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**The Lazy Person's Guide**

**to Teaching in the Future Classroom**

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**Digital Learning Center, Office of Academic Affairs**

**In a traditional classroom,  
have you ever encountered difficulties in leading group activities?  
Or have you faced the problem of low student participation in class?**

**In a “Future Classroom,” you can teach your courses more easily.  
The Digital Learning Center has provided some real-life examples.  
Feel free to refer to and apply them to your class!**

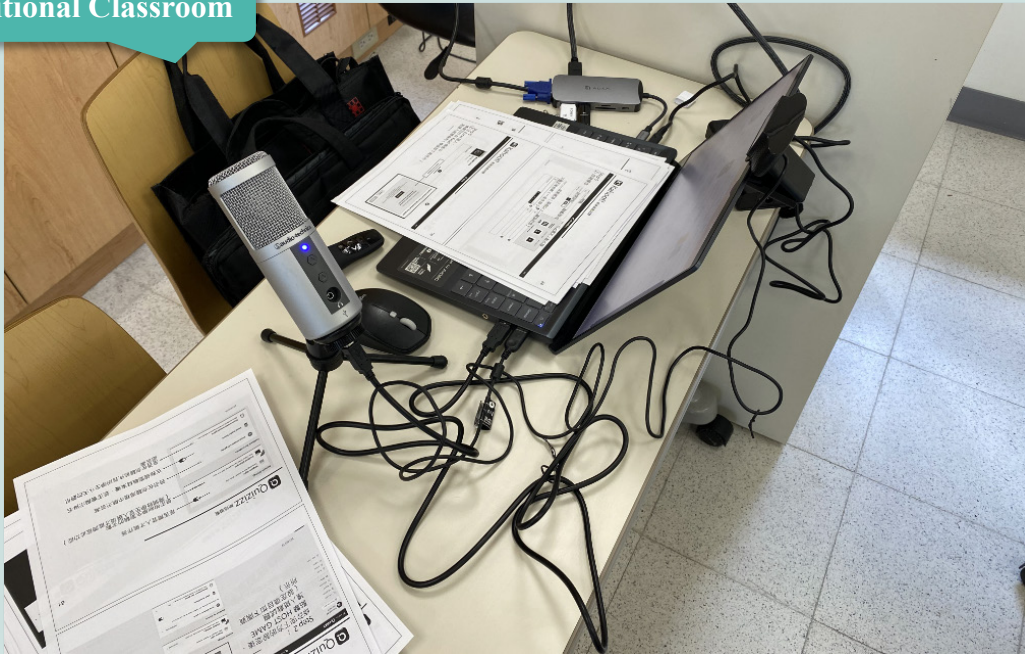
# Where are the Future Classrooms at NTU ?

<b>Office of Academic Affairs (5 classrooms)</b>	<ul style="list-style-type: none"><li>• <b>Zonghe Lecture Building (2)</b></li><li>• <b>Boya Lecture Building (2)</b></li><li>• <b>Gongtong Lecture Building (1)</b></li></ul>
<b>Other Departments (58 classrooms)</b>	<ul style="list-style-type: none"><li>• <b>College of Medicine : College of Medicine (1), School of Nursing (1), School of Physical Therapy (1)</b></li><li>• <b>College of Management : College of Management (9)</b></li><li>• <b>College of Liberal Arts : Department of Anthropology (2)</b></li><li>• <b>College of Life Science : Department of Biochemical Science and Technology (1), Department of Life Science (1)</b></li><li>• <b>College of Social Sciences : College of Social Sciences (1), College of Social Sciences Library (1), Graduate Institute of Journalism (1)</b></li><li>• <b>College of Law : Department of Law (1), Department of Law Library (1)</b></li><li>• <b>College of Engineering : College of Engineering (2), Department of Civil Engineering (2), Department of Biomedical Engineering (5), Department of Chemical Engineering (1), Institute of Industrial Engineering (1)</b></li><li>• <b>College of Science : Department of Mathematics (1), Department of Geosciences (5), Department of Geography (2), Institute of Oceanography (6)</b></li><li>• <b>College of Bioresources and Agriculture : Department of Animal Science and Technology (1), Department of Entomology (1), Institute of Food Science &amp; Technology (1), School of Forestry and Resources Conservation (1), Department of Horticulture &amp; Landscape Architecture (1), Department of Agricultural Chemistry (1), Department of Biomechatronics Engineering (1), School of Veterinary Medicine (1)</b></li><li>• <b>College of Public Health : College of Public Health (1)</b></li><li>• <b>Center for Teacher Education (1)</b></li><li>• <b>Center for Biotechnology (1)</b></li><li>• <b>National Taiwan University Hospital Clinical Skills Center (1)</b></li></ul>

