Tips on Hybrid Teaching

Centre for Learning Enhancement And Research (CLEAR) &

Information Technology Services Centre (ITSC)

The Chinese University of Hong Kong

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Introduction

- Given the current development of the pandemic, it is likely that some courses will be taught in a "hybrid mode" (some students are physically present, while the rest join the class remotely via a videoconferencing (vc) tool. It is expected that all students undergo the same combination of online and in-person activities together). You may need to conduct hybrid classrooms if you encounter the following situations:
  - Some non-local students may not be able to come back due to travelling restrictions
  - Some students may need to practice self-isolation/ quarantine if they become close contacts of confirmed COVID-19 cases
- This guide aims to present various considerations and potential approaches for configuring a typical classroom for hybrid learning. **The idea is NOT to provide a perfect solution to every possible situations**, but to suggest practical approaches to teach effectively using the traditional classroom space and the currently available equipment. Having a TA would be helpful but not necessary.

General suggestions

- Identify your needs: Consider what kind of learning experience you want to create for both in-person and remote students. The set-ups vary widely based on your needs.

- Start simple: Managing interactions in hybrid classrooms is a challenge, especially if you are not very comfortable with technology or do not have extra manpower to assist you. Try to do something simple first to get familiar with the new teaching approach before doing anything ambitious.

- Enlist help: You may pay less attention on what is happening in the virtual meeting while you are talking and interacting with in-person students. That is why remote students may feel neglected and lapse into a passive mode. Therefore, we highly recommend that you enlist your TA or in-person students to monitor the virtual meeting for you. You can also consider hiring student helpers via the University's Student Helper Engagement Scheme. Go to Page 7 to see how they can help you in hybrid classrooms.

General suggestions

- <u>Learn your tools</u>: Go to the [AVSU website](#) or the [RES website](#) to check what equipment is provided in the classroom and its setting. Check out the [Equipment List](#) and the [AV Equipment User's Guide](#) to learn how to use the classroom equipment. Also visit the [eLearning@CUHK](#) website to get the latest updates of eLearning advice and strategies. If possible, visit the site beforehand so that you have a clearer picture of how the equipment (camera, microphone, etc.) can be set up.

- <u>Run a trial</u>: Running a trial helps settle potential problems you may face ahead of the actual lessons. Teachers can arrange a time with involved helpers e.g. class representatives or TAs to try out the equipment/ control panel in a physical classroom first.

- <u>Leave time for set-up</u>: Setting up for a hybrid class takes time. If possible, go to the classroom at least 15 minutes before class time for set-up.

General suggestions

- Communicate with students: Communicate with students before class about the equipment they need to prepare and what they can expect to experience. Listen to their concerns and respond appropriately. To further improve the learning experience, provide enough channels (e.g. WhatsApp, e-mail) to solicit student responses from both in-person and remote students during and after class.

- Record your class: Some students may not be able to attend the live sessions (e.g. students who are in a different time zone). Try to record your lessons and put them on a learning platform so that they don't miss out. If you are concerned about copyright and data privacy, restricted access to only a few students with genuine need is a possible option. Check out this guide on how to share the recording with your students and control its access using Blackboard's ZOOM-Panopto integration.

- Take attendance: To help teachers monitor students' seating in the classroom for pandemic control purpose, we introduced a new "attendance-taking" function on uReply. Please check out the user guide and the video for more details.

- Keep social distancing: Try to avoid sharing equipment (e.g. using the same wireless microphone) and asking students to sit close together.

Supporting roles in hybrid classrooms

Teaching assistants can perform two major functions during the lesson:

- Technical and monitoring support
  - Manage the equipment (e.g. camera, tripod, microphone) and make sure they function normally
  - Attend the virtual meeting to ensure that remote students can see and hear the teacher and the teaching materials clearly
  - Monitor the virtual meeting's chat box to see if remote students are experiencing technical problems and offer help when needed
  - Ensure that the lesson is recorded properly
  - Provide appropriate support to students with special educational needs. We suggest that teachers and support staff closely communicate with the counsellors at the Wellness and Counselling Centre (WACC) to address special needs of a specific student

- Facilitating interaction and engagement
  - Monitor the virtual meeting to see if remote students "raise hand" or ask questions in the chat box. Repeat the questions as appropriate
  - Set up breakout rooms, polls and other online learning activities in the virtual meeting

If you do not have a teaching assistant, you may also enlist in-person students to perform some of the above tasks. To limit their burden, you may designate a very specific role to them (e.g. one student to be a "cameraman", one student to be a "chat monitor").

Basic and advanced requirements – "see", "hear" and "communicate"

- To provide a reasonable learning experience for all learners, the basic requirements listed on the following page must be met. The advanced requirements are optional.

- In short, if you are new to hybrid classrooms, or less comfortable with technology, or you don't have extra devices or assistants, it is better to aim for the basic requirements. You may try to meet the advanced requirements and conduct interactive activities when you are confident in doing so and you have enlisted enough help.

Basic and advanced requirements – "see", "hear" and "communicate"

|	Basic requirements	Advanced requirements
See	• Remote students must be able to **see** the teaching materials • Allowing remote students to **see** the teacher is preferable	• Remote students can see in-person students in the classroom, in addition to seeing the teacher and teaching materials.
Hear	• Remote students must be able to clearly **hear** the spoken voice of the teacher, even when he/she moves around the classroom	
Communicate	• Remote students must be able to **communicate** with the teacher to ask and answer questions	• Teacher, remote students and in-person students can communicate with each other using online tools (e.g. uReply, polls, etc).

The basic model: Before you begin

- Schedule the meetings with vc software

- Send out the meeting links to your students well in advance

- Remind students to join the meeting on time. Otherwise, the teacher may not have the time to admit late comers at the waiting room once the class has started

The basic model: setting up

What I need:	How to set up?
• Classroom computer and the webcam connected to the classroom computer* • Classroom microphone^ • Projector + screen *If you use your laptop, make sure it is connected to the classroom's Central Control System properly (e.g. HDMI/ VGA input) ^If you prefer to use a private microphone, learn the connection steps [here](#)	1. Use the vc of your choice and start a virtual meeting with a computer 2. Turn on the camera 3. Join in with computer audio and turn on the microphone 4. Mute remote students to avoid disturbance but allow them to unmute themselves if you want them to voice out whenever they encounter a problem or they have any questions 5. Share the computer's screen and project the computer image on the screen as usual 6. Ask your assistants to monitor the virtual meeting and the vc's chat box. Pause regularly to ask the assistants to repeat the questions in the chat box 7. When in-person students speak or ask a question, repeat/ summarize what they said so that remote students can follow

The basic model: What if I need to move around the classroom?

- Consider using a mobile device (e.g. your mobile phone) or an additional webcam to capture yourself, if showing remote students what you are doing is important. The following pictures show two set-up examples. See Page 15 to learn more about the set-up of example 1.

- It is better to have a supporting staff to pan the camera while you move, so the video looks more natural. If not, set up the camera using a tripod to capture a wide shot of the stage/ classroom. A tripod is available in all classroom inside the AV cabinet. (See setup guide by AVSU)

