

# CPT3 I



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# The Invisible Burden

Teacher Beliefs & EdTech Adoption  
in Singapore Primary Schools



# Operating Context

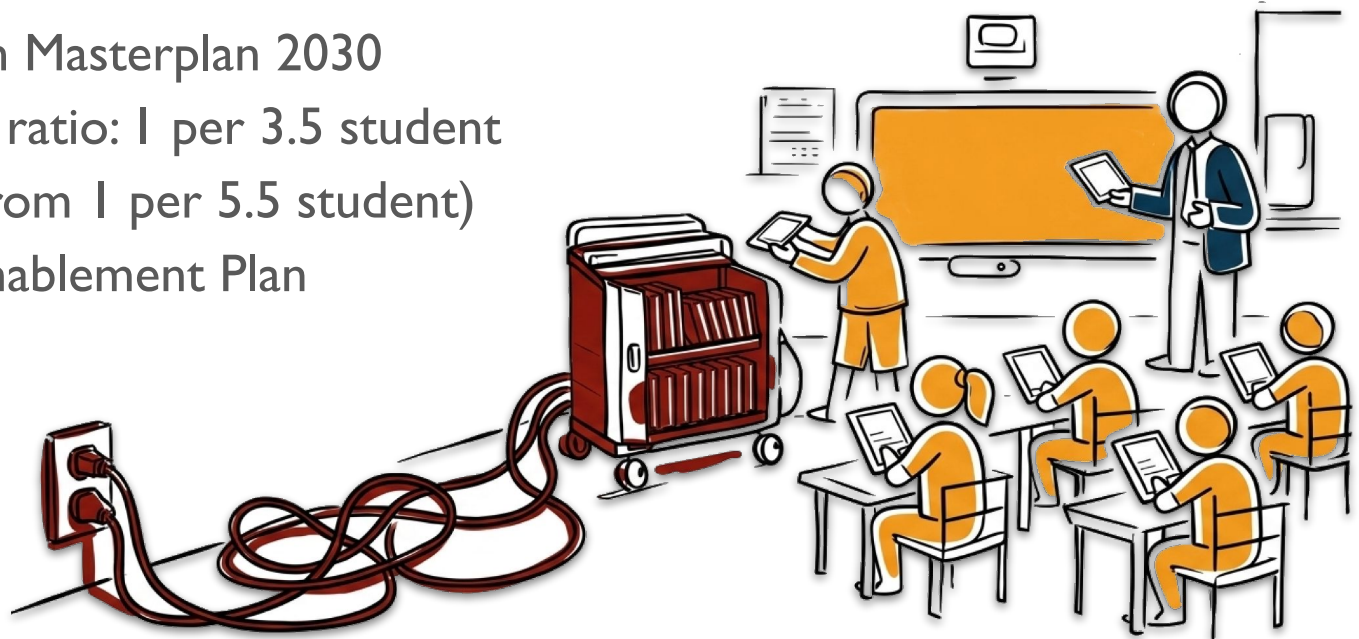
milieu present, outcomes uneven

EdTech Masterplan 2030

device ratio: 1 per 3.5 student

(from 1 per 5.5 student)