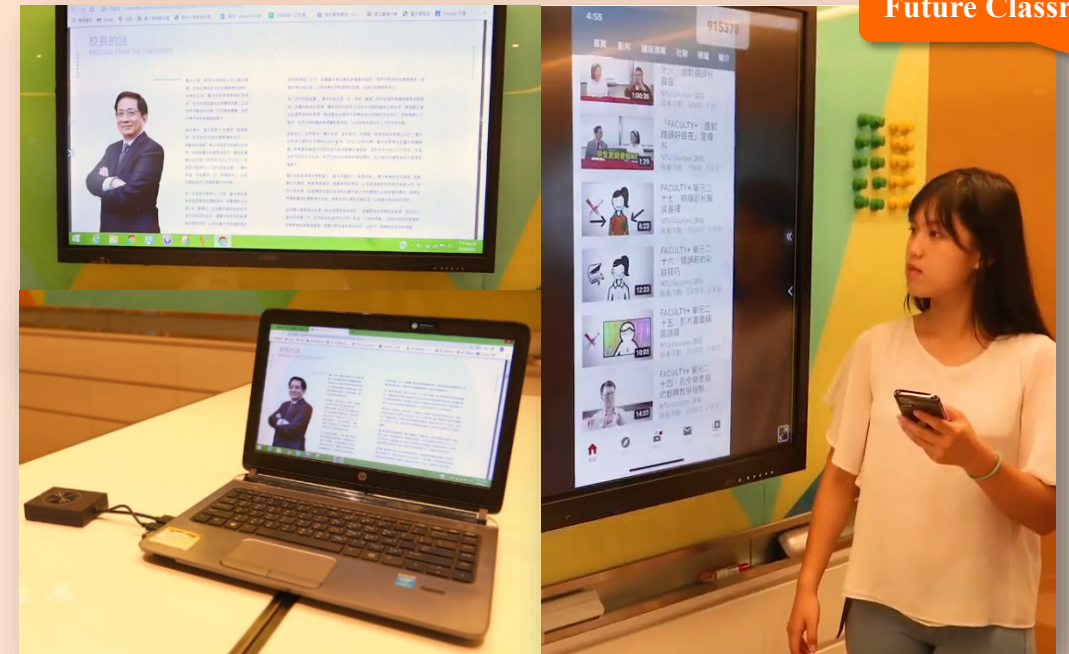
**Teachers are welcome to apply for and use the classrooms.**

# When you want to display teaching materials on the screen...

Traditional Classroom



Future Classroom



- The laptop has to be connected to the e-lectern.
- The arrangement of the laptop is restricted to the length of the wire.
- Too many wires makes the table untidy. It takes time to arrange.

- Teaching materials can be displayed on the screen wirelessly through cellphones, tablets, and laptops.
- You can displayed teaching materials wherever you are in the classroom without being restricted by wire length.
- Through wireless connection, the table is tidy. It's also fast to set up the device.

