

Poster Presentation: 30 January' 2021, Session 3

# Funtastic Canvas

A Sensorial Experience of Play & Interpersonal Engagement in the Classroom  
for Sighted & Visually Impaired Children to counter Stress



Designing for Children with focus on 'Play and Learn'

28th - 30th, January 2021

IDC School of Design, IIT Bombay, Mumbai, India



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# Research on Stress in the Classroom

A study into the causes of stress in a student's life and the requirement of mental, physical and emotional balance to improve social and inter-personal skills.

The Primary research constituted field visits to blind schools and schools for the sighted students, and interviewing both segments to gain insights on the causes and effects of stress in their life, and the different modes of relief that the participants resorted to.

Age group: 6 to 10 year old

Gender: both male & female

Disability parameter: Sighted & Visually Impaired







# Classroom as a Space

The differences between the classroom spatial arrangement and experience for the visually impaired and the sighted students weren't too many. Some key observations were:

Notices and charts were put up on the wall-mounted boards which were visually enhanced for sighted students, while information was colour coded for partially blind and tactile for the visually impaired.

In their free time, the sighted students took to playing outdoor games or visited the library while the visually impaired students indulged in music classes and vocational activities like weaving & carpentry.

The space and furniture for both classrooms was similar, with wooden desks and benches, seating single or groups of two to three. Carpets were also used in some classes for floor seating.

Natural light and air streamed in through the windows with additional lighting fixtures for sighted students.





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Aesthetics is concerned with how something appeals to the senses, while experience maps out its pleasurable or non-pleasurable effects in its relation to memory. Cognition, on the other hand, is the science of acquiring knowledge and understanding through the senses, thoughts and experiences.





# Group Activities

To understand the psychology of the visually impaired and sighted students towards play, a series of activities were carried out with them. The students were involved in various 'making' exercises to gain knowledge about their cognitive and kinesthetic engagement.

The students were given clay to depict any form or object that they found pleasing or associated with stress relieving. The sighted student group created objects that were a visual replication of the world around them, and the visually impaired students created forms that explored three-dimensionality and techniques employing finger imprints and pressure. Upon voting within the group, the participants preferred forms with some level of intricacy, both visual as well as exploring the positive and negative space of the material.

Certain malleable and flexible elements were created and given to the students to explore with, which was noticed to have a limiting effect as compared to a material like clay. The students were engaged in twisting, folding, knotting, collapsing and turning the units inside out, but the output was low on creativity & play.



# Experience Mapping

Engaging in  
Experience

Feeling of  
Achievement

Distraction  
from Routine

Joy of  
Creating

Freedom of  
Expression

Curiosity

Sharing

Sense of  
Anticipation

Enjoyment

Helping out

Element of  
Surprise

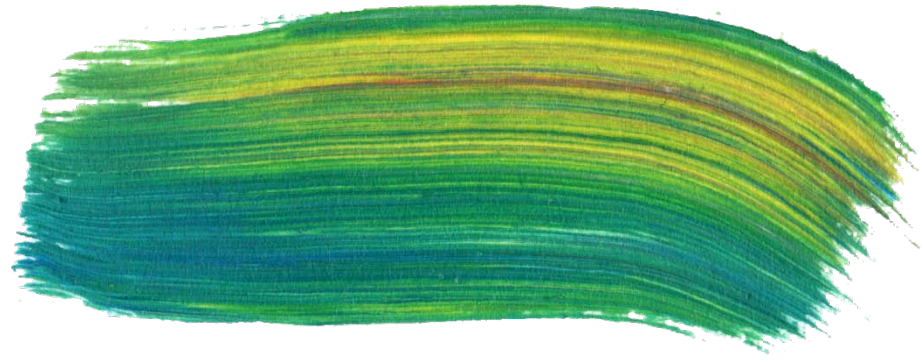
Choice

Personal  
Space

Entertaining

Interaction  
with others





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An experience arises from a combination of neural responses to different components of an object, along with the meanings and associations evoked by the object.



