

CETL VIRTUAL SUMMER SANDBOX SERIES

# Blending the virtual back into F2F teaching

Mathew Pryor

Lynn H. LIN

## Seminar Outline

---

### Part 1

- Student experiences of working online and how that should inform a return to F2F
- Some questions

### Part 2

- Digital Exhibition Space - a forum for student interaction and collaboration (online or in class)
- Q&A

# **F2F – Online – F2F**

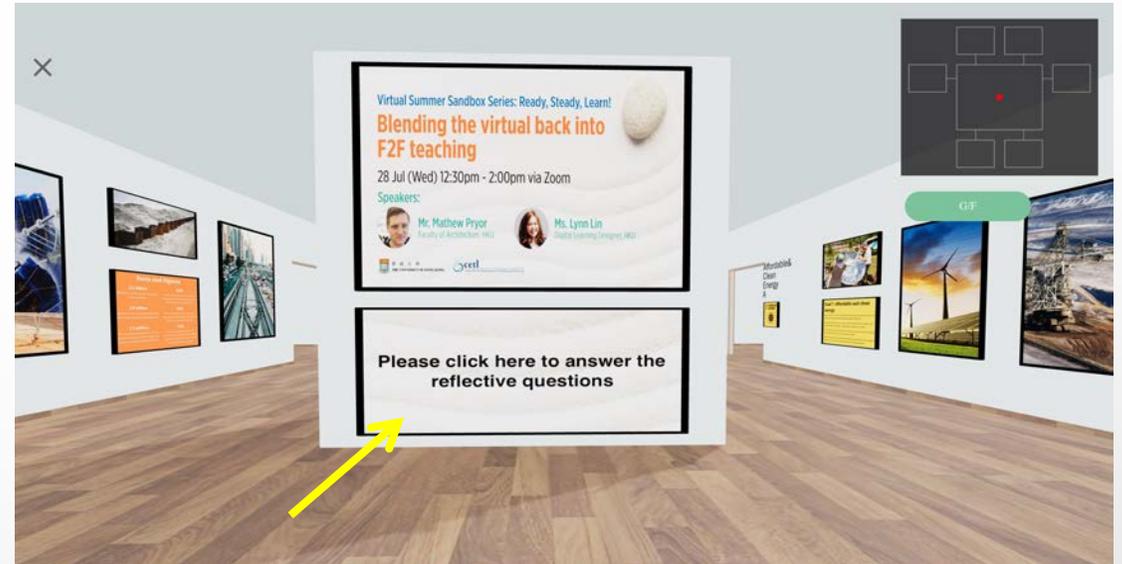
---

## PART 1

## Reflective questions

Choose one (or more) of the following questions and post a short response in the main panel of the shared DES space:

- A. Which of your EdTech tools brings you joy? (online apps, platforms, etc.)
- B. What have you learnt about your own teaching practice in the last year?
- C. How do you think your role as a teacher will change over the next 10 years?



<https://des.hku.hk/spaces/71/share>

Note with DES ⚠

Browser: Please use **Google Chrome**

Navigation: Click the floor in the direction you want to move (don't click too far); Press and hold (force click) and drag to turn around

View detailed content: Click the frame on the wall to view details

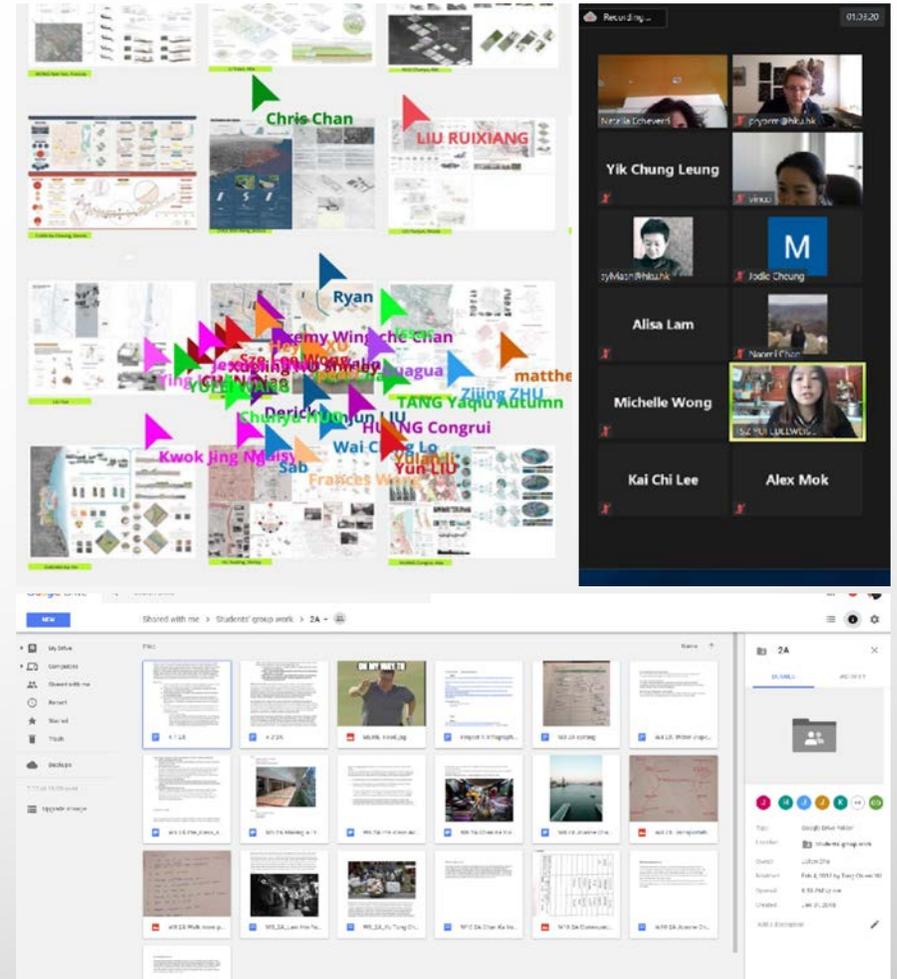
## Approach of teachers over the last year teaching online

Over the last year we have been running a series of research studies looking at the instructor and student experiences of being online, across a number of different courses.

There have been many obstacles and added stresses compared to traditional in-class T&L formats.

In general teachers have looked for ways / tools that allow them to replicate existing T&L activities online, or to find new activities based on the EdTech tools they are familiar with.

Not many have had a chance to look for new teaching approaches (due to time constraints).

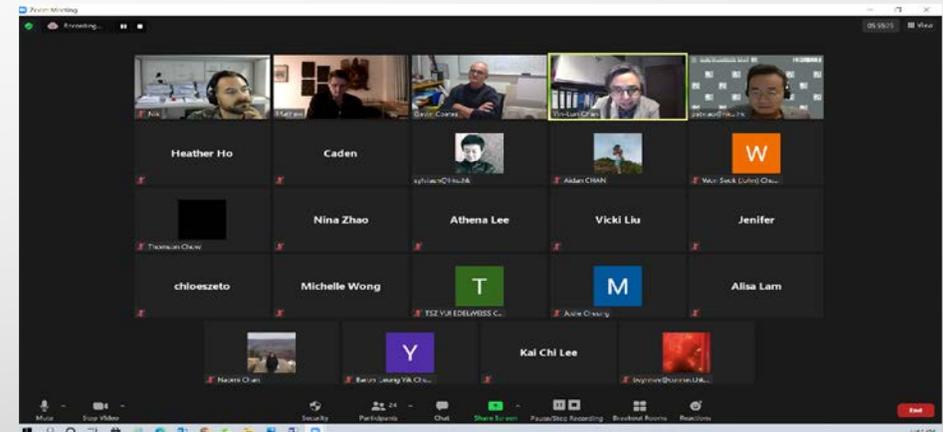
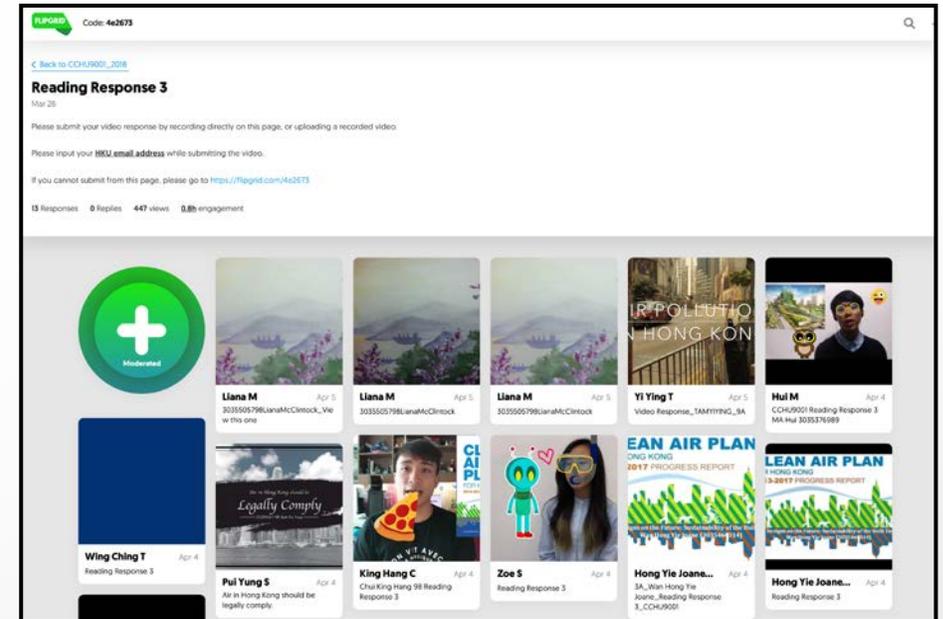