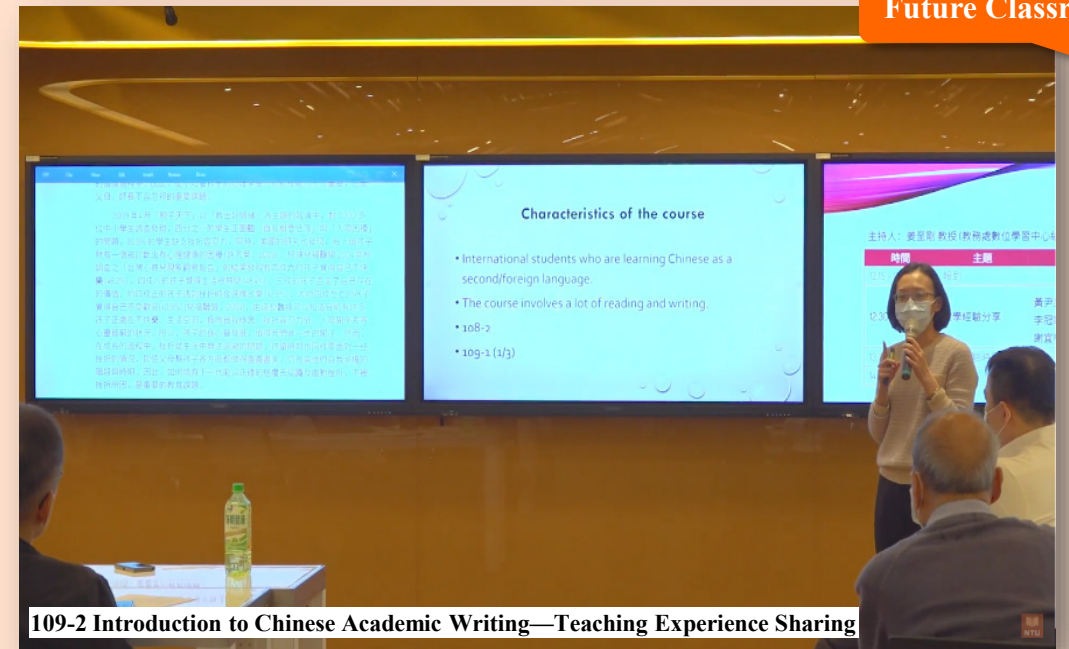
# When you want to share multiple images...

Traditional Classroom



- There's only one screen in each classroom.
- Only one slide or image can be displayed each time.
- It's difficult for students in the back of the classroom to see clearly.

Future Classroom



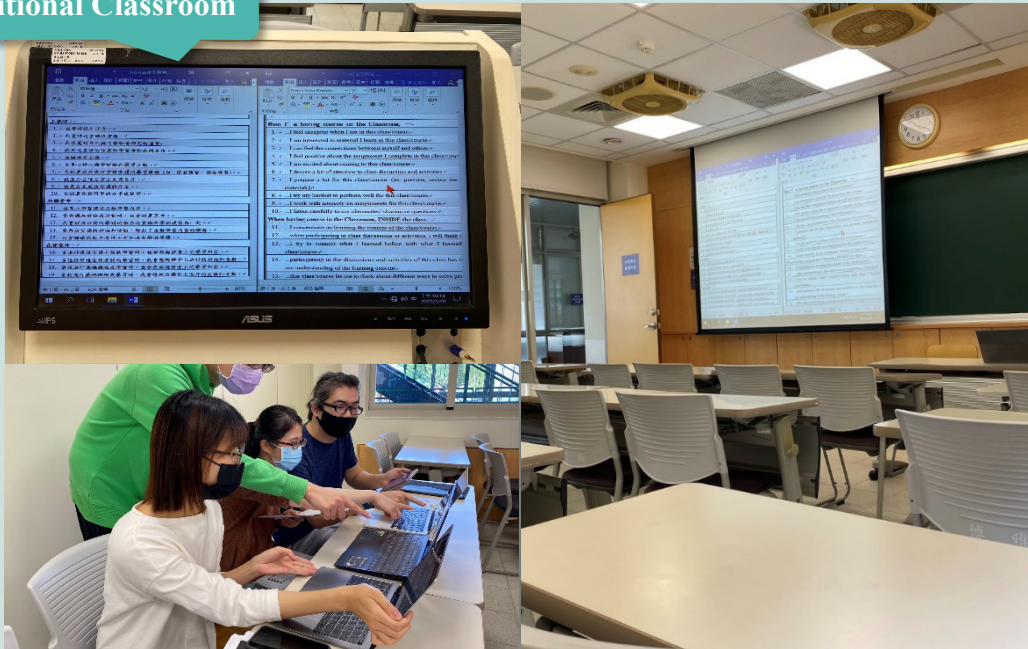
109-2 Introduction to Chinese Academic Writing—Teaching Experience Sharing

- Multiple images can be displayed simultaneously on multiple screens.
- There are screens at each side of the classroom, so every student is able to see clearly.
- By using the control system, the images of each screen can be displayed on one another.