ICT Enablement Plan



# What We Suspected

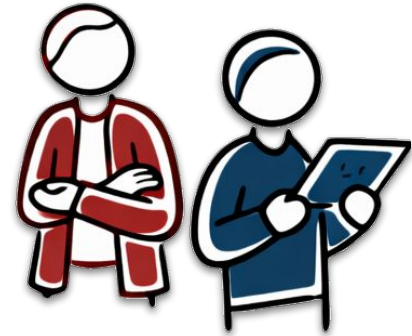
informed by gut feel



not  
convinced



not trained



seniority tracks  
with reluctance

# What Others Have Studied

what research from literature told us

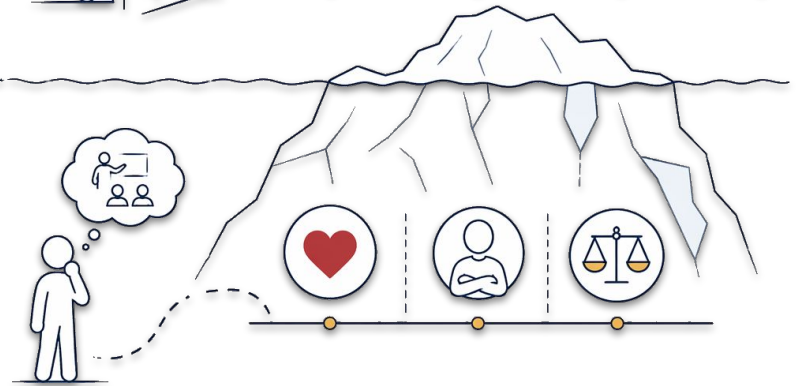
## Invisible burden

Uncounted hours btwn decision & delivery

**Ertmer's 1st Order**  
external, resource or infra constraints



**Ertmer's 2nd Order**  
deeply-held T&L beliefs



# Why We Studied

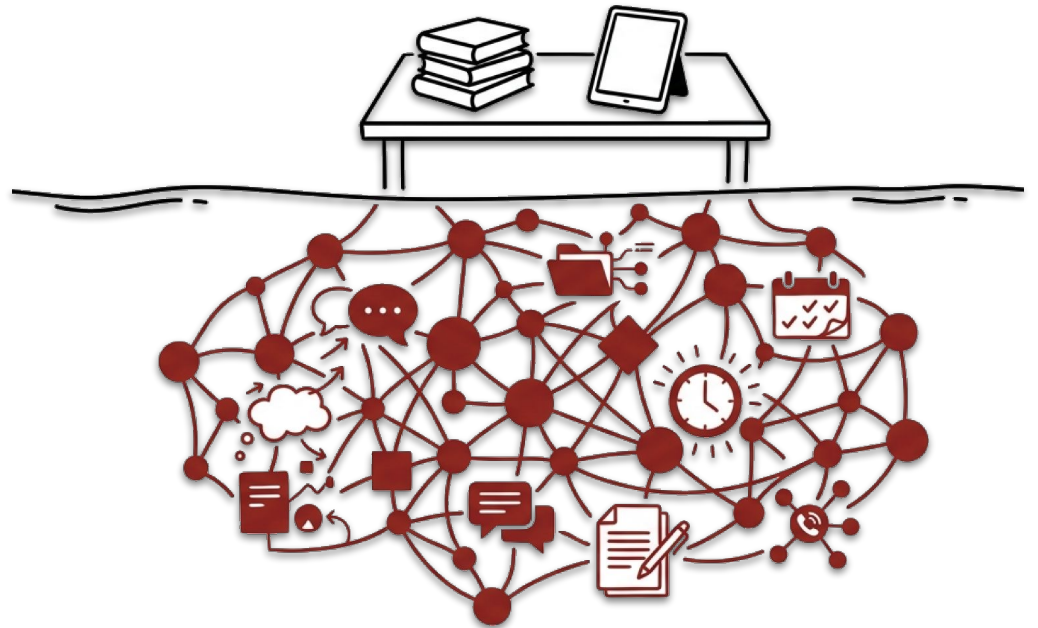
by primary teachers, for primary teachers

