Design thinking

A Hong Kong case: Learning through design thinking – what we know and what we don't

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Outline of presentation

01 The context

02 Key findings

03 The lacuna

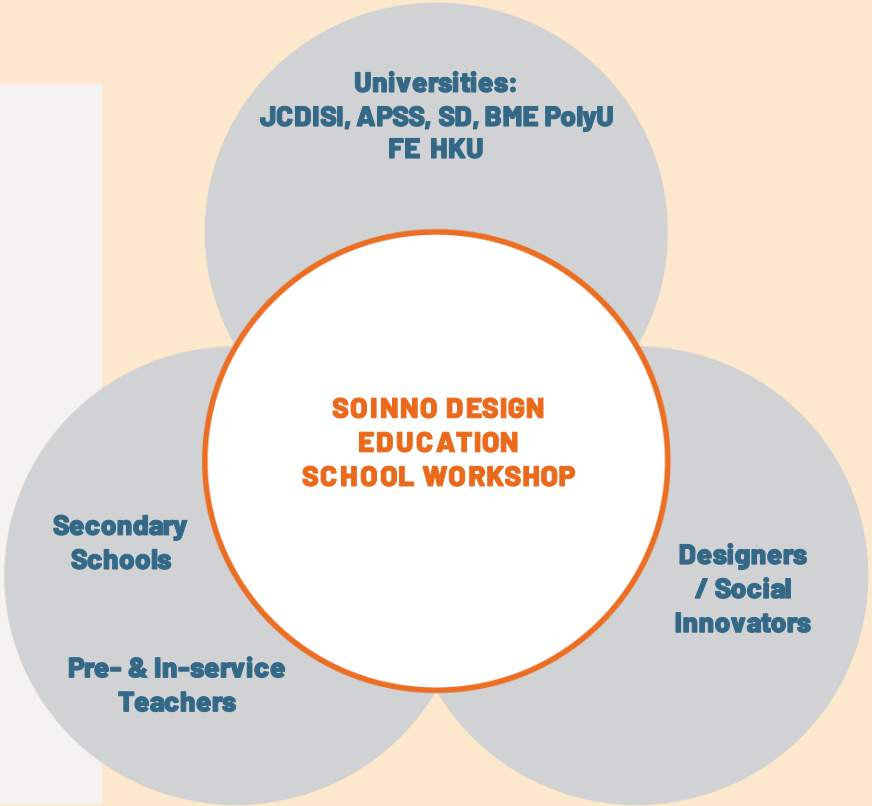
04 Your feedback

01

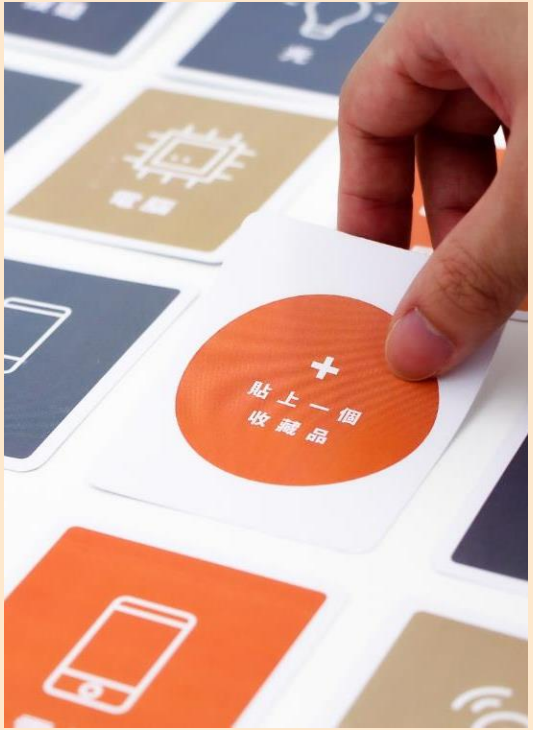
The context

Visual tour for the 3-year project

Project Model & Data Source



Teaching and Learning Tools



Reflective Learning

Pre-service teachers designed different reflective tools and activities and guide these secondary school students to connect their experiences to a wider perspective through reflection

