Education and pedagogical reform in schools and classrooms: Teachers at the heart of System Change

Professor David Hung
(with Monica Lim and Eva Moo)
National Institute of Education
Nanyang Technological University
Dean, Education Research
david.hung@nie.edu.sg
Historical Perspective: Phases of the Singapore’s Education System

**PHASES**

- **SURVIVAL DRIVEN**
  - 1959-1978
  - Developed every child’s basic literacy and numeracy skills

- **EFFICIENCY DRIVEN**
  - 1979-1996
  - Reducing performance variations by streaming students into academic tracks according to their aptitudes

- **ABILITY-BASED, ASPIRATION DRIVEN**
  - 1997-2011
  - Create a responsive education system with multiple pathways for different students

- **STUDENT CENTRIC, VALUES DRIVEN**
  - 2012 till Present
  - Students’ development focused on ethics, character development, and dispositions, such as adaptability and resilience

**CHANGES**

- **1959:** Singapore gained self-governance
- **1965:** Singapore gained self-independence
- **1979:** Streaming
- **1997:** Teachers & schools given more autonomy
- **2012:** Focus more on soft skills

**FOCUS**

- **SURVIVAL DRIVEN**
- **EFFICIENCY DRIVEN**
- **ABILITY-BASED, ASPIRATION DRIVEN**
- **STUDENT CENTRIC, VALUES DRIVEN**

**SHIFTS**

- **Quantitative**
- **Qualitative**
- **Teacher Centred Instructions**
- **Learner Centred Instructions**
- **Centralized Control**
- **Increasing School’s Autonomy**
**Middle Ground - Policy**

**Centralised**

MOE **controls**:
- strategic directions
- curriculum content
- budget
- resources, &
- facilities

**Decentralisation**

Schools have **autonomy** in:
- accommodating diversity,
- Flexibility and innovation in curricular matters
Singapore wants creativity not cramming

By Rebecca Lim
BBC News, Singapore

Singapore's schools have become global role models, with consistently high results in international tests.

But now they want to move beyond this - towards something that cultivates creativity and what they term as "holistic education".

Minister for Education, Heng Swee Keat, said this is "less about content knowledge" but "more about how to process information".

He describes this challenge to innovate as "stepping from a one-lane road to a broad highway".

Kicking on: Singapore's education system, praised for high test results, is now targeting innovation.
Singapore students may top PISA but we may not be preparing them for the real world … While MOE may have put in place reduced curriculum time but if the teachers are not equipped with the appropriate dispositions and skills, they will revert to old practices …

(Interview with Cluster Superintendent)
Comparing students’ collaborative problem-solving skills
Average performance, all PISA-participating countries and economies

OECD member countries are indicated in bold.
Source: PISA 2015 Results (Volume V): Collaborative Problem Solving, Fig. V.3.3.
Singapore’s Two Pedagogies (2004-2010)

• Singapore’s pedagogies: **Pragmatic, hybridic**, prepares students for national high stakes **assessments**.
• Dominant: **Performative Pedagogy** focuses on mastery, exam preparation, knowledge transmission and reproduction.
• Not so dominant: **Inquiry Based Pedagogy** focuses on conceptual and disciplinary understanding.
I do not see any problem ... if we do [inquiry based pedagogies] well, students [should be] able to also perform for the test. ...
Research Funding

- 1999: $1 million
- 2003: $48 million
- 2008: $100 million
- 2013: $118 million
- 2018: $127 million

40% of funding on interventions

CRPP, CRCD, and NIE, OER established (NIE wide with Academies)
Middle Pedagogy

Inquiry Pedagogies

Performative Pedagogy: Knowledge Transmission & Reproduction
MOVING FROM MONOLOGUE TO DIALOGIC PEDAGOGIES

Knowledge transmission

Content receiving

Knowledge Co-creation

Appropriating lenses for meaning-making

Textbook Abstractions

Experiential Learning

Embodied Cognition

Conceptual Understanding

Linear modes of learning

Iterative Cycles

Learning about

Learning as Becoming

Summative Evaluations

Formative Tracking

Interventions beginning at classrooms and not at labs
From Content Receiving to Appropriating lenses for meaning-making

Now, why do you think the author chose this title? What do you think the author wants you to understand from this book?