- Remember to join in the virtual meeting with a wireless/ handheld microphone.
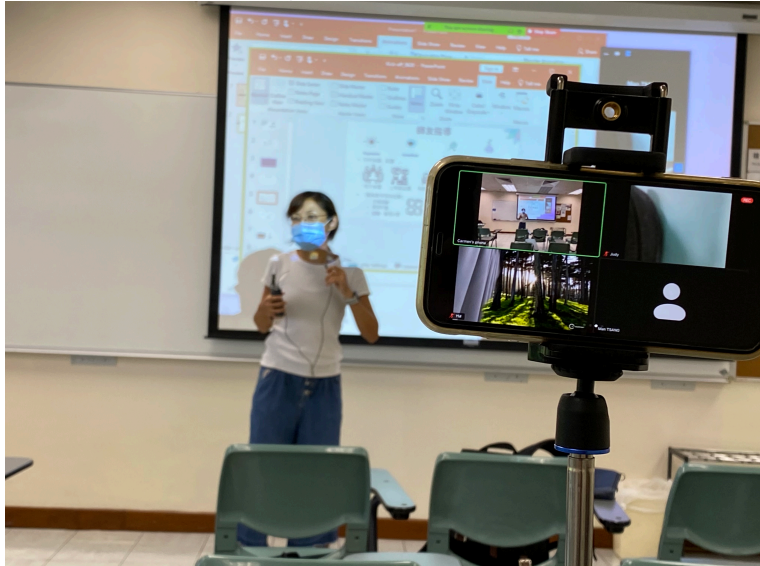
Example 1: Use a mobile phone to join the virtual meeting as an extra camera
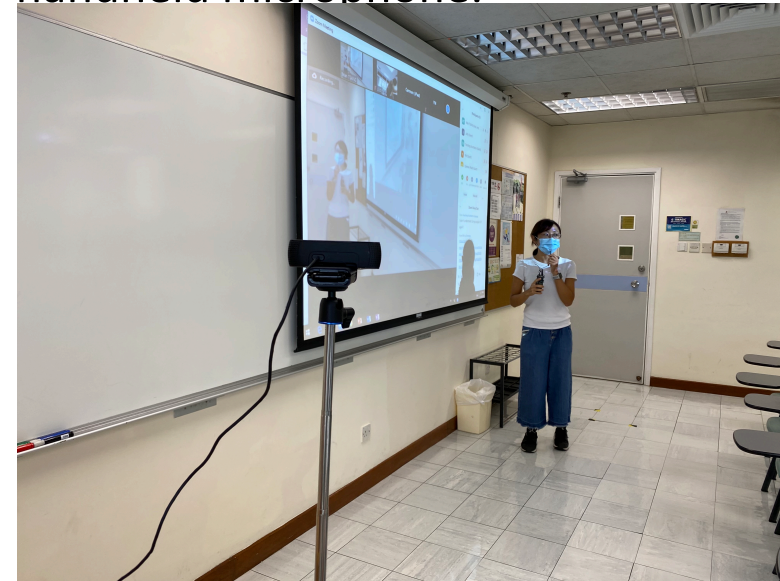
Example 2: Use an additional webcam to capture yourself. You should connect the webcam to the computer and choose this as the camera source in the virtual meeting.
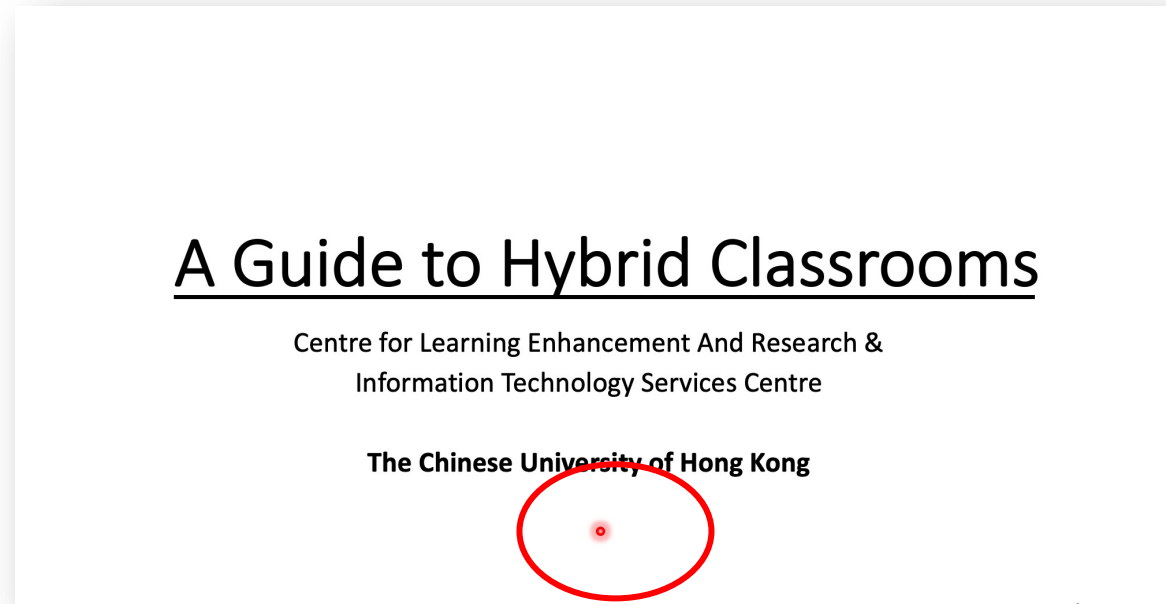
The basic model: How can I keep track of the virtual meeting when I am presenting a PPT?

- When presenting a PPT in full screen, the vc's windows (chat box and thumbnails) may be hidden. You can go to the vc's main panel and turn them back on. However, they will block some of the content of the PPT (just like the top picture).

- To avoid the problem, you can show the PPT by individual window instead (See the bottom picture). In this way, the windows will not block the PPT if you place them properly. Here are the steps: Open the PPT > Go to the "Slide Show" tab > Click "Set Up Slide Show" > Click "Browse by Individual (Window)".

- In fact, it is difficult to look after the virtual meeting if there is only one monitor. If possible, bring a laptop/ tablet and use it as an additional monitor.
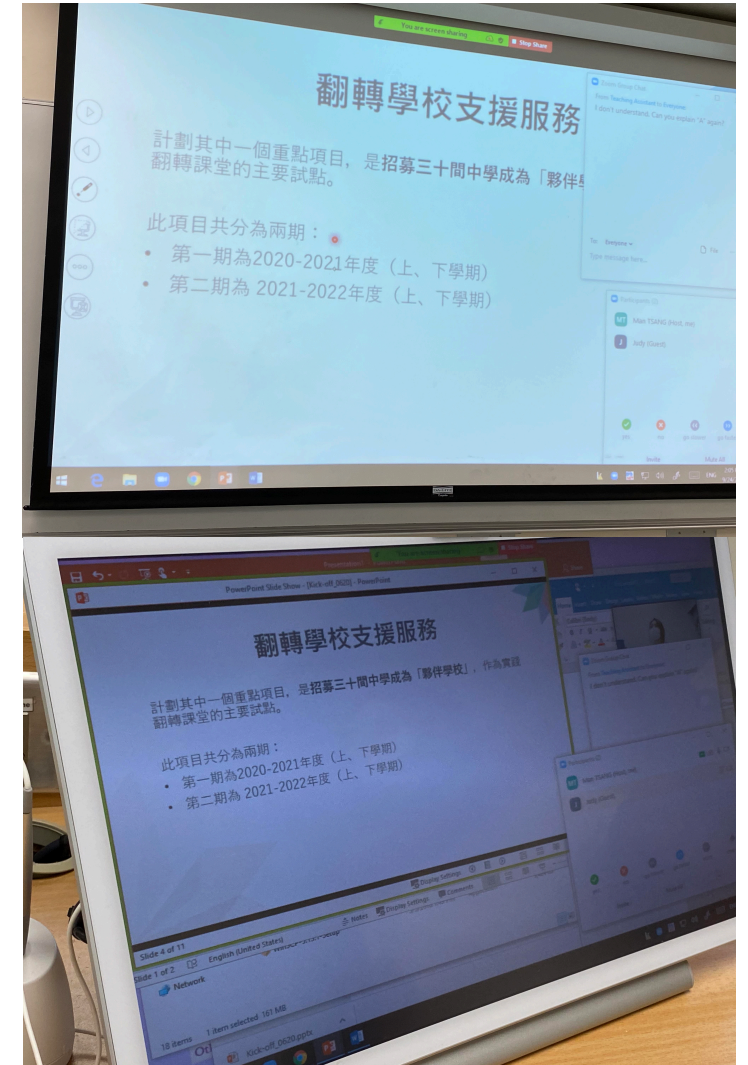
The basic model: I often use a laser pointer while I am presenting. How can I do it in hybrid classrooms?

- Both PowerPoint and Zoom has a built-in feature that works as or similar to a laser pointer.

- In PowerPoint, you can turn your mouse cursor into a laser pointer by following the steps here.

