
The Lazy Person's Guide

to Teaching in the Future Classroom

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!**

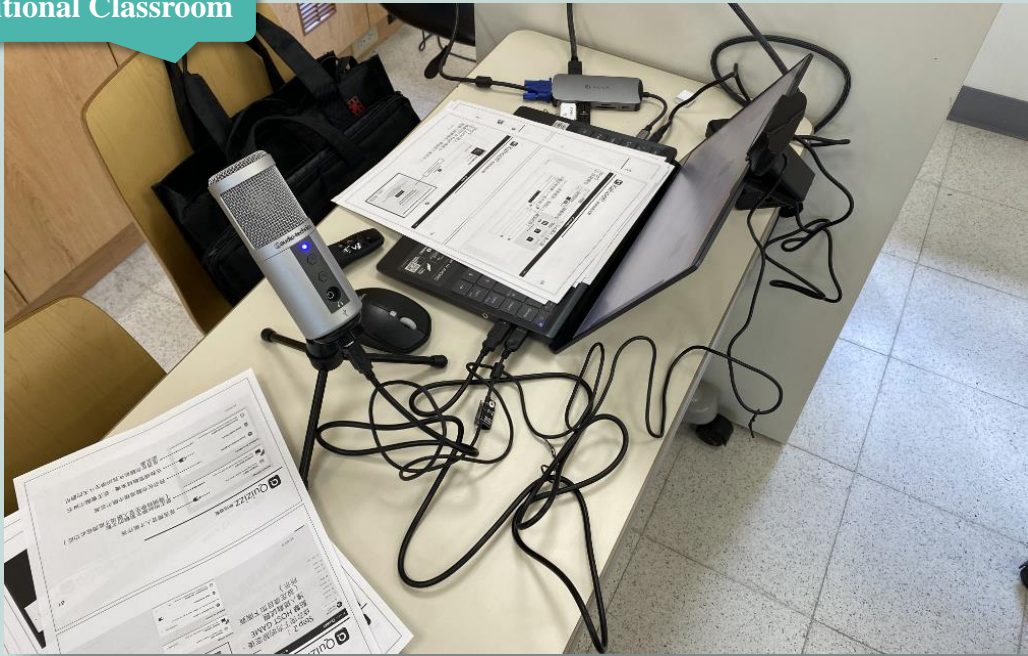
Where are the Future Classrooms at NTU ?

Office of Academic Affairs (5 classrooms)	<ul style="list-style-type: none"> • Zonghe Lecture Building (2) • Boya Lecture Building (2) • Gongtong Lecture Building (1)
Other Departments (72 classrooms)	<ul style="list-style-type: none"> • College of Medicine : College of Medicine (1), School of Nursing (1), School of Physical Therapy (1), School of Pharmacy (2) 、 School of Occupational Therapy (1), Biochemistry and Molecular Biology (1) • College of Electrical Engineering and Computer Science : Department of Computer Science & Information Engineering (1) 、 Department of Electrical Engineering (1) • College of Management : College of Management (9) • College of Liberal Arts : Department of Anthropology (2) • College of Life Science : Department of Biochemical Science and Technology (1), Department of Life Science (1) • College of Social Sciences : College of Social Sciences (1), College of Social Sciences Library (1), Graduate Institute of Journalism (1) • College of Law : Department of Law (2), Department of Law Library (1) • 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 (3), Department of Mechanical Engineering (1), Graduate Institute of Environmental Engineering (1) • College of Science : Department of Mathematics (1), Department of Geosciences (5), Department of Geography (2), Institute of Oceanography (6) • College of Bioresources and Agriculture : Department of Animal Science and Technology (1), Department of Entomology (1), Institute of Food Science & Technology (1), School of Forestry and Resources Conservation (1), Department of Horticulture & Landscape Architecture (1), Department of Agricultural Chemistry (1), Department of Biomechatronics Engineering (1), School of Veterinary Medicine (1) • College of Public Health : College of Public Health (1) • Center for Teacher Education (1) • Center for Biotechnology (2) • National Taiwan University Hospital Clinical Skills Center (1)