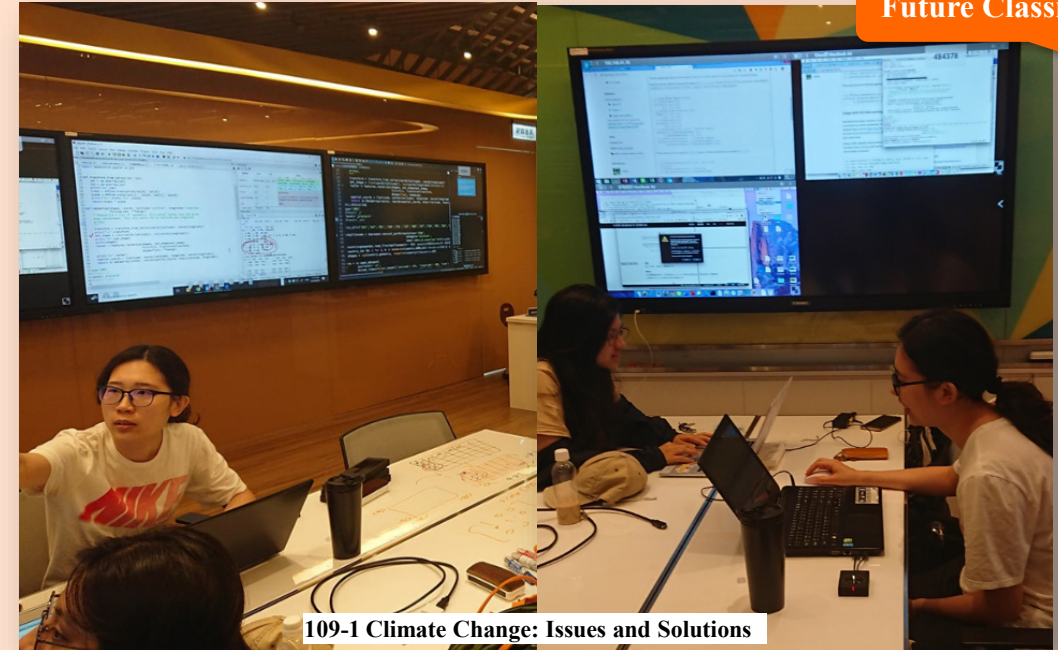
# When you want to compare two images...

Traditional Classroom



- Only one image can be displayed on the screen per time.
- When there are multiple images, you have to place them side by side manually.
- When students have discussions, they have to place their laptops together to compare.

Future Classroom



- Images from different laptops can be displayed on different screens simultaneously.
- Or images from different laptops can be displayed on the same screen, and the images can be switched easily by pressing a switch button.
- Or teachers and students can use a split screen to compare different images.

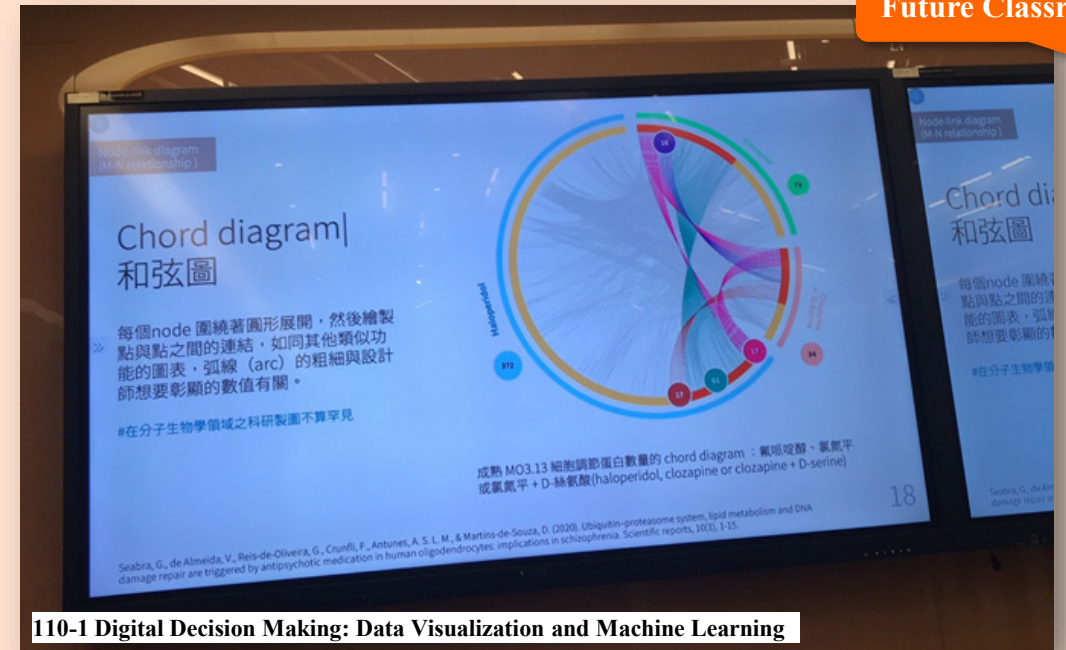
# When you want to observe teaching material details...