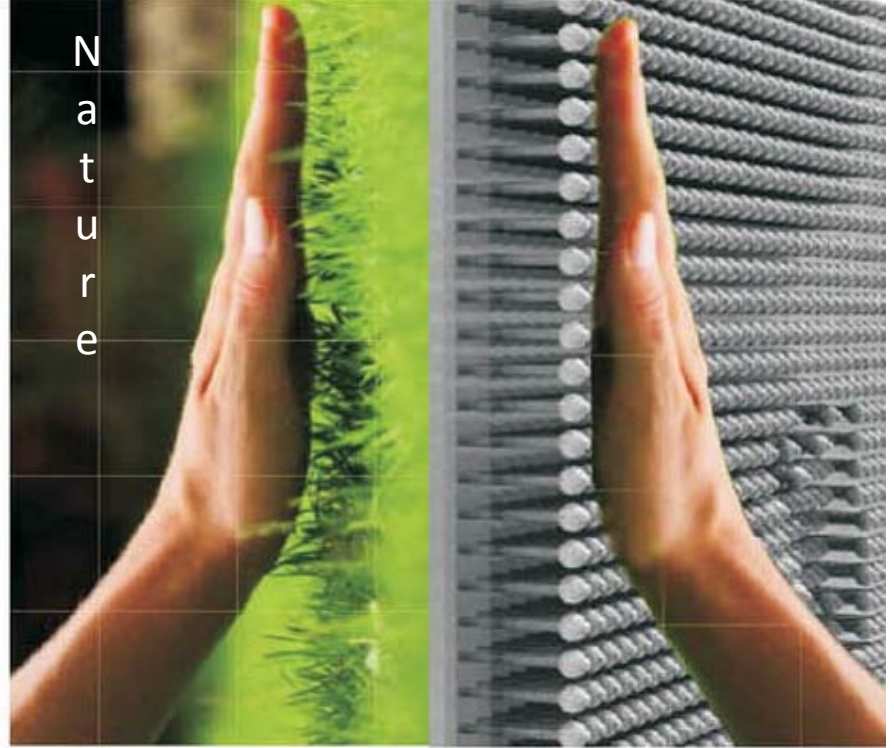




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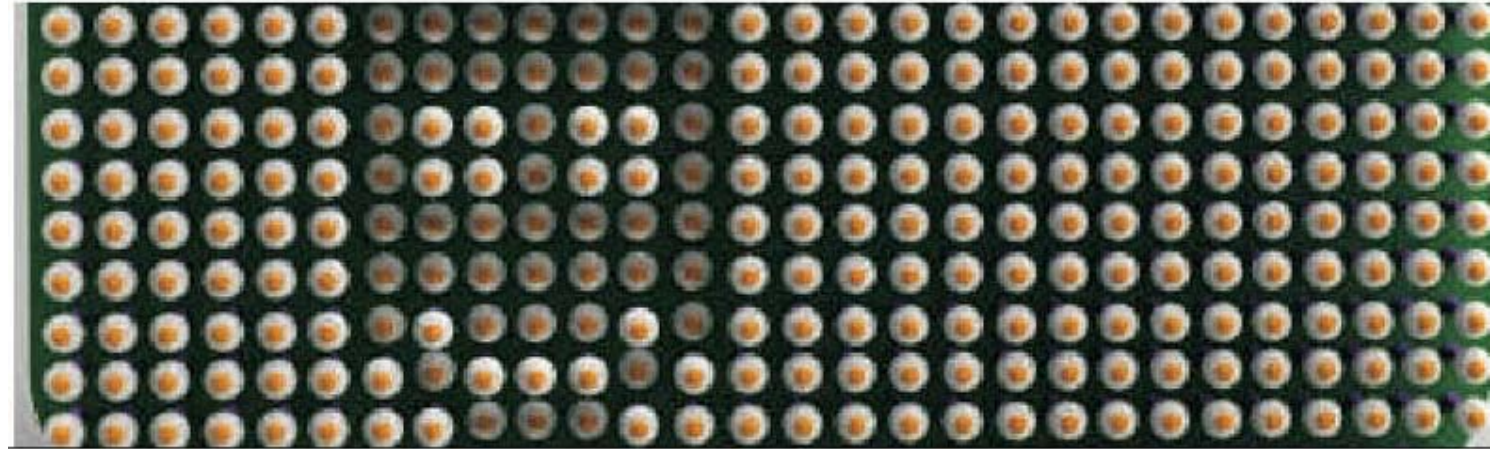