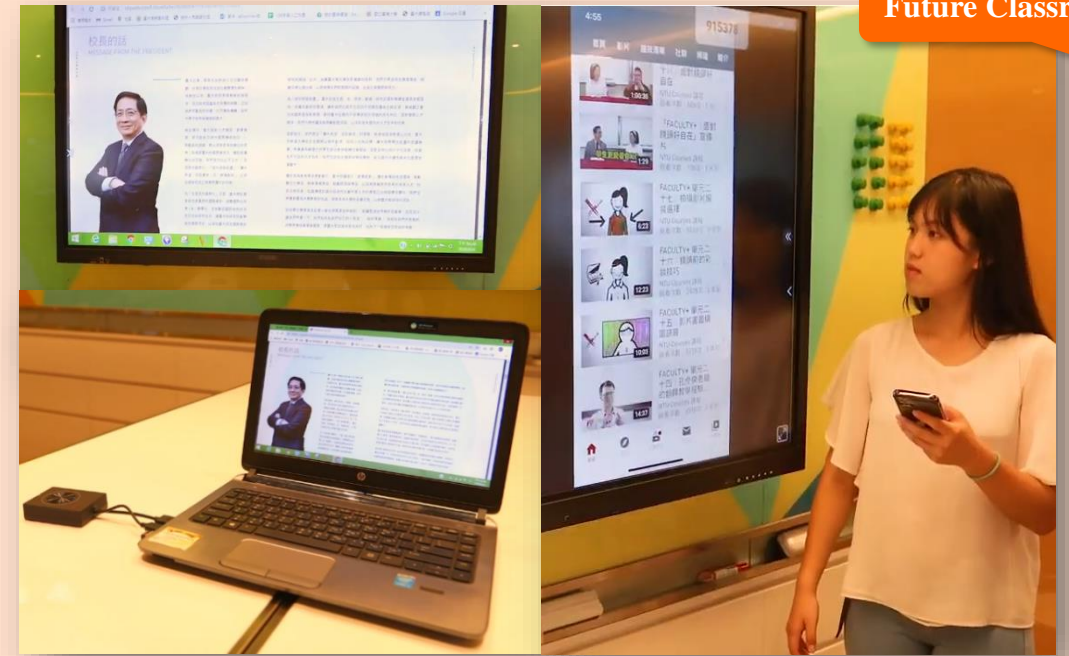
Teachers are welcome to apply for and use the classrooms.

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.

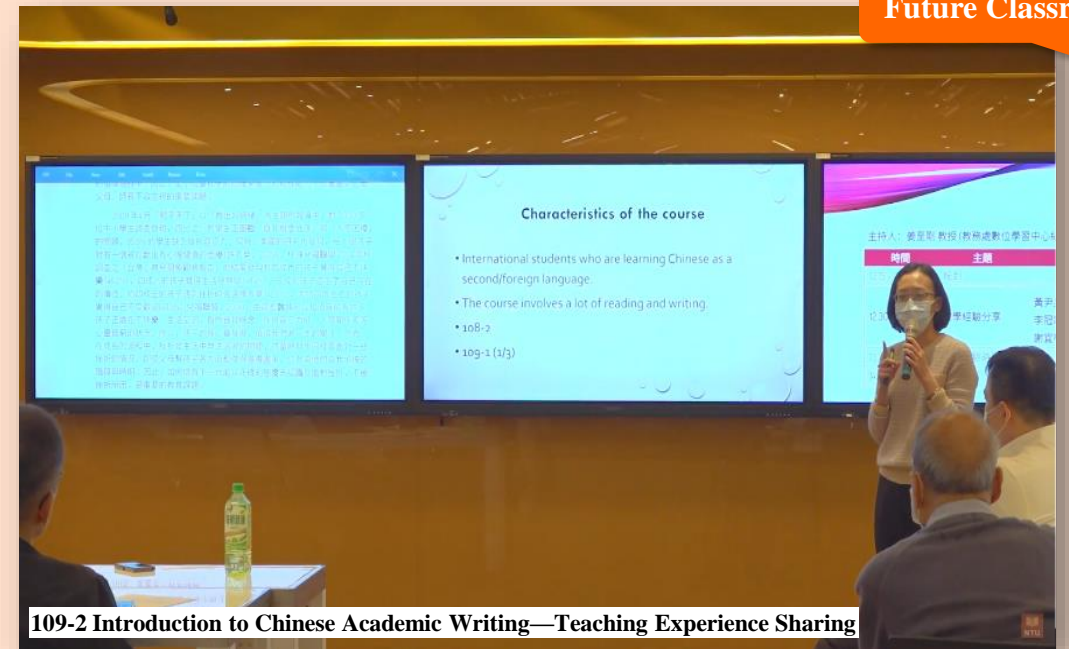
When you want to share multiple images...

