

# Transforming Education with Digital Technologies

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An Institute of

# Towards A Future-Ready Learners' Agenda:

Preparing for Life through Purposeful Learning (*and not just for Performance*)

## LIFE LONG (LL):

### Connecting Learning to Purpose

Knowledge & Dispositions over Time;  
Process & Design Skill Retention;  
Metacognition

## LIFE DEEP (LD):

### Intentional & Experiential Learning

Deep Subject Content Knowledge (EL/MA/SC/HUM)  
Adaptive Expertise  
Efficiency & Innovation

## Social Emotional Regulation & Well-being

## LIFE WIDE (LWd):

### Real-world Connected Learning

Adaptability & Transferability Across Contexts  
Multiple Perspectives  
Interdisciplinary Understandings (EL-MA-SC-HUM)

## LIFE WISE (LWs):

### Learning beyond Self

Values, Morals & Character  
Practical Wisdom  
Historical Empathy

Joy of Learning:  
Entrepreneurial Dare:  
Social Cohesion:

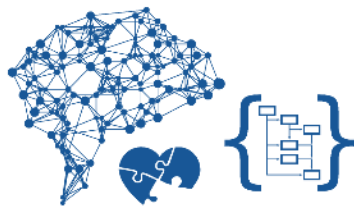
Life-long learning dispositions, Life-deep learning expertise, Life-wide interests  
Life-deep expertise and mastery, Life-wide boundary crossing  
Life-wise virtues, Life-long character dispositions, Life-wide cultural appreciation

# Top 10 skills

## in 2020

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1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility



## in 2015

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1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity



# Active Learning with Technology

## Activate Learning

- How will students' focus and interest be oriented towards the learning objectives?

***Role of ICT***

## Promote Thinking and Discussion

- How will students think about ideas and concepts?
- What skills and processes will students perform?
- How will students build on their current understanding?

***Role of ICT***

## Facilitate Demonstration of Learning

- How will students demonstrate their understanding and new learning?

