

Innovations in Teaching Seminar **IITS 2017**

*Pedagogies of learning technologies:
how does technology create new possibilities for learning?*

3 Oct 2017, Tuesday

Lecture Theatre 7 (NS1-02-03)

8:30am to 5:00pm



Faculty Showcase

A. Prof Alfred Tok

Associate Professor

School of Materials Science & Engineering

Game-based Learning for Increased Participation / Engagement



Organized by Centre for IT Services (CITS),
in collaboration with
Teaching, Learning & Pedagogy Division (TLPD).

Supported by
**John Cheung
Endowment**
(Social Media for
Teaching and Learning)

Background on MS3015 material aspects in design

- Group Project–based course
- Technical Report, Business Plan & Oral Presentation
- No Final Exam*
- Poor lecture attendance (could be as low as 30%)
- Since there were no exams, students didn't feel the need to attend lectures or participate / engage during lectures
- Need to “pull” them back to lectures, rather than “push” lectures to them



Ideas / Objectives

After Brainstorming:

- Play Games to Learn (Reinforce Lecture)
- Include Element of Competition
- Interactive participation instead of just participation
- Choice of Device
- QR Code use

Objectives:

- Active Engagement
- Active Participation



Platforms

Active Engagement – **Padlet Dashboard**



Active Participation – **Kahoots**



GAME 1

- Thinking Outside the Box (Warming up and leading to ACTIVE engagement)



Sample of Lecture

Think Outside The Box


Discard self-imposed constraints – which are the constraints that are truly constraining and which are not and can be ignored?



Download QR Code reader app

QR Code Reader and Scanner on the App Store – **iTunes** if you are using an iOS device.

QR Code Reader and Scanner
By ShopSavvy, Inc.
Open iTunes to buy and download apps.




Description
Easiest and most beautiful QR Code Reader!
Scans both QR codes and barcodes. Scans quickly and in real-time.

[ShopSavvy, Inc. Web Site](#) [QR Code Reader and Scanner Support](#)

What's New in Version 3.3.5.0
– Bug fixes

[View in iTunes](#)

QR Code Reader on the Android Apps on **Google Play Store** if you are using an Android device.



QR Code Reader
Scan Tools
3+
This app is compatible with all of your devices.



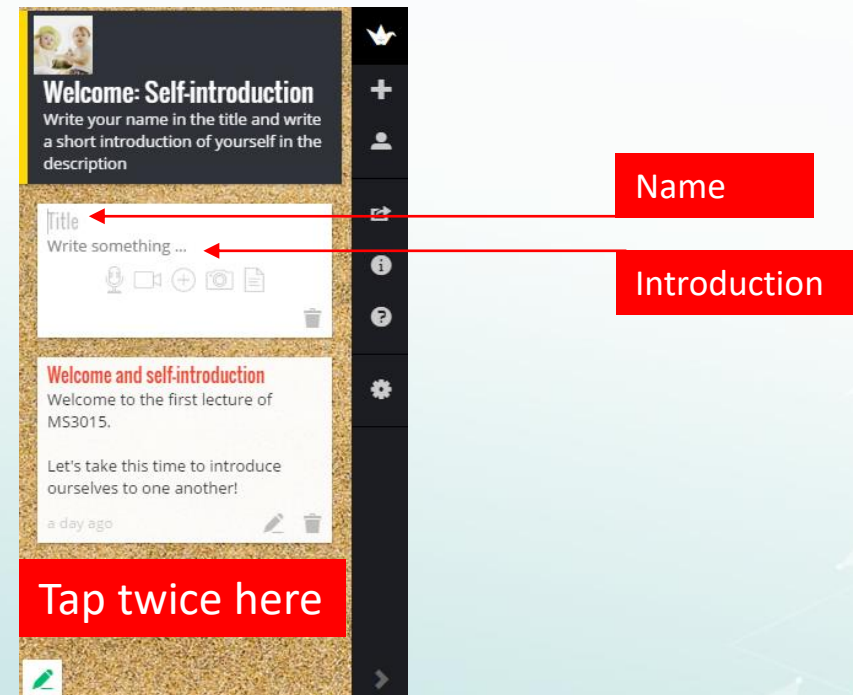
Self-introduction

Step 1:
Use a QR code reader (in your mobile device) to scan the QR code below to scan the QR code below.