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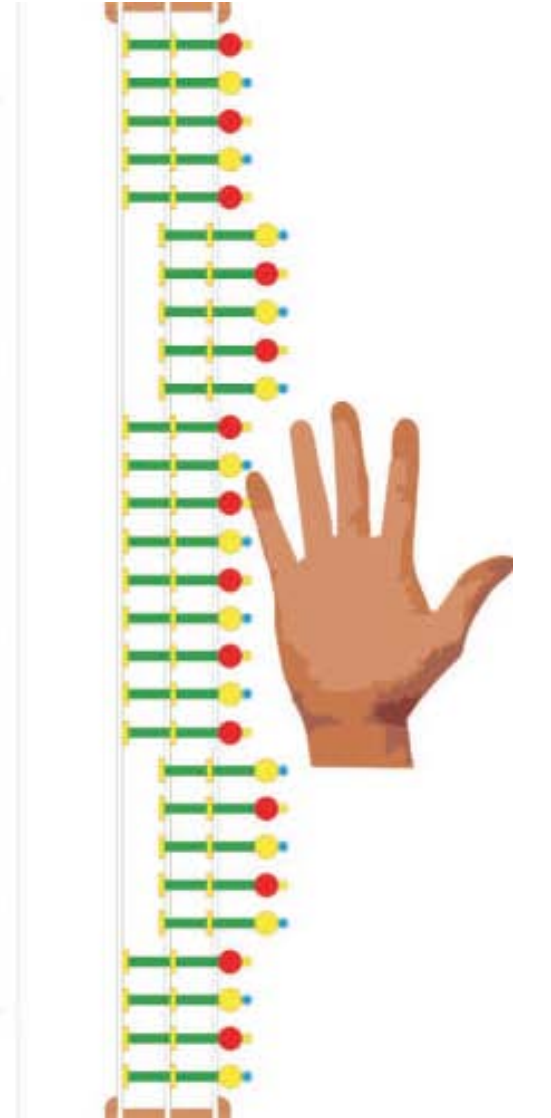