A Guide to Hybrid Classrooms

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The basic model: I often use a laser pointer while I am presenting. How can I do it in hybrid classrooms?

While in Zoom, an annotation tool called "Spotlight" works similarly to a laser pointer. Below shows the steps:

- When sharing screen, click "Annotation" on the control panel.

- Under "Spotlight", choose one of the following:
  - **Spotlight**: works like a laser pointer
  - **Arrow**: pointer will be displayed as a small arrow. Every time you click on the screen, an arrow will be shown with your Zoom's username. Each subsequent click will remove the previous arrow so that students will know where you are pointing at.
  - **Vanishing pen**: your writing will fade automatically in a few seconds


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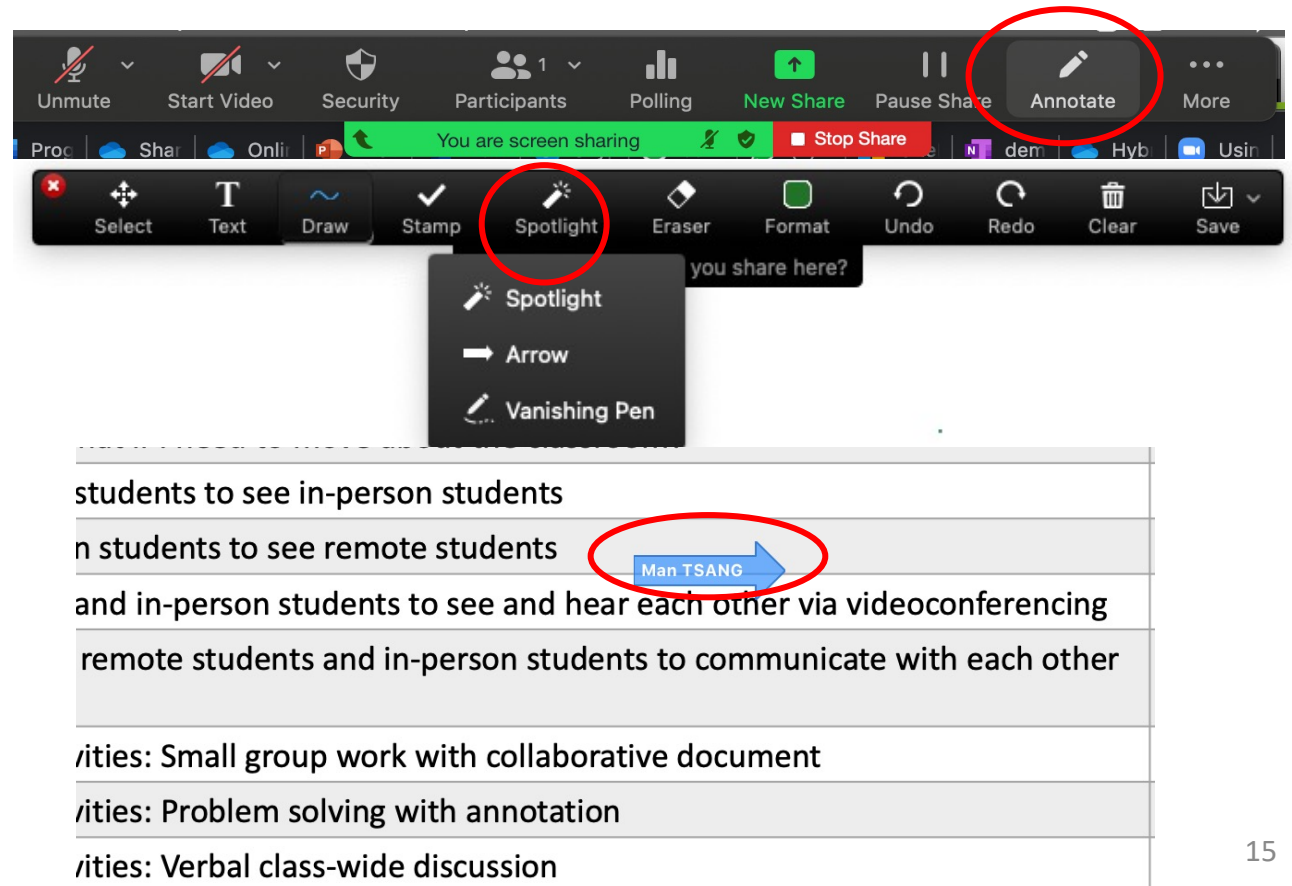
The basic model: Using digital whiteboard to create annotation

- When you annotate a problem solution, you can invite students to get involved in the problem-solving process too. However, remote students cannot see the steps clearly if you write on a classroom's whiteboard.

- Vc tool such as Zoom has a built-in whiteboard. You can draw using a mouse or the classroom's writing panel.
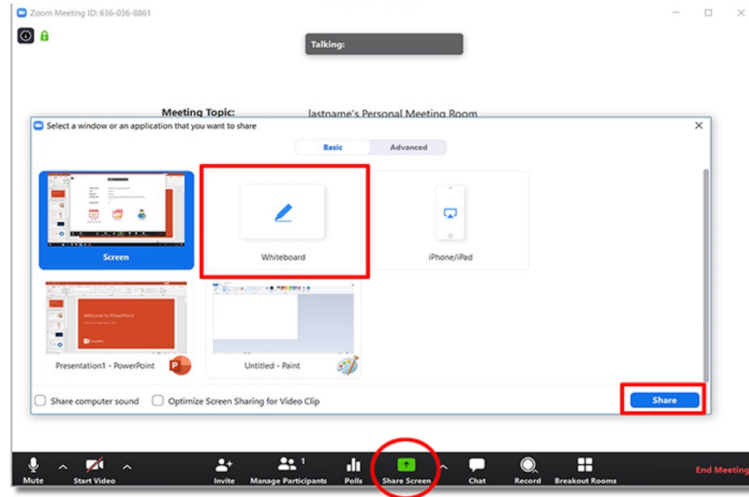

Click "Share Screen" and select "Whiteboard"
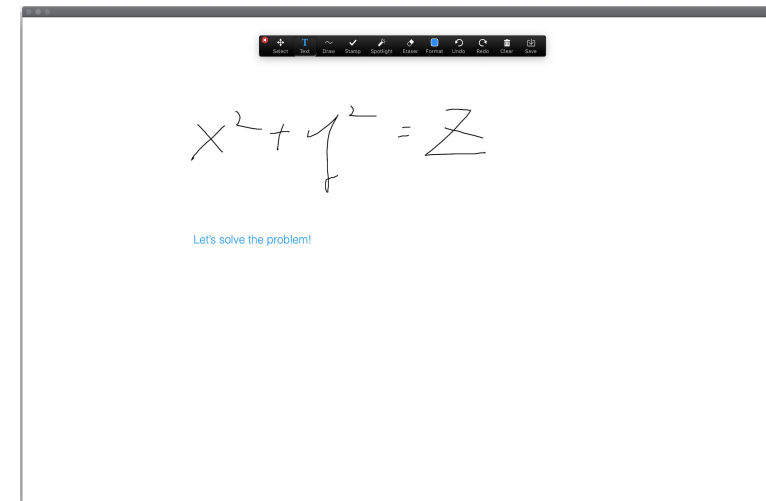
You can now draw or type on the Whiteboard

# The basic model: Using digital whiteboard to create annotation

- If you just want to make a quick annotation on the slides you are presenting, you can do it either with the built-in annotation feature in Zoom or PowerPoint.

- In Zoom, annotation tools are available when sharing screen: click "Annotation" on the control panel to access the tools (see the annotation panel below). Detailed instructions can be found in here.
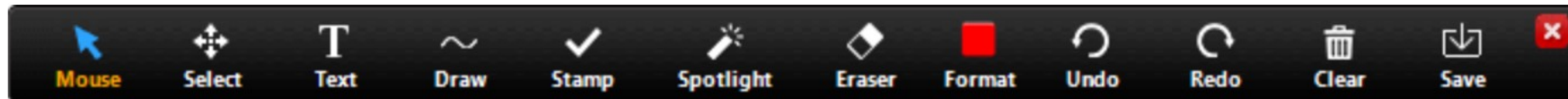
- In PowerPoint, annotation is available when you are showing the slides. Detailed instructions please find here.