Traditional Classroom



- When pictures in the teaching material are small, it's difficult for students to see the details.
- The image has to be scaled up, or students have to take a closer look by moving closer to the screen.
- It's difficult for students in the back of the room to see the image clearly.

Future Classroom



110-1 Digital Decision Making: Data Visualization and Machine Learning

- The large format 4K displays show details clearly.
- Students are able to see the image clearly without having to scale up the image.
- There are screens at each side of the classroom so students can see the image clearly from all around.



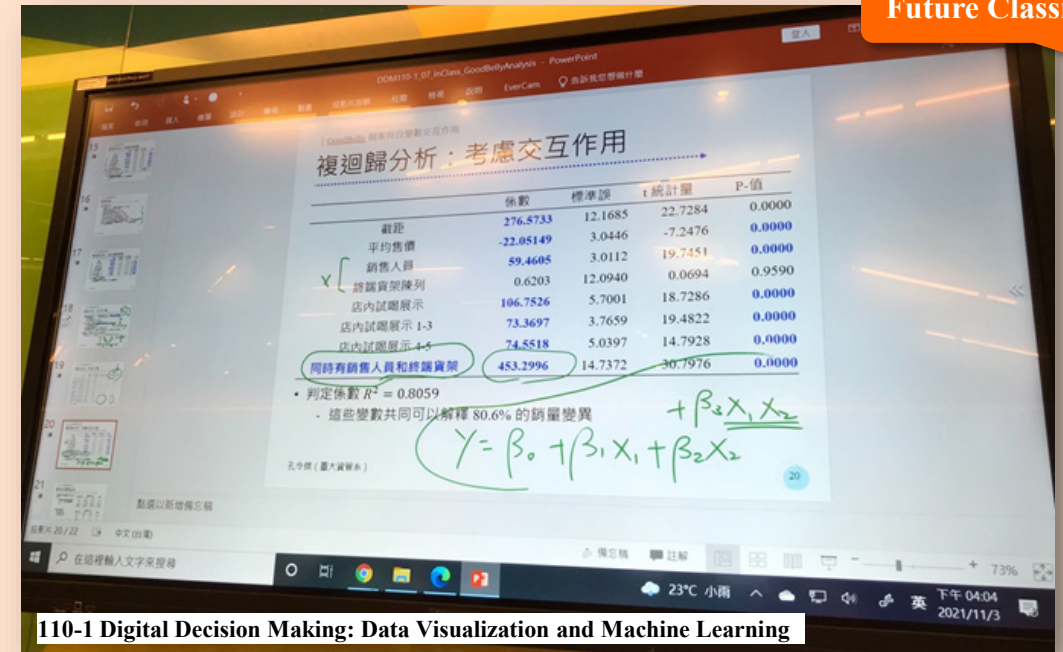
# When you want to highlight key points in teaching materials...

## Traditional Classroom

語言與文化是不可分割的一體，在語言教學上越來越重視文化成分的存在，認為它是語言學習不可或缺的一份子。語言的習得可以幫助學生文化的習得，同樣，文化習得可以促進他們的語言學習，文化知識的積累，有助於他們更好地理解和使用語言。語言教學必須與文化教學同時進行，只有將語言教學放在文化教學的大背景下，才能更好地培養學生的跨文化交際意識，提高學生的跨文化交際能力 (彭妮絲，2013，頁24)。

- Teachers can't write on the screen, so they have to spend extra time to make animations for teaching materials.
- Teachers need a laser pointer or mouse to highlight key points.
- It's difficult for students in the back of the room to see the laser point or mouse cursor clearly.

## Future Classroom



- Teachers can directly write and mark on any image on the screen.
- It's convenient for highlighting key points, so teachers no longer have to make animations for teaching materials.
- Each screen can simultaneously display marked content, so it's also convenient for students to watch it.



