

# TECHNOLOGY-ENHANCED LEARNING



**ENGAGE ♦ DEVELOP ♦ GROW ♦ EMPOWER**



SMU's EPTL preparation is beyond posting materials online. It is about conducting synchronous online lessons in alignment with our mission of interactive pedagogy.



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## WebEx Best Practices Emergency Preparedness for Teaching and Learning (EPTL)

In an online classroom environment, learning activities that are conducted 'live' and offer meaningful interactive face-to-face interaction are commonly referred to as synchronous learning activities (Hrastinski, 2008; Harris et al., 2009; Simonson et al., 2012). Lessons are delivered at a specific time with the expectation that students are able to participate and instructors are able to adjust their instructional pace and provide the necessary support accordingly. Studies have shown that participants in such learning interventions experience high levels of social presence and active learning due largely to the immediacy of real-time and dynamic interaction (Bower et al., 2015).

In academic year 2017-2018, SMU instructors delivered some of their lessons through the WebEx online video conferencing platform, as part of the Emergency Preparedness for Teaching and Learning (EPTL) exercise. CTE took the opportunity to invite them to share their experiences and compiled a set of best practices which we hope you would find practical and useful as you plan your own EPTL-required WebEx lesson in the upcoming year. We have also appended an Instructor and a Student WebEx quick guide at the end of this e-bulletin for your quick reference.

### **P** lanning

Planning to teach in a synchronous online environment for the first time may seem daunting to most instructors. Questions such as how students will react to your instructional strategies and how to engage them to ensure that they are learning will no doubt come to mind. Here are recommended baseline best practices for designing and planning a WebEx session:



## Design your lesson:

The Community of Inquiry (COI) Framework<sup>1</sup> featured in E.D.G.E. Issue 1<sup>2</sup>, suggests that a positive online learning experience involves three presences – social, cognitive and teaching.

In the context of using WebEx, you could plan your lesson to ensure that:

- students have the opportunity to project their individual personalities in purposeful communication e.g. use of the WebEx chat and poll functions (**social**) <Refer to **Step 5** of Instructors' WebEx Quick Guide to call up chat and **Step 6** to call up the poll function>
- there are learning tasks designed to involve students in exploring the lesson as active participants of the session e.g. use of quizzes, allocating time for discussions via chat function and presentations etc. (**cognitive**) <Refer to **Step 7** of Instructors' WebEx Quick Guide to assign student presentation rights
- time is allocated during the WebEx session to respond to student queries as well as to check for their level of understanding e.g. Q&A segments via chat function (**teaching**) <Refer to **Step 5** of Instructors' WebEx Quick Guide to call up chat function>



## Get support from your Teaching Assistant (TA):

Arrange to do a test session with your TA and brief her on how she can support you during the actual session. If your TA is not familiar with the use of WebEx, you can refer them to eLearn team or CTE. Having a TA physically at your side to support you, especially if you are using WebEx for the first time, can come in handy as you will be focused on conducting the session and may not notice students' requests for assistance. If your TA is in the same room, it is advisable that she uses a headphone with a microphone and mutes her own microphone to avoid feedback.

TAs could support you in the following areas:

- take attendance by tallying names of online participants with class list
- resolve simple technical issues e.g. audio. Instruct students to communicate with your TA directly (by selecting the TA's name instead of chatting with 'Everybody') via the chat function for one-to-one troubleshooting matters
- manage students' chat queries
- keep track of students' participation
- serve as a pseudo student participant and alert you in case of technical issues e.g. audio
- help to test if other students' can display their screen and if their audio is working during the intermission or discussion breakout time



## Check your equipment and test in advance:

In order not to pick up unnecessary background noise during your online class, ensure that you conduct the session in a quiet area and advise students to do likewise. Students have also been similarly advised in the Student Quick Guide.

Check that your computer or laptop is connected to the internet, either via Wi-Fi or ethernet cable (preferred), and that your headset (microphone and headphones) and webcam is working. While the laptop microphone and in-built speakers typically work well, a dedicated headset with microphone (see **Figure 1**) will reduce any external noise, avoid feedback, and enhance clarity. <Refer to **Step 3** of Instructors' WebEx Quick Guide to check your audio settings>



**Figure 1.** Dedicated headset with microphone

<sup>1</sup> Garrison, D. R., & Vaughan, N. (2008). Blended learning in higher education: framework, principles, and guidelines. San Francisco: Jossey-Bass.

