Creativity in School Building Design

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1- Work context
2- Methodology
3- Achievements
1- Work context: Geography, statistics

UAE Population 8,200,000
UAE Nationals 1,000,000
Area in km² 73,300
Urban population 85%

Working team:
• 6 architects
• 1 interior designer
• 3 project managers
• Technical disciplines
• Support staff

Phase I 18 Schools Delivered 2011
Phase II 7 Kinder Delivered 2011
Phase III 15 Schools Under construction 2013
Phase IV 10 Schools In design 2014

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1- Work context: Old Abu Dhabi, 1960
1- Work context: Old Abu Dhabi, school 1960
1- Work context: Old Abu Dhabi, school 1960
1- Work context: the new Abu Dhabi, 2012
1- Work context: unattractive school entrance
1- Work context: Long corridors organizing classrooms
1- Work context: Un-interesting spaces
1- Work context: Overcrowding, obsolescence, inefficiency
2- Methodology: Starting points, initial decisions

- The spaces we create, condition individuals and support activities
- We can’t be indifferent to what we see
- The quality of space influences educational outcomes
- Educational planning and physical planning should happen together
- Transformation should deep, quick, and bold
- Architecture should sustainable
2- Methodology: Starting points, initial decisions

• The student is the center of the educational process
• Provide multiple opportunities of learning
• Make intense use of educational technology
• Integrate school and community activities
• Establish and follow a design method
2- Methodology: Four steps design process

- Planning
  - Step One: Educational transformation
  - Consultation process
- Step two: Transformation of the learning environment
- Step Three: Design Manual Standards and Criteria
- Step four: Design Models and Site Adaptation
- Operations and maintenance
- Construction
2 - Methodology: Educational transformation

Step One:
Educational transformation Consultation process

Curriculum
New spaces for art, music, special ed, etc

ADEC's transformation

Management
New organization requirements

Facilities
New designs

Teachers
New ways of learning
2- Methodology: Consultation process

Step One:
Educational transformation
Consultation process

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2- Methodology: Learning environment transformation

Step two: Learning environment transformation

Start points - Evaluation - New design Phase

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3- Methodology: Design Manual

Step Three: Design Manual Standards and Criteria

School Area of Influence

School Type and Size

Parking and Drop Off

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<table>
<thead>
<tr>
<th>Cycle</th>
<th>Cycle I</th>
<th>Cycle I + KG</th>
<th>Cycle II and III</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of students</td>
<td>625</td>
<td>1250</td>
<td>240</td>
</tr>
<tr>
<td>Gross area</td>
<td>9,900</td>
<td>18,000</td>
<td>12,500</td>
</tr>
<tr>
<td>Site area</td>
<td>20,400</td>
<td>30,400</td>
<td>23,800</td>
</tr>
<tr>
<td>Minimum site dimensions</td>
<td>170 x 120</td>
<td>190 x 160</td>
<td>170 x 140</td>
</tr>
</tbody>
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3- Methodology: Design Manual

Step Three: Design Manual Standards and Criteria

Educational Program Analysis

Number of specialized rooms = \( \frac{\text{Number of periods per week taught in that room.} \times \text{Number of groups/sections taking that class}}{\text{Number of periods per week that the room is available.} \times \text{Utilization Factor}} \)

Learning Community: Functional Requirements

<table>
<thead>
<tr>
<th>Function</th>
<th>Teaching/learning employs multiple modes of learning. 4 or 5 Classrooms + 1 Science/Art Lab in Cycle I and 1 Science Lab in Cycle II and III per Learning Community. Teacher stations in Teacher Workspace inside Learning Community. Students, Teachers work in varied size groups and spaces for varied periods of time each day. 1 Teacher + 1 Aide per Instructional Space.</th>
</tr>
</thead>
</table>

Learning Community: Interior Standards

<table>
<thead>
<tr>
<th>Floors</th>
<th>Non-slip PVC or Linoleum resilient flooring, Area rugs in KG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walls</td>
<td>Block with non-toxic/low VOC plaster, paint with tack board on two walls. Opaque operable walls to be vinyl. Double pane, transparent glass operable walls with metal frames in certain options.</td>
</tr>
<tr>
<td>Ceilings</td>
<td>Prefer no drop ceiling, Acoustic ceiling, 3m in height, minimum, indirect lighting.</td>
</tr>
</tbody>
</table>

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3- Methodology: Design Models, site adaptation - KG

Step four: Design Models and Site Adaptation

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3- Methodology: Design Models, site adaptation – C I

Step four:
Design Models and Site Adaptation
3- Methodology: Design Models, site adaptation – C II, III

Step four:
Design Models and Site Adaptation

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3- Achievements: Integration to urban network
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3- Achievements: Cultural integration

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3- Achievements: Cultural integration

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3- Achievements: Shaded intermediary spaces

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CEFPI Sep. 2012 - Creativity in School Building Design - Alberto Treves
3- Achievements: Shaded intermediary spaces
3- Achievements: **Attractive colors**
3- Achievements: Incorporation of art
3 - Achievements: Incorporation of art

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3- Achievements: Incorporation of art
3 - Achievements: Relevance of main entrance
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3- Achievements: Concept of learning community
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3- Achievements: Classroom and outside learning

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3- Achievements: Classroom and outside learning
3- Achievements: **Sustainability**

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3- Achievements: Relationship with nature

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3- Achievements: **School use after hours**
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• Think big
• Create alliances
• Act fast
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Thank you and stay in touch!!!