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

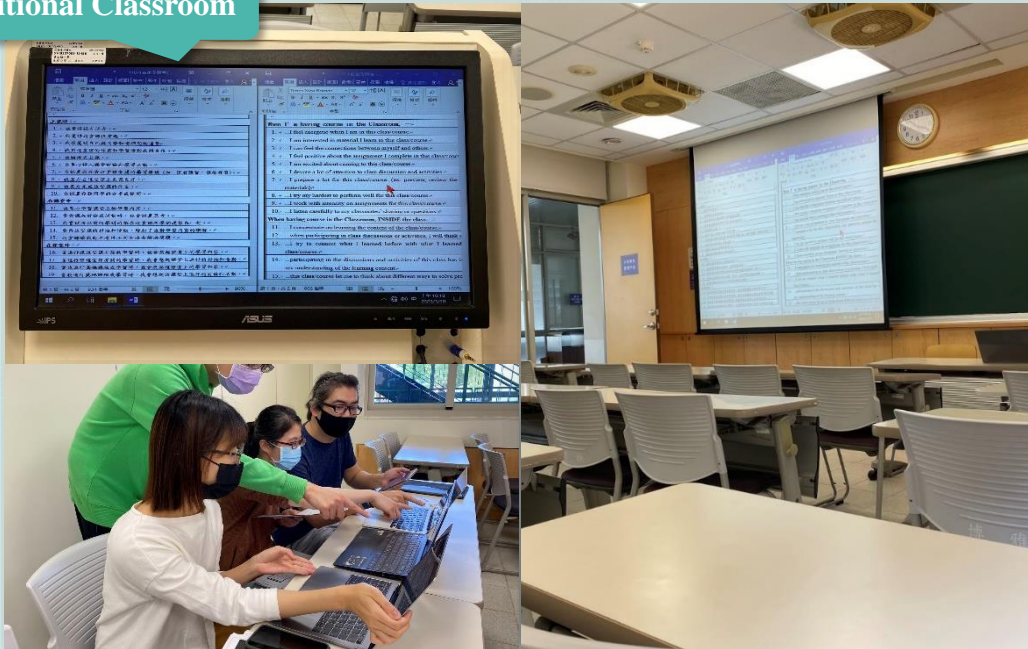


109-2 Introduction to Chinese Academic Writing—Teaching Experience Sharing

- 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.

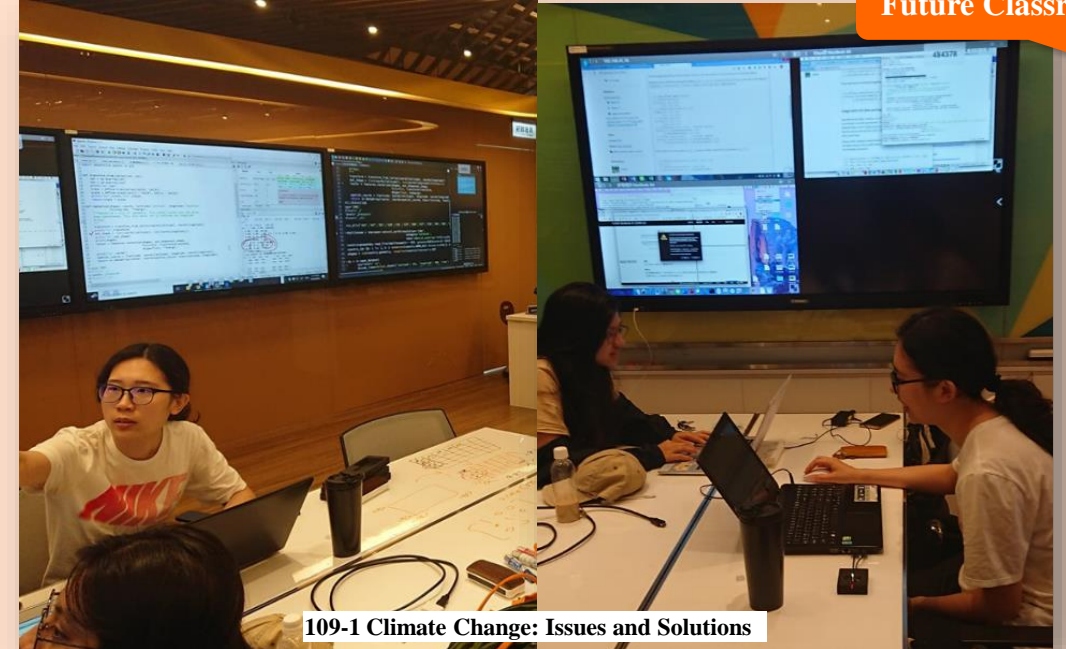
When you want to compare two images...

