• Traditional Classroom teaching & Multi-purpose hall, India

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  India
Overview

- India’s higher education system is the largest in the world enrolling over 70 million students.
- The education sector in India is estimated at US$ 117 billion in FY20 and is expected to reach US$ 225 billion in FY25E.
- The Indian edtech market size is expected to reach US$ 30 billion by 2031, from US$ 700-800 million in 2021.
- According to KPMG, India has also become the second largest market for E-learning after the US.
Sector details

<table>
<thead>
<tr>
<th>Type</th>
<th>Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>1000</td>
</tr>
<tr>
<td>Colleges</td>
<td>52627</td>
</tr>
<tr>
<td>Schools</td>
<td>1.5m</td>
</tr>
</tbody>
</table>

*Higher education

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Indian education structure

Indian education system

Public sector
- Schools
  - Central govt. funded institutions
  - State govt. funded institutions
  - Higher education institutions

Private sector
- Formal setup
  - Schools
  - Higher education institutions
- Non formal setup
  - Pre-schools
  - Coaching classes
  - Multimedia schools
  - Vocational training centers
  - Education material suppliers
Traditional Classroom Teaching
Overview

• Completely teacher led-classroom
• Teacher stands at the dias, addressing the whole classroom

• Strength of students:
  • Government Schools - approx. 60-75
  • Private schools - approx. 40-60
  • International schools - 25-35
  • Majority of the classrooms in government & private schools have 1 teacher/ per classroom
  • Trustable & proven over the years
  • BUT......
Acoustic Challenges

• Ceiling Fans

• Strength of students
• Reflective surfaces

• Speakers for e-learning
• 1 teacher - vocal stress

• Open doors & Windows
Q9
Do you tend to ignore and adjust generally, or act over it and raise the issue with the higher management regarding high noise/eco problems?

- Ignore and adjust: 60.9%
- Act over it and raise the issue: 39.1%

Approx. 61% teachers would ignore and adjust to problems regarding acoustics.

Q10
Do you feel the need to have an infrastructure that absorbs sound and reduces noise-levels and acoustic problems in the classrooms or other spaces in your institution?

- Yes: 87.7%
- No: 12.3%

Almost 88% teachers feel the need to have an infrastructure that absorbs sound and reduces noise-levels in classrooms.
Multi-purpose hall
A good sound environment can lower the background noise generated by students by 9 decibels.
Before
After
<table>
<thead>
<tr>
<th>Sound source position</th>
<th>dB readings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-treatment</td>
</tr>
<tr>
<td><strong>Unoccupied classroom</strong></td>
<td></td>
</tr>
<tr>
<td>with Fans ON</td>
<td></td>
</tr>
<tr>
<td>Teacher dias</td>
<td>68</td>
</tr>
<tr>
<td>Center of the class</td>
<td>70</td>
</tr>
<tr>
<td>Back wall</td>
<td>68</td>
</tr>
<tr>
<td>Corner of the room</td>
<td>68</td>
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<tr>
<td><strong>Average of the above</strong></td>
<td>69</td>
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<tr>
<td>with Fans OFF</td>
<td></td>
</tr>
<tr>
<td>Teacher dias</td>
<td>63</td>
</tr>
<tr>
<td>Center of the class</td>
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<tr>
<td>Back wall</td>
<td>63</td>
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<tr>
<td>Corner of the room</td>
<td>63</td>
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<tr>
<td><strong>Average of the above</strong></td>
<td>64</td>
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<tr>
<td><strong>Occupied classroom</strong></td>
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<tr>
<td>with Fans ON (avg. readings)</td>
<td>73</td>
</tr>
</tbody>
</table>
Ecophon Acoustic Intervention