- If you do not wish to switch between applications to make a quick note, you can simply add a new slide in your PowerPoint and let it serve as a whiteboard.

The basic model: Using digital whiteboard to create annotation

- You can also use Microsoft OneNote to show your handwriting. It creates smoother strokes, and the note can be made available for students to collaborate on when it is shared.
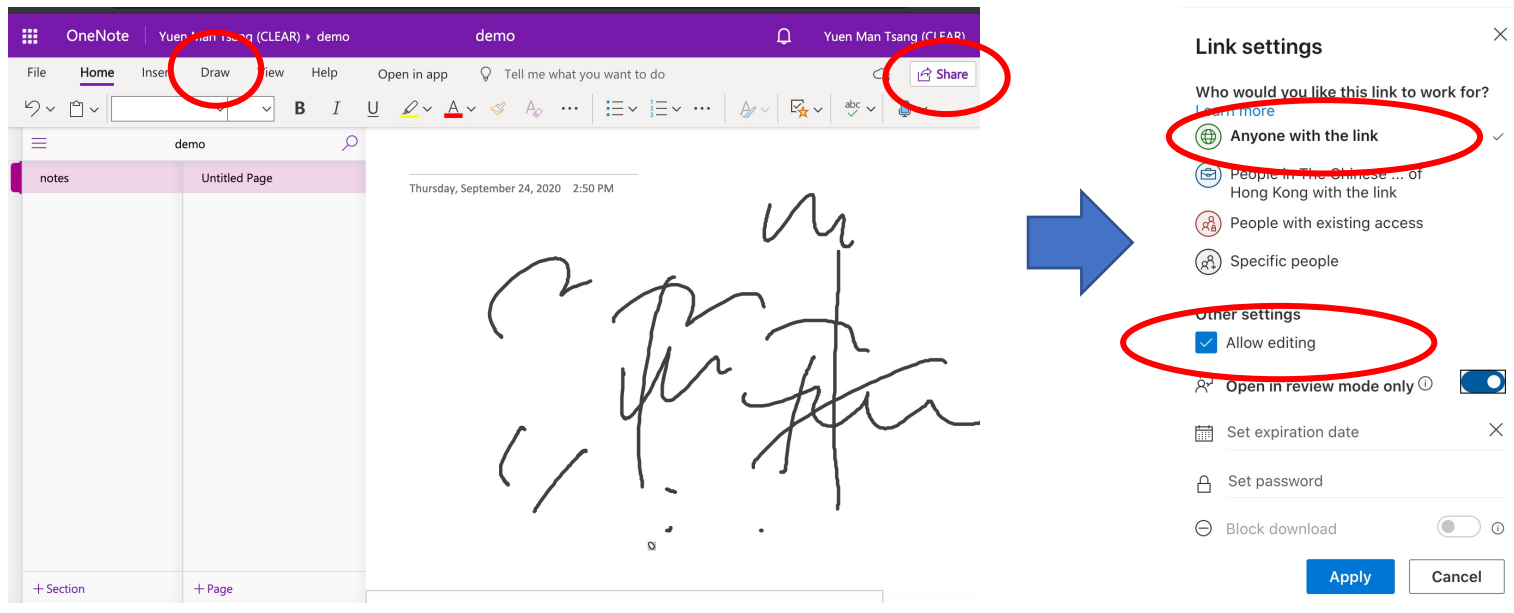
Apply sharing setting as you desired. You can also create a shareable to all and editable link for students to collaborate on OneNote. It works the same as using Microsoft Word for group work.

The basic model: How do I share visualizer image to remote students?

1. Turn on the visualizer
2. To access visualizer signal from classroom PC, click on the visualizer software icon located at the desktop of the PC under the "Writing Panel" session. (The icon is named either "vSolution Link" or "Image Mate", depending on the visualizer's brand)
3. Share the screen via Zoom

- Now both in-person and remote students should be able to view the image of the visualizer

- Note the steps above are not applicable for JVC brand visualizers in certain classrooms (mainly located in New Asia and United College) as these are older models not connected to the PC

- Please contact Audio Visual Service Unit helpdesk at 3943-6065 if you have further questions
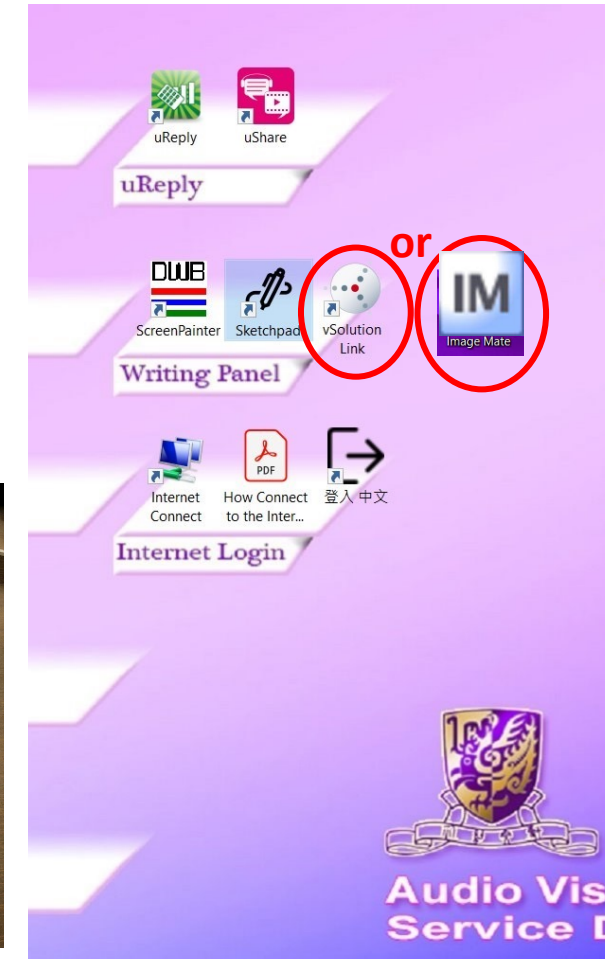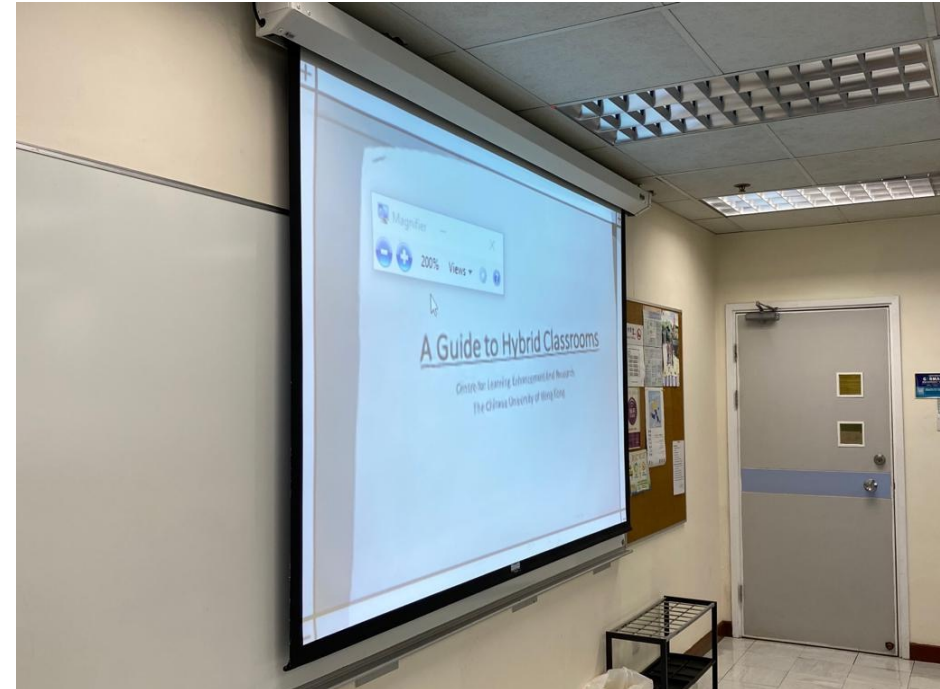
The basic model: Using mobile phone as a visualizer

- If the classroom visualizer is not connected to the PC, you can use a mobile phone as a visualizer. The following pictures show a set-up example.