<sup>2</sup>E.D.G.E. Issue 1 Link

## Faculty Quotes



*"This was my first class over a video conference platform, so I was extremely nervous about it going well, or just even going. But it was really quite fun and I think that I will really enjoy the next experience, and plan it a bit better."*

*Associate Professor Seshan Ramaswami, LKCSB*



*"I used WebEx to teach an online class for the first time this past term. It was quite challenging but I must say that the preparation was a key factor for success. The online class through WebEx went smoothly with no technical problem and to my surprise, the students participated more than in any other face to face class."*

*Ms. Marijo Romero, SOSS*



*"It was a totally new learning experience for the students to present their business proposals to the client via WebEx. Feedback from the students were very positive. Most of them appreciated the opportunity and experience as it helps prepare them to hold video conferencing meetings in future when they enter the workforce."*

*Dr. Patrick Tan, LKCSB*

## P reparation

Unlike face-to-face sessions, non-verbal cues and other class routines which are often taken for granted in class may not always be available as part of your teaching repertoire. Hence, providing students with a clear set of instructions and routines is critical in ensuring a smooth and uninterrupted online learning experience.

Here are recommended baseline best practices for preparing your students prior to a WebEx session:



### **Provide clear instructions to your students:**

Provide clear instructions on the date and time in which you expect your students to attend your WebEx session. This can be done in class, via email or through the eLearn platform. You could also point students to the WebEx quick guide that CTE has developed (see appended or click [here](#) to download). A copy of the student quick guide has also been sent to them via email at the start of the term.



## **Arrive early; check audio and slides:**

Prior to the session, advise students to come in early, preferably 5-10 minutes before start time. Make use of this time to test your microphone and to check if students can see the slides. Here are 3 quick steps you could follow:

1. Say “Hello class! Can everyone hear me? If you can hear me, please click on the raise hand function.”
2. For those who did not respond, ask your TA to drop them a private message via the chat function to get them to check if their laptop speakers or headset audio settings could have been accidentally muted.
3. Once the audio issues (if any) are resolved, repeat the steps to check if they can see your slides.



## **Create a welcoming atmosphere:**

When students join an online session and do not hear or see anything on screen, they may get panicky and wonder if they are in the right WebEx session. To set up a warm welcoming mood, it is recommended that there be an introduction slide with a note which says something like "Welcome! You have successfully joined the (coursename) session. The session will start shortly at 9:00 am".

## **Faculty Quotes**



“I prepare a simple set of instructions which I email to my students before the session. In the instructions, I remind them about the meeting details, how to install the WebEx add-on if they have not done so and how to seek technical assistance from IT Helpdesk. I spell out my expectations for the class and this includes instructions on muting their microphones, sending questions to me only, and not everyone, so I can pause my session to consolidate and address questions at appropriate planned junctures. I also appreciate the fact that I can provide feedback to my students through WebEx outside of office hours at my students’ convenience.”

Associate Professor Onur Boyabatli, LKCSB

## **P**resentation and Facilitation

Here are recommended baseline best practices when facilitating your WebEx session:



## **Communicate and follow a set of clear expectations:**

Start by informing your students about the format of the online session, expected duration and topics that you would be covering. Announce how you would like to take their questions. It is recommended that Q&A segments be built at certain checkpoints in the session and also at the end of session. The questions can be asked through the chat function and you can respond verbally through your microphone.

A question commonly raised is whether instructors need to switch on their webcams to display their image. The Image Principle, based on 14 experimental tests, suggests that the inclusion of an image of an animated on screen character or instructor's face did not improve learning, yielding a negligible median effect size of  $d = 0.20$  (Benassi et al,2014; Mayer, Kow & Mayer, 2003). You can choose to use your web camera or not, based on your own preference.



## Present effectively

Consider using a deck of presentation slides as your base presentation materials for students to refer to. The recommended minimum font size is 18. Avoid streaming of videos during the WebEx sessions to avoid lag. Instead share the video link for students to view on their own prior to class. <Refer to **Step 4** of Instructors' WebEx Quick Guide to share your slides>

Do note that when you share a presentation via the 'Share File' function, animations do not work but this option enables your slides to be displayed side-by-side with the Participants and Chat panel on the right and the Annotation panel on the left.