large class size

no PLDs

tend to make mistakes

logging in



# Structuring Our Sharing



researcher



school leadership



MOE HQ

# The Researcher in Us



# Why We Use Chatbot

consistency, candour, speed

61 teachers

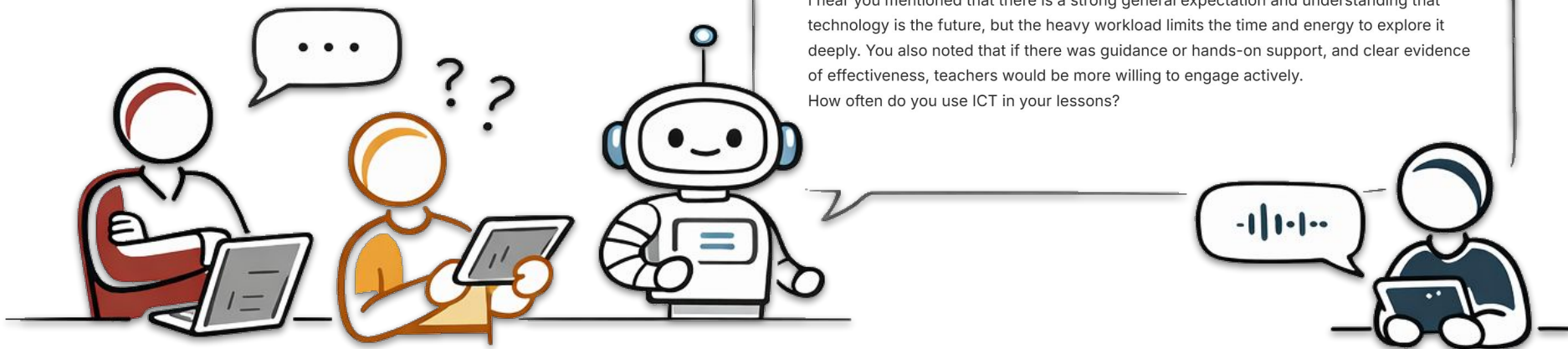
8 days

1 interview chatbot

大家都还是非常期待，也明白这是未来的趋势，但是确实手上工作非常多，没有太多精力投入研究，但是如果有人带领或者手把手教导，并且能够看到其有效性，老师们还是很积极参与的。

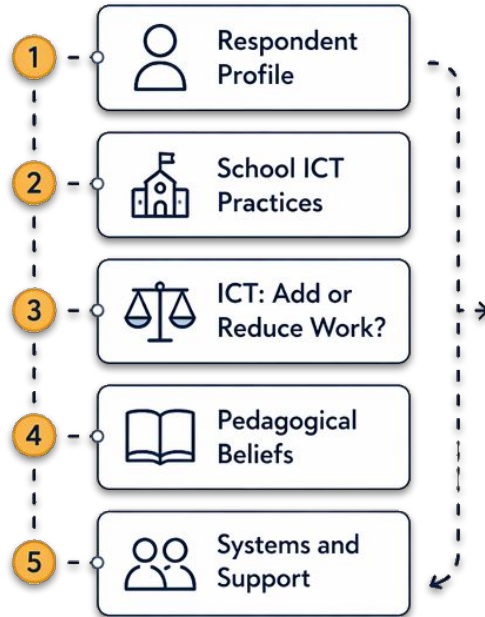
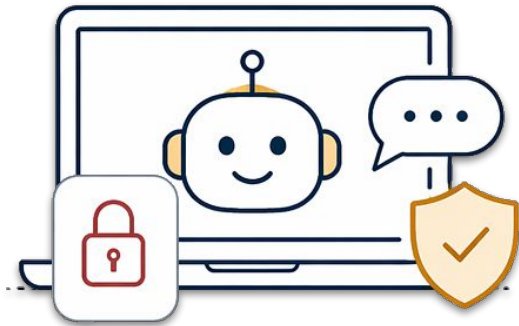
27 Mar 2026, 15:01:57

I hear you mentioned that there is a strong general expectation and understanding that technology is the future, but the heavy workload limits the time and energy to explore it deeply. You also noted that if there was guidance or hands-on support, and clear evidence of effectiveness, teachers would be more willing to engage actively. How often do you use ICT in your lessons?



# How We Designed the Chatbot

sharing our backend prompts



# How We Analysed the Interviews

using AI verifiably

**The Invisible Burden**  
EdTech Adoption · SG Primary · N=61

## Methodology

Data collection, scoring framework, and inter-rater approach across 12 spectra

### Study Overview

*The Invisible Burden: Teacher Beliefs and EdTech Adoption in Singapore Primary Schools* – a qualitative study using conversational AI interviews to explore how teachers experience EdTech as a work-burden or work-saver.

Findings serve ICT Key Personnels (KPs) in developing strategies for meaningful EdTech-infused lesson delivery.