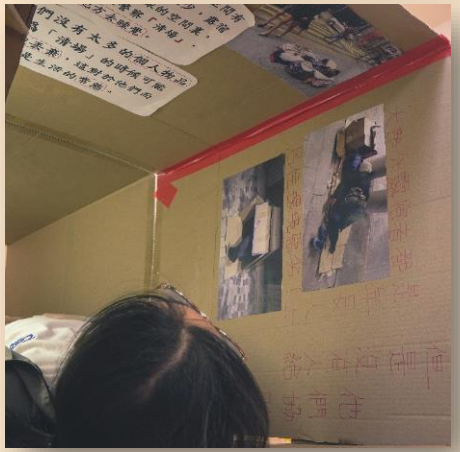
Design Making

Highlighting the importance of **making** in design, and its role as a thinking process

The Installation

Case:

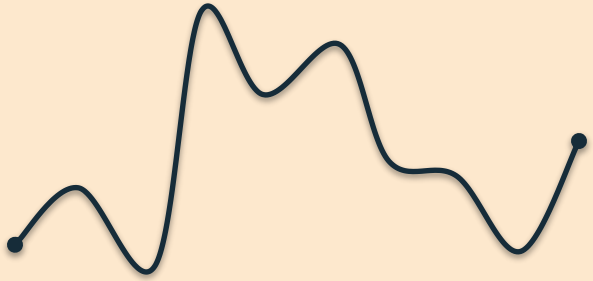
Toi Shan Association College



Whoa!

What is your mental image for design thinking?