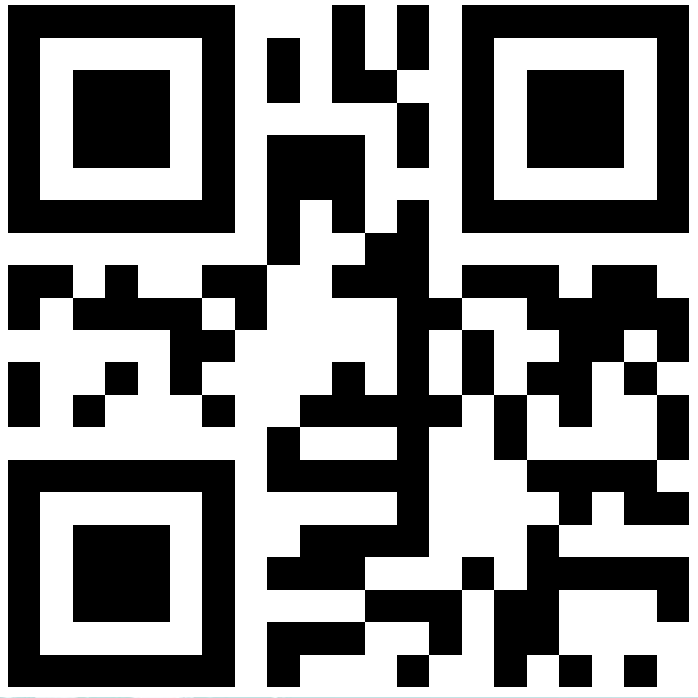
<http://bit.ly/1U1cp40>

Step 2:
Tap anywhere on the background twice to post your response on the padlet wall.



Situation 1 - Driving down the road

Use a QR code reader (in your mobile device) to scan the QR code below.
Alternatively, you can key in the link into your browser.