## Challenges instructors have faced

- Effort in re-writing and recording course material
- Loss of many types of class activity (resulting in more lecturing, less doing)
- Learning and using new technologies
- Restricted communication / interaction with students
- Hybrid classrooms - talking in two directions
- Muted response from students
- Greater effort needed just to keep the class going
- Zoom fatigue

### But also some positives

- Lecture / Zoom recordings
- EdTech tools - white boards for student presentations, live streaming of site visits, online voting / quizzes
- Working from home, less travel required



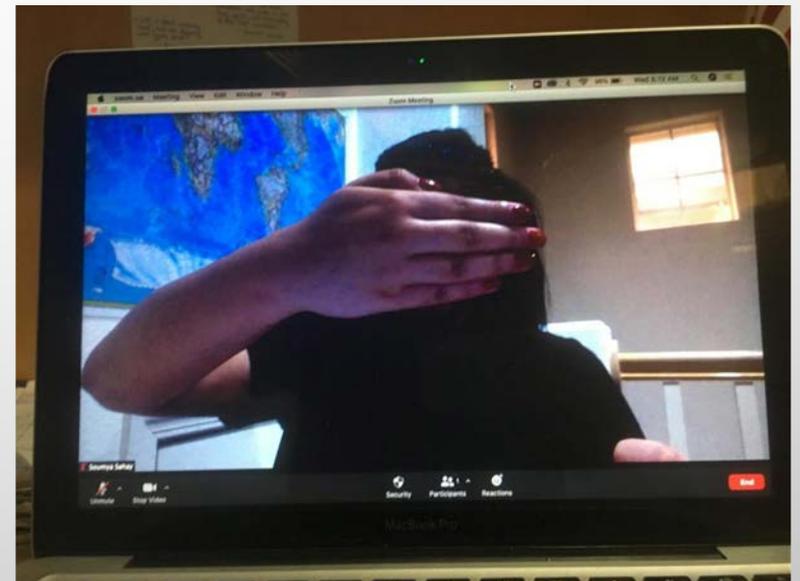
## ... and what has the students' experience been ?

---

- Difficulties in communicating with teachers
- Loss of non-verbal forms of communication (no hand gestures, body language, eye contact / visual cues, annotation etc.)
- Greater focus on language skills and English comprehension
- Loss of chat with classmates
- Loss of oversight of peer artefacts
- Loss of motivation (borne out of frustration), greater need for emotional support
- Zoom fatigue, boredom (... with the new technologies)

### Benefits of being online

- Not having to go to class
- ... or having to look presentable
- Recordings, different types of access to peer artefacts
- New forms of communication with classmates - Zoom
- More flexible time management / schedule

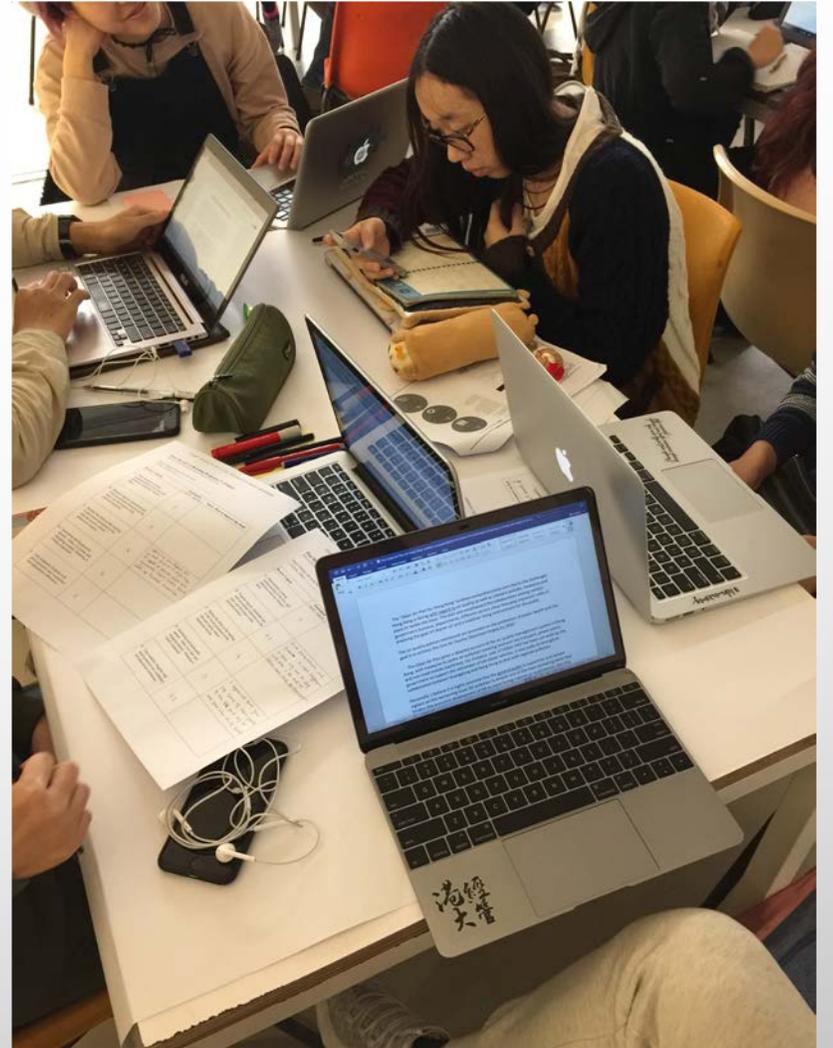


## Learning achievement ?

---

Student performance was generally down (in most aspects) when compared to previous F2F versions of the same courses, but performance varied with academic ability, i.e. the good ones coped, the less able tended to retreat.

*note: comparing students' grades with previous F2F classes is problematic ... they are working under different stress conditions, and we are not grading on the same basis.*



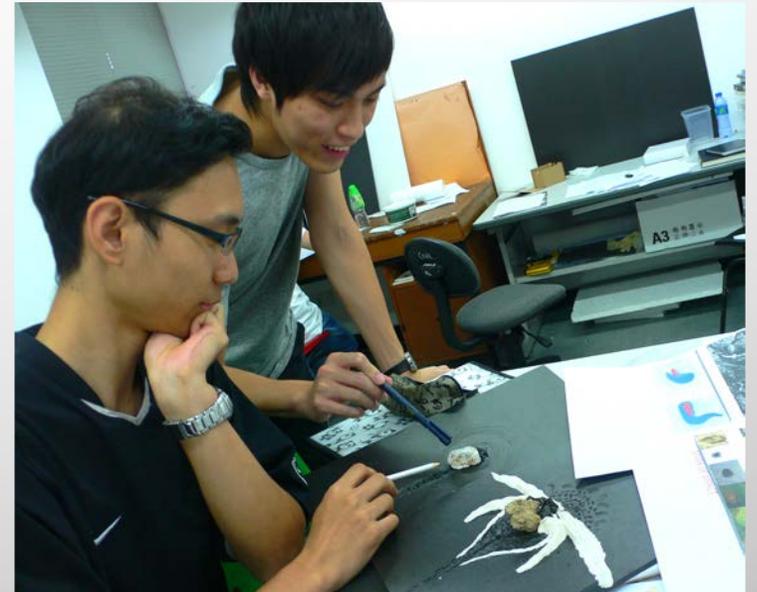
## What have we learnt from all this ?

---

### 1. Without peer interaction learning is difficult

Students learn from each other - the majority of what they learning is through interaction with peers.

Oversight of peer work – allows student to get a fix on the nature of the given task, their progress in completing the task, and the quality of their finished work.



# What have we learnt from all this ?

## 2. Need for dialogue / communication

Working in isolation makes dialogue impossible, there is little opportunity for students to 'fill in the gaps' in their understanding of what they are meant to do.

Students in class have a big advantage over those online due to the greater opportunity to interact with instructors and peers.

Zoom fatigue is a very real thing, Zoom is a cheerless environment.

Breakout room discussions are rarely fruitful and need skilled moderation, with specific outcomes.

*note: students experience of working online is often markedly different from that assumed / anticipated by their instructors.*



## What have we learnt from all this ?

---

### 3. Students need support

Online, student stress typically arises from their separation / disconnection with their classmates and instructors, and the lack of oversight of the class.

When isolated from those that normally help and without the usual relief mechanisms, stresses will tend to grow, and often result in negative emotions and behaviours.



## What have we learnt from all this ?

---

### 4. Tech is a double-edged sword

EdTech tools bring benefits, but also many frustrations. Instructors and students need time to learn and optimize each new tool.

They get students doing something, but often they are used just fillers.

If they don't have a clear educational purpose, they can be a distraction. How quickly does the novelty wear off?

Teaching online can becoming 'tech-centric' - EdTech is just a box of tools.



# Finding a new (normal) approach to teaching

In the return to F2F (and blended learning), we need to prioritize communication, peer sharing and student support.

We need to re-visit our course instructional design – even though the environment has changed, the pedagogical aims should remain the same.