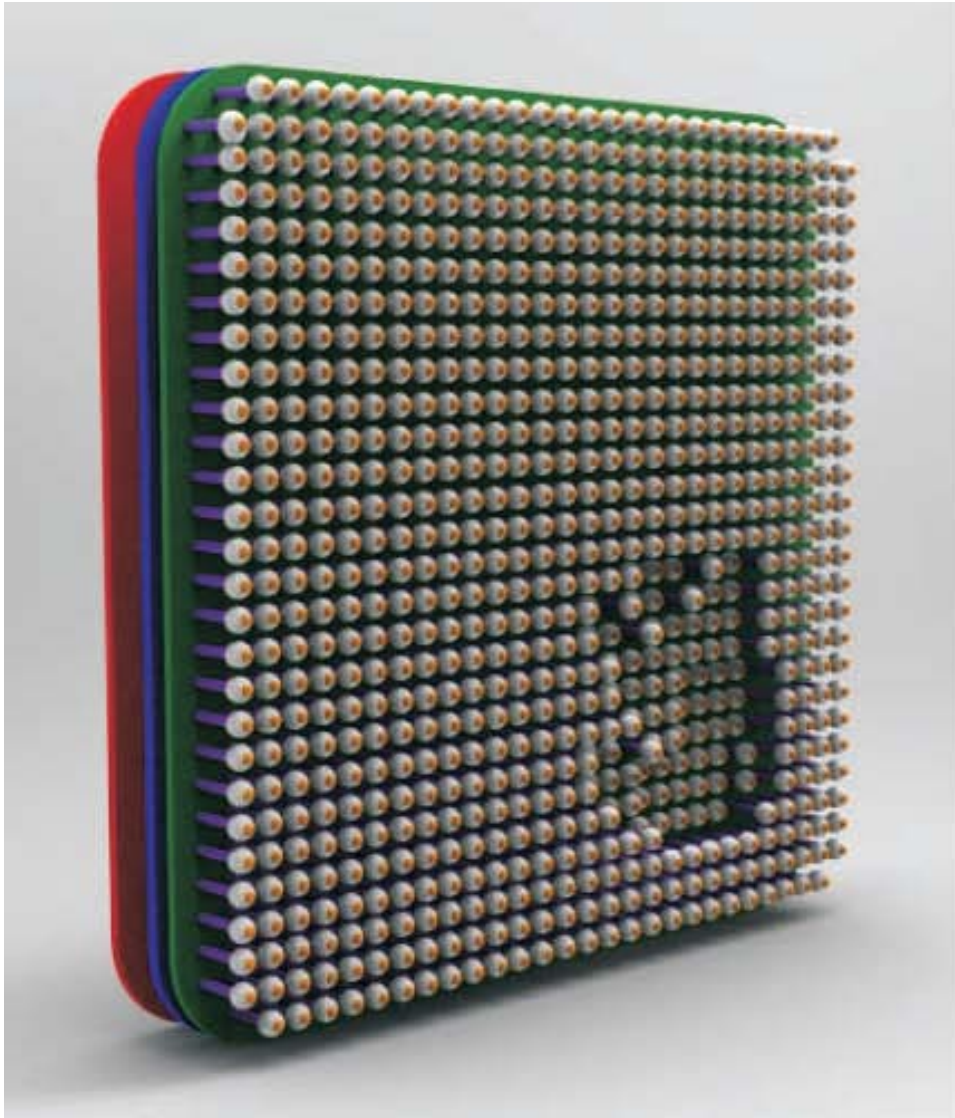
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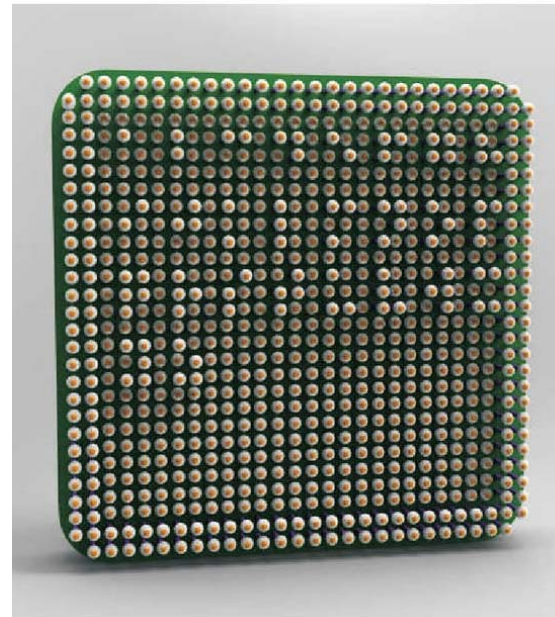
