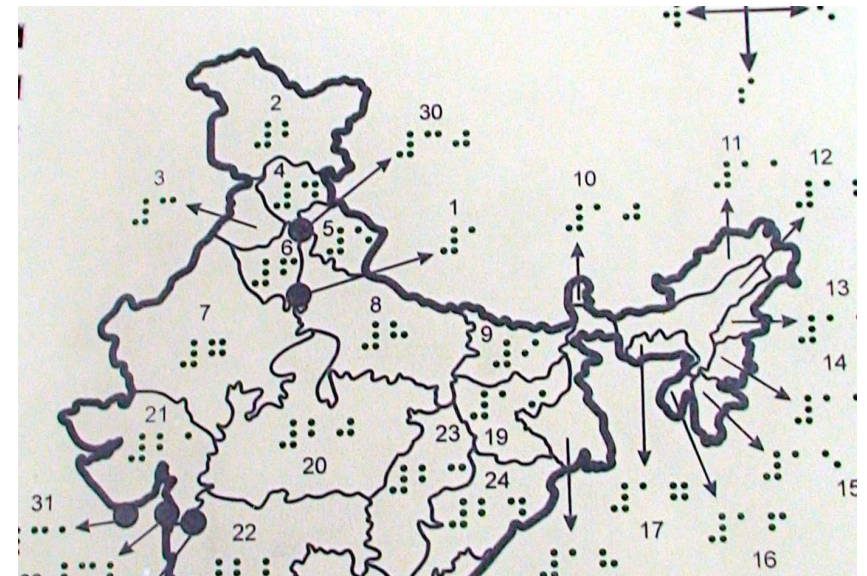
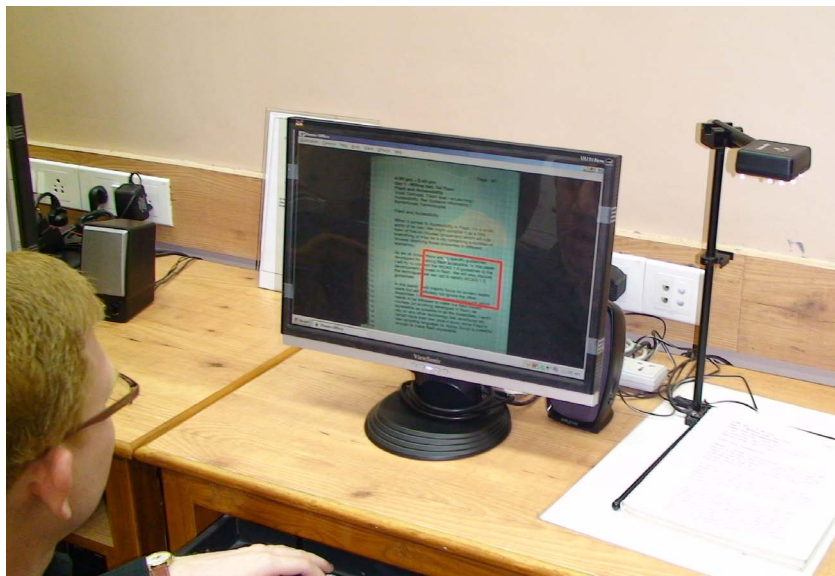
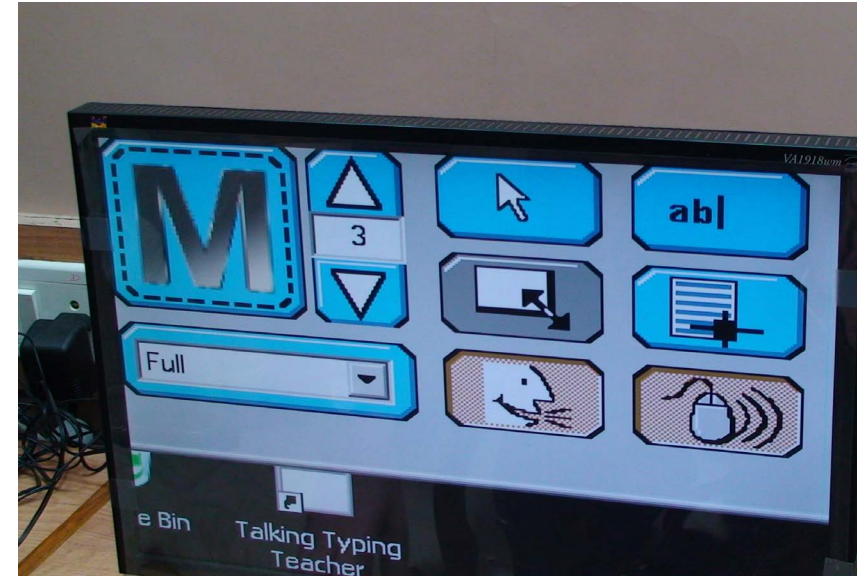