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



109-1 Climate Change: Issues and Solutions

- 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.

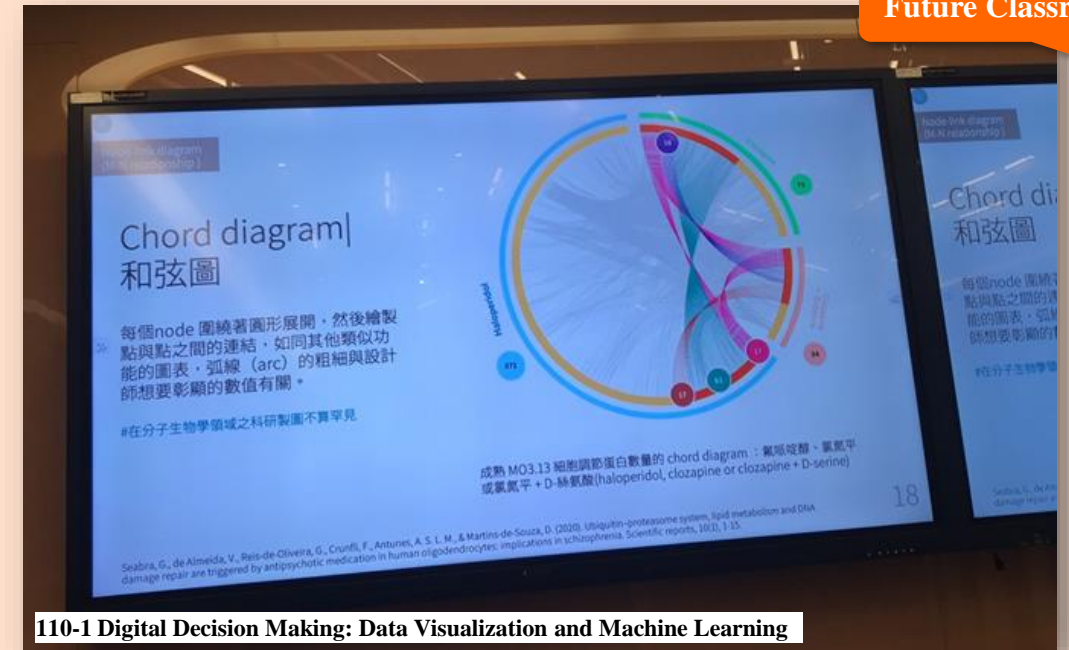
When you want to observe teaching material details...

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.

