

6. Using Technology

善用科技



I. In Class 在課堂內

II. Outside of Class 在課堂外

Check here for ideas about using technology:

(看看這裡提供了哪些關於善用科技的方法)

- In Class
- Outside of Class

(·在課堂內

·在課堂外)

1. USING TECHNOLOGY IN CLASS

(在課堂內善用科技)

The use of technology in the classroom can enhance student learning by increasing the exposure that students get to material, as well as diversifying the formats of this exposure. Technology provides the teacher with more ways in which to present material and aid student learning (e.g. aural, visual, demonstrations, applications). David Brown states, "The computer assists professors in their delivery of the picture that is worth a thousand words, of sound accompanying text, of attention-grabbing animation." A PowerPoint

presentation of a lecture's outline can help students see where the class is going and how to organize their notes. Videotaped demonstrations can be used when in-class demonstrations are not feasible, or when presenting the information to a large class that would have difficulty seeing an in-person presentation. Images or videos can be presented to reinforce lecture material.



(在課堂內善用科技教學，能使學生有更多樣的方式接觸到更多資料，進而增加學習效果。科技也提供了老師更多呈現教材、以及協助學生學習的方式(例如有聽覺、視覺、實物示範與應用)。David Brown 指出：『電腦能夠協助教授呈現勝過千言萬語的圖片、播放附加的文本，以及吸引學生注意的動畫。』以投影片來呈現講綱，一方面能幫助學生了解課程進行到哪，另一方面也能幫助學生組織他們的筆記。在課堂內無法進行實地示範、或在人數眾多的課堂上很難讓所有人看見一個人所做的示範時，錄影帶的呈現便很有幫助。圖像和影像的呈現能夠強化演講的材料。)

Technology can also be used in class to not only vary formats of presented information, but also to encourage active learning and initiate interactive exchanges between students and between the professor and the class. For example, an image or video clip can be used as a discussion starter. Clickers can be used to initiate discussions: Present a thought-provoking question that corresponds with the day's lecture material, as well as several possible responses. Ask students to use their clickers to select which response they most agree with. Use this information as the platform to start a discussion.



(科技在課堂上的利用，不只能夠增加呈現資訊的方式，也能夠激起學生的主動學習，以及學生們與老師之間的初步互動。舉例來說，修剪過的圖像與影像可以作為討論的開端。遙控器(的互動方式)能夠用來引發討論：呈現一個與本日教材相關並能引發討論的問題，以及各種可能的回應。接著讓學生用他們自己的遙控器去選擇他們最同意的答案，最後，利用這項資訊當做討論基礎平台。)

Clickers can also be used to implement in-class quizzes, take a poll of student opinions or understanding and record attendance. One suggestion is to take a break in the middle of class to gauge student comprehension of the material

covered so far. Ask a question that would require student understanding to correctly answer, and have the students respond using their clickers. In this way, teachers can gain immediate feedback on the current level of student comprehension of the material, and shape the direction of the rest of the class accordingly. However you use technology in the classroom, ensure that students understand how they will be graded for their responses.



(遙控器也能用來執行課堂小測驗、進行學生意見或理解與否的投票，以及紀錄出席率。有一種建議是在課程進行到一半時，先稍作休息，看看學生到目前為止的理解程度。問個學生必須理解之後才能答對問題，接著讓學生使用遙控器來回答。藉著這個方式，老師能夠馬上得到回饋，知道學生對於教材的理解程度，進而對下半堂課進行調整。無論你如何在教室使用遙控器，都要確定學生們了解他們的回應將被算進成績裡。)

2. USING TECHNOLOGY OUTSIDE OF CLASS

(在課堂外善用科技)

There are several ways to use technology outside of class to help you achieve course goals. One way to expand on information discussed in class is the use of Blackboard discussion groups. Teachers can use these groups to disseminate class information or to establish an arena in which students interact with one another about various topics or class activities. There are a number of ways to stimulate online discussions:



(在課堂外有各種使用科技學習的方法能使你達到課程目標。有一種擴大在課堂內所討論的資訊的方式，就是利用「黑板的討論小組」。老師們可以利用這些組別去散布課堂資訊，或是建立一個學生們能夠與其他人互動的平台，討論各種主題與班級活動。以下有幾種能夠引發線上討論的方式：)

- Ask students to post their responses to a selected reading or homework problem.

- Initiate a conversation on a topic not fully covered during class time.
- Have students post potential discussion questions for the next class.

As with in-class discussions, be sure students know how their contributions will be evaluated and graded.



(要求學生針對選讀的文本或針對家庭作業中遇到的問題做出回應。)

- 針對在課堂上還沒全部上完的主題發起對話與討論。
- 要求學生提出下一堂課可以討論的問題。

如同課堂內的討論一樣，老師必須確定學生們都知道他們所做的都會納入成績考量。)

Another way to deepen and assess student learning outside of class is to use online quizzes. These can be created on Blackboard, and questions could address in-class material or outside reading assignments. Making the completion of online quizzes worth points in the class will likely increase class participation, and requiring completion of online quizzes over reading assignments before class will increase the number of students who do the readings prior to class. Moreover, online quizzes can be set up in such a way that students can take them multiple times, thus gaining practice working with material and increasing understanding.



(另一種深化並評估學生在課外學習的方法是線上測驗。測驗的問題可以是在課內的教材或課外的指定閱讀。把完成線上測驗的成績也算進課堂內，可以增加學生的課堂參與，而要求學生完成與課外指定閱讀相關的線上測驗，也能夠使在課前將閱讀讀完的學生數目增加。不過，線上測驗也應該要設定為能讓學生多次使用，如此一來，這樣的練習才能真正使學生增加對的教材理解。)