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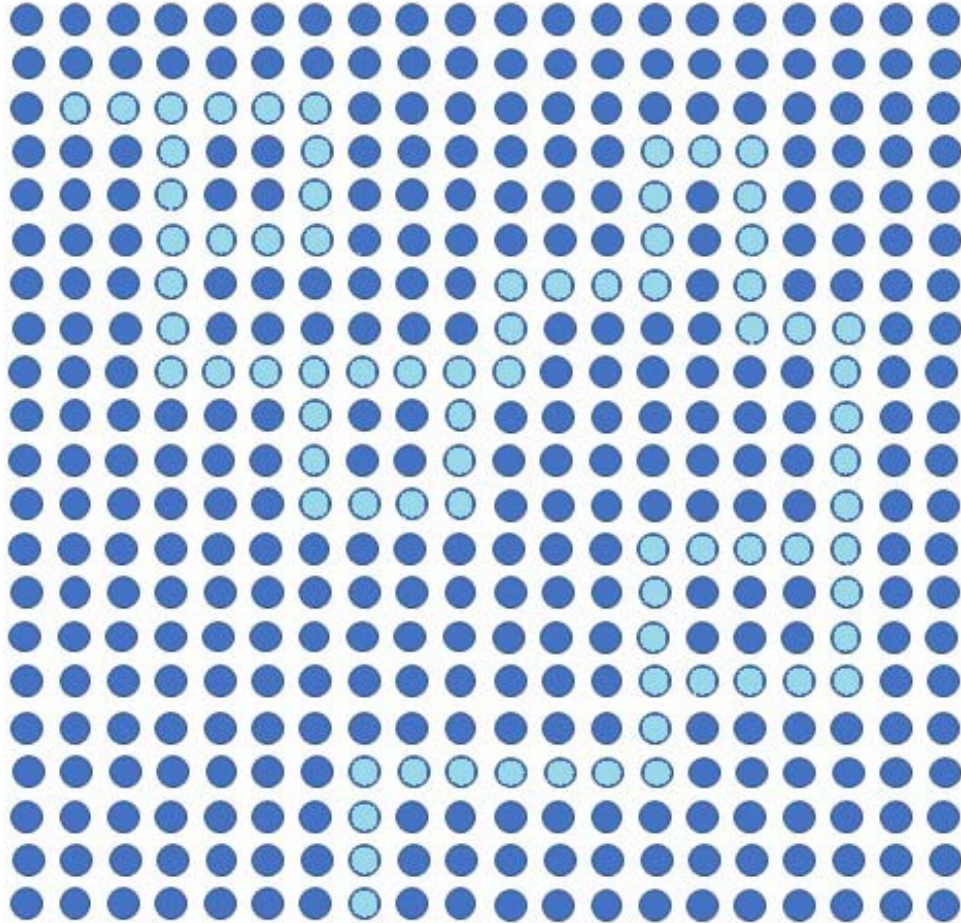
## The Final Concept