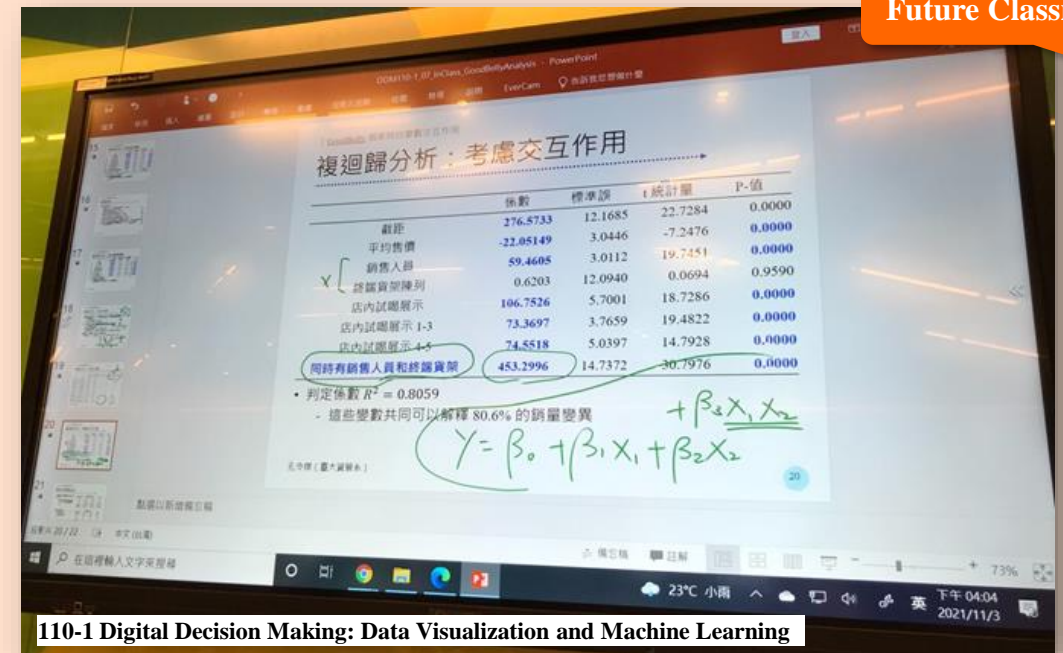
When you want to highlight key points in teaching materials...

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.

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- 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



109-1 Mechanics of Materials

109-1 Climate Change: Issues and Solutions

- 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.

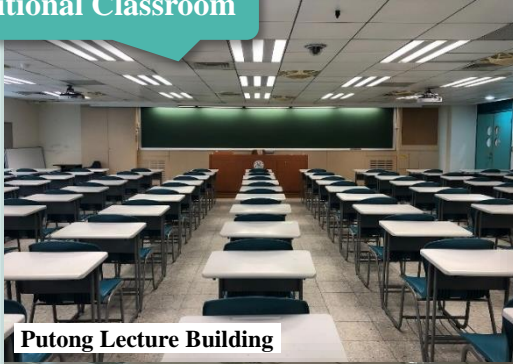
Future Classroom



- 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

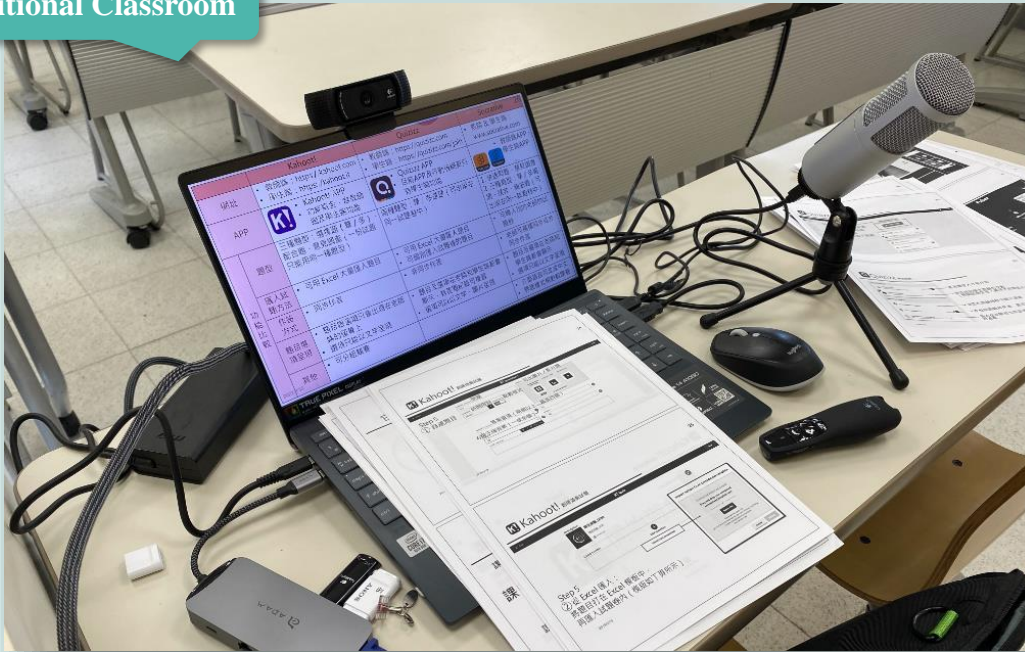


Gongtong Room 103 Future Classroom

- 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