## NAB Centre, Thane





# XRCVC



# Mayster Braille Loom





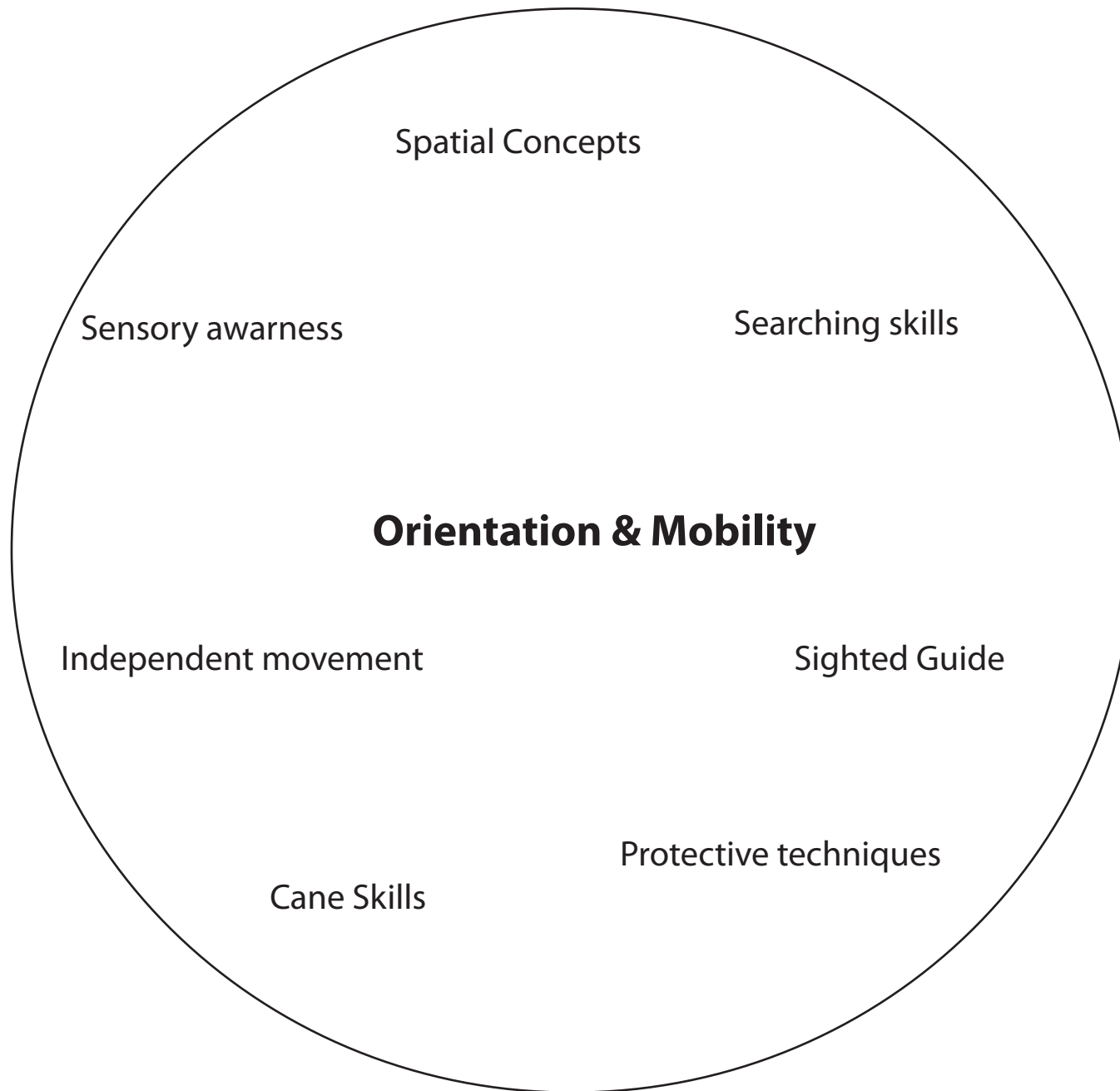
## Shraddha, Mumbai





## PAV, Badlapur

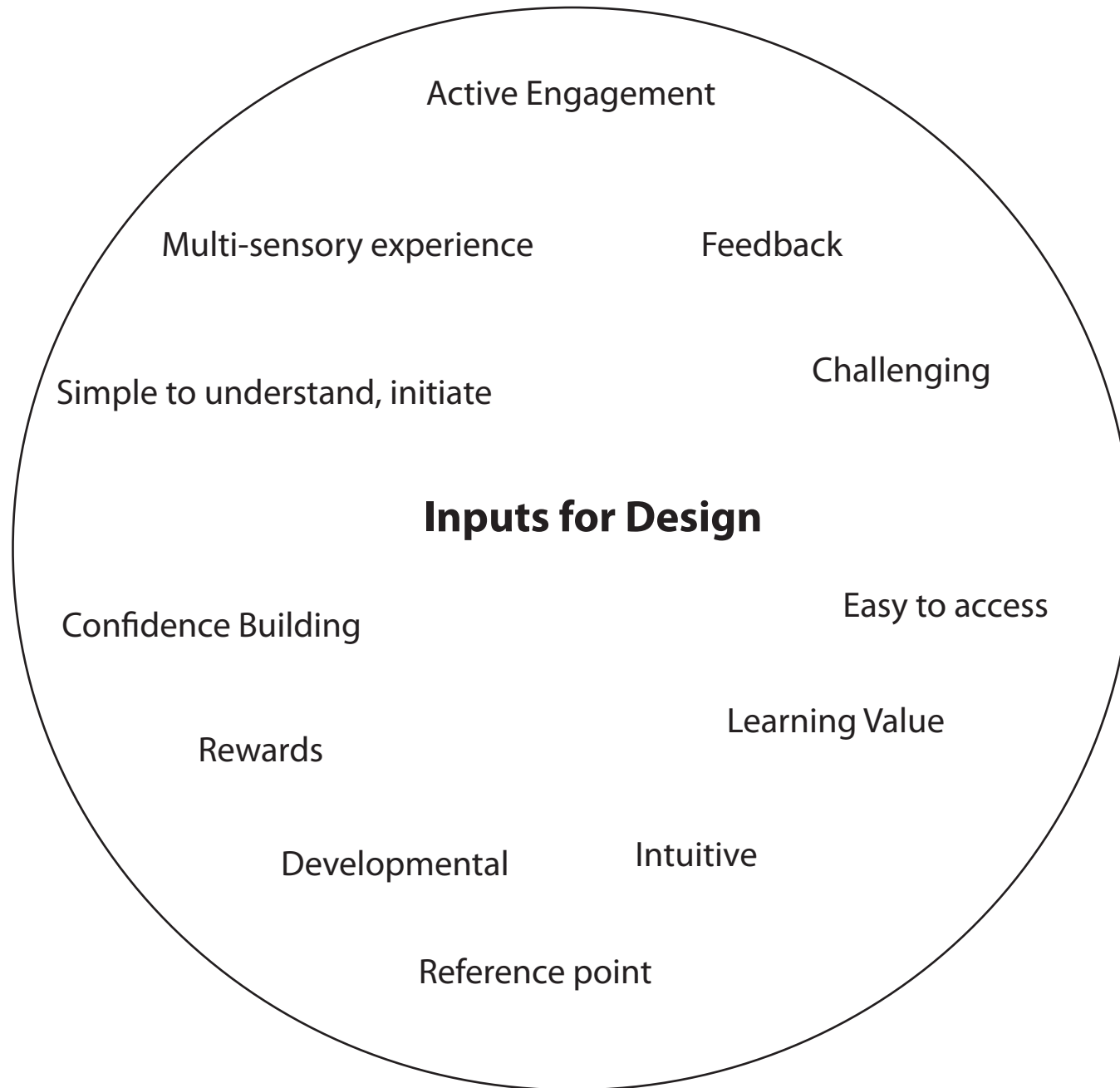




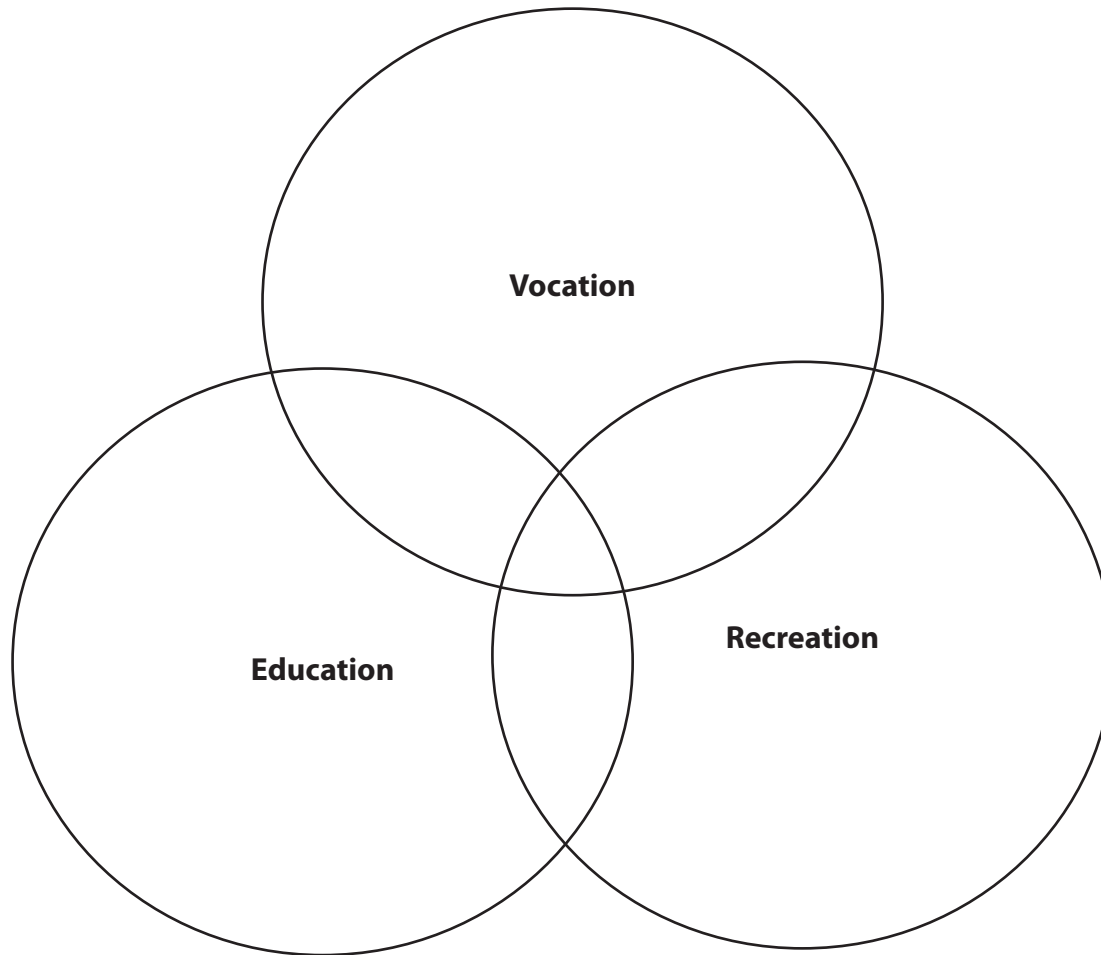
## What people said

- Recreational game for children- Mr. Shankar Raman (NAB)
- Low cost device for Braille Emboss Printing - Mr. Prashant Naik (XRCVC)
- Educational models to teach abstract concepts - Mr. Vijay Shukla (NAB)
- Educational kits for teachers - Smt. Suhasini Manjrekar (Principal PAV)
- Improvised cane with sensors and feedback mechanisms- Mr. Sandeep Kadve (Teacher PAV)