- Tapping into the strength of touch that the visually impaired students develop overtime with their skill of reading braille. The students can create textures, shapes and even braille signages.
- The sighted students can use it to play a variety of games and use it as a 3D board for writing messages.
- Students of both groups will improve motor skills, hand eye co-ordination, tactile sensing and benefit from pressure point stimulation on the palm of hands.
- Reduce stress by communicating visually with the peer group and collaborating for play.

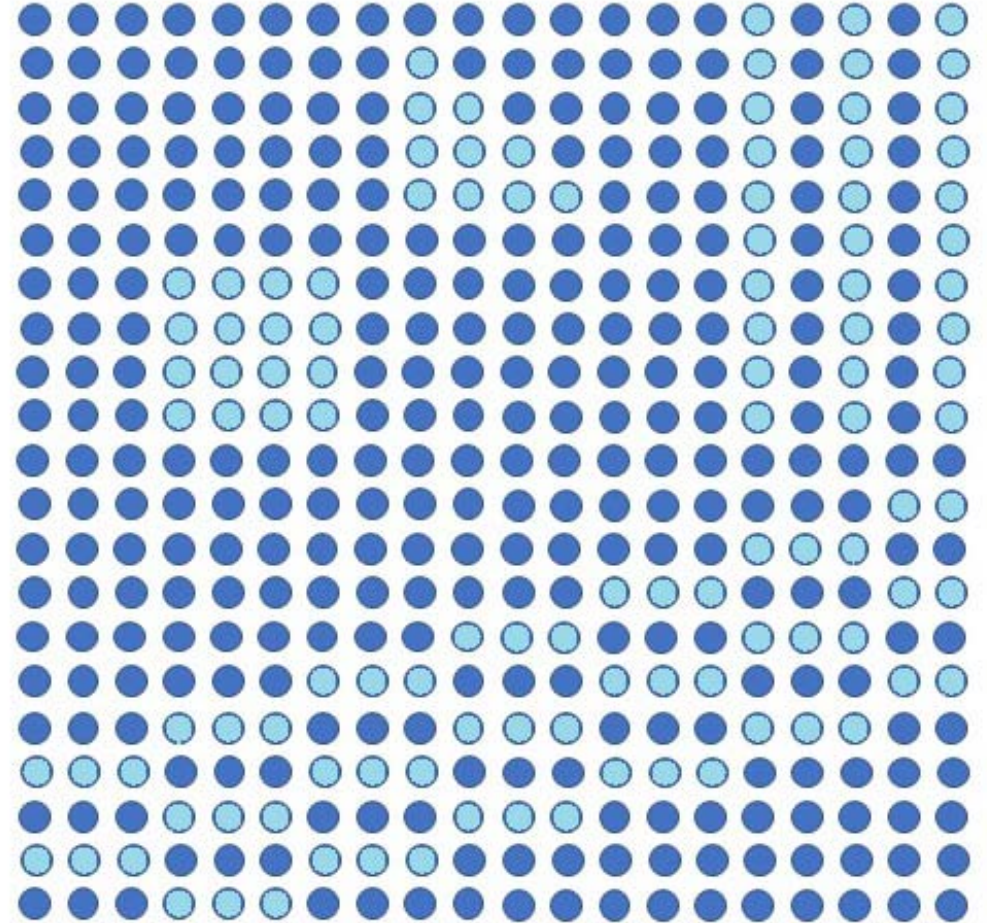




Law of Continuity  
Sequential turns to win



Law of Similarity/Proximity/Closure  
Shapes, Textures, Symbols



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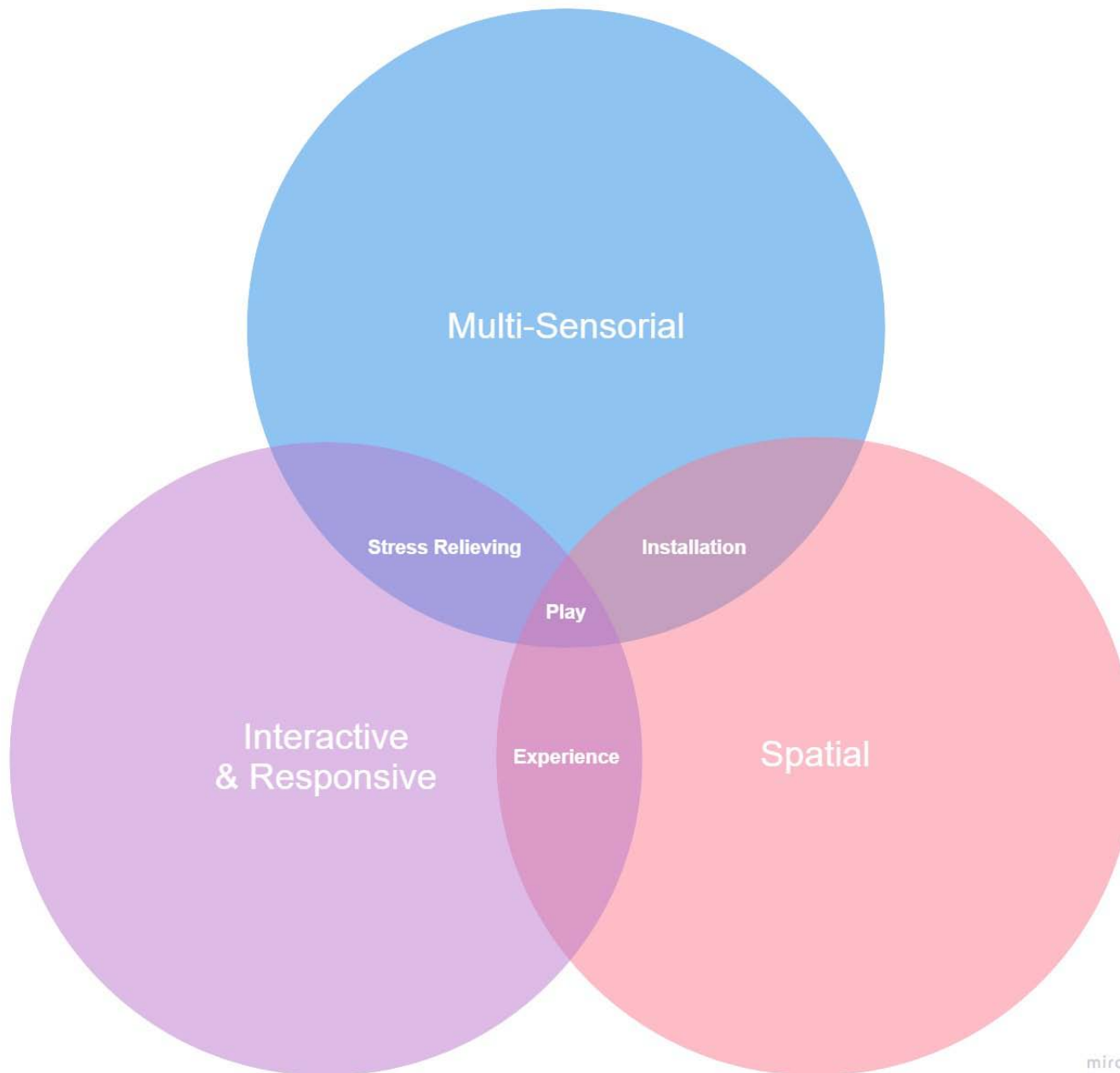
The nervous system processes information both hierarchically and in parallel. The levels of this processing can be classified as early, intermediate and late.