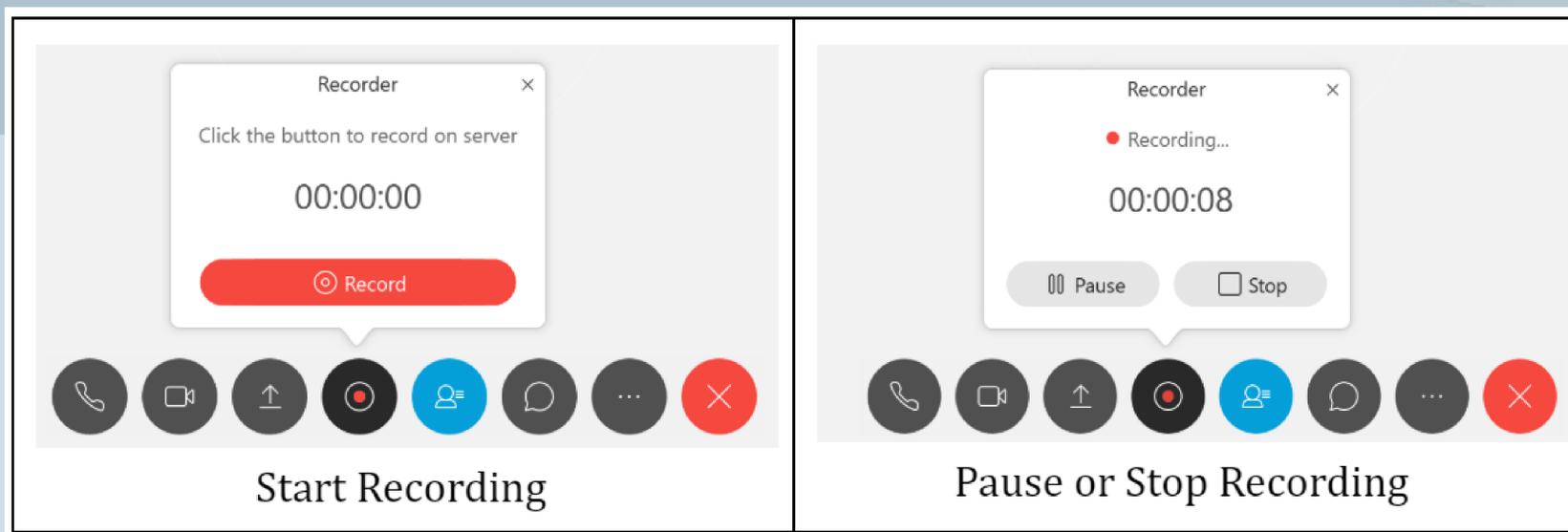
You can add energy to your presentation by using a variety of annotation tools. Highlight key points and information as you talk about them. Use the annotation tools like pencil, pointer tool or laser pointer to direct your students' attention. <Refer to **Step 4** of Instructors' WebEx Quick Guide to locate the Annotation tools.> This is in line with the Signaling principle where the attention of the students are directed to the critical aspects of the learning material. Studies have shown that such a technique helps students learn better by positively influencing information processing, namely visual selection of relevant information from a complex perceptual stimulus and its organization and integration of that information with prior knowledge and the verbal explanation provided by the instructor (Jarodzka et al, 2013).

(Optional: If you wish to show PowerPoint animations, you can instead use the 'Share Application'

function, accessible via menu or via the  icon found at the bottom of your screen. However this option will cause your slides to be partially blocked by the participant and chat panels, hence the 'Share file' is recommended.)

Consider recording your session as part of your own review process to see if there are any areas to improve upon. The recording, which will be automatically emailed to your SMU email account, can also be distributed as a link or a file for students who may have missed the session or wish to review the session again.

Click on the Recorder icon  to record your session (see **Figure 2** below).



**Figure 2.** Recording a session



## Engage and interact with your students

Interact with your students and keep them engaged and focused on your presentation. Consider segmenting your lecturing segments with various activities such as the use of polls or chat. Experimental tests have shown that students learn more deeply when they are allowed to process what they have learnt before having to move to the next topic, yielding a median effect size of  $d=0.79$  (Mayer & Chandler, 2001).