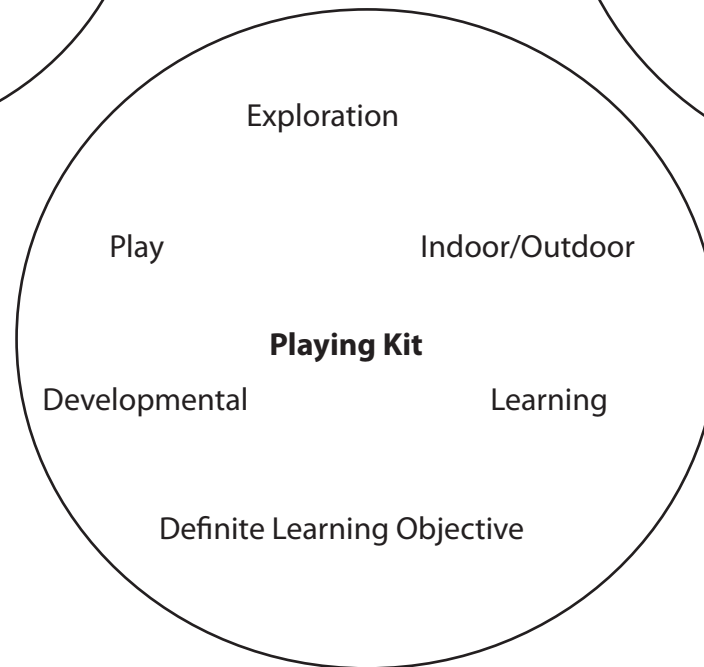
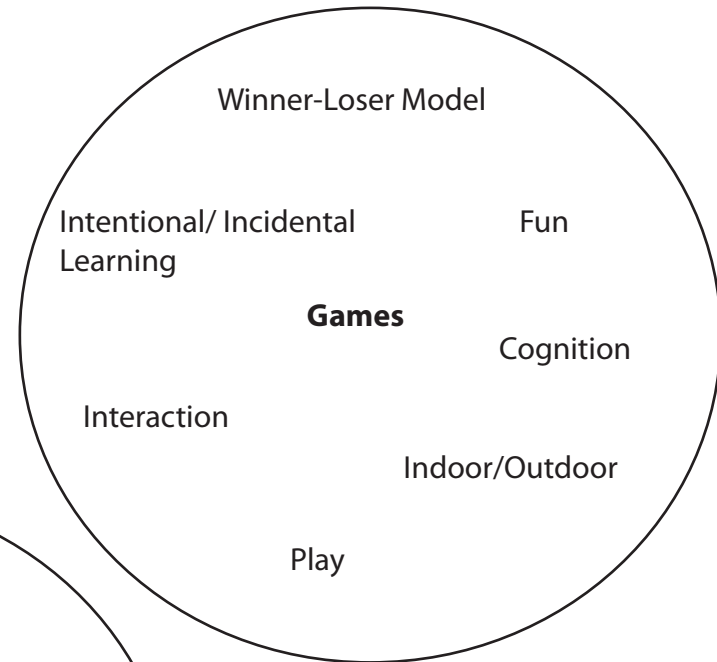
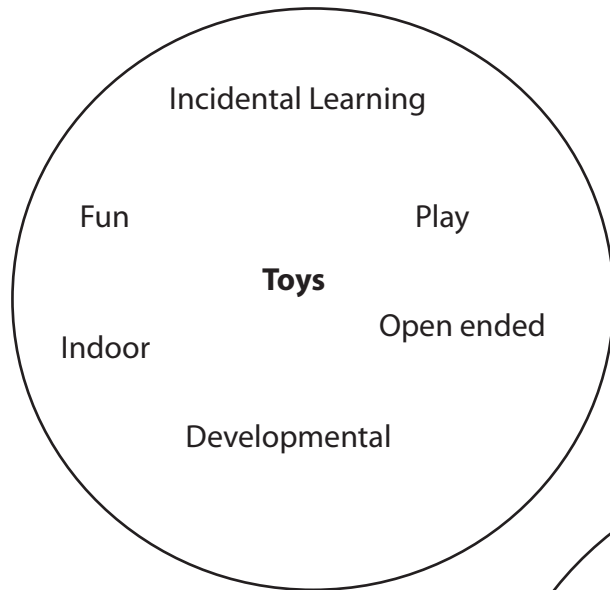