Hold your phone with a tripod; adjust the camera to capture the document you would like to show

In Zoom, spotlight the view of your phone

Advanced: Remote students to see in-person students

- When conducting interactive activities, showing what is happening in the classroom and their classmates may make remote students feel more inclusive. However, it may also create a burden to them because there may be too many "screens" to look at.

- If the lessons are recorded, it is better to obtain consent from in-person students.

What I need?	How to set up?
- The teacher's mobile device that has a built-in camera (e.g. mobile phone) - Tripod	1. Set up a mobile device to use as a camera 2. Fix the mobile device in a tripod to capture the wide shot of the classroom if you don't have an assistant; or ask a supporting staff to manage the device 3. Open the vc app on the mobile device and join the virtual meeting* 4. Turn on the camera on the mobile device 5. To avoid audio feedback, remember to turn this device into silent mode *If your virtual meeting does not require authenticated sign-in, you can simply join in as a visitor. If it requires authenticated sign-in, you should use another account to join the meeting. Ask your supporting staff/ student to join the meeting using their account. Or, contact ITSC to apply for an additional Zoom account in advance. To apply, see here for a department/project account and here for an external user account.

Advanced: Remote students to see in-person students

A mobile phone is set up to capture in-person students

What will be shown in remote students' screen when the camera is spotlighted

Advanced: Teacher, remote students and in-person students to communicate with each other using online tools

- Using the vc's built-in tools such as "Poll" and "Chat" is the easiest way to facilitate interaction between two groups of students as it doesn't require extra equipment and too many configurations.

- Ask in-person students to join the virtual meeting as usual to interact with other students. Remind them to mute themselves to avoid audio feedback. Ask them to turn off the camera if you concern about connection speed.

- If having in-person students in the virtual meeting is difficult, you can also use other classroom interaction tools such as uReply to engage students. Learn more about uReply here.

Advanced: Tips on grouping

- Separating in-person and remote students requires less work. You only need to create breakout rooms for remote students and ask in-person students to form groups by themselves.
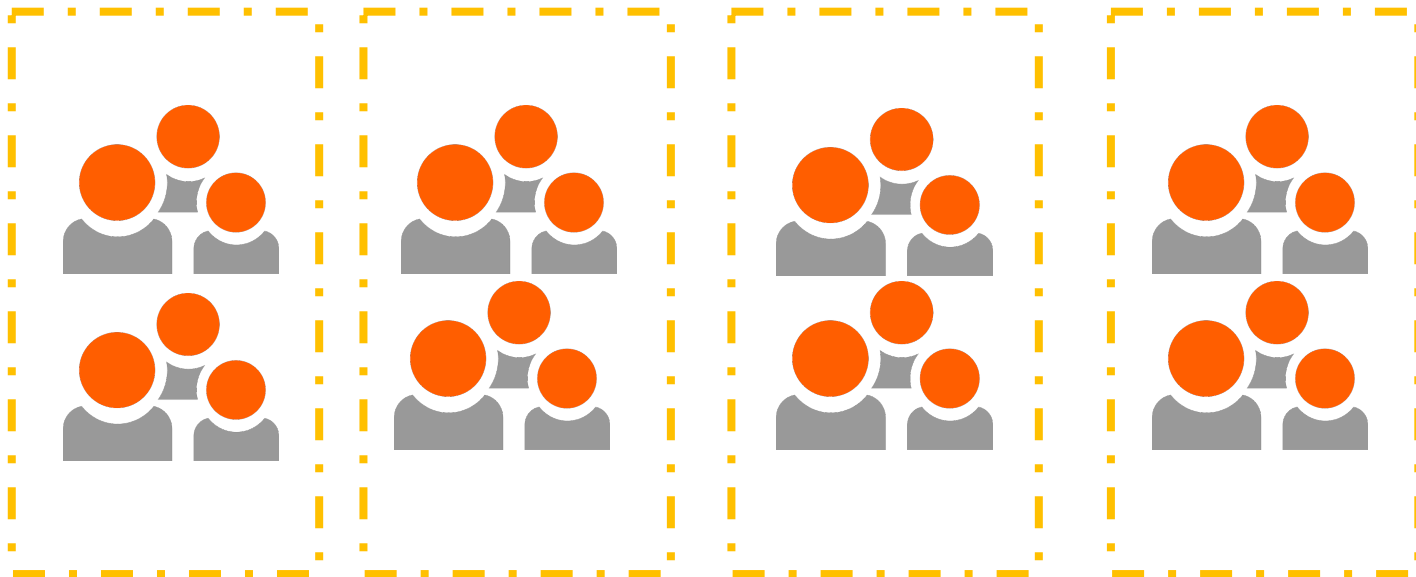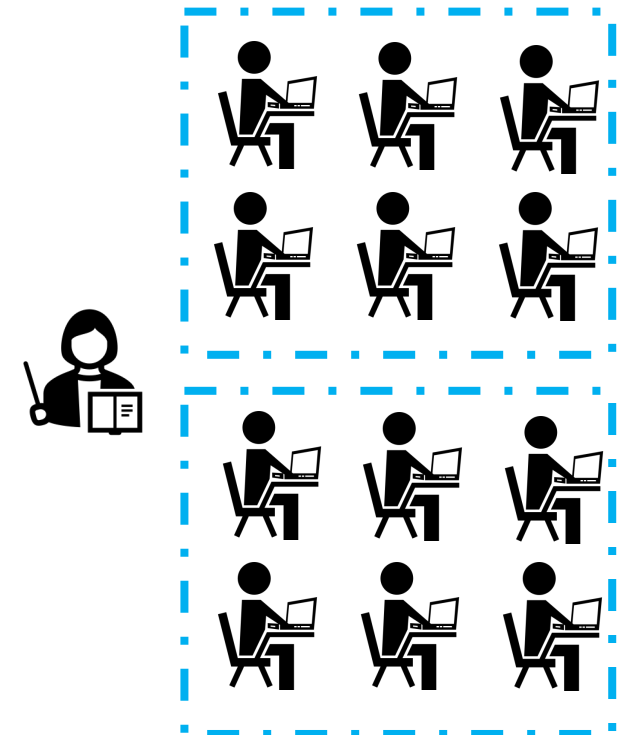
Illustration: In-person students break into 4 groups, communicating face-to-face

Remote students break into 2 groups using breakout rooms

Advanced: Tips on grouping

- If it is necessary to mix in-person and remote students into the same group, here are two possible ways for facilitation. The first option is easier to administer, but having multiple devices joining the same virtual meeting in a classroom may cause serious audio feedback unless everyone has their head-set on. The second option can avoid the audio feedback problem, but the teacher may need to re-admit remote students after the activity.

|	(1) All students join the virtual meeting	(2) Students use a platform they are familiar with to host the discussion
Remote students	Stay in the same meeting.	Join the discussion using the platform their groupmates choose while staying in the same meeting on the vc. Consider preparing two devices if possible. If not, students may need to be re-admitted to the virtual meeting after the discussion.
in-person students	All groupmates join the meeting with a headset; or select a representative to join the meeting and other members sit near the device to speak.	Host group discussion using platforms they are familiar with (e.g. conference call on phone, FaceTime, WhatsApp, Skype, etc.). Consider using a headset to minimize distraction from the noise going on outside.
teacher/ support staff	Create breakout rooms manually according to the groupings; make use of tools such as Office 365 to facilitate discussion and group work (See page 27 for details).	Re-admit students back to the virtual meeting after the discussion, if needed.