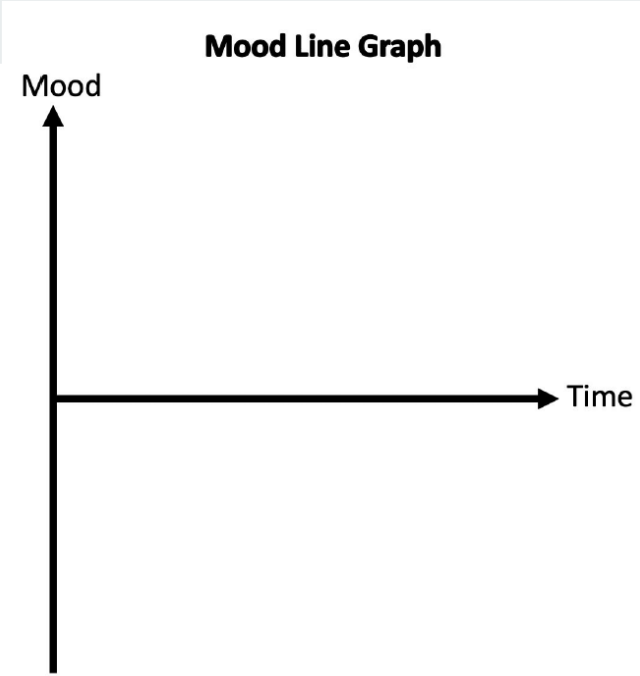
Complex open-ended



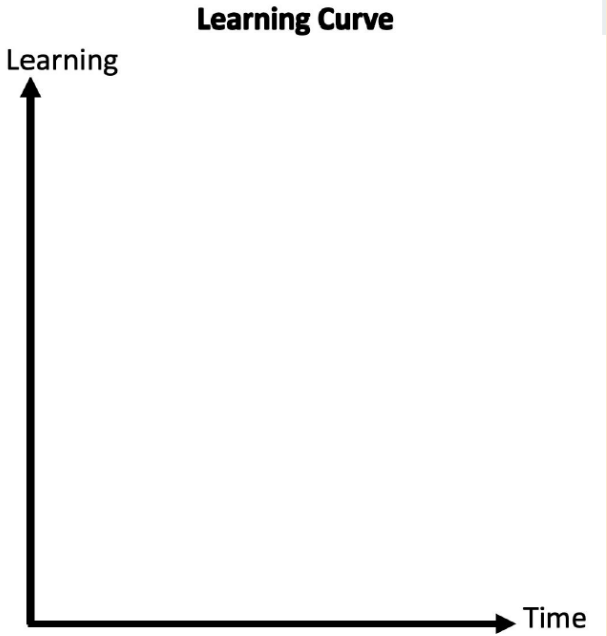
Correct
Incorrect

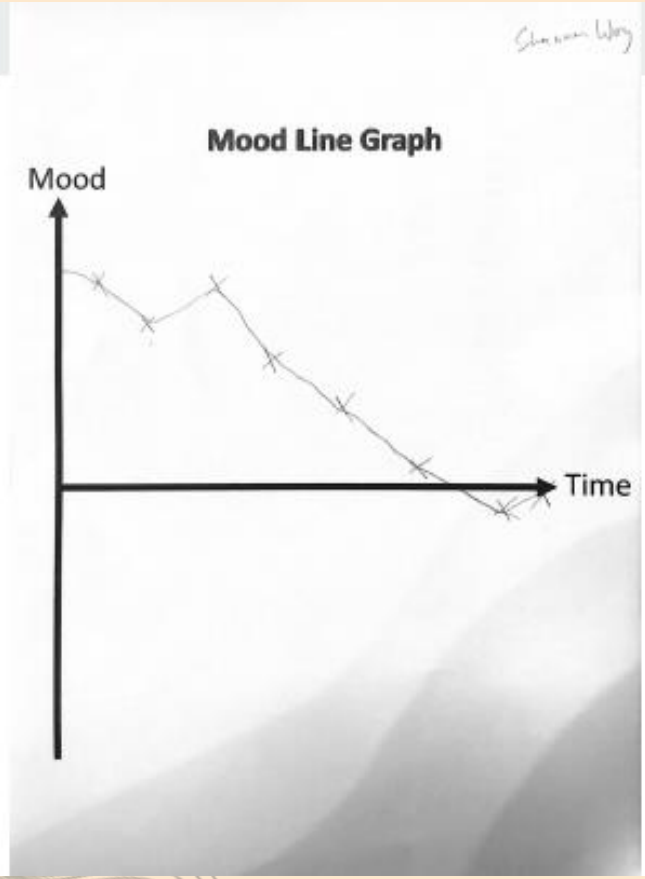
心情折線圖

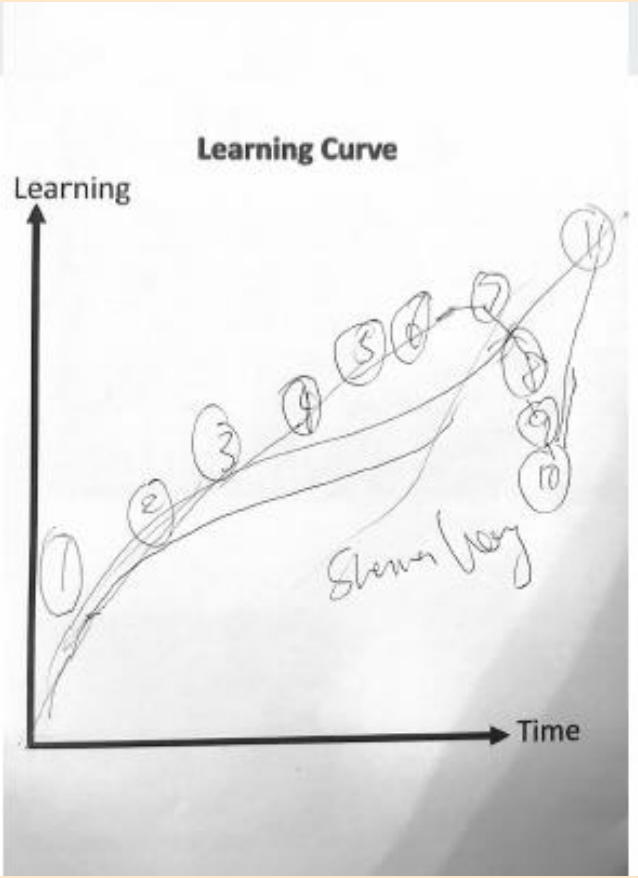
Q:畫出折線圖，代表你喺整個設計過程中嘅心情變化。

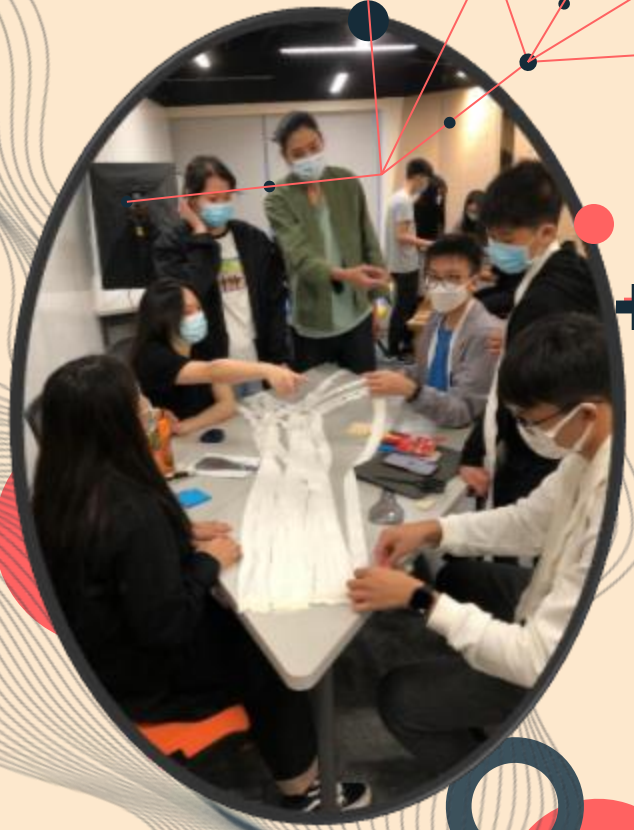


學習曲線圖




Mood Line Graph
Mood
Time


Learning Curve
Learning
Time



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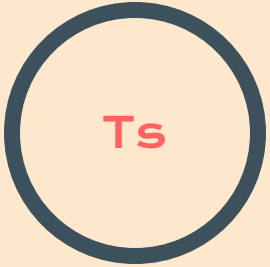
Key findings

From qualitative data

Students' learning outcomes