### Data Collection

- **Platform:** Edcafe chatbot (SAM3) – async text & voice
- **Participants:** 61 teachers, Singapore primary schools
- **Period:** 27 March – 3 April 2026
- **Duration:** 20–25 min per session
- **Sampling:** Pseudonymous; 12 spectra pairs disambiguated (Joyce × 2)

### Scoring & Reliability

- **12 spectra** scored 1–6 by analyst, post-interview
- **Tone of voice** coded independently (P/U/N per dimension)
- **Two-pass review:** initial scoring → delta check against full corpus

### Cohen (1988) R<sup>2</sup> Thresholds N=61

- **Very Strong** – R<sup>2</sup> ≥ 0.49
- **Strong** – R<sup>2</sup> 0.25–0.49
- **Moderate** – R<sup>2</sup> 0.09–0.25
- **Weak** – R<sup>2</sup> 0.01–0.09
- **Negligible** – R<sup>2</sup> < 0.01

### Scoring Rubric – All 12 Spectra

Descriptors for each score level. Scroll horizontally to see all rank columns. Hover to see details.

Spectra	1	2	3	4	5	6
01 Methodology						
02 Responses						
03 Distribution						
04 Correlations						
05 Tone of Voice						
06 Structural Patterns						

### All 66 Pairwise Correlations

Sorted by R<sup>2</sup> descending, Cohen (1988) thresholds. Hover dots for names.

- S6 PaySafety × S8 Collegiality**  
z = 0.905 R<sup>2</sup> = 0.820 Very Strong
- S5 Resilience × S7 TechConf**  
z = 0.885 R<sup>2</sup> = 0.783 Very Strong
- S4 Volition × S7 TechConf**  
z = 0.769 R<sup>2</sup> = 0.592 Very Strong
- S4 Volition × S5 Resilience**  
z = 0.769 R<sup>2</sup> = 0.591 Very Strong

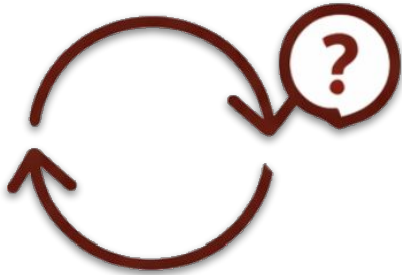
OVERALL TONE OF VOICE **P**

“Yes let’s go... Same as students, they look forward to the use of technology”  
Generally upbeat and willing; slight logistics stress but positive overall.

ID	Spectra	Score	Tone	Summary
S1	S1 YoS	2		“6 years... Malay language Teacher” 6 years – band 4–8, score 2.
S2	S2 Burden	3	U	“Planning the resources as well getting the ipads” Prep effort acknowledged but no resignation; neutral burden.
S3	S3 FC	3	U	“Sharing by teachers, allows me to tap on new ideas” Collegial sharing compensates for gaps; conditions workable.
S4	S4 Volition	4	P	“Same as students, they look forward to the use of technology” Personal belief in ICT for engagement; agency evident.

# What the Chatbot Could Not Do

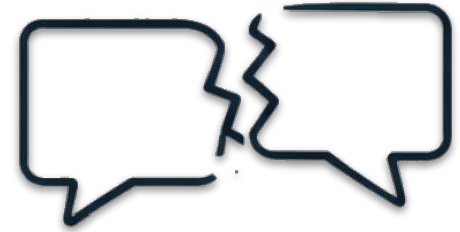
3 limits surfaced



repetition



fatigue



rigidity

# AI did not reduce labour

human effort intensified instead

human-in-loop

more interviews

same timelines

more intense effort



# What the 12 Spectra Showed

not rejection; but conditional use

	Spectrum	Mean	Mode	+ve ToV (%)	Neutral ToV(%)	-ve ToV(%)	Dominant Tone
Main research	S2 Work Burden	3.10	3	28	56	16	U
1st Order Barrier	<b>S3 Facilitating Conditions</b>	<b>2.97 (MIN)</b>	3	30	39	31	U
2nd Order Barrier	<b>S4 Volition / Agency</b>	<b>3.49 (MAX)</b>	3	49	41	10	<b>P</b>
	S5 Resilience	3.20	3	28	56	16	U
	S6 Psychological Safety	3.20	3	33	49	18	U
	S7 Troubleshooting Confidence	3.07	3	26	57	16	U
Culture	S8 Collegiality	3.15	3	33	54	13	U
Pedagogy	S9 Pedagogy	3.16	3	48	44	8	<b>P</b>
	S10 Blended Efficacy	3.00	3	33	51	16	U
Students	<b>S11 Perceived Student Impact</b>	<b>3.20</b>	3	46	43	11	<b>P</b>
	<b>S12 Student Digital Readiness</b>	<b>2.98</b>	3	18	64	18	U

