PROJECT RATIONALE

A variety of educational stimuli in 2012 has shown that interactive education is an effective way to engage students. Science education, especially, has shown the most results. SCIENCE PLAY introduced a number of educational concepts in a format which is engaging for the generation of science and technology.

DESCRIPTION

A play area for children ages 6 – 14 years old, which promotes science and technology education. The architectural structure is also an object of play, through exploring the space, children are encouraged to learn about basic, everyday science and technology activities.

SITE POTENTIALS

PROGRAM

- Exhibition
- Exploration
- Experience
- Shop

MOBILITY

- Bicycle
- Pedestrian
- Car
- Motorcycle

JURUSAN ARSITEKTUR
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
INSTITUT TEKNOLOGI SEPUHIL NOVEMBER
SURABAYA
2013

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‘SCIENCEPLAY’: A VENUE FOR PLAYFUL SCIENCE AND TECHNOLOGY
JALAN BASUKI RAHMAT, SURABAYA
TUGAS AKHIR (RA.081381) - 2012/2013
CHILDREN: CONTEXTUAL STUDY

Academy spaces are designed to fit with children’s learning objectives, derived from Bloom’s Taxonomy (1956):

- Understanding
- Applying
- Analyzing
- Creating
- Recognizing
- Responding
- Problem-solving
- Perceiving
- Questioning
- Integrating
- Reflecting

Appropriate types of games
(Cherchy Breu, 2009, Playground Design)

LEARNING SETS

Four out of five basic sciences

<table>
<thead>
<tr>
<th>Simple Physics</th>
<th>Simple Psychology</th>
<th>Energy</th>
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<tbody>
<tr>
<td>Light</td>
<td>Human Emotions</td>
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<tr>
<td>Gravity &amp; Movement</td>
<td>Ocean &amp; Underwater</td>
<td>Sensory</td>
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<tr>
<td>Sound &amp; Speech</td>
<td>Human Body</td>
<td>Education</td>
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<tr>
<td>Electromagnetics</td>
<td>Human Environment</td>
<td>Electrically</td>
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"Intriguing" design issues: science, technology, and education about science learning

Science Play should provide a playful area to let children and their families immerse in science and technology experiences in order to promote lifelong science learning.
BUILDING STRUCTURE

each building mass consists of similar structural properties:

- dome shell
- ribbed frame
- ring beam
- wall system
- flat slab
- space frame
- cantilever beams
- structural core

MASSING

building A
number of floors: 1
floor level: +7.00 m
floor height: 350 m
program:

building B
number of floors: 2
floor level: +8.60 m
floor height: 750 m
program:

building C
number of floors: 2
floor level: +10.00 m
floor height: 200 m
program:

building D
number of floors: 1
floor level: +10.60 m
floor height: 350 m
program:

building E
number of floors: 1
floor level: +11.60 m
floor height: 550 m
program:

FORM TRANSFORMATION

1st stage - site study

2nd stage - computing spaces

3rd stage - completing sequences

4th stage - final transformation
SITE PLAN
SCALE: 1: 200

LEGEND:
A - SCIENCEPLAY ENTRANCE PLAZA
B - JALAN BASUKI RAHMAT
C - MCDONALD'S
D - HONDA CENTER
E - TUNJUNGAN PLAZA
F - ICBC/RANCH MARKET
G - WISMA BII
H - APSARI PARK
I - JALAN TAMAN APSARI

A1 - APSARI PARK ENTRANCE/EXIT
A2 - MAIN PLAZA
A3 - BUILDING A
A4 - BUILDING B
A5 - BUILDING C
A6 - BUILDING D
A7 - BUILDING E
A8 - EXPERIMENTAL FIELD
BIRD'S EYE VIEW

NORMAL VIEW

PERSPECTIVE DRAWINGS
**INTERIOR DRAWINGS**

- Ocean & Underwater
- Land, Flora & Fauna
- Solids, Gas & Liquids