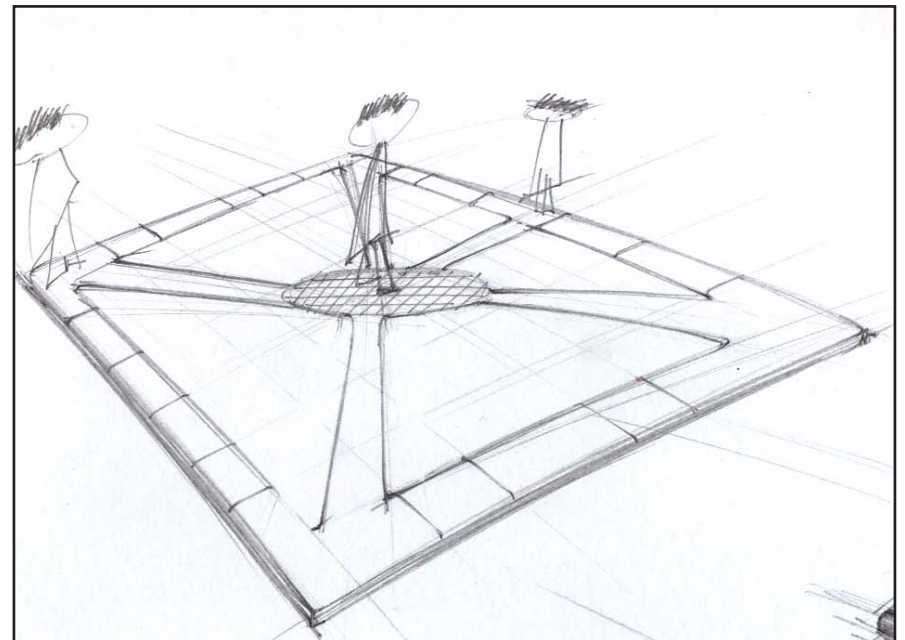
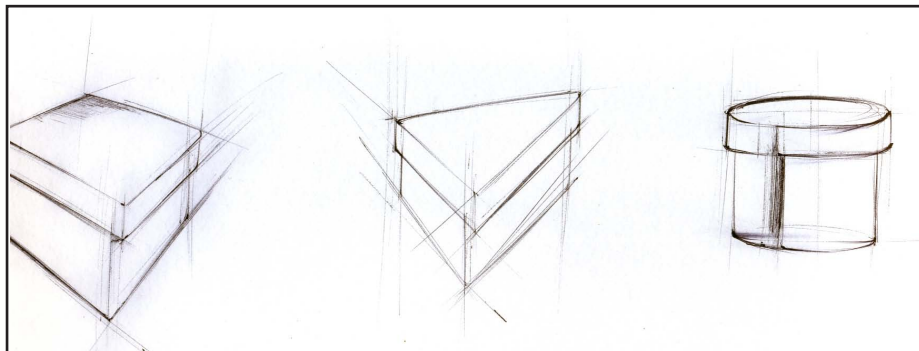
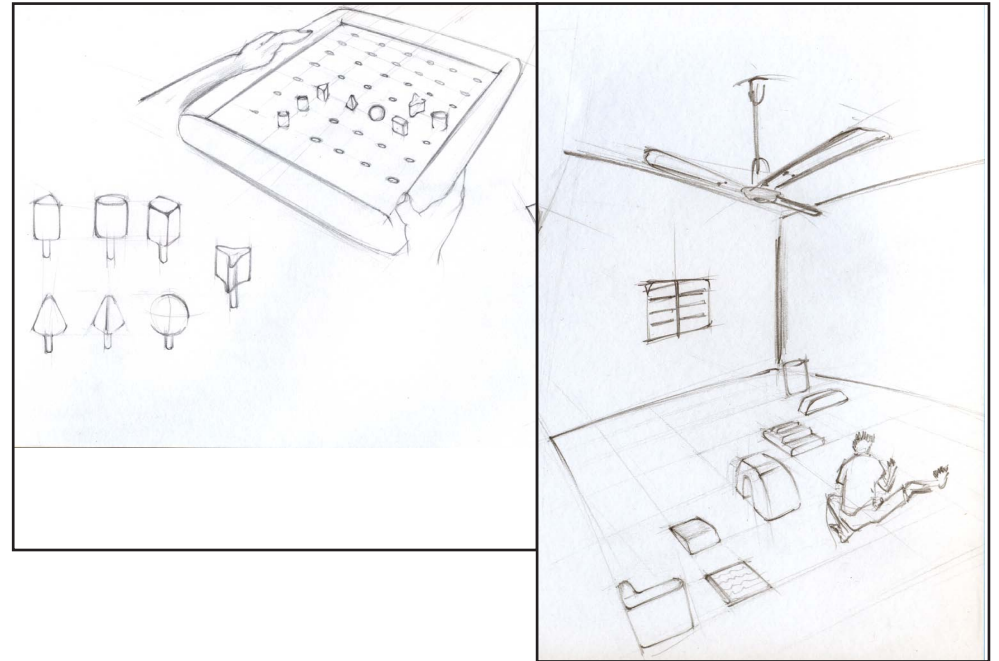
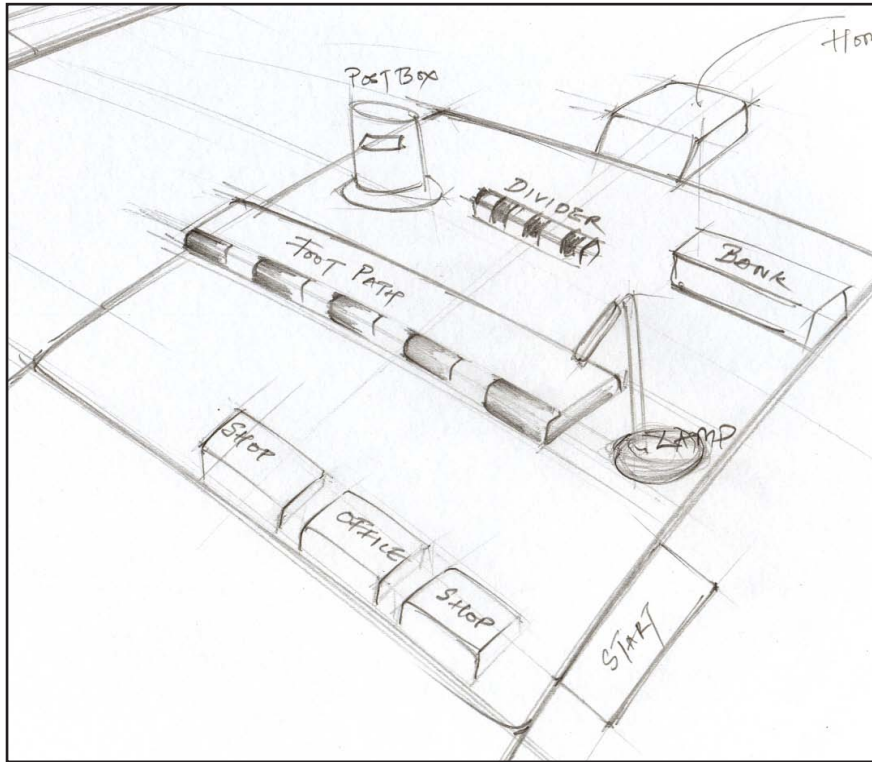
# Possible areas of Design Intervention