- a) What are our learning objectives (knowledge, skills, student engagement)?
- a) What content, learning activities, assignments, feedback, etc. do we need to achieve that?  
*note: online formats tend to make problematizing the learning more difficult, and favour discrete activities which can make the learning sequence disjointed*
- c) How can we do that in the new teaching environment?

The screenshot shows a spreadsheet titled "Responsible Consumption & Production - A" with columns for "Visitor's Card 1", "Visitor's Card 2", and "Visitor's Card 3". Each card contains feedback from a visitor, including their name, favorite artifact, reasons for favoring it, greatest learning, and appreciation.

| Responsible Consumption & Production - A                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chiu Leng Hiu   Gwei Piller   Lee Kai Nam   Mok Hei Ming        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Leave your comments below!                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Visitor's Name                                                  | Visitor's Card 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Visitor's Name                                                  | Visitor's Card 2                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Yip Ka Kit                                                      | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Yip Ka Kit                                                      | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Your favourite artifact in the room:                            | Pin Story                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Your favourite artifact in the room:                            | Target of SDG-12                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Why is it your favourite:                                       | Although the pin story image occurs in less prominence than the other houses, it really is funny by making it look like snakes are running the coffee. The facts contained were useful as well, and as a person who still is concerned about the environment, it was a nice touch to have a story that is more relatable to people who are not necessarily environmentalists. It was a nice touch to have a story that is more relatable to people who are not necessarily environmentalists. | Why is it your favourite:                                       | SDGs are goals to be achieved and under every goal, there are specific targets. The video makes me know what is expected by 2030. The article explains with 2.5 minutes of explanation is easy to read and understand.                                                                                                                                                                                                                                        |
| Your greatest learning after visiting this gallery:             | From the video I learned that Hong Kong produces about 70,000 tonnes of E-waste every year. I was not aware that Hong Kong produces that much of E-waste. Also, the fact that 10% of this e-waste is recycled is a fact that is not widely known. It was a nice touch to have a story that is more relatable to people who are not necessarily environmentalists.                                                                                                                             | Your greatest learning after visiting this gallery:             | Hong Kong generates high number of e-waste especially from mobile phones and computers. The problem is that the electronic waste is not properly disposed into the ground, but another long time. Looking at the video, it is one instance of the e-waste that is not properly disposed into the ground, but another long time. Looking at the video, it is one instance of the e-waste that is not properly disposed into the ground, but another long time. |
| Thing(s) you appreciate most about the creation of the gallery: | One of things that I appreciate most about the creation of the gallery is the use of the pin story. It was a nice touch to have a story that is more relatable to people who are not necessarily environmentalists.                                                                                                                                                                                                                                                                           | Thing(s) you appreciate most about the creation of the gallery: | Overall, the gallery structure and design is beautiful and well-organized. The content is very informative and easy to understand. The use of the pin story is a nice touch.                                                                                                                                                                                                                                                                                  |
| Visitor's Name                                                  | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Visitor's Name                                                  | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Your favourite artifact in the room:                            | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Your favourite artifact in the room:                            | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Why is it your favourite:                                       | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Why is it your favourite:                                       | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Your greatest learning after visiting this gallery:             | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Your greatest learning after visiting this gallery:             | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Thing(s) you appreciate most about the creation of the gallery: | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Thing(s) you appreciate most about the creation of the gallery: | Yip Ka Kit                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Finding a new (normal) approach to teaching

### 1. Re-thinking the learning around dialogue *(if the class is F2f+online, this might have to be online)*

- Create dialogic spaces within which students can talk to and learn from each other - move away from big classrooms and position students within small groups (community of learners)
- Create activities that require dialogue - structured conversation to a specific end  
*“just putting the course content online is the same as telling the students where the library is” - all material needs an active use*
- Support student dialogue - discussion need to be constructed. Speaking out is not comfortable for many students, and the tendency is to remain silent.

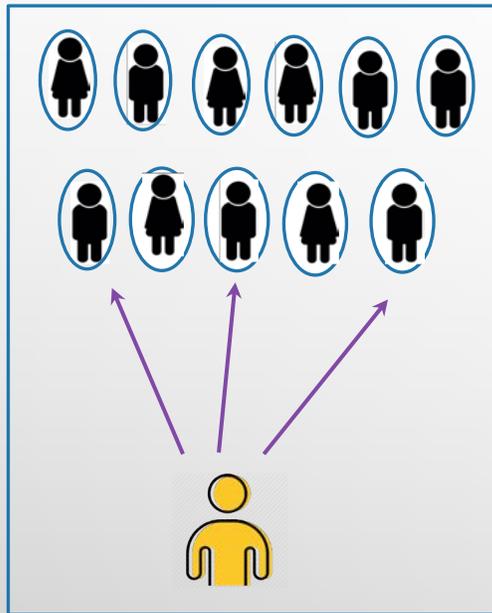


*When we get back to F2F, will we still treat students in isolation? Under social distancing rules, the experience of the F2F classroom might not be too different from being online. The challenge remains in this setting – how to get students to interact with each other*

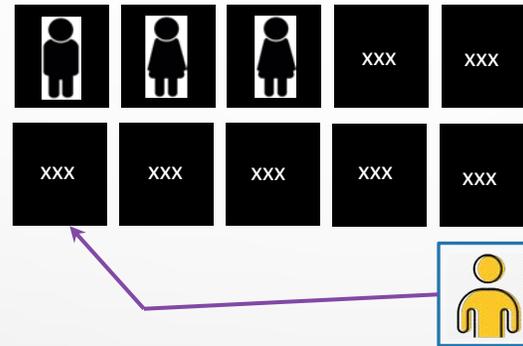
# Finding a new (normal) approach to teaching

## Creating dialogic spaces

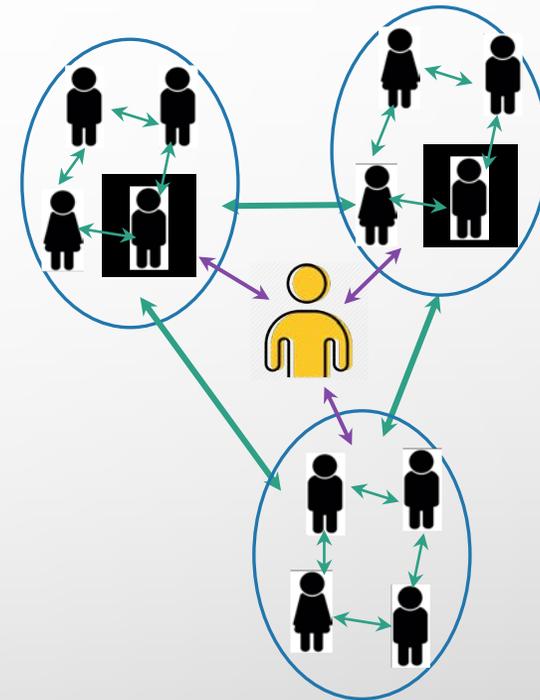
Not the lecture hall



Not Zoom



Some form of collaborative learning environment



# Finding a new (normal) approach to teaching

---

## 2. Promoting student interaction

- Activate the classroom (students doing things other than listening) – need group activities\* that require students to interact and discuss
- Activate the learning - not just conveying knowledge but employing higher order thinking skills (analysis, synthesis, planning, design, speculation etc.)
  - *Don't ask students to take a quiz, get them to work in groups to design a quiz*
  - *Not just read an article, ask them to deconstruct it and assess why it was written in a certain way*
  - *Not just look for case study examples, but look at the medium and presentation of those examples (beyond just facts - ask them to find the underlying thought, logic, reasoning / argument in a situation)*
- Give students time to reflect and develop their own thoughts and ideas

*(\*) Groups - mix F2F + online students - make the group responsible for getting all members over the line - use platforms that allow them to work together, simultaneously or asynchronously – include activities that are easily achievable, not graded or grades that are not dependent on group size or effort (build confidence in group work)*



## Finding a new (normal) approach to teaching

---

### 3. Supporting student learning

Role of teachers is to facilitate learning

- Focus on making opportunities to engage students curiosity to learn, and to teach themselves
- Have specific outputs to each task, with measurable achievements to build confidence
- Be flexible, non-prescriptive, and allow autonomy
- Be crystal clear - give simple instructions, and repeat them often
- Encourage peer support



## Example - fitting teaching into the new environment

---

### POSTER

*Previously in F2F ...* students research a topic, make a proposal, compose it in poster format, present it in class ... maybe with Q&A

*Online ...* same - select a platform to do the same ... students research a topic, make a proposal at home, compose it in poster format, upload and present it on Zoom (maybe with Miro, CB, JamBoard etc.)

Problem –

Students online are working in isolation, little sharing / dialogue, flat presentations, limited Q&A, no peer support, low engagement, etc.



## Example - fitting teaching into the new environment

---

### POSTER

Q1. What is the learning objective?

Student - learns a lot about a subject + they learn research methods, story development, presentation (online and in-class), digital skills, responding to feedback, reflecting etc.

Other (listening) students - learn something about the subject + they learn to listen and assess, comment / give feedback, to discuss and reflect,

Q2. What learning activities / classroom format (in the new environment) might help me achieve this?

Small groups of students working in parallel - discussing, observing, supporting, regulating

Q3. How do I maximize the learning opportunity?

Construct an iterative process to allow trial and error, to give room for feedback to be given and acted upon.