Advanced: Tips on grouping

Illustration: Mixing in-person and remote students in same groups. Students use a platform they are familiar with (e.g., Whatsapp, Skype, phone call etc.) to host the discussion
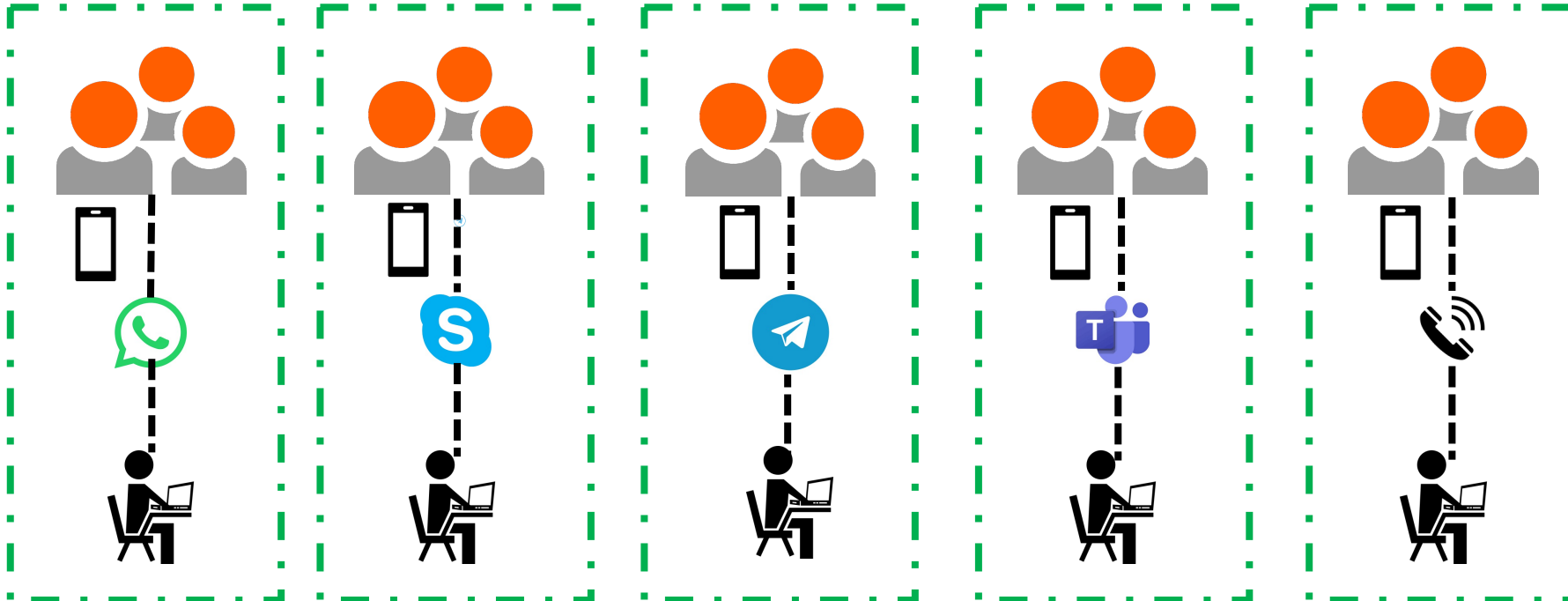
Active learning activities: Small group discussion/ group work

- Here is an example for a small group activity. Suppose you have some problems for each group to solve and you decide to use Microsoft O365 Word to facilitate the group work. The following steps show one possibility for conducting this activity:

1. Set up various Word documents
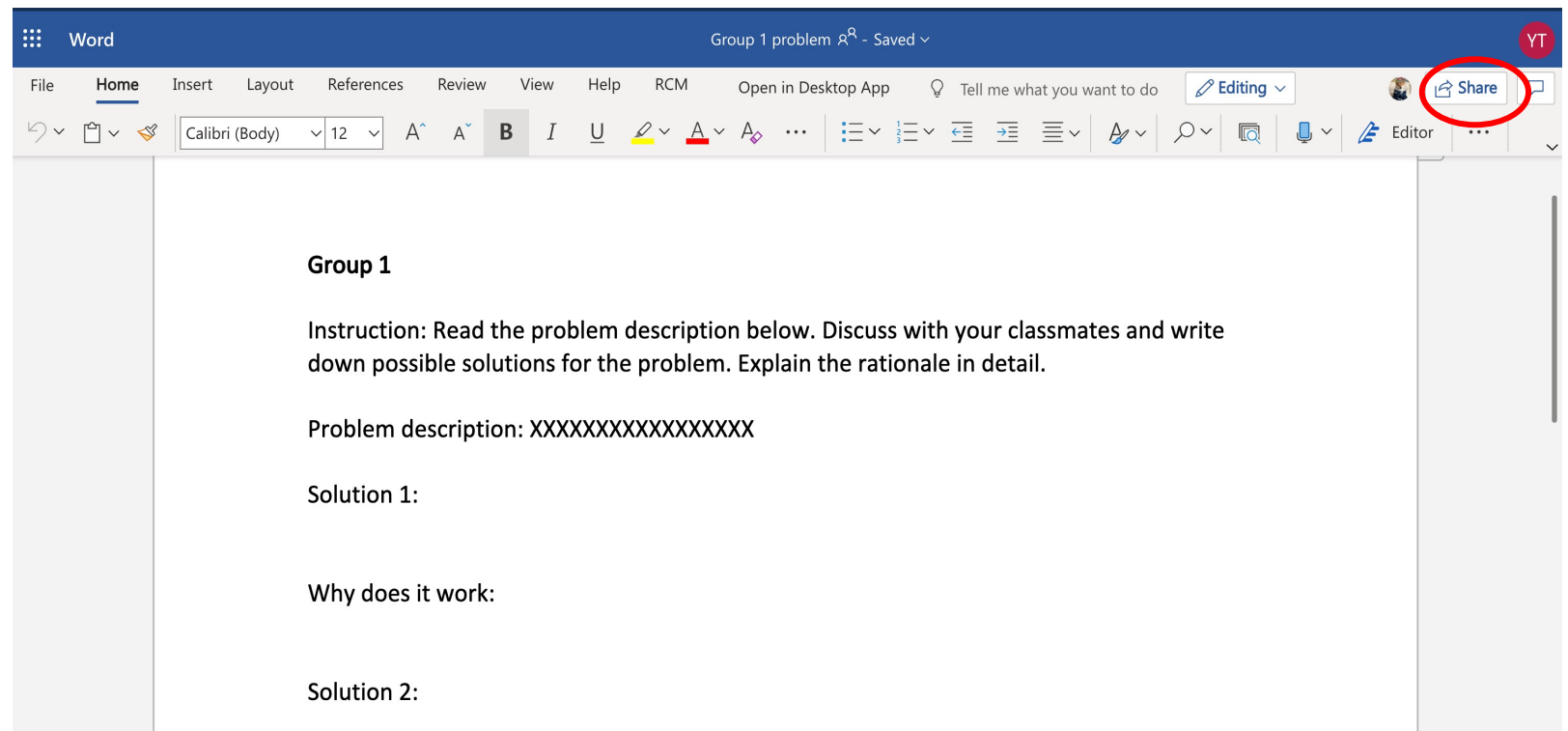
Active learning activities: Small group discussion/ group work