Teacher modelling: “I’m not clear on that. I wonder why the author doesn’t give more explanation?”

Teacher: How would you feel if you were in that position? What would have been your reaction?

Level 0: Emphasis on Polya stages e.g. Which polya stage are you in now? Do you understand the problem? What exactly are you doing? Why are you doing that?

Level 1: Specific heuristics e.g. What don’t you try with ...... (problem specific)?

Level 2: Problem specific hints e.g. Think in terms of smaller number ...... what numbers will you try?
From textbook abstractions to experiential understandings

Disciplinary intuitions
From linear modes of learning to Iterative cycles
From Learning About to Learning as becoming

Informal learning
P: There is this rush to get things done. [...] When you bring down upper sec content or syllabus to sec one, what are we compromising in the process? Because there’s content reduction but you are putting in so many things at an earlier stage that you are taking up the white space that is being given for students to explore and learn.
The Logic of Instruction in Singapore: Core Programme Model

Cultural and Institutional Environment
(Globalization, Knowledge Economy, Cultural Beliefs)

Status Attainment / Social
Mobility Practices
(Parents, Society)

Labor Market Demand for
21st Century Skills

Parental Social
Mobility Aspirations

Folk Pedagogy:
Beliefs, Discourses
(Society, MOE)

MOE Policy Settings
(TSLN, TLLM, PERI, C2015)

Meritocratic Ideology

C2015 Priorities

Textbooks
(MOE, Publisher)

National High Stakes
Assessment System

Teaching to the Test

PCK

Teacher Accountability
System

Student Outcomes

Teacher
Capabilities
and Beliefs

Classroom Instruction
(Enacted Curriculum)

Curriculum Mediation

Teacher Capacities and
Beliefs

(MOE, School, Teacher)
Shifting teachers’ beliefs

Fear of Failure → Willingness to try
Inertia → Embodied Action & Participation

S: the teachers are very worried, ‘confirm cannot come up one’, ‘what if they don’t come up with what I want to hear?’
...That’s always their worry. So that’s why, just let go. They just don’t want to let go. So we show that, see, you can let go.
...And then show them how we make the links. And they’re like, okay it’s possible. Okay let’s try.

Our research indicates teachers’ epistemic shifts as the highest point of leverage for sustainability.
Day (2013, p. 2) states that school leaders “play an important role in establishing the conditions, structures, cultures and climate for professional learning and development in their schools” (p. 2).
A *system level perspective* can be rooted in principles of:

- Centrality of instructional practice
- Capacity building
- Distributed expertise
- Mutual dependence
- Reciprocity of accountability
- Reconstruction of leadership roles and functions

(Elmore, 2000)
A system level perspective can be rooted in principles of centrality of instructional practice, capacity building, distributed expertise, mutual dependence, reciprocity of accountability, and reconstruction of leadership roles and functions (Elmore, 2000).

Alignments of policy and practice all through the system (up and down the hierarchies).
Challenges - sustainability of interventions

L: I told the management, I build a team of people, they’re ready to lead already, lead small groups at different levels. .... But no, just collapsed. I say what for I train people and then collapse?
3M Layers: Tenets for sustainable change

Macro Layer (System)
- Cultural and indigenous tenets
- System Improvement

Meso Layer (Cluster)
- Leadership from the Middle

Micro Layer (School)
- Micro-genetic changes at teachers’ level

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Leadership from the Middle (LftM) – A middle out community growth model