You could introduce polls and ask specific students if they agree with poll results and invite them to defend their stand via the chat function. As part of the preparation process, you could prepare poll questions in advance and insert them into the presentation.

You could also leverage the chat function during your presentation as an informal way of getting students to ask questions or to provide feedback. This provides a backend channel for your students to share their ideas and allows you to collect valuable information from them. <Refer to **Step 5 and Step 6** of Instructors' WebEx Quick Guide to call up chat and poll functions respectively>

Not every question needs to be answered by you. Just like in a real class, you might have certain highly capable students wanting to jump in and contribute. Simply check if anyone would like to respond via the chat function.



## Wrap up the session

Do a final check-in on your students and allow them some time to ask questions or seek clarification via the chat function. Use a slide to show students what they are expected to prepare before coming to the next session. Thank the class and hang around for another 2-3 minutes before ending the session in case students would like to ask questions.

### Faculty Quotes



*"The use of WebEx Screen Sharing with explanation on Powerpoint Slides, deriving theory and working solutions step by step using a stylus, receiving and answering questions through Chat Box make the learning process interactive and collaborative."*

*Mr. Liew Sing Loon, LKCSB*

Sing Loon, also recommends posting reading materials and relevant resources at least 1 week before the WebEx session. He provides clear instructions to his students and spells out ground rules such as instructing students to raise their virtual hands when they require immediate clarification or to post questions through the chat box when the question is open for discussion with the rest of the class. Sing Loon feels that this approach also promotes peer learning and encourages quieter students to participate actively in the discussion.

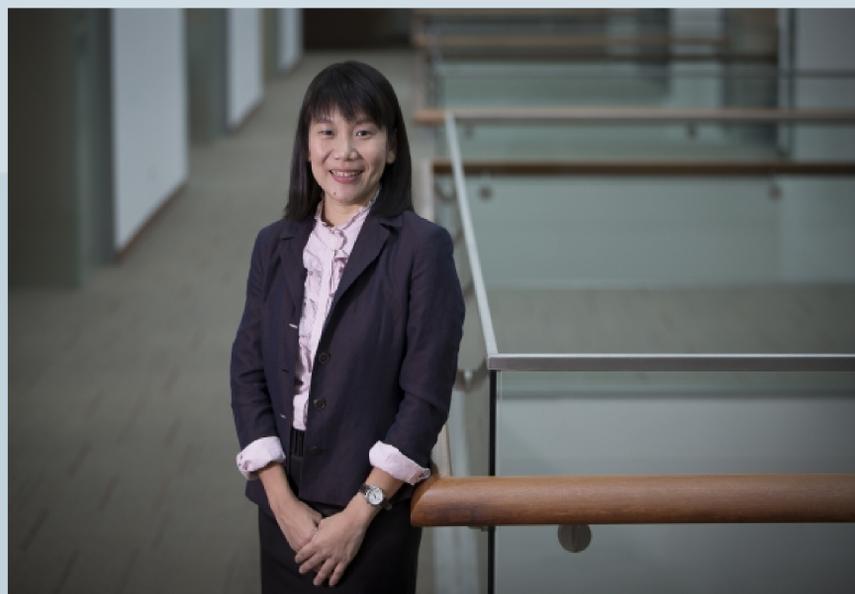


*"My lesson plan was to walk through a couple of frameworks and give little problems for students to work on and then to have them present back to the class. The 'lecture' went on for about 45 minutes and students were split into groups of 4-5 and had 15 mins to put together a set of discussion points for their problems. All in all, the sessions went very well, and the students loved the interface."*