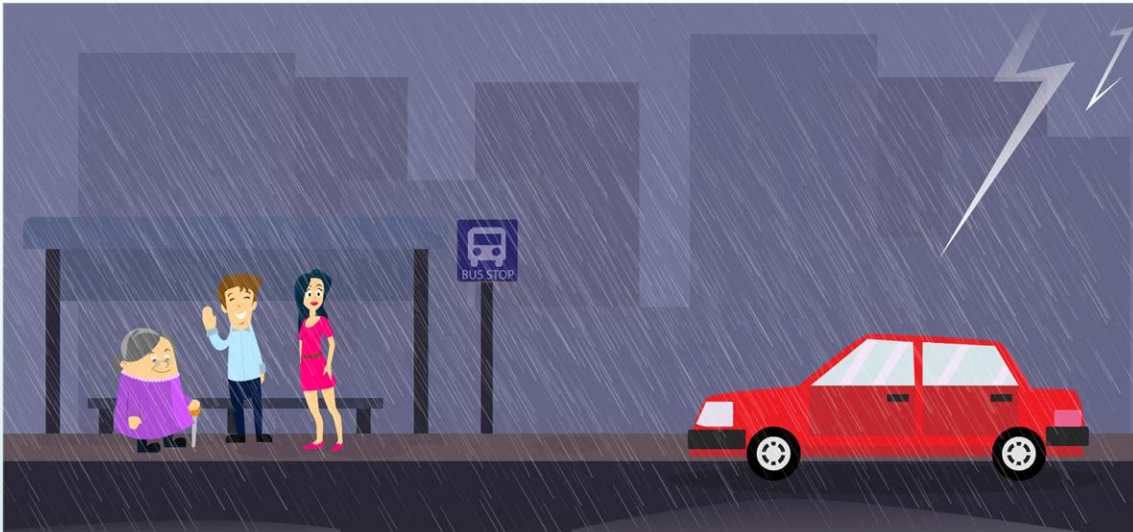


bit.ly/1pwEG62

Dashboard



Situation 1 - Driving down the road



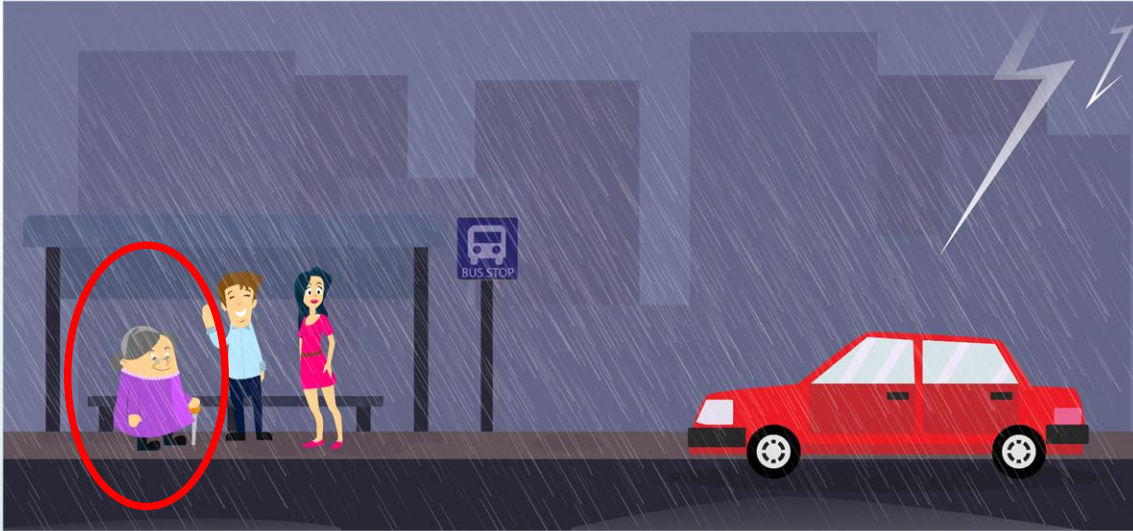
You are driving down the road in your car on a dark, stormy night when you pass by a bus stop and you see three people waiting for the bus:

- An old lady who looks as if she is about to die.
- An old friend who once saved your life.
- The perfect partner you have been dreaming about.

Who will you pick up if you can only choose 1, and why?



Situation 1 - Correct Answer



The old lady of course! After helping the old lady into the car, you can give your keys to your friend, and wait with your perfect partner for the bus.



Situation 2 - Dead man in snowy field

Use a QR code reader (in your mobile device) to scan the QR code below.
Alternatively, you can key in the link into your browser.



<http://bit.ly/1Mz33p3>

Dashboard



Situation 2 - Dead man in snowy field



A man is lying dead on a snowy field. There are no footprints to or from his body.

The man has a pack on his back.

How did he die?



Situation 2 - Correct Answer



He jumped out of an airplane with a parachute on his back that failed to open.



Situation 3 - Two Daughters

Use a QR code reader (in your mobile device) to scan the QR code below.
Alternatively, you can key in the link into your browser.