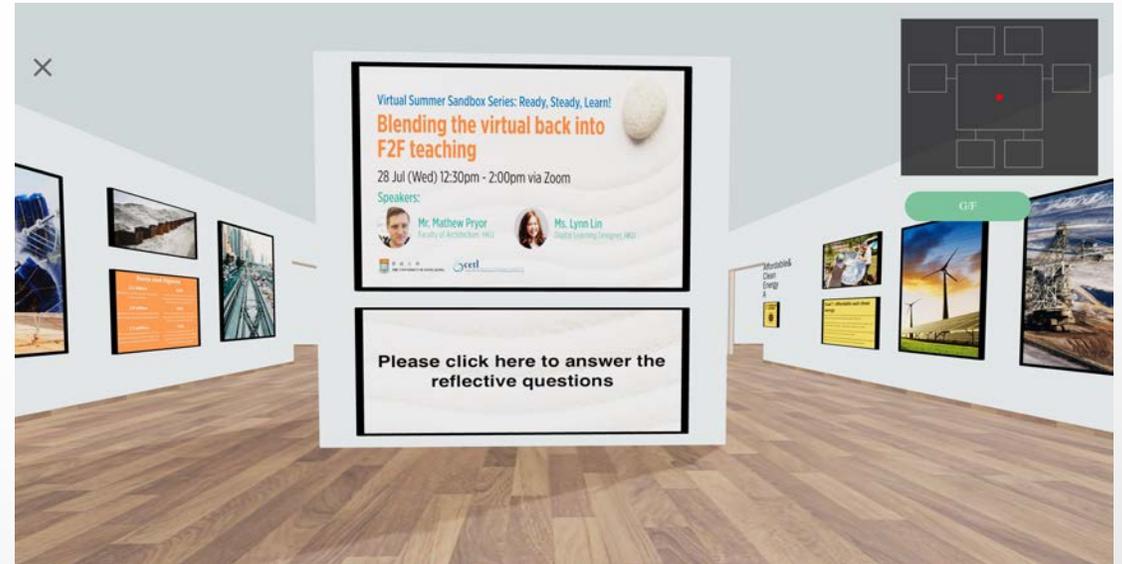
Q4. ... and finally what (if any) EdTech tools do I need to facilitate this?

A forum for discussion, for brainstorming, for commenting .. and finally for presentation

## Reflective questions

Choose one (or more) of the following questions and post a short response in the main panel of the shared DES space:

- A. Which of your EdTech tools brings you joy? (online apps, platforms, etc.)
- A. What have you learnt about your own teaching practice in the last year?
- B. How do you think your role as a teacher will change over the next 10 years?



<https://des.hku.hk/spaces/71/share>

Note with DES ⚠

Browser: Please use **Google Chrome**

Navigation: Click the floor in the direction you want to move (don't click too far); Press and hold (force click) and drag to turn around

View detailed content: Click the frame on the wall to view details



# **Digital Exhibition Space (DES)**

---

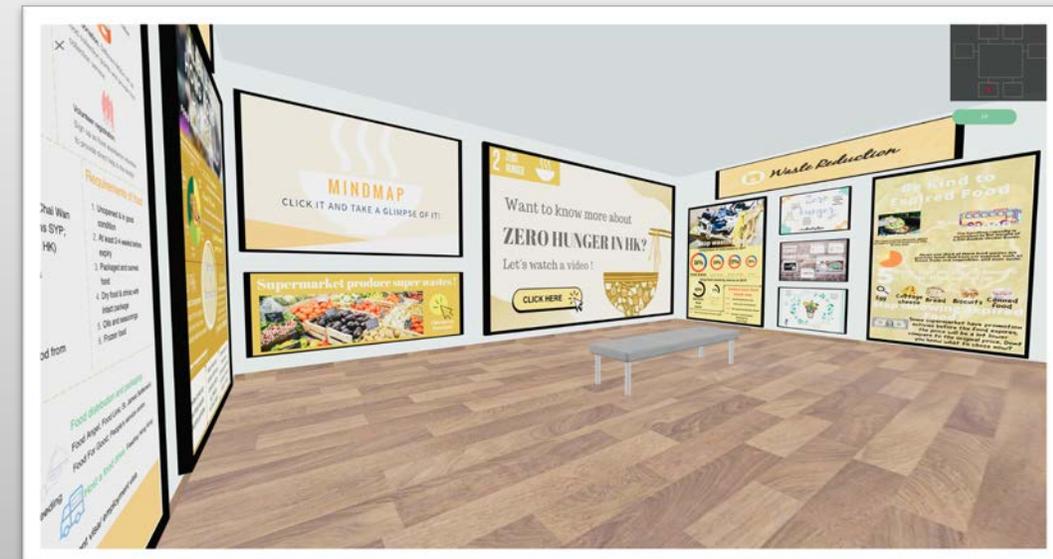
PART 2



# Digital Exhibition Space (DES)

What is DES and what does DES do ?

- in-house built 3D Virtual Learning Platform (2020-2021)
- Simulates online gallery creation and visit experiences
- Creates immersive and communal learning environment
- Provides interactive and **socialized** asynchronous and synchronous learning experiences
- Visualizes working progress and achievement
- Promotes peer-regulated learning and peer oversight



# Digital Exhibition Space (DES)

A 3D virtual learning platform

Introductory video



# Digital Exhibition Space (DES)

A 3D virtual learning platform

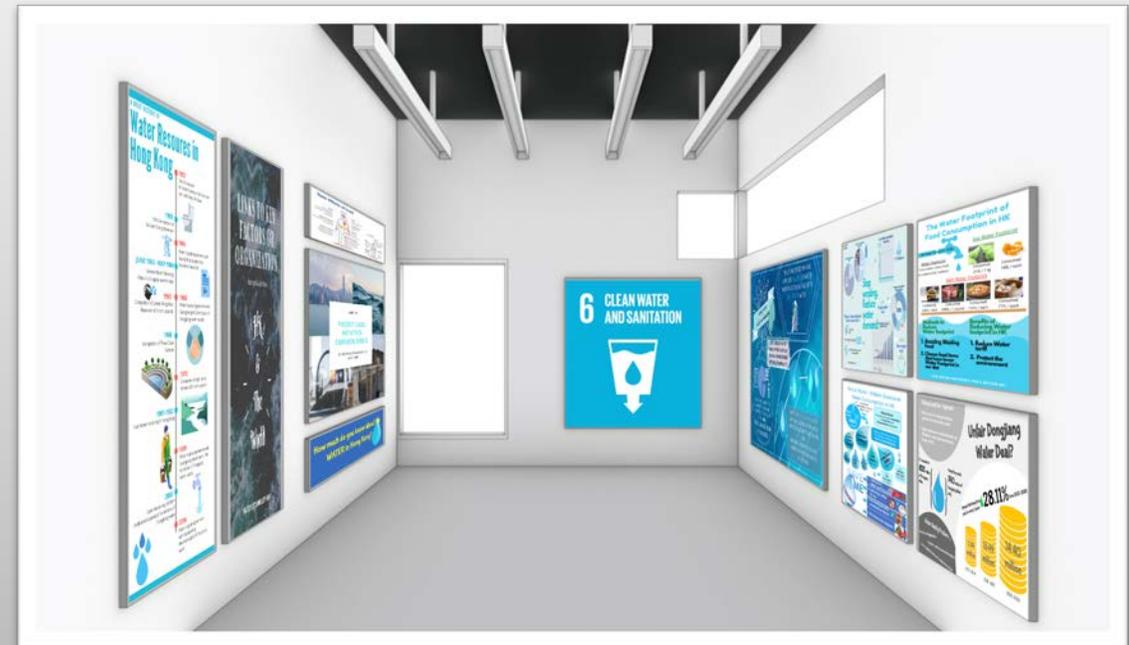
## Development Timeline

|                |            |                                                        |
|----------------|------------|--------------------------------------------------------|
| DES 1.0        | Early 2020 | Peer regulation ★                                      |
| <b>DES 2.0</b> | Early 2021 | Simple Gamification & Peer feedback ★                  |
| DES 3.0        | Now        | Advanced Gamification, Socialization & Visualization ★ |

## Scope

750+ users

F. Education / Architecture / Science / HKU Summer Program  
 A local Secondary School



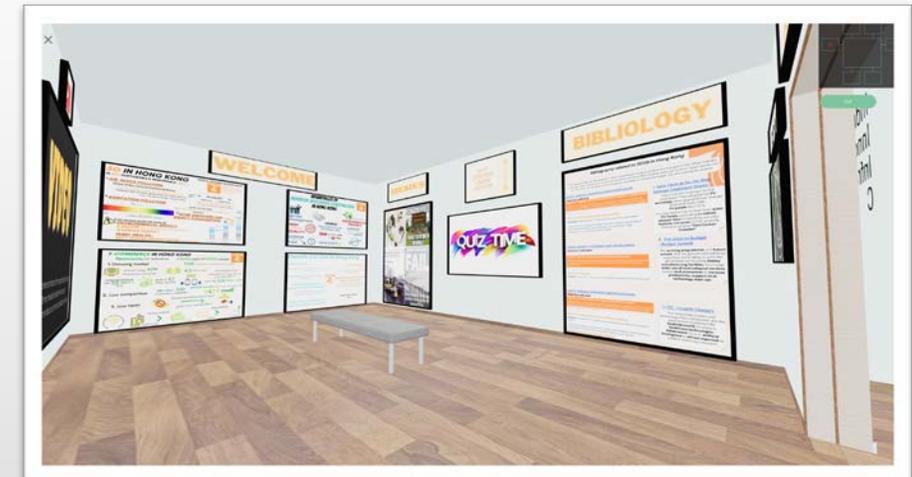
# Learning Activities on DES (1)