- Empathy

- Generic skills
- ? Academic knowledge

- Metacognitive skills (critical thinking, problem-solving & creativity)

- Collaboration
- Knowledge specific
- Empathy

In their words

‘我覺得係呢個工作坊入面，我增加左我的**解難能力**。例如平時學數學，遇到唔識做嘅題目，我會選擇跳過，而唔係諗佢點做，因為佢真係好難。但係係工作坊，因為我地係做一架車，當中有好多問題，例如要點改車軚，帶嘅問題。我地唔係一次過成功，而係要不斷嘗試，去搵唔同資料再嘗試，先可以點做，點樣可以固定，要逐次逐次嘗試，令到我**平時返學都可以利用呢啲**解難能力。’

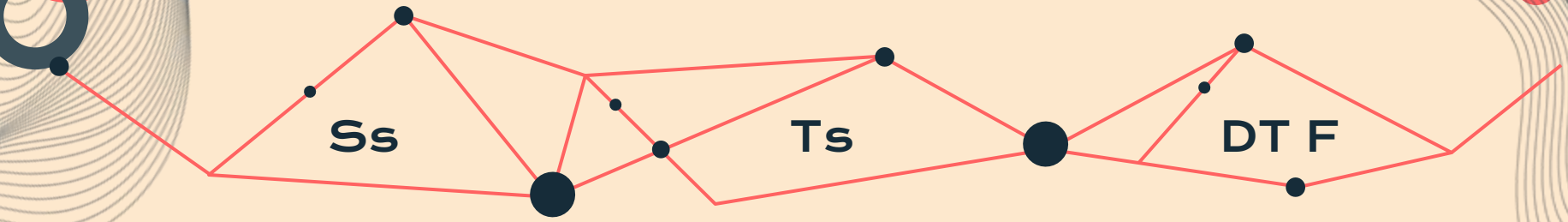
‘有時候諗嘢，面對呢個問題就淨係會諗呢個問題，**唔會去諗下佢嘅源頭係點，或者去諗下關於後面更好的解決方法**。即係例如而家呢個問題就淨係解決而家咁....’