2. Create a **sharable to all** and **editable** link for each document

3. Assign a problem to each group and share the related document link

4. Give students enough time to discuss and work on the document

5. While the students are working, you can keep an eye on each document to monitor the progress. If all your students are in the same virtual meeting, you can go into their breakout room to provide feedback and further instruction
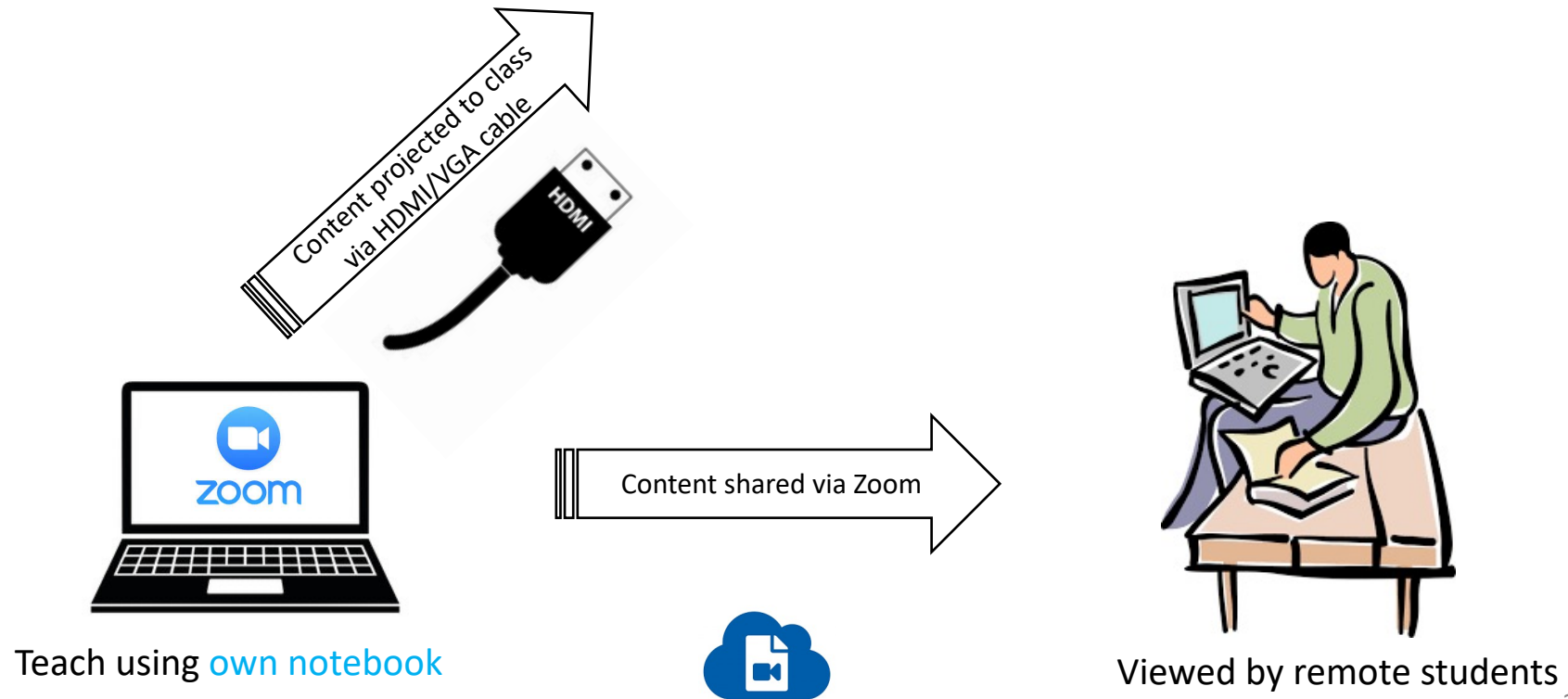
Active learning activities: Class-wide discussion

- Conducting a class-wide discussion in hybrid classrooms is challenging because it is difficult for remote students to hear what in-person students say if there is no extra microphone to pick up the voices of the students in the classroom.

- Due to hygiene reasons, we do not recommend passing a wireless microphone among in-person students to pick up the voices.

- However, a class-wide discussion may be feasible if your class size is small (10-20 people). You may place the wireless mic or a conference mic in the center of the room, and then instruct students to sit near the device to speak. Remember to mute other devices that are used to connect to the same virtual meeting to avoid audio feedback. Be aware of the latest social distancing and protective measures.

- Certain upgraded classrooms are equipped with ceiling microphone designed to pick up the voice of in-person students. Consider booking one of the upgraded classrooms (see p.41) if class-wise discussion is an important element in your course.

Advanced: Bringing your own device

- Why?
  - Managing multiple Zoom-related windows (e.g., chat box, participant list, participants' webcam) in one screen can be distracting, especially while presenting teaching material using full screen mode
  - Teachers may want to demonstrate software not installed in classroom PC
- With an extra device, teachers can:
  - Concentrate on presenting the teaching material on one device, while keeping all Zoom-related windows on another
  - Easily monitor chat box and visual feedback of remote students on a separate screen
- Three BYOD options for reference
  1. Use your own notebook only
  2. Use your own notebook + classroom PC
  3. Use your own iPad/other tablet + classroom PC

BYOD Option 1: Use your own notebook only

Content projected to class via HDMI/VGA cable

Content shared via Zoom

Teach using own notebook

Viewed by remote students

BYOD Option 1: Use your own notebook only

- Input your device's signal to classroom projector:
    1. Connect your device to the classroom AV system via the classroom HDMI/ VGA cable
    2. Select "notebook" as input source in the classroom AV panel

- Connect to Zoom and share screen
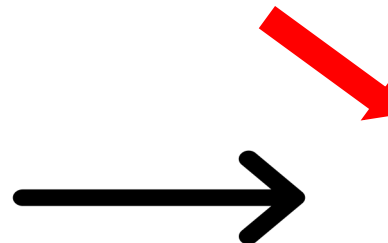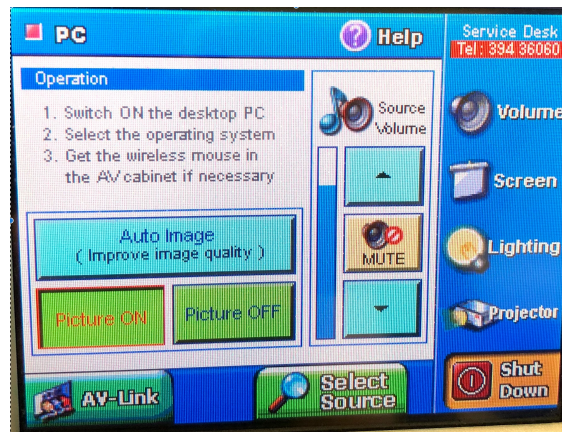
BYOD Option 1: Use your own notebook only

- Disadvantages:
    - Classroom microphone signal is **<u>not</u>** connected to Zoom
      → rely on built-in microphone of your own notebook
      → audio quality for remote students may be affected
      → Solution: wear a second microphone/headphone connected to your own notebook
    - Potential echo issue when remote students speak
    - One screen only for Zoom and teaching material

BYOD Option 2:
Use your own notebook + classroom PC

Manage Zoom using
classroom PC

Classroom mic signal
(i.e., teacher's voice)

Content projected
to class

Teaching Material

Computer screen and/or
sound signal
(i.e. teaching material) via
share.zoom.us

Zoom
meeting

Content accessible
by remote students

Teach using own notebook

HDMI

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BYOD Option 2:
Use your own notebook + classroom PC

Steps:

1. Login Zoom in classroom PC and start the Zoom session. Join audio and turn on webcam.

2. Connect your own notebook to the internet

3. To share your screen of your own notebook to remote students via Zoom, visit share.zoom.us via your own notebook's browser. Enter Meeting ID and passcode as instructed (both can be found by clicking the shield icon on the top-left corner of the Zoom window in the classroom PC . You may need to admit yourself using the classroom PC)
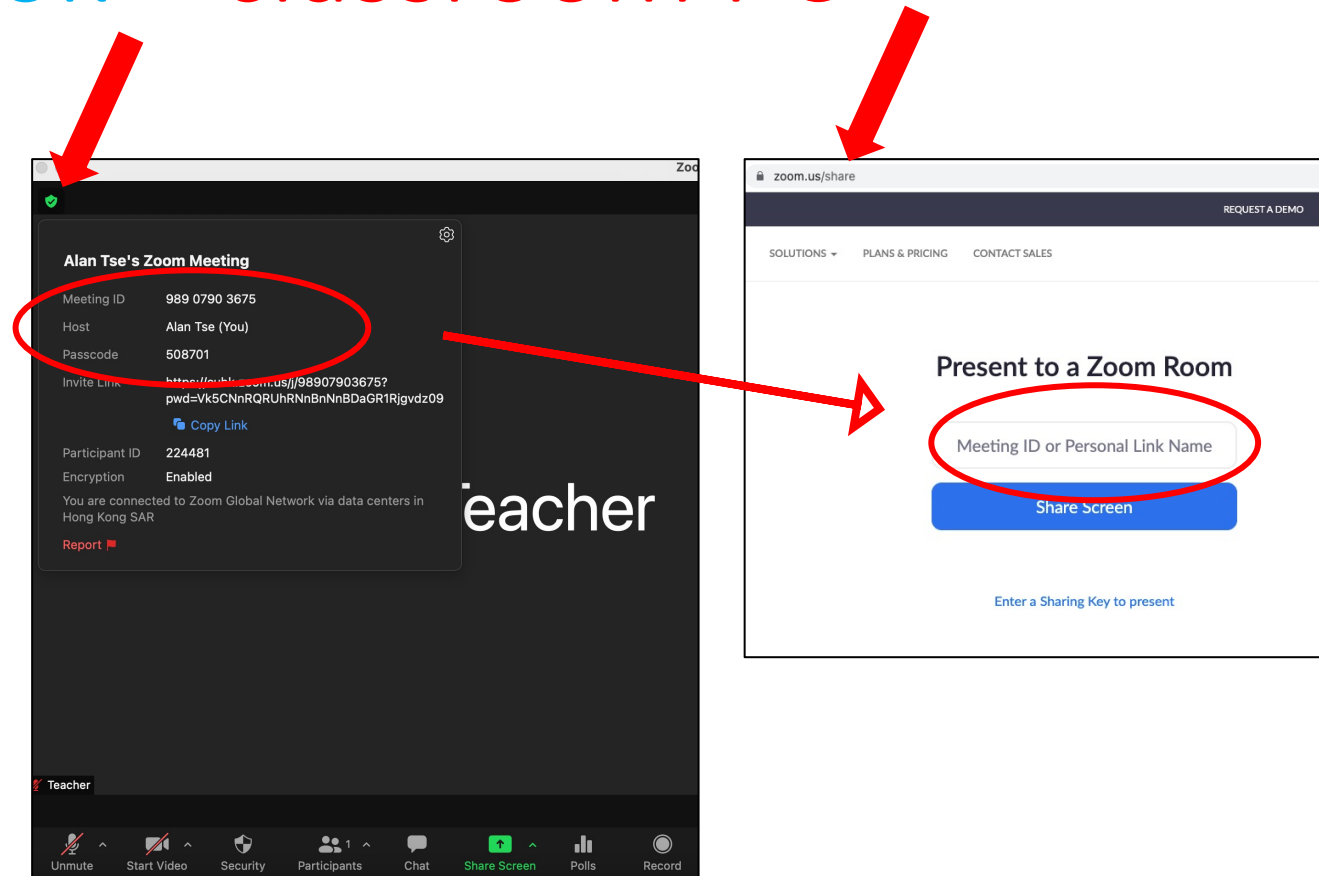
BYOD Option 2:
Use your own notebook + classroom PC

- Tips: Do **<u>not</u>** connect your own notebook to Zoom audio to avoid echo. Keep your own notebook muted at all time

- Now both in-person and remote students can see the teaching material and hear you via classroom microphone. To resume screen sharing after stopping, repeat step 3.

- You can manage Zoom applications (e.g., admit students, monitor chat box) using classroom PC, while presenting teaching material using your own notebook. Note that the content in classroom PC is viewable to in-person students via the projector.

BYOD Option 3:
Use your own iPad/other tablet + classroom PC
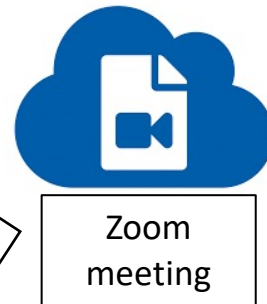
Manage Zoom using
classroom PC

Classroom mic signal (i.e., teacher's voice)

Content projected to class

Teaching Material

Computer screen and/or sound signal (i.e. teaching material) via share.zoom.us

Zoom meeting

Content accessible by remote students

Teach using
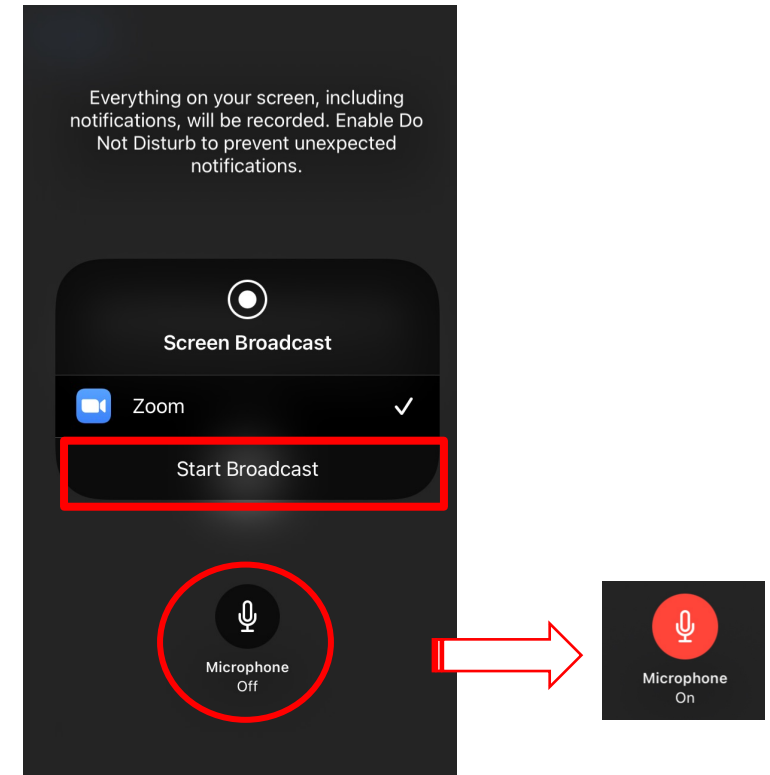own iPad/other tablet

HDMI

BYOD Option 3:
Use your own iPad/other tablet + classroom PC

Steps:

1. Login Zoom in classroom PC and start the Zoom session. Join audio and turn on webcam.

2. Ensure your own iPad is connected to the internet

3. To share your screen of your own iPad to remote students via Zoom, visit share.zoom.us via your own iPad's browser. Enter Meeting ID and passcode as instructed (both can be found by clicking the shield icon on the top-left corner of the Zoom window in the classroom PC . You may need to admit yourself using the classroom PC)

4. When you are ready, click "Start Broadcast". If you plan on sharing a video, select "Microphone Audio" to turn the microphone on before starting broadcast.

Everything on your screen, including notifications, will be recorded. Enable Do Not Disturb to prevent unexpected notifications.

Screen Broadcast

Zoom ✓

Start Broadcast

Microphone Off

Microphone On

BYOD Option 3:
Use your own iPad/other tablet + classroom PC

- Tips: Keep your own iPad muted at all time to avoid echo

- Now both in-person and remote students can see the teaching material and hear you via classroom microphone. To resume screen sharing after stopping, repeat step 3.

- You can manage Zoom applications (e.g., admit students, monitor chat box) using classroom PC, while presenting teaching material using your own iPad. Note that the content in classroom PC is viewable to in-person students via the projector.

Enhanced hardware for hybrid teaching

- **Tracking camera**: enable remote students to see the teacher even if the teacher is walking around
    - Enabled in Zoom by default if available
- **Ceiling microphone**: remote students to hear in-person students when activated
    - Green light = activated
    - Red light = muted
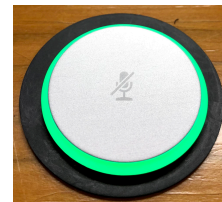
List of upgraded classrooms

Building	Classroom
Cheng Yu Tung Building (CYT)	209B, LT4
Yasumoto International Academic Park (YIA)	LT8, LT9
Wu Ho Man Yuen Building (WMY)	301
Lee Shau Kee Building (LSK)	308, 408
William M W Mong Engineering Building (ERB)	803
Science Centre (SC)	L2

Updated as of September 2021
More detail from AVSU at: www.avsu.cuhk.edu.hk