Project collaboration, Idea Composition, Visual Design, Advocacy & Argumentation, Reflection

## Gallery design 1

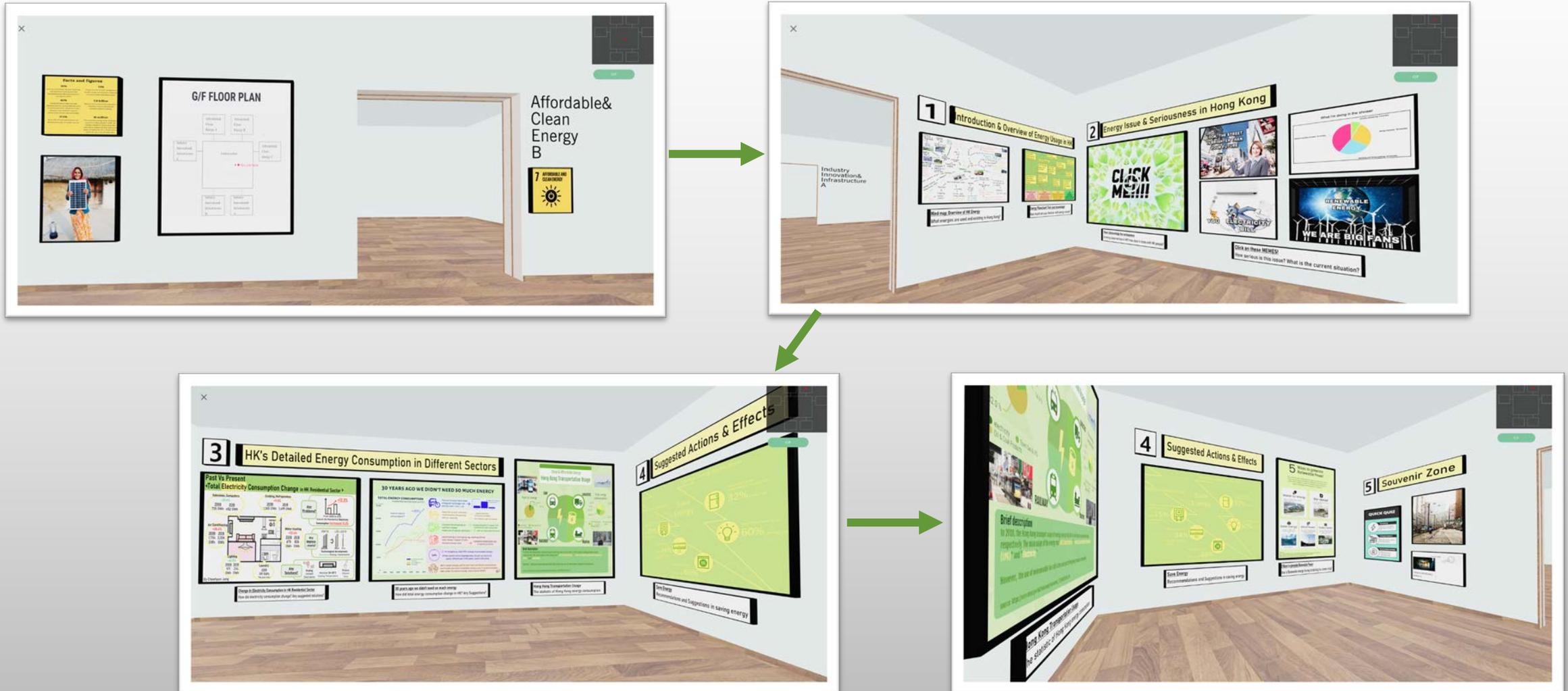
Course: CCHU9001 | Context: Online | **Curatorial Group Project**

- Each group is assigned with a SDG topic, and owns one gallery space
- Each group designs and curates an exhibition to make an argument on and advocate the SDG value with digital artefacts
- Other than mandatory artefacts of explanatory video and infographic diagram, students have autonomy to select and create extra items from or not from the provided list (e.g. quiz, historical timeline, relevant SDG resources in HK etc.)
- Students visit each other's gallery, and write reflection on how their SDGs are related to each other, and how their own SDG contributes to a sustainable future



# Learning Activities on DES (1)

Project collaboration, Idea Composition, Visual Design, Advocacy & Argumentation, Reflection

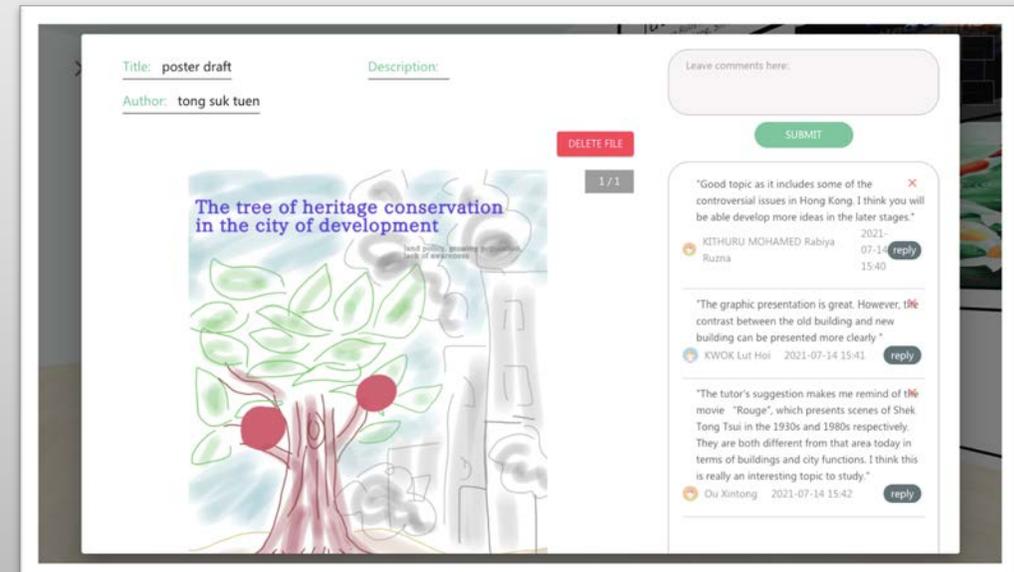


# Learning Activities on DES (2)

Learning progress monitor, Presentation, Peer review & Feedback

Course: CCHU9058 | Context: Online & F2F | Individual Poster

- Each tutorial group owns one gallery space
- Students upload their draft poster to their own space
- Students present their idea in the tutorial
- Classmates listen to the presentation and leave feedback based on guiding questions
- Tutor reviews the feedback, and give own feedback
- Students reflect on the feedback, and improve the draft



# Learning Activities on DES (2)

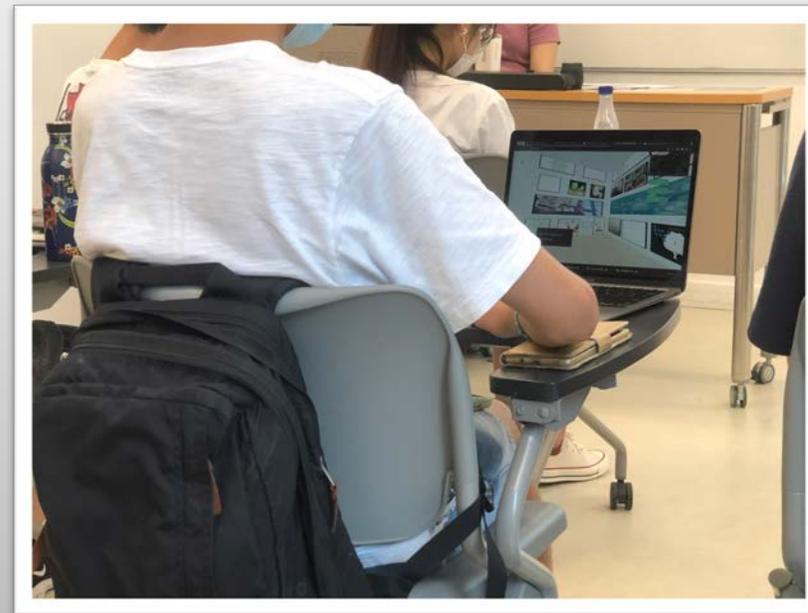
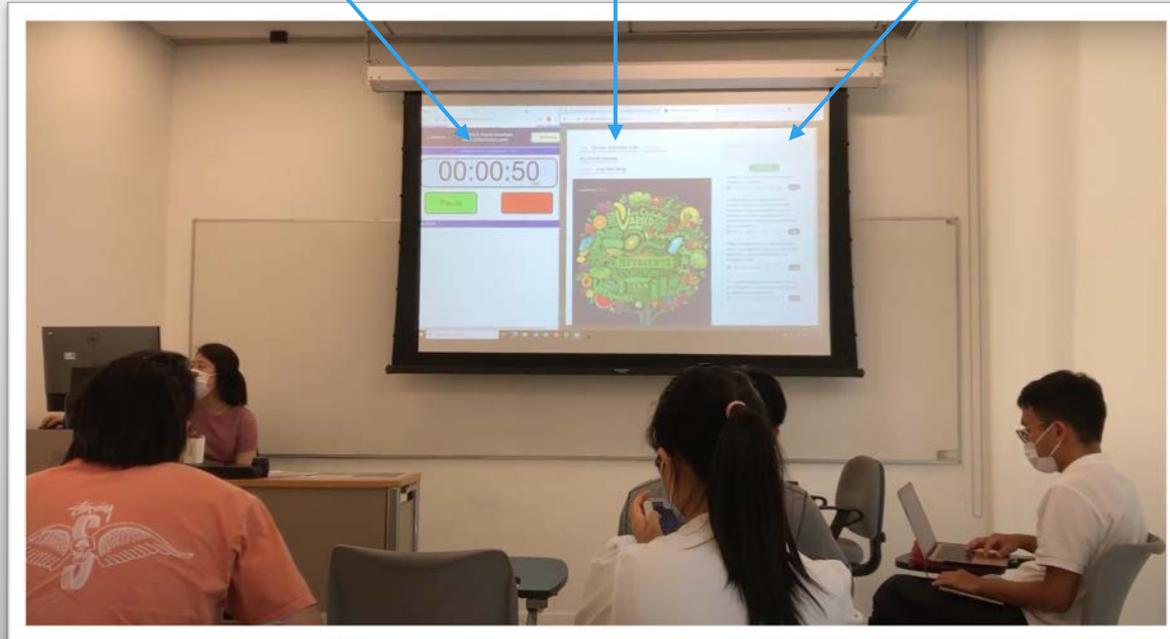
Learning progress monitor, Presentation, Peer review & Feedback