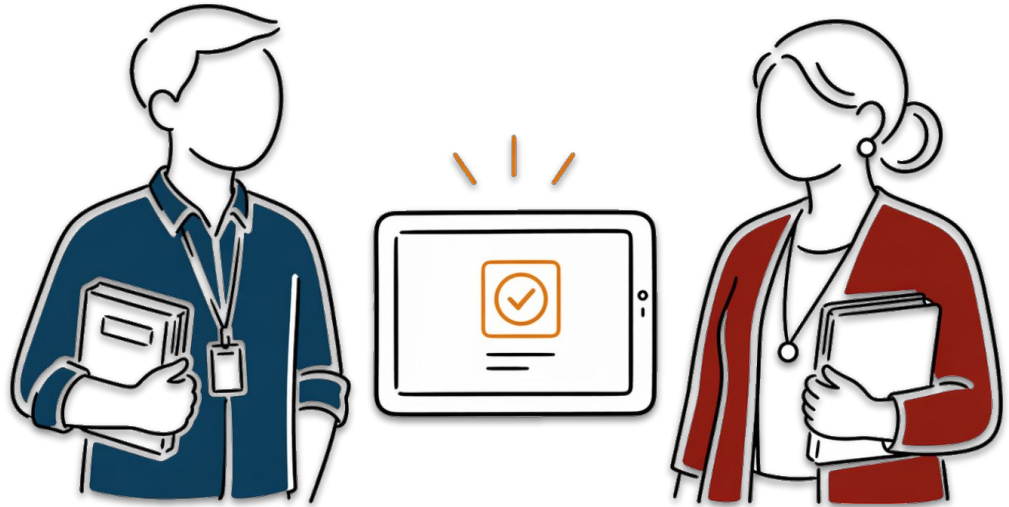
# Assumptions proven wrong

teachers are not resistant

teachers sold on tech  
affordances

years of service:  
irrelevant

friction present  
somewhere else

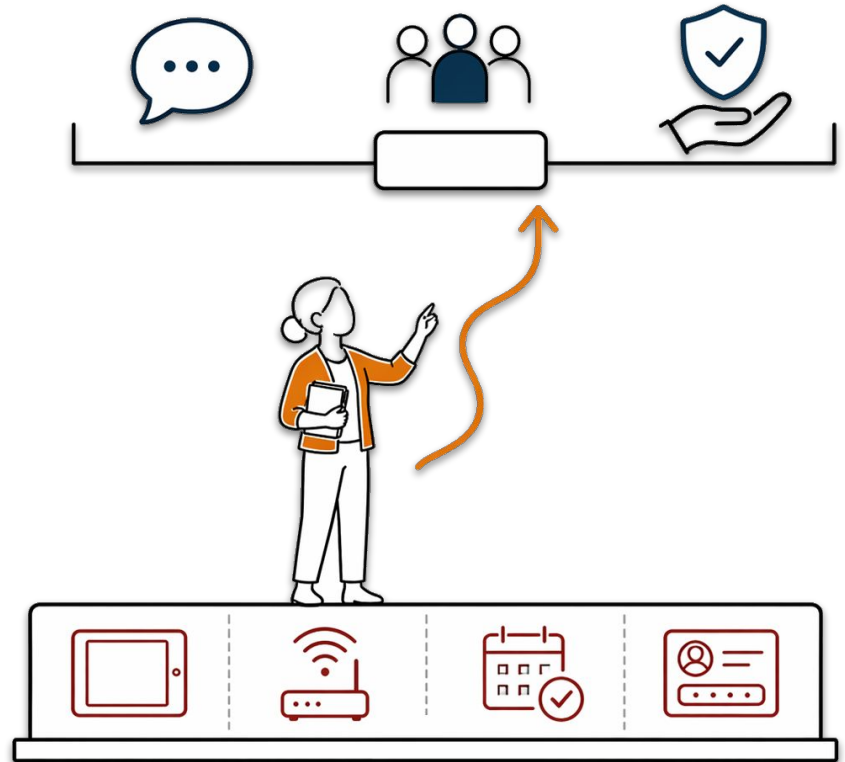


# The MM in Us

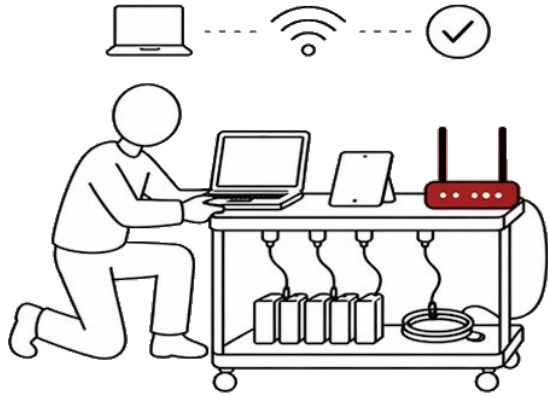


# Facilitating Conditions

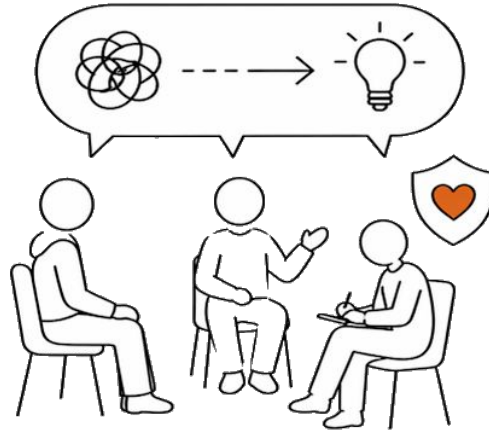
infra sets floor  
culture sets ceiling



# 3 Things Within Our Reach



infra



culture

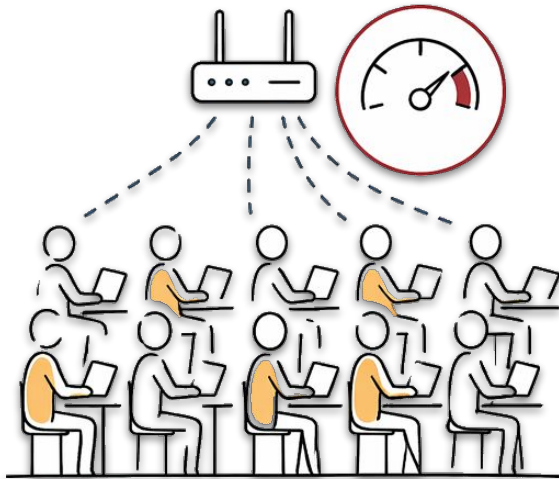


agency

# The HQ Staffer in Us



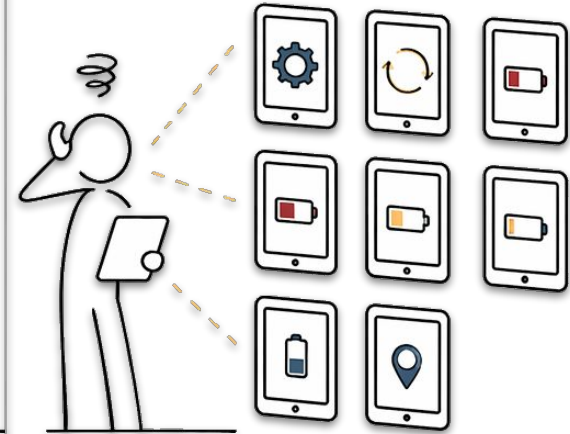
# Fix What Schools Cannot DIY



wifi client limit



manual update



no fleet  
management

# Fix What Schools Cannot DIY

asking “why not?”

For your security, you must use a password to access the e-Statement.  
Here is your default password format (it is case sensitive):



You can change the password any time at OCBC Online Banking. If you have already changed the password, simply use the new one instead.

Every teacher who thrived had one thing in common: *someone made room for them*