# Options



# Ideations





# Testing



# Testing

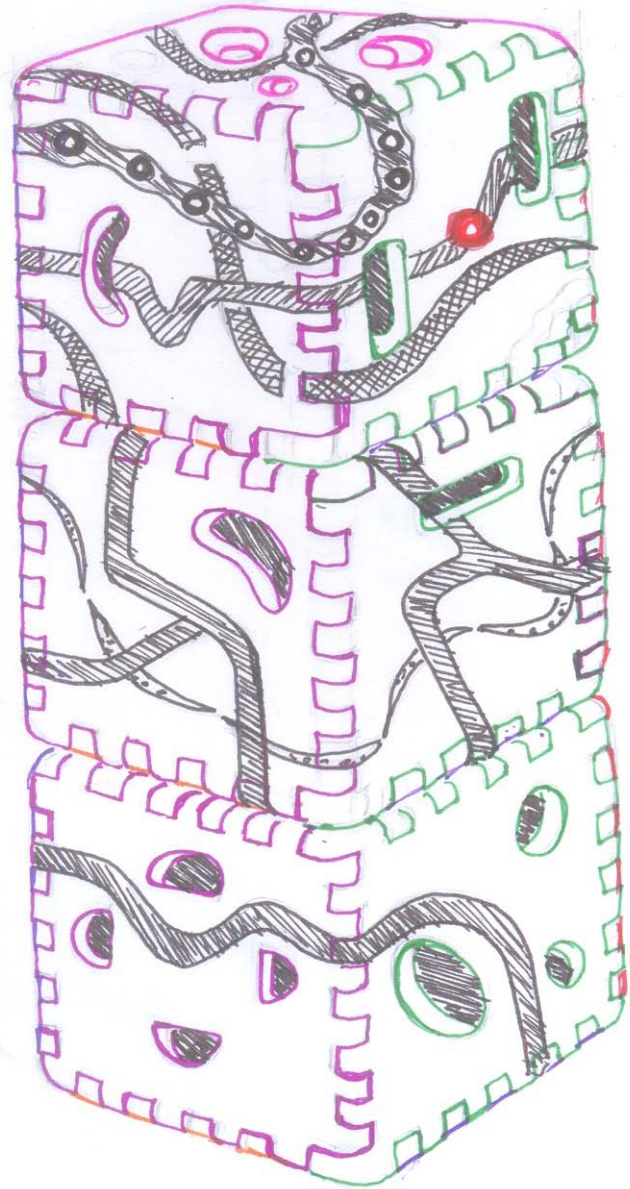
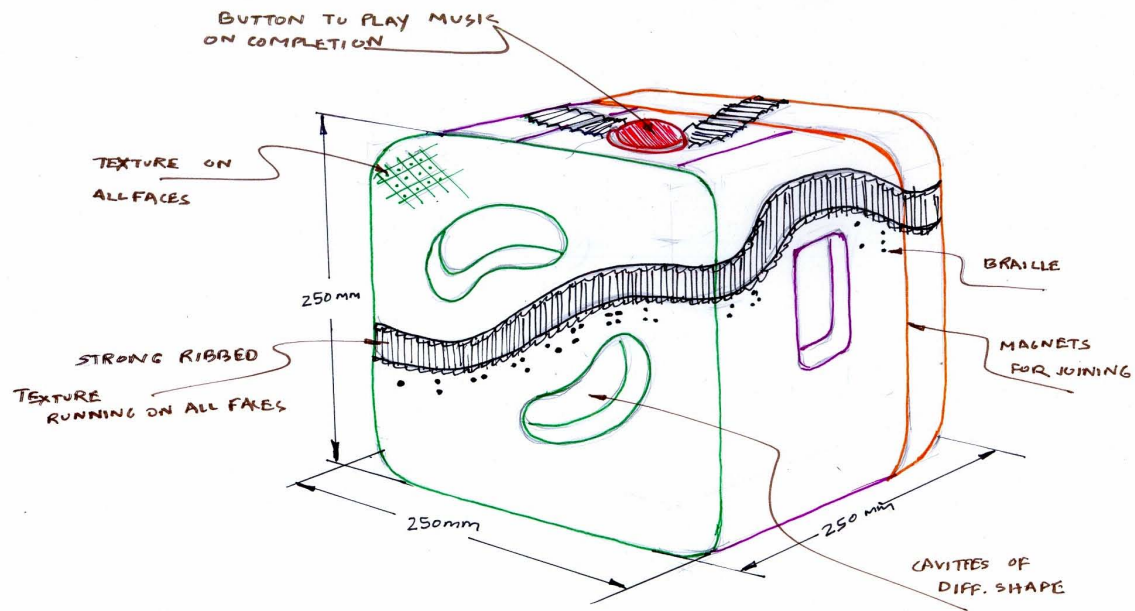