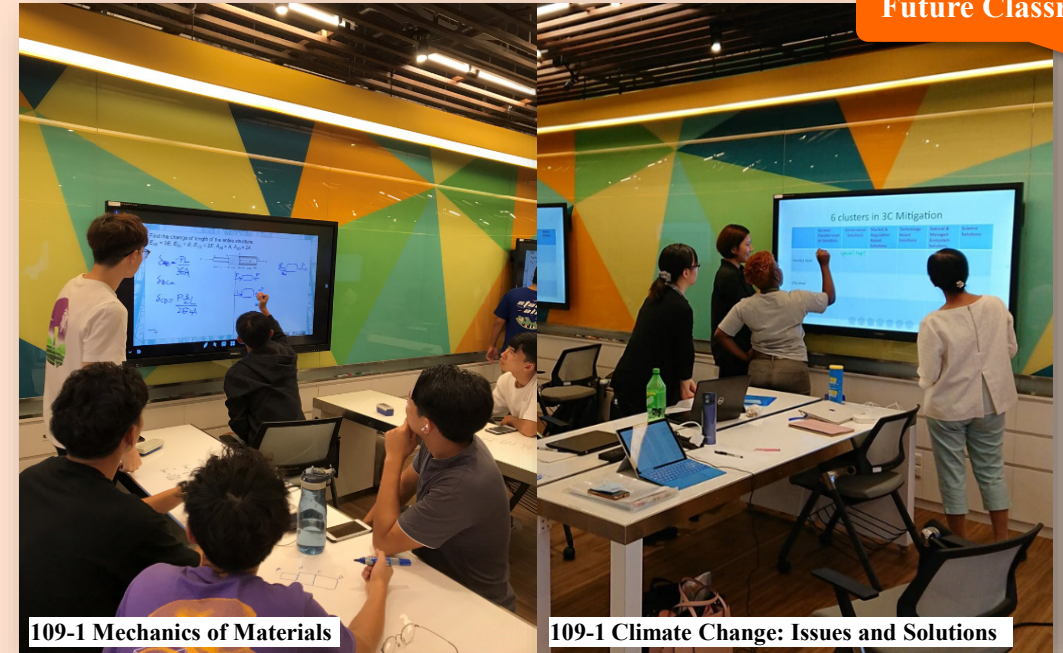
# When you want students to solve a problem...

Traditional Classroom



- Teachers have to print out tests or have students write their answers on paper.
- Students solve problems on their own, and they hardly have interaction with their peers.
- Answers on paper are small, and it's difficult for teachers to gauge students' learning performance.

Future Classroom



- Questions can be displayed on the screen directly, and students can answer the questions on the screen.
- Students from the same groups can work together to brainstorm.
- Teachers can see answers rapidly and clearly and gauge students' learning performance immediately.

# When there's a group discussion...

Traditional Classroom



- Group members have to look at the same laptop.
- Pens and paper are needed for writing down ideas or results. It's less environmentally friendly.
- Some students show low participation and free riding behavior.
- It's difficult for teachers to gauge the performance of each group.

Future Classroom



110-1 Digital Decision Making: Data Visualization and Machine Learning

110-1 Fundamentals of English Writing

- Each group can display their answers or ideas on the screen so it's easy for everyone to see.
- The content of discussions can be written on the screen or be directly written on the table.
- It enhances students' participation in discussions and reduces the free riding problem.
- It's easy for teachers to walk around different groups and gauge their discussion.



# When students are asked to share their ideas...

Traditional Classroom



- It's hard for teachers and students to move around in a classroom with narrow aisles.
- It's less environmentally friendly to present discussion results with posters or post-it notes.
- It's time-consuming to take turns making a presentation up at the front and to access files.
- If students in the back of the classroom can't see the content clearly, it's difficult to conduct a peer review.

Future Classroom



- The classroom is spacious, and it's easy for teachers and students to move around.
- Discussion results can be directly displayed on the screen wirelessly.
- Students can make a presentation from their seats. They don't have to move around. It's convenient and saves time.
- Images can be shared to the entire class. It's convenient for comparing and conducting peer reviews.