“… it implicates the whole system starting from the middle out, up and down. In addition to our system-use of the concept, LftM can and should be used at other levels. Schools, for example are the middle if you use a within-district focus. Teachers, students and families are the middle when you think of intra-school and community work.” (Fullan, 2015, p. 26)
“Leadership from the Middle can be briefly defined as: a deliberate strategy that increases the capacity and internal coherence of the middle as it becomes a more effective partner upward to the state and downward to its schools and communities, in pursuit of greater system performance. …” (Fullan, 2015, p. 24)
Methodology

Qualitative

Case study

- Ethnographic Observations
- Focus Group Discussions

Interviews

- Participants comprising
  - Cluster Superintendent
  - Principals
  - Vice-principals
  - Key Personnel (KPs – HODs/ SSD/ SH)
  - Lead Teachers (LT)
  - Teachers

Coded the interviews and categorized into themes

\begin{center}
\textit{Learning in context changes the context itself} (Spillane, 2006)
\end{center}

- Both improvement processes and outcomes dialectically co-inform and co-evolve
- Inter-twining relations between leadership, curriculum and pedagogy, and teacher professionalism

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## Data / Findings

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<th>3M</th>
<th>System</th>
<th>Cluster</th>
<th>School</th>
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<td><strong>X (Steering Committee)</strong></td>
<td><strong>X (HoDs) (SBPT)</strong></td>
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<td>micro</td>
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<td><strong>X (SBLT)</strong></td>
<td><strong>X (Teachers)</strong></td>
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School level Micro Layer (Teachers)

- Epistemic change
- Protected time
- Teacher design skills
- Open culture

Working the talk

Teachers – at the heart of change
Teacher Leaders in apprenticing work

Teacher Leaders in ecological work

Growing expertise (+)

Sense making of policy and practice

Standing in the gap

Good facilitation of enactment

Enabling trust and open culture

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School level Meso Layer (SBPTs)

- Opening up classrooms (time)
- Providing for different learners
- Enabling evidence based outcomes
- Spreading the belief
- Facilitating multiple ideas and perspectives

Working the talk

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Coordinating with the cluster (carry overs)

Creating the new organizational norms/structures

Focusing on Learning

Setting the tone for open cultures

Cluster for schools

Systems thinking Leadership

It’s cluster for schools, not schools for cluster
Cluster level Micro layer (SBLT)

- Fostering partnerships
- Encouraging sustainability (succession planning)
- Enabling the spreading of beliefs (opportunities)
- Open cultures (Percolating upwards)

Standing in the gap

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Cluster level Meso layer (Cluster level steering committee)

- Planning for school readiness and adoption
- Strategizing for the supply of expertise
- Language Genre for open cultures and innovations
- Enabling adaptation by schools
- Integrating processes and programs
Leadership from the Middle (LftM)

- **Macro layer**
  - Systemic thinking
- **Meso layer**
  - Ecological fluencies
- **Micro layer**
  - Apprenticing/mentoring
## Middle-out implementation: SEALs

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<thead>
<tr>
<th>MOE</th>
<th>School-to-school network</th>
<th>School</th>
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<tbody>
<tr>
<td>Macro</td>
<td>System Leadership (SL)</td>
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<td>EcoLeadership (EL)</td>
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<td>Micro</td>
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<td>L (3M)</td>
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**Implementation pathway methodology**
Supply of Expertise: Dynamic Alignments and Coherences (horizontally and vertically)
Middle Leaders (SEALs) as change agents

Middle Policy - centralization–and-decentralization
Middle Pedagogy - performative-and-inquiry based pedagogies

SEALs (vertical and horizontal relations)
SL: cluster for schools and not schools for the cluster
EL: standing in the gap
AL: working out the talk

Middle-out implementation methodology for sustainability (LftM)

Cultural change takes time

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Tripartite Relationship

MOE → Teacher Education Programmes → Schools → NIE
Middle Leaders: “Teachers” at the heart of System Change

https://marketingland.com/4-reasons-digital-context-matters-214727