Timer

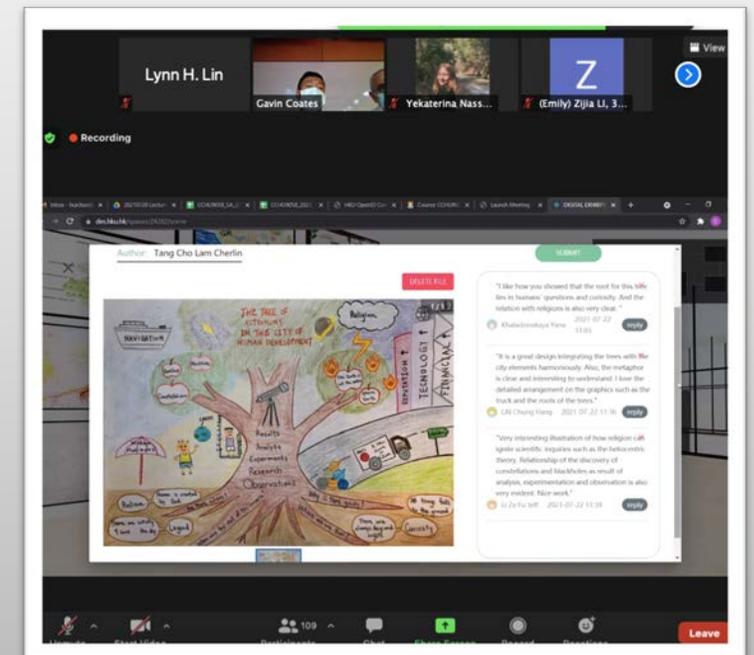
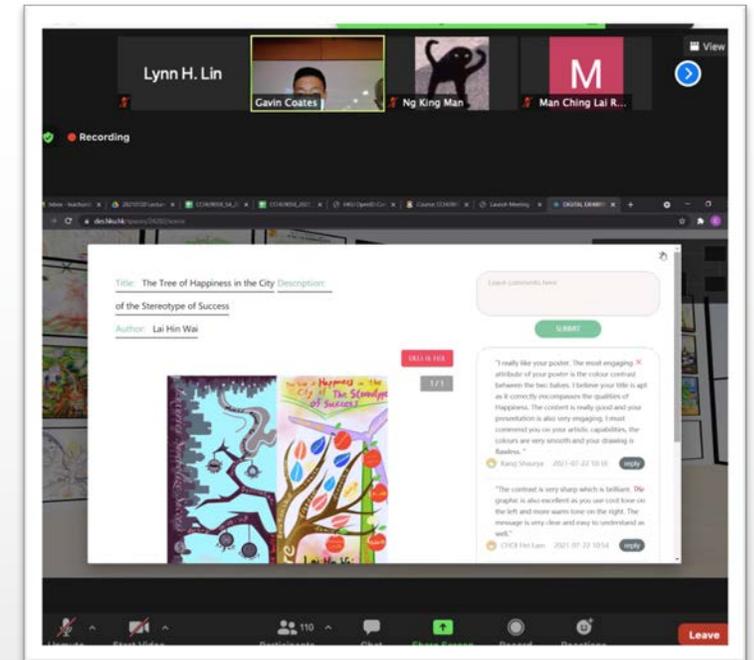
Poster

Feedback



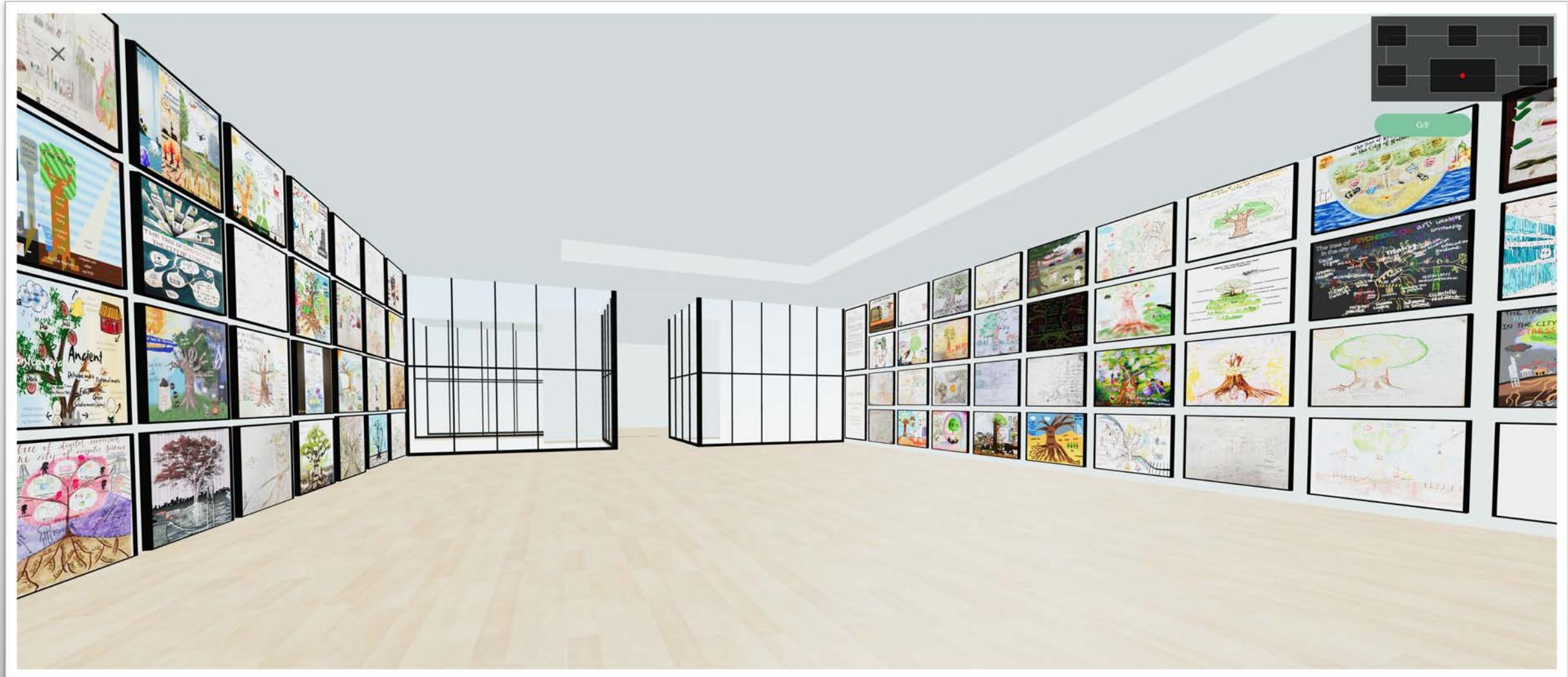
# Learning Activities on DES (2)

Learning progress monitor, Presentation, Peer review & Feedback



# Student Exhibition on DES

*Gallery design 2*



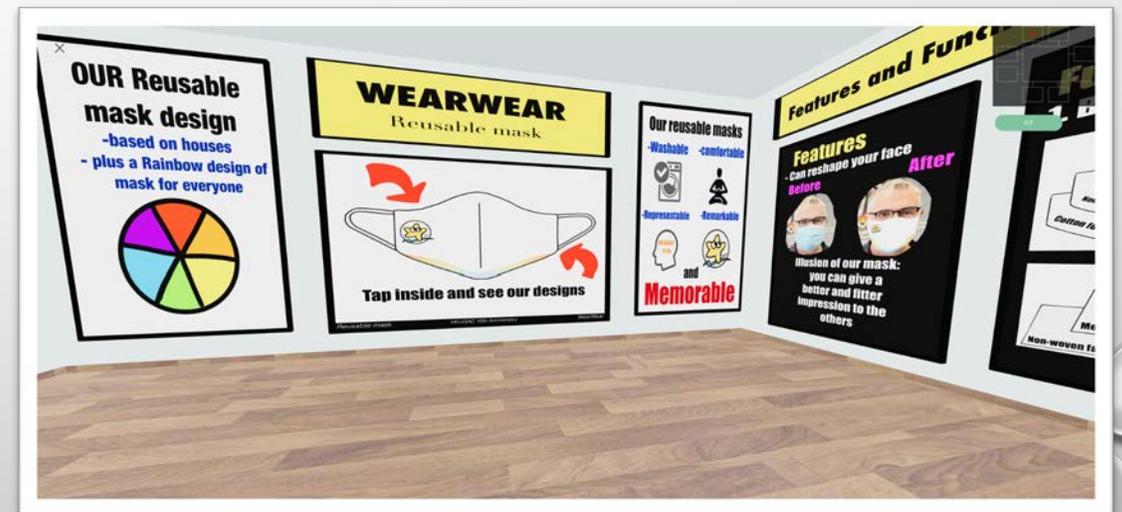
# Learning Activities on DES (3)

