Topic Session: Innovation-led Economy and Efficiency- “Education and skills to make a difference”

Challenges to Existing Paradigms

Key Drivers for the Paradigm
1. “More” ICT and computers/ tablets
2. “More” inspection and audit
3. Learning begins at the primary school level.

Debate
- Preference or “To Be”: diversity and creativity
- Practice or “As Is”: Uniformity and compliance

Why the gap exists
- More Teaching ➔ More Learning
- More Inspection ➔ Better School Quality
- More Tests ➔ More Motivation for Learning
Fact: Computers ALONE 'do not improve' pupil results, says OECD

1. The results show "no appreciable improvements" in reading, mathematics or science in the countries that had invested heavily in information technology.

2. Investing heavily in school computers and classroom technology does not improve pupils' performance, says a global study from the OECD.

3. Preparing the teachers to change the pedagogy with ICT integration is more effective than merely providing computers and tablets to the students.

Fact: Quality of learning is impacted the most by the teachers

1. Improving school-time learning identified by the study depended on “what a teacher did in the classroom.”

2. Structural change, and more inspection and test have had minimal long-term impacts. It is how a classroom is conducted- how the students learn and how the teachers teach matter the most.

3. Class sizes and streaming by ability make little or no difference to whether children learn.

### Change of Mindset in “In-service Teacher Training”

- Teachers should be encouraged to teach alongside another teacher, observed another or given feedback.
- Teaching is still “a closed-door profession”, adding that teaching unions have made it hard for observers to take notes in classes.

### Highlights:

- **JFCCT** has encouraged the teacher to conduct more peer-training instead of relying entirely on university professors.
- **JFCCT** has viewed that peer-training can succeed with less bureaucratic control through a local government or municipality.

### What works, at what cost

Effectiveness and cost of education strategies

<table>
<thead>
<tr>
<th>Effect in additional months’ progress</th>
<th>Relative costliness</th>
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<tbody>
<tr>
<td>Feedback to pupils</td>
<td>9 $</td>
</tr>
<tr>
<td>Meta-cognitive strategies*</td>
<td>8 $</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>6 $</td>
</tr>
<tr>
<td>Collaborative group learning</td>
<td>5 $</td>
</tr>
<tr>
<td>Reducing class size to &lt;20</td>
<td>3 $ $ $ $</td>
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<tr>
<td>Individualised instruction</td>
<td>2 $</td>
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<tr>
<td>Mentoring of pupils</td>
<td>1 $ $ $</td>
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<tr>
<td>Teaching assistants</td>
<td>1 $ $ $ $ $</td>
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<tr>
<td>Improving school buildings</td>
<td>0 $ $ $</td>
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<tr>
<td>Streaming by ability</td>
<td>-1 $ $ $</td>
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</tbody>
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Source: Education Endowment Foundation

*Helping pupils think about their own learning more explicitly

Economist.com
Coordinated/ integrated lesson plan (Co-teaching)

• Social study with geography, arts, and ICT
• Enhancing life skills on sharing, presentation, and communication
• Peer training is the foundation for co-teaching.
การจำากัด Inservice ตามหลักการมัธยฐานแบบสิ่งแวดล้อม ด้วยการสูบน้ำแบบ Eco school โรงเรียนมัธย์กัลยาณมงคลนคร
“Learning” means seeing, speaking, touching, playing, interacting, engaging, observing, and of course **listening**!

Without changing the **pedagogy**, relying on listening will lead to ???
Fact: Early childhood education is the foundation for knowledge and skill development.

Highlights:

- Health and human services belong to a local government.
- Potential public-private partnership or PPP for social infrastructure - learning and development for early years.
PPP for Social Infrastructure: Lack of know-how and restriction on public procurement

- Architecture design of a building - functionality
- Psychology - light, color, etc.
- Usability - noise, safety, etc.
Final Thought on Higher Education - more regulation OR deregulation of higher education

- Emergence of “Corporate university” and other new forms of higher education such as P-Tech by IBM (Pathways in Technology Early College High School or “Hollege”- Grade 9-12 + 2 years)
- Urgent needs of university graduates on Science and Technology as many companies from the Eastern Seaboard era have reached the end of production S-technology \(\Rightarrow\) R&D workforce shortage
- Re-profiling some of the existing higher education institute to play the roles in ‘adult’ training and education