# Idea refinement

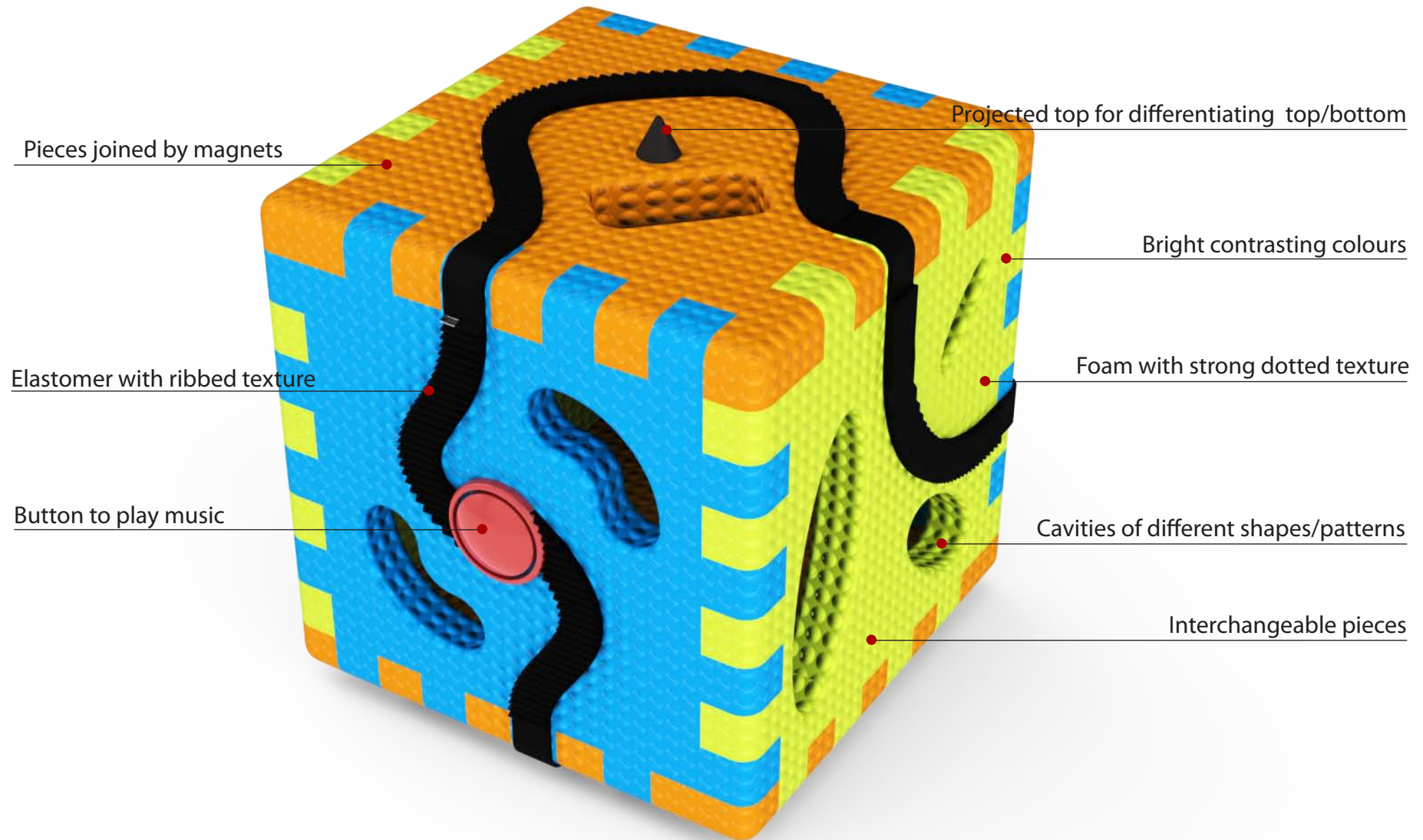


# Concept development

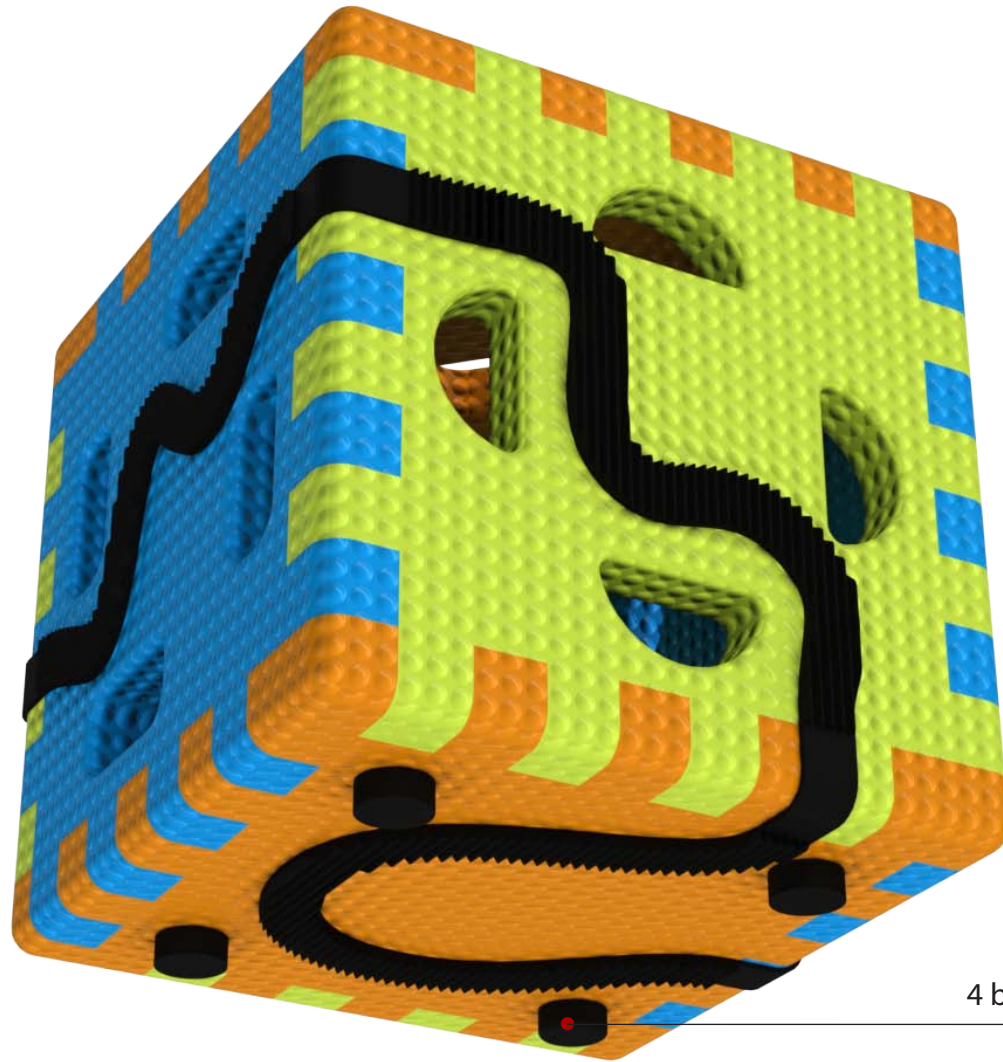




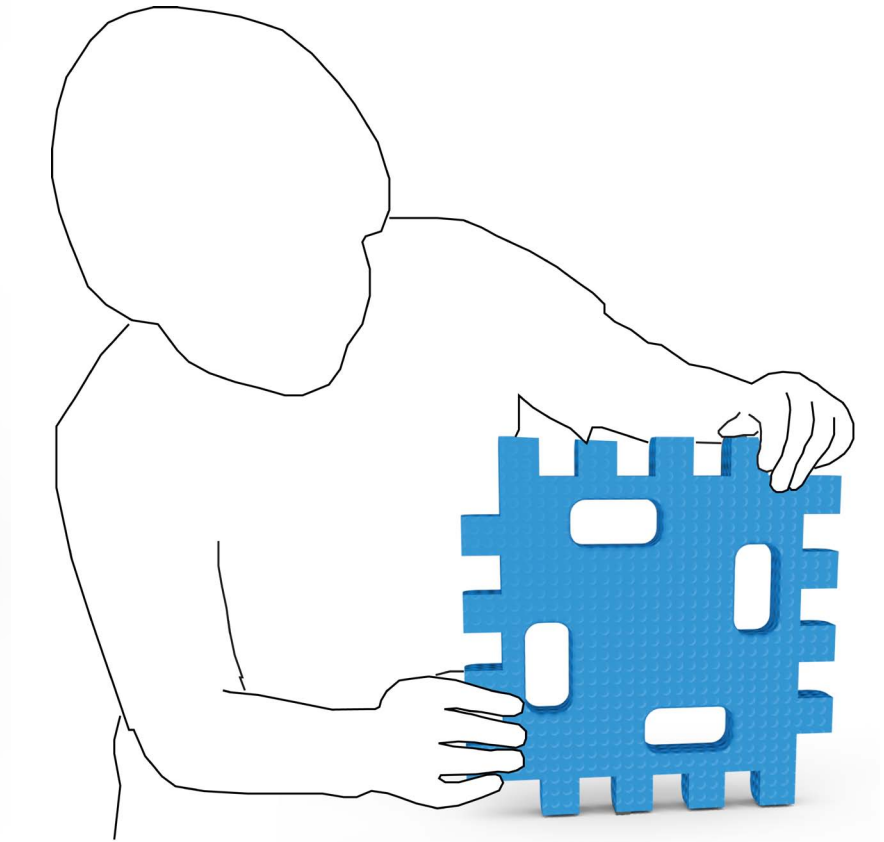
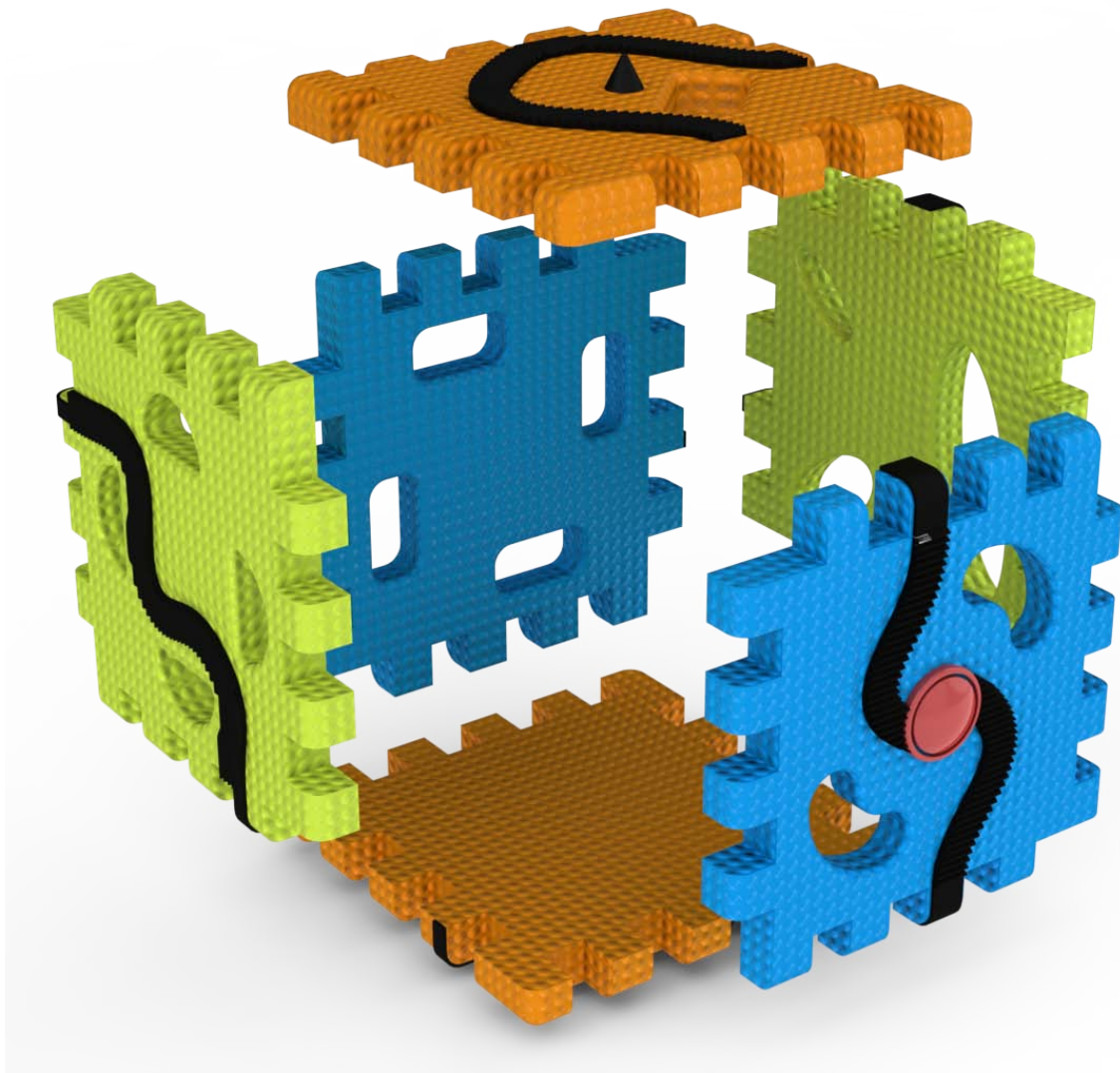
# Final Concept







4 bushes for stability/identifying bottom panel





## Benefits of using the kit

- This will improve the ability of the child to track with his fingers that will help him in learning Braille.
- This will give him an opportunity to learn Braille in a playful way.
- Improvement in orientation skills by learning to align the panels in the correct direction.
- Improvement in social skills when the child interacts with other children while playing with the kit.
- Improvement of cognition skills
- Understanding cause and effect phenomenon when he plays the music on completion.
- Improved spatial awareness by manipulating the 2D shapes to form 3D structures.
- Improved kinesthetic sense due to movement of body parts, especially when the child stacks the cube on top of each other.
- Understanding various spatial concepts like scale, symmetry, pattern, diagonal etc. through the cavities on the panels.



# Viability of project

- Primary users - Totally blind & with low vision children
- Secondary users - Sighted Children
- Target Buyers - NAB, Special Schools, Donors
- Manufacturability- Batch process
- Material/s- PVC Foamboard available in sheets punched to form the desired profile