Final Showcase & Voting

HKUGA College teacher sharing

Mr Wesley Tang

S2 level coordinator of the English Department



# DES Sharing on 28/7

HKUGA College (Wesley Tang, English teacher - S2 coordinator)

**S2 English Unit 3 – Advertising (selling food products)**





# Unit outline (Advertising - 15th anniversary souvenirs)

Part 1 - Discovering the need of the community (Week 1)

**\*Elements: Forming groups, Target audience, Slogan (15A) (Deadline: 3 May)**

Part 2 - Producing the product (Week 2-5)

1.Functions of the product

2.Design of the product

**\*Elements: Product, blurb (product description),**

Part 3 - Promoting the product (Week 6-7)

1.Pitch

2.Exhibition board (with the mock up of the products)

**\*Elements: Pitch, Proposal**

# Main exhibition hall (instructions given by teachers)



Level-wide competition:  
Google Form survey (QR code) - voting for the best

WEAR.WEAR.

FROM 5ZE3

# WHO ARE WE?

group leader

**VALE RIE** **CH OW**

designer

**JOY CE** **LI**

secretary **CH AU**

WTFSP COMPANY

WEAR.WEAR.

stay safe with wearwear

direct access for signpost

From W.T.E.S.P. (company)

docs.google.com/forms/d/1A9Q.../edit

Edit Profile

SHARE ME TO PAGE

in science UT

Mr. Reverman

by Mr. Reverman

CLIK LORO

CLIK BELONA

## Our Promotional Video



OUR Reusable mask design

-based on houses

- plus a Rainbow design of mask for everyone

G/F

see our designs

WearWear

### Our reusable masks

- Washable
- comfortable
- Representable
- Remarkable

and

## Memorable

## Features and Functions of our masks

### Features

- Can reshape your face

Before After

Illusion of our mask: you can give a better and fitter impression to the others

### Functions

1. Block the virus

3 layers of reusable mask

Additional filter with 3 layers

## Our BLURB

Not just ordinary masks, not just any ordinary souvenirs, but the WEARWEAR mask.

WEARWEAR provides high quality reusable masks with unique designs just for HKUGA College. Masks that can protect you from virus, masks that can make you look fashionable, masks that can let you levitate.

STAT

# Students' engagement / teaching and learning

## Students' engagement

- 1) Easy to navigate + multifunctional
- 2) QR code for voting → competition
- 3) Commenting function → interaction
- 4) Ownership

## How DES helped / will help in our teaching

- A. a new mode of presentation (fun!)
- B. catering for learner diversity (visual)
- C. student-student interaction
- D. habit building
- E. a platform better than Google Drive / other learning tools
- F. teaching particular units when students take the lead

Title: \_\_\_\_\_ Description: \_\_\_\_\_

Author: \_\_\_\_\_

DELETE FILE

2 / 2

### 2020-2021 S2 Froops Exhibition (finalists)

The form 2020-2021 S2 Froops Exhibition (finalists) is no longer accepting responses.  
Try contacting the owner of the form if you think this is a mistake.

[Resume collecting responses \(Only form editors can see this link\).](#)

This form was created inside of HKUGA College. [Report Abuse](#)

Google Forms

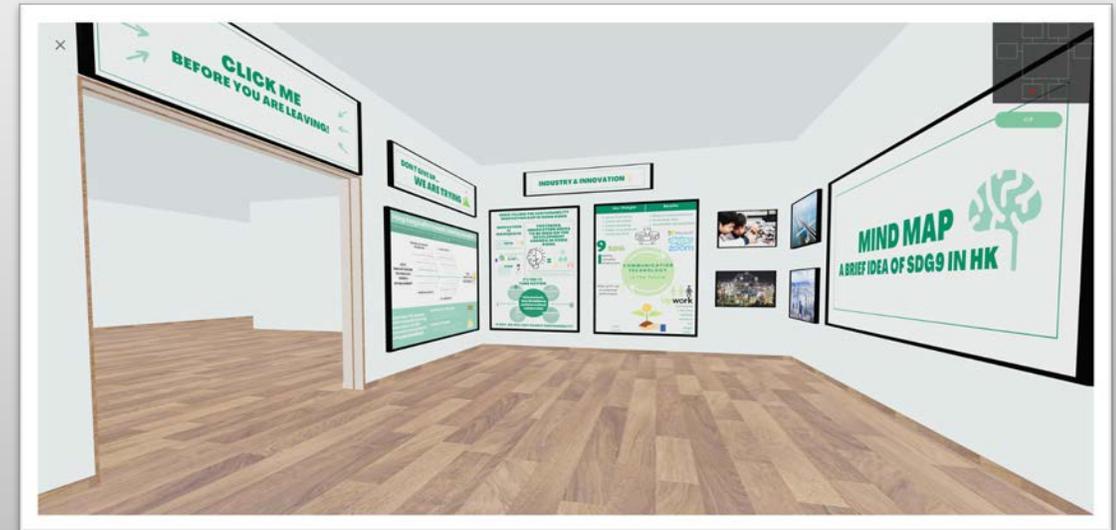
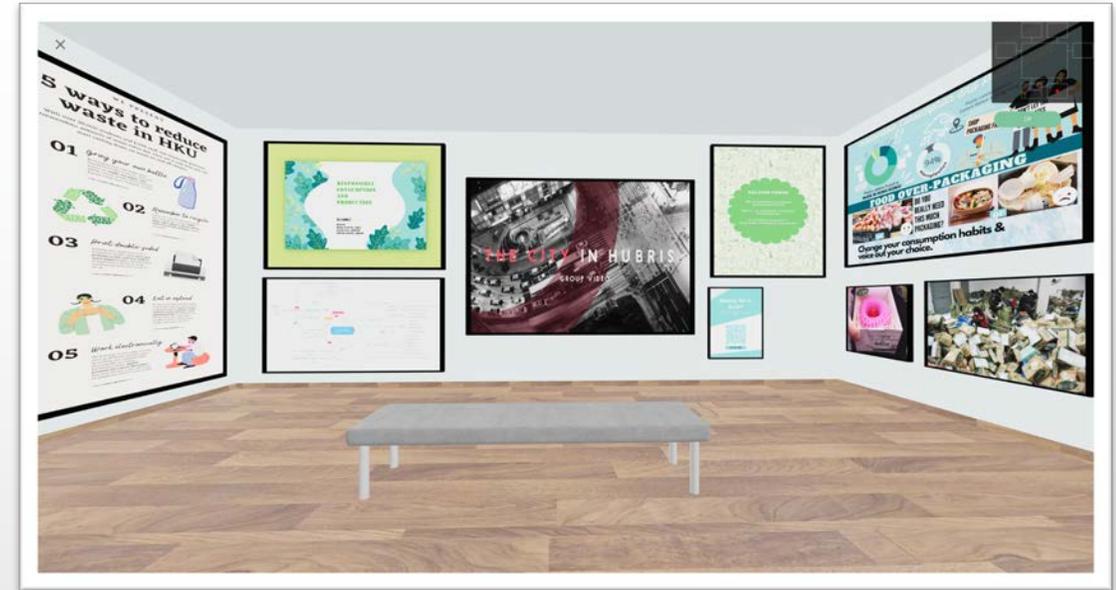


# Thank you

- an amazing opportunity to try a new platform
- professional and timely support
- free of charge