# When you want to arrange activities in class...

Traditional Classroom



Putong Lecture Building



Xinsheng Lecture Building



Zonghe Lecture Building



Boya Lecture Building

- It's inconvenient to move tables and chairs without wheels.
- Some classrooms have tables and chairs firmly fixed to the floor.
- Space between seats is narrow. It's difficult to rearrange space.
- It's difficult for teachers to walk around students' seats to gauge their learning performance.

Future Classroom



109-1 Problems and Solutions of Climate Change



109-1 Introduction to Forest Recreation



Zonghe Room 401 Future Classroom

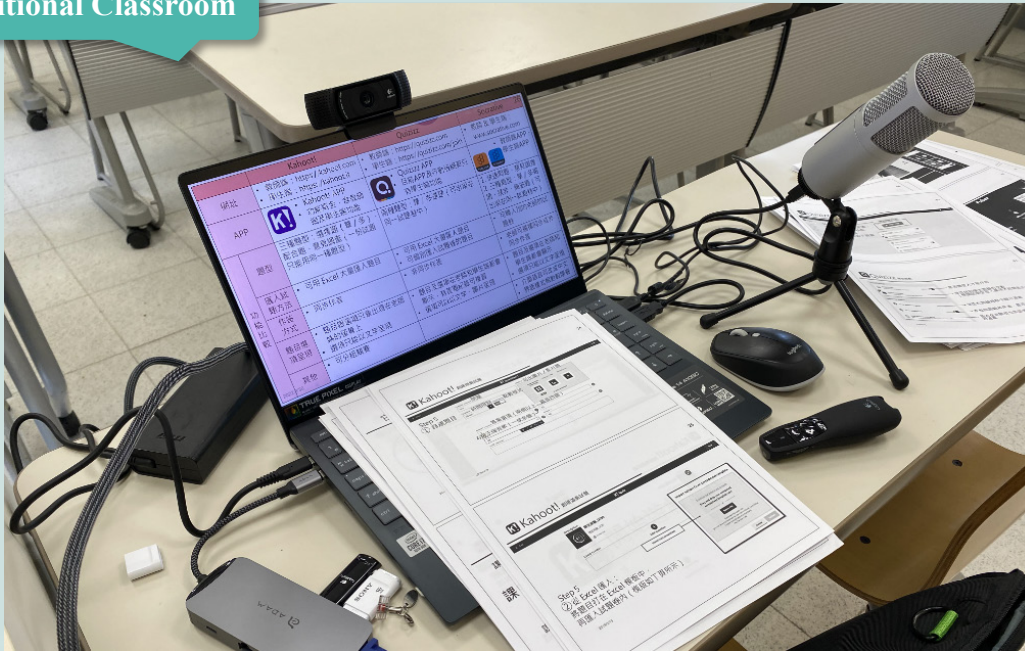


Gongtong Room 103 Future Classroom

- Tables and chairs have wheels. It's convenient to move them around.
- Tables can be arranged in different styles based on needs.
- Tables and chairs can be move toward the walls to create more space for activities.
- Teachers can walk around students anytime to promptly gauge students' learning performance.

# When conducting distance learning...

Traditional Classroom



- The videos can only be made with a laptop camera or an external webcam.
- The effects of the built-in microphone on the laptop aren't good, so an external microphone is required.
- Students online can't see the classroom and images displayed on the screen simultaneously.
- It's difficult for teachers to gauge students' learning performance online.

Future Classroom



109- 2 Public Administration (II)

- The video camera in the back of the classroom is the webcam.
- Through the professional recording system, the students online can hear the lecture clearly.
- The adopted video switcher system can switch between the images of the classroom and images on the screen for students online.
- The images of students online can be displayed on the large screen so it's convenient for teachers to gauge their learning performance.



# When you need to make a video...

Traditional Classroom



- The images of the teaching materials and the speaker have to be combined through post-production.
- If the speaker needs to look at a large-letter poster, a teleprompter or poster is required.
- It takes the cooperation of multiple people to produce a video.

Future Classroom



109- 2 Public Administration (II)

- The speaker and the images of the teaching materials can be recorded simultaneously in front of the screen.
- The screen the speaker faces can be a teleprompter.
- The video can be made by one person.



**You are welcome to discover  
the many more functions of Future Classrooms!**



國立臺灣大學  
National Taiwan University

教學發展中心 x 數位學習中心  
Center for Teaching and Learning Development  
Digital Learning Center