‘設計思維訓練到我**諗多啲同諗快啲**。.....例如用到係我地上堂嘅時候，好似通識堂入面老師好鍾意做辯論，老師會叫你諗point，然後分好壞，有時你同你嘅組員其實都諗唔到，或者淨係想靠組員，可能呢樣嘢都唔係幾好。我地討論嘅時間都得好短，同我地呢個設計思維嘅課程都差唔多，所以可以訓練到我地諗快啲，**唔好唔諗就放棄**。.....如果係**一組人嘅話，就會有責任去諗**，我會逼自己去諗，唔會諗唔到就直接放棄。’

‘我覺得**對學習有用**，因為有時考得唔好嘅時候就會諗係咪溫習嘅**方法出現**咗咩問題，好似依家大家學習都係死讀書，好少會去諗**有咩方法會令到你更加有效去溫習**。設計思維就幫到呢樣嘢，因為要諗到一啲方法系對自己**有效同方便，要實行到嘅**方法。’

‘即是唔係歷史讀其他科都係有理論要背，會有固有嘅嘢去限制你嘅想法，即時使通識都係，都係有個框框俾你，你可以放自己創新諗法嘅空間好少，但係**可能對於社會，我地第時出嚟做嘢最需要嘅反而係呢啲創新思維，前人諗唔到嘅嘢**，而我哋諗到先可以令個社會進步。’

Challenges



Ss	Ts	DT F
Learning by doing	Skills deficit (DT stages)	Content delivery
Problem solving	COVID	Student factors
Conflict resolution	Teamwork	Time constraints & COVID

Pre- vs. In-service teachers

Applying DT in (future) classroom setting

Teaching, learning & facilitation

Insight & application

Social innovation

Facilitation & training

Time constraints

Alignment with curriculum/ assessment

Some tips from DT facilitators

What are the lessons to be learnt?

1. Attitudes & mindset
2. Deliverables
3. DT process
4. Scaffolding
5. DT tools

03

The lacuna

Some unanswered questions...

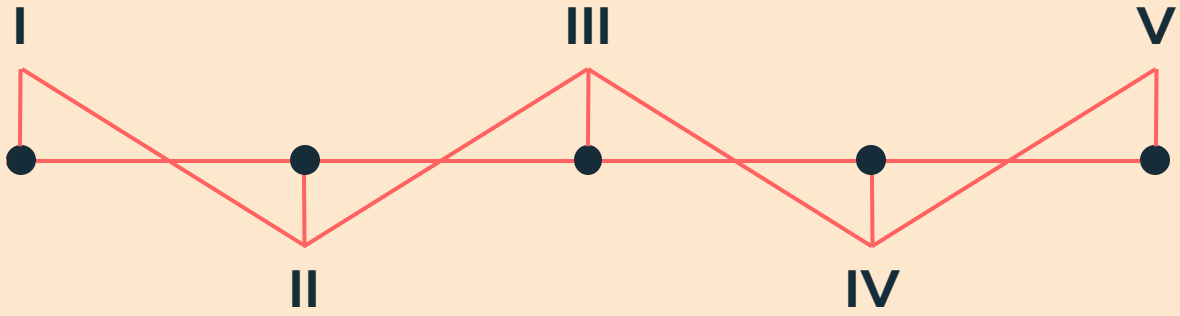
I. Nurturing students for the future, not our past

II. Knowledge: ECA or co-curricular

III. Process vs. outcome

IV. Skills transfer

V. 3-tier model of intervention?



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Your feedback