# Digital Exhibition Space (DES)

Pedagogical Focus



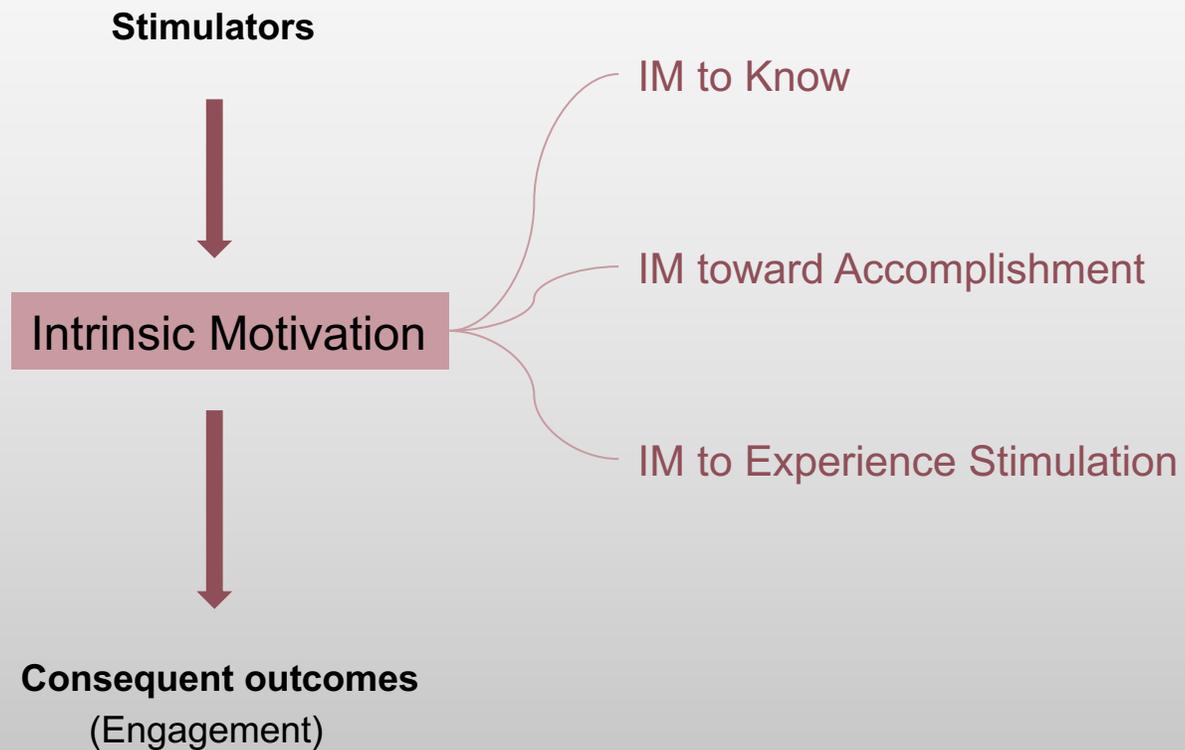
Gallery design 1

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of research in personality*, 19(2), 109-134.

Lepper, M. R. (1988). Motivational considerations in the study of instruction. *Cognition and instruction*, 5(4), 289-309

# Digital Exhibition Space (DES)

## Tripartite Model of Intrinsic Motivation



Gallery design 2

# Digital Exhibition Space (DES)

## Research Study

### Purpose

To understand types of student perceived intrinsic motivations and related student learning paths (associated stimulators & consequent behaviours) when learning with DES

### Methodology

- Semi-structured Interview: 13 undergraduates
- Student evaluation of teaching & learning (SETL): 36 replies
- Deductive content analysis

| <b>No. of Participants: 13</b>                                          |                         |                                                            |
|-------------------------------------------------------------------------|-------------------------|------------------------------------------------------------|
| <i>Gender</i>                                                           | <i>Year of study</i>    | <i>Nationality</i>                                         |
| Male: 6<br>Female: 7                                                    | Year 1: 11<br>Year 2: 2 | Hong Kong: 5    Pakistan: 5<br>Malaysia: 2    Indonesia: 1 |
| <i>Faculty</i>                                                          |                         |                                                            |
| Architecture, Medicine, Science, Engineering, Social Science, Education |                         |                                                            |

# Digital Exhibition Space (DES)

## Research Study

### Summary of Research Findings

#### Personality Orientation

- Curiosity
- Sense of competition
- Creativity-driven

#### Situational factor

- Socialized learning community
- Supportive peers
- Effective peer regulation
- Novel learning experiences

IM to know  
IM toward accomplishment  
IM to experience stimulation

#### Affective outcome

- Feel excited and interested
- Feel confident and proud
- Willingness to experience joy & temptation

#### Behavioural outcome

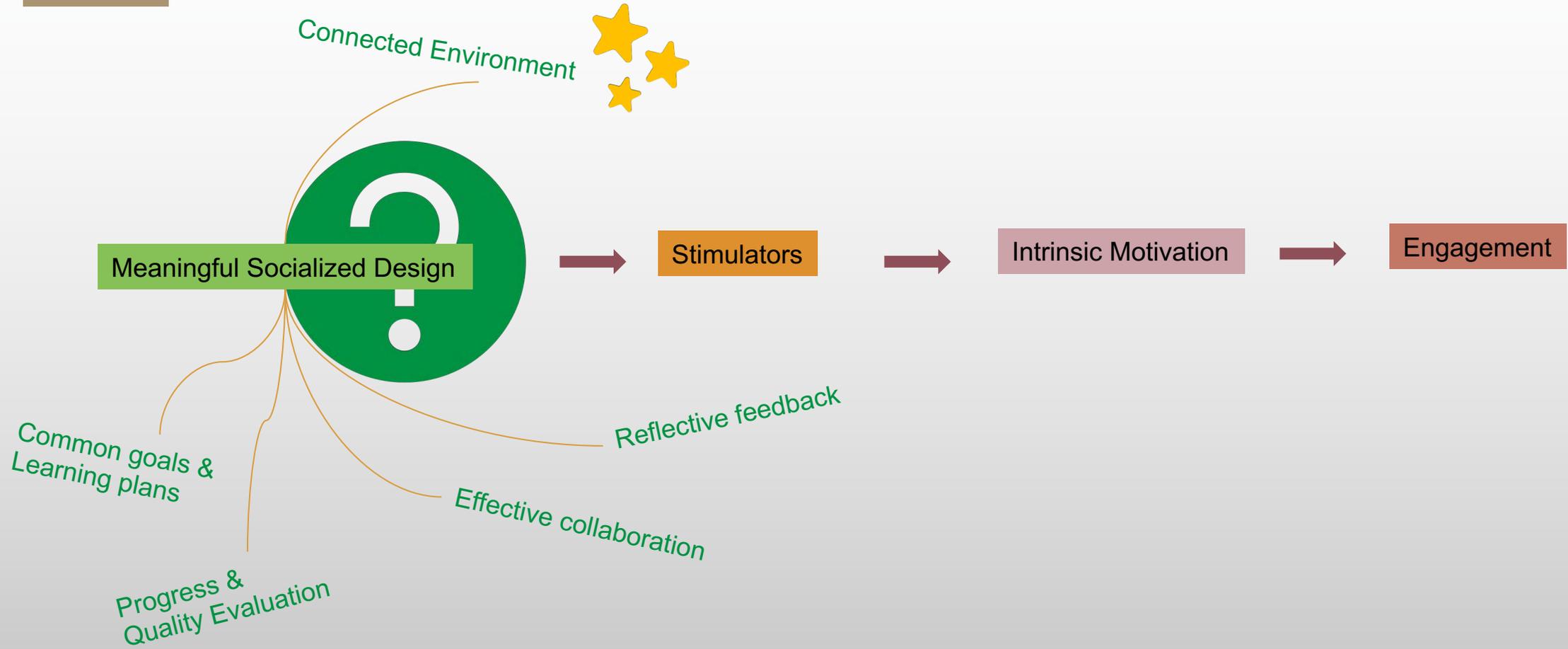
- Participate in and contribute more to project
- Provide help for group members
- Regulate project progress
- Evaluate work quality
- Reflect based on feedback, and improve

#### Cognitive outcome

- Don't want to be left behind
- Understand different perspectives

# Digital Exhibition Space (DES)

Reflection



# Digital Exhibition Space (DES)

---

## Some quotes from students

*“ It was a really surprising experience for me to create a gallery online which resembled the real one. I had to think about how to present the idea through images or my infographic, I should consider in what order that the infographic should be put so the visitors can understand, so it was a great experience for me and it gave me a different perspective of how I am supposed to, generally as a creator, make those things. ”*

*“ I think creating galleries on DES with digital works is more interesting than just writing an essay because it requires a lot of collaboration between the group mates, and also my own creative work. We would be talking with each other and discussing what to do, and how to categorize our works. We would be also looking at the gallery’s look and seeing whether we can make better changes to the gallery, or what else we can add to better advocate. We discussed with each other, and updated the gallery little by little. ”*

*“ We got chances to visit other rooms, it really is inspiring. Because I think curating and decorating galleries is quite difficult and each poster or each video is also difficult to make and design. When I visit other rooms, I feel like I should do better, so it actually pushed me to improve my artefacts, and also improves the whole curation in our gallery as well. ”*

*“ Before getting comments, we did not categorize the artefacts. And most of the comments are reminding us that our presentation was messed-up in the gallery and difficult for audience to navigate. So after reading those comments we try to categorize everything and putting everything in a systematic way. These commands helped us. ”*

*“ To meet the basic requirement of group project, I only need to make one single artifact. But when I see my work is going to be shown in my own gallery, and many great works are produced by my classmates. I want to create more. I can use more creative skills and more artistic skills to present my SDG in a better way. So I create a couple more artefacts for my SDG as well. ”*

# Digital Exhibition Space (DES)

## Some quotes from teachers

“ I don't think there is limited use of DES in different discipline. I see DES as a tool, rather than whether it can allow you to achieve something, it really depends on your pedagogical design. How you use the tools to your own setting. ”

Dr Kennedy Chan  
(partner course teacher, PGDE, HKU)

“ Lead technology, don't let technologies lead you. ”

Dr Sean McMinn  
(speaker in Sandbox session 1)



Don't let technology determine what you do, or how you work. It's only a tool ...you control it!

**Pedagogy First,  
Technology Second!**



Learning objectives

Learning activities

Learning opportunities

Technology

CETL VIRTUAL SUMMER SANDBOX SERIES

# Blending the virtual back into F2F teaching

Mathew Pryor

Lynn H. LIN

DES enquiry: [hellodes@hku.hk](mailto:hellodes@hku.hk)