<http://bit.ly/1RfDmOh>

Dashboard



Situation 3 - Two Daughters

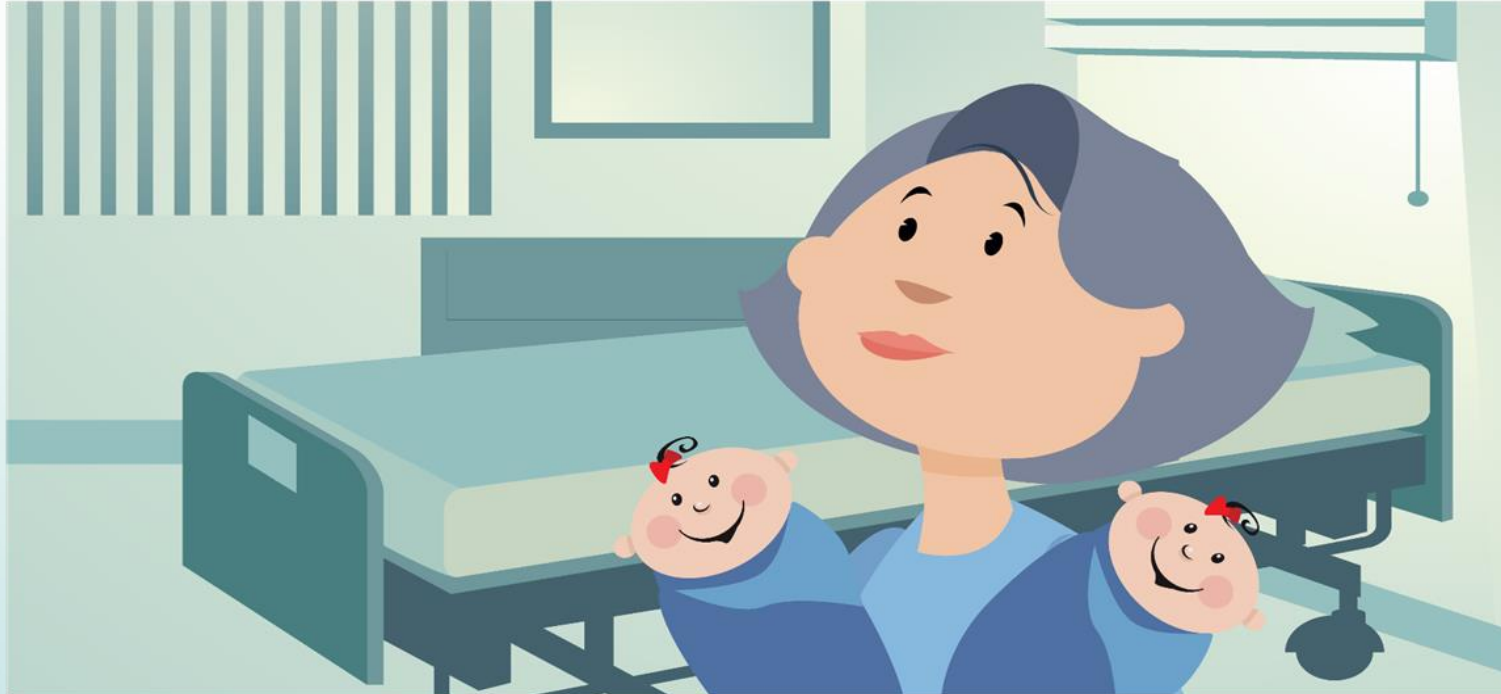


A woman had two daughters who were born on the same hour of the same day of the same year. But they were not twins.

How could this be so?



Situation 3 - Correct Answer



They were adopted or two of a set of triplets (or quadruplets etc.).



End of GAME 1

Comments from 1 - 2 members of audience



GAME 2

- Systematic inventive thinking (**engaged participation**)



Sample of Lecture

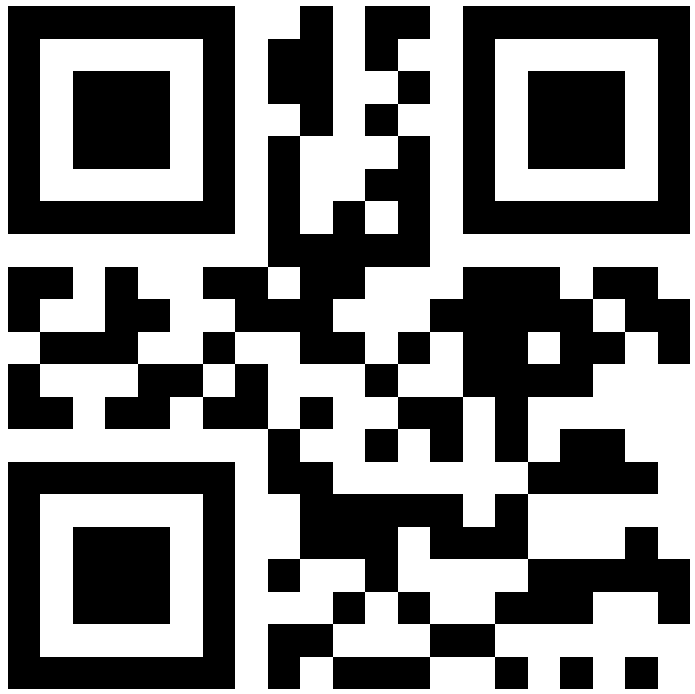
Systematic Inventive Thinking (SIT)

- Subtraction – reduce features (iPod vs Creative, Lexus vs BMW)
- Addition – add features
- Division – modular systems
- Multiplication – models, scale & scope (platform strategy)
- Transformation – give existing feature entirely new role



Game #3A: VOICE OF THE PRODUCT (SIT)

Use a QR code reader (in your mobile device) to scan the QR code below.
Alternatively, you can key in the link into your browser.



[Kahoot.it](https://kahoot.it)



Game **STARTS!**

Scores will be given to the fastest correct answers and there will be a winner at the end of these 6 rounds.



Question 1 of 6



Lexus car control panel

(Image 8)



BMW car control panel

(Image 9)



Question 2 of 6



MP3 player

(Image 10)



iPod



Question 3 of 6



Number pad
door lock



Finger scan security
door lock



Question 4 of 6



Umbrella



Golf Umbrella



Question 5 of 6



Water bottle



Bobble filtered bottle



Question 6 of 6



Analog watch



Xiaomi smartband



Game #3A: VOICE OF THE PRODUCT (SIT)



Lexus car control panel
(Image 8)



BMW car control panel
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Umbrella



Golf Umbrella



Number pad door lock



Finger scan security door lock



Water bottle



Bobble filtered bottle



MP3 player (Image 10)



iPod



Analog watch



Xiaomi smartband



End of GAME 2

Comments from 1 - 2 members of audience



Outcomes / observations

- This TEL has been run for 3 semesters
- Attendance has steadily increased (word of mouth) to 95%
- Students sit on edge of seats to see who is in the lead during game
- Students excited to see both correct & “wrong” responses from classmates
- “Culture” of responding and participating is built up