Early perception extracts simple elements from the environment such as color, luminance, shape, form, motion and location. These elements are processed in different parts of the brain.

Intermediate perception gives structure to regions in what would otherwise be a chaotic and overwhelming array of sensations. This structure is given by separating some elements and grouping others together (Gestalt Theory of Perception)

Late perception scrutinizes these coherent regions as objects are recognized, meanings attached, and memories evoked.





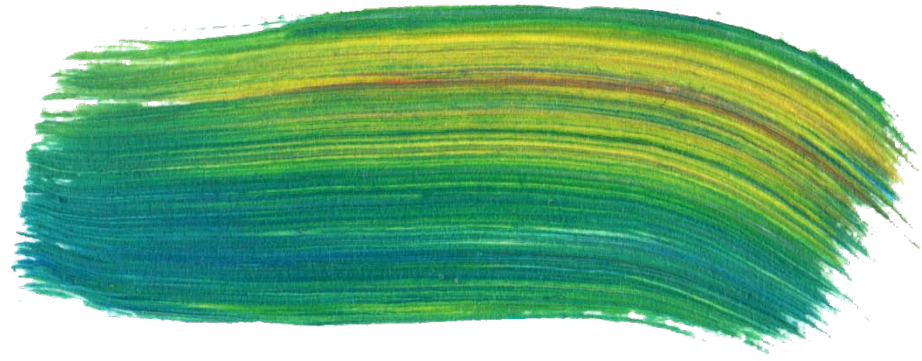
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The intervention Funtastic Canvas is at an intersection of being multi-sensorial, interactive and within the physical limitations of a classroom, which counters stress by inducing a sense of play & communication among both groups of sighted and visually impaired students.

The way ahead for the concept is to maybe also include sound responses so that the entire canvas can be 'played' like a musical instrument by multiple participants, and be functional from both sides.







Thank  
you!