*Associate Professor Tan Hwee Hoon, LKCSB*

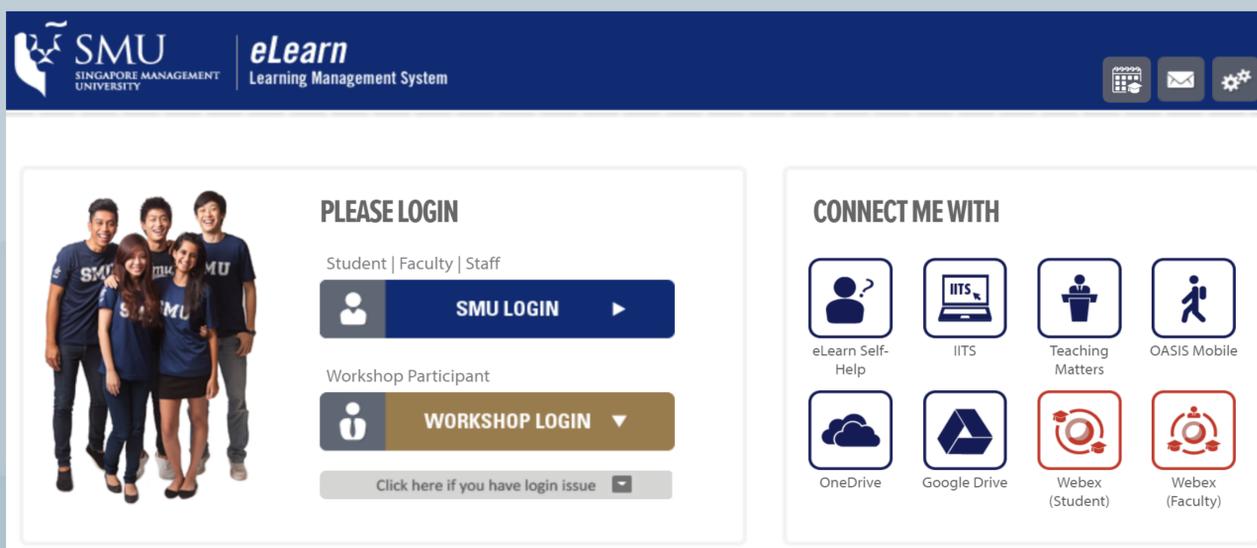
“I noticed the participation from students was a lot higher when they were using the chat function. In addition, I have been using the whiteboard on WebEx because I can draw or use the annotation features to illustrate the concepts in a more interactive way. For students who raised questions to the e-learning videos which I put up prior to the WebEx session, I put the questions together, combined with theoretical slides or design scenarios in a single deck of slides to address their queries.”