***Role of ICT***

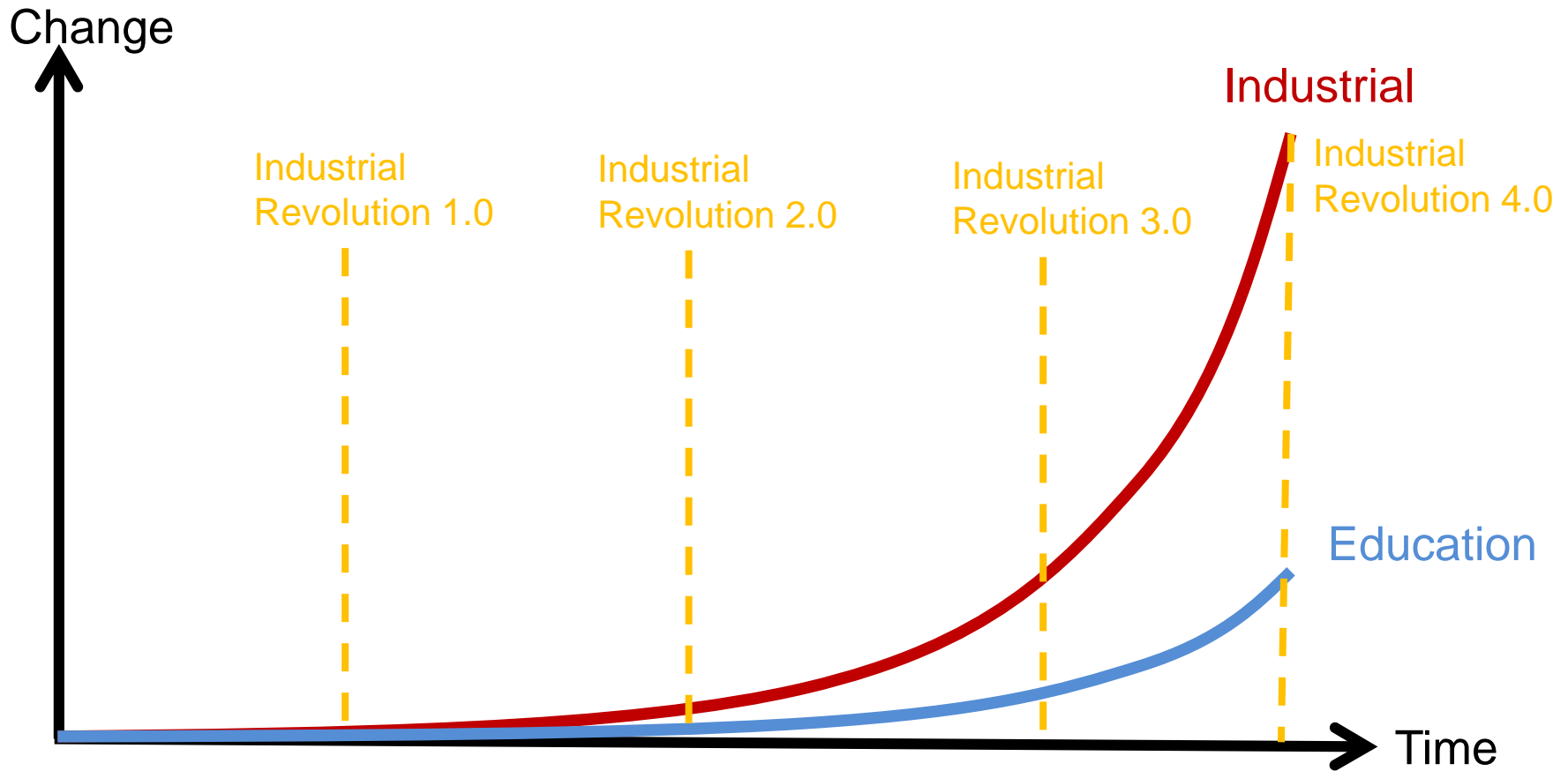
## Monitor and Provide Feedback

- How can students' learning be advanced?

***Role of ICT***

# Roles of Teacher, Student and Technology in Active Learning

ACTIVE LEARNING	Role of Student	Role of Teacher	Role of Technology
	Interactions between teacher, student & content		
<b>Activate Learning</b> How will students' focus and interest be oriented towards the learning objectives?	<ul style="list-style-type: none"> <li>Set own or group learning goals</li> <li>Connect prior knowledge to the task</li> </ul>	<ul style="list-style-type: none"> <li>Clarify learning objective and success criteria</li> <li>Design trigger activity to elicit students' prior knowledge</li> </ul>	<ol style="list-style-type: none"> <li><b>Multimodal representation of a concept</b> e.g. multimedia resources, websites, podcasts, webcasts, animations, videos</li> <li><b>Facilitate planning, participation and development of ideas</b> e.g. wikis, email, online calendar</li> <li><b>Task environments that represent and simulate real-world problems, situations and contexts</b> eg. microworlds and simulations, virtual/augmented reality, role-play simulations, serious games and immersive environment, manipulatives to facilitate problem-solving</li> </ol>
<b>Promote Thinking and Discussion</b> How will students think about ideas and concepts? What skills and processes will students perform? How will students build on their current understanding?	<ul style="list-style-type: none"> <li>Engage in thinking through discussion, negotiation and meaning making</li> <li>Use peers' and teacher's ideas and concepts to refine own understanding</li> </ul>	<ul style="list-style-type: none"> <li>Design tasks to connect, challenge, deepen or extend students' thinking</li> <li>Provide thinking routines or scaffolds</li> <li>Get students to share their ideas and concepts</li> <li>Teacher articulates his/her ideas and concept</li> </ul>	<ol style="list-style-type: none"> <li><b>Analysis and synthesis</b> e.g. graphic organisers, mindmap, spreadsheets, computational tools or software</li> <li><b>Iterative discussions</b> e.g. web conferences, live or asynchronous online chat or forum</li> <li><b>Collection of data</b> e.g. data-logging devices, online survey</li> </ol>
<b>Facilitate Demonstration of Learning</b> How will students demonstrate their understanding and new learning?	<ul style="list-style-type: none"> <li>Articulate understanding of concepts</li> <li>Demonstration of skills</li> <li>Apply learning by creating a digital product</li> </ul>	<ul style="list-style-type: none"> <li>Design performance tasks for students to apply their learning in various ways</li> </ul>	<ol style="list-style-type: none"> <li><b>Access to information for research</b> e.g. online libraries, databases, search engines</li> <li><b>Access to learning partners or experts</b> e.g. email, web conferencing, social media tools, online learning network, webinars, online courses, MOOCs</li> <li><b>Creation of digital products</b> e.g. video editing, infographics, slideshows, animations, website, blog, e-books</li> </ol>
<b>Monitor and Provide Feedback</b> How can students' learning be advanced?	<ul style="list-style-type: none"> <li>Provide feedback to peers</li> <li>Use feedback from peers and teacher to refine own understanding</li> <li>Reflect on goals and learning process</li> </ul>	<ul style="list-style-type: none"> <li>Check for understanding using students' works</li> <li>Give timely and targeted feedback</li> <li>Provide opportunities for feedback from peers or experts</li> <li>Ensure learning objectives and success criteria are met</li> </ul>	<ol style="list-style-type: none"> <li><b>Tracking and assessing</b> e.g. clickers to gather responses to questions, online quizzes, classroom management system</li> <li><b>Communicate feedback</b> e.g. email, web conferencing, social media tools, annotation tools</li> </ol>



The rate of technology change is much faster than that of educational change ...