Assistant Professor Tan Kar Way, SIS

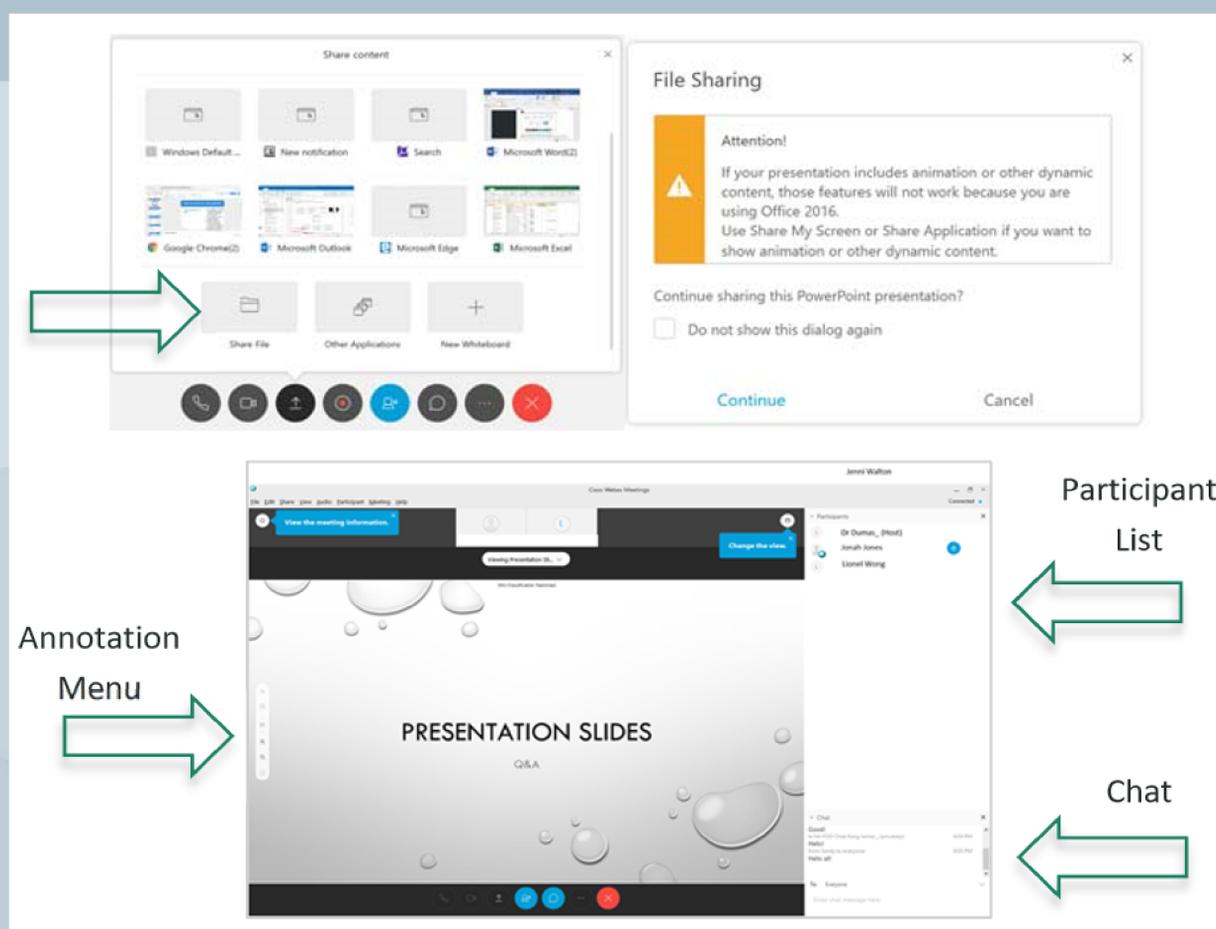


## Pressing the right buttons

CTE and IITS have come together to simplify the steps required for instructors and students to access the WebEx platform in the event of emergencies as well as blended learning lessons.  
 (i) Creating easily identifiable Red icons to access the WebEx platform via eLearn login page



- Instructors can click on ‘Webex (Faculty)’ RED icon via the eLearn login page (<https://eLearn.smu.edu.sg>) to access their own personal room. Click on ‘Log in’ at the top right corner of the WebEx page and login with your SMU User ID and password.



- Students will now be able to will click on on ‘Webex (Student)’ red icon to search and access for their instructor’s personal room directly for the WebEx session. See screenshot below:

**Instructor's WebEx Personal Room List**

Search for names... Search

Dear student, please search for your instructor's name and click on it to enter his/her WebEx Personal Room.

School/Dept	Name
CEC	<a href="#">CHIN Hui Ling Josephine</a>
CEC	<a href="#">Christine LEE</a>
CEC	<a href="#">Dr Susheela VARGHESE</a>
CEC	<a href="#">Krishnakumari D/O REVINDRAN</a>
CEC	<a href="#">Mr Justyn OLBY</a>

(ii) Eliminating the need to remember another password by activating the single sign-on feature to WebEx through the SMU User ID and password.

(iii) Proposing that instructors use their respective personal rooms to conduct basic WebEx sessions. Such sessions can be started at a single click of the ‘Start Meeting’ green button. <Refer to **Steps 1 & 2** of Instructors’ WebEx Quick Guide to access WebEx personal room>. For instructors who may wish to set up breakout sessions to allow participants to brainstorm and collaborate in small, private groups that could include the presenter, or other students, away from the main session, please refer to pages 14-19 of the WebEx Training guide at this [link](#) )

We have prepared a set of easy-to-follow instructor and student quick guides for you and your students to download and refer to prior to your WebEx session:

- WebEx Instructor Quick Guide link (See appended or click [here](#) to download)
- WebEx Student Quick Guide link (See appended or click [here](#) to download)

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The great ideas put forth by our fellow colleagues have shown that while face-to-face participative interaction with students still has a unique set of advantages, it is possible to actively engage students through an online synchronous platform, often with surprising good outcomes. For more advanced users, do consider integrating other easy-to-use online tools which suit best suit your students’ learning needs e.g. Google Docs, Live Polling apps (e.g. [Mentimeter](#), [Wooclap](#) , etc.) For more information or assistance to implement these ideas in your class, feel free to drop us a mail at [cte@smu.edu.sg](mailto:cte@smu.edu.sg).



This e-bulletin is produced by the Centre for Teaching Excellence.  
Please contact us at [cte@smu.edu.sg](mailto:cte@smu.edu.sg) to feature your stories and insights on good online teaching and learning practices.  
We welcome your feedback.

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