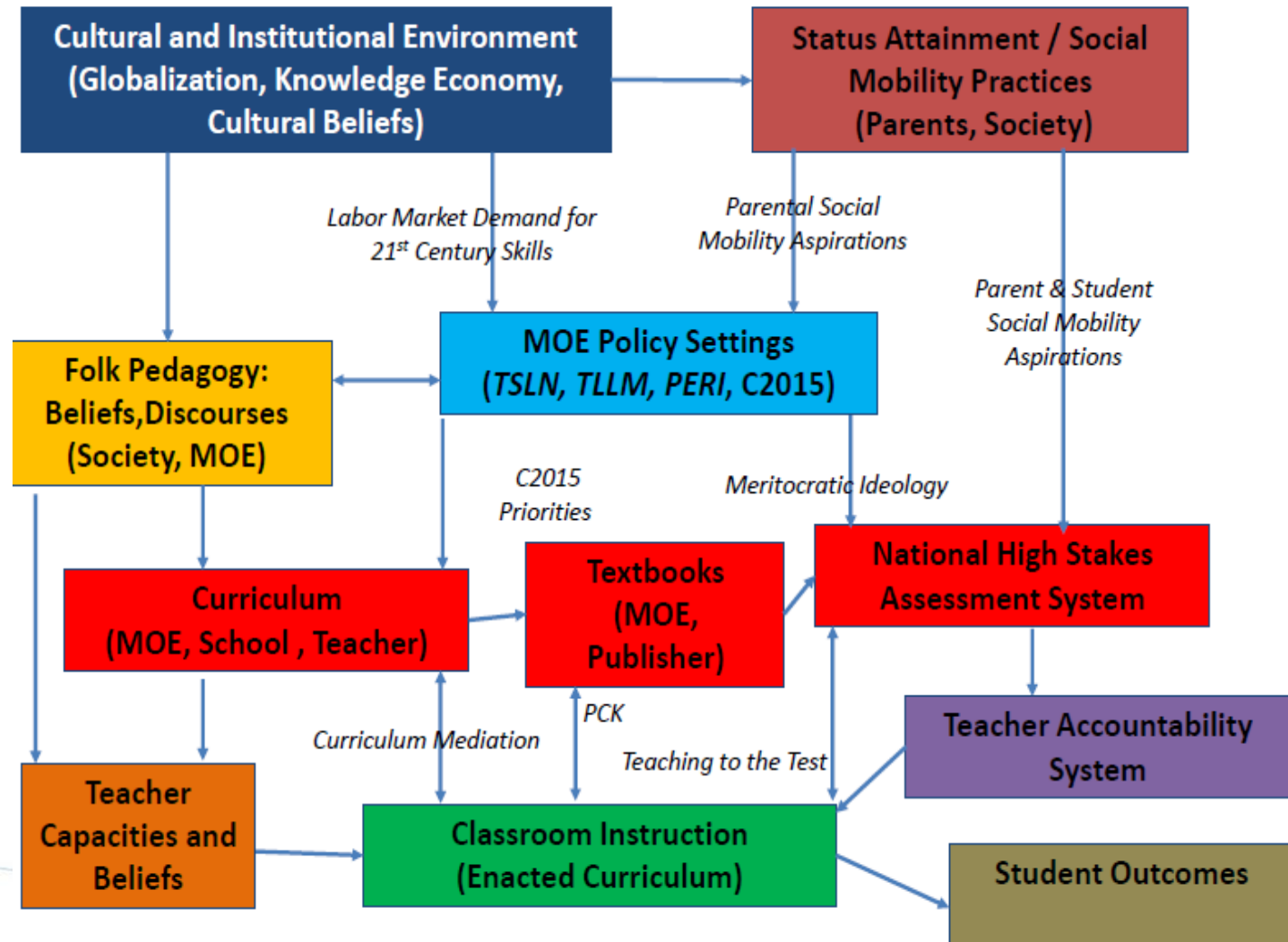
# What are we scaling?

Innovation requires schools to create, form, and norm a **culture** and related **mindsets** that support the shared vision of innovating and ongoing growth.

*(Bostwick, 2014; Geijsel, et. al., 1999)*



## The Logic of Instruction in Singapore: Core Programme Model





# Policy to Practice enactment translation pathway

