

# Active Learning

## 主動學習



**Kathleen McKinney, Cross Chair in the Scholarship of Teaching and Learning and Professor of Sociology  
Illinois State University**

**Active learning** refers to techniques where students do more than simply listen to a lecture. Students are DOING something including discovering, processing, and applying information. Active learning "derives from two basic assumptions: (1) that learning is by nature an active endeavor and (2) that different people learn in different ways" (Meyers and Jones, 1993). Research shows greater learning when students engage in active learning. It is important to remember, however, that lecture does have its place and that you should not do active learning without content or objectives. The elements of active learning are talking and listening, writing, reading, and reflecting (Meyers and Jones, 1993). Bonwell and Eison (1991) state that some characteristics of active learning are:



主動學習意指學生不僅只在課堂聽課，更重視動手做來探索、處理、應用所學資訊，此概念有兩大假設：其一，學習是自然發生的，且其二，每個人的學習方式不同。主動學習能有效提升學生學習成效，因此課程設計上須兼具教學內容及教學目標，並能全面訓練學生的聽、說、讀、寫、反思等能力。

Students are involved in more than listening, less emphasis is placed on transmitting information and more on developing students' skills, students are involved in higher-order thinking (analysis, synthesis, evaluation), students are engaged in activities (e.g., reading discussing, writing), and greater emphasis is placed on students' exploration of their own attitudes and values. (p. 2)



透過主動學習，學習就不只是聽課或知識傳遞，而是注重學生各種技能的發展，例如思考力（分析、整合、評鑑等能力）、讀寫或討論的技巧、發現自我價值等。

There may be some resistance to active learning by students who are accustomed to lectures, students who prefer passive learning, or students in large classes (who don't expect it). Thus, you need to prepare students. Explain your objectives and the benefits of the active learning techniques explicitly to students. Expect both successes and failures as you try active learning techniques. Solicit feedback on the activity afterwards from the students to improve it in the future. Some active learning techniques take little faculty preparation and may be done spontaneously; others require much more preparation. Active learning techniques can occur in class or outside of class (e.g., computer simulations, internships, WWW assignments, class Internet discussion lists, independent study research). Active learning can be used with all levels of students from first year through graduate students. Teaching a mass class does not prohibit the use of active learning techniques; in fact, they may be especially important to promote interest and learning in a mass class. Below, I offer a few examples of **in-class** active learning techniques used in small and large classes, and with all levels of students.



習於聽講、被動學習或在班級人數多的學生可能會排斥主動學習法，因此教師應慢慢引導學生。先和學生說明教學目標和主動學習的好處，預設可能遇到的成功或挫折的情況，並讓學生在活動過後作心得回饋以改進教學內容。主動學習有時是隨機、自然發生的，而有時卻需要額外做準備。主動學習不限於教室（使用網路或課後獨立研究等），也不限於年級、人數（學生數越多的班級越應使用主動學習法）。以下提供一些不分年級和人數且在教室可實施的主動學習活動：

### (1)Think-Pair-Share

Give students a task such as a question or problem to solve, an original example to develop, etc. Have them work on this 2-5 minutes alone (think). Then have them discuss their ideas for 3-5 minutes with the student sitting next to them (pair). Finally, ask or choose student pairs to share their ideas with the whole class (share). I have used these in classes ranging from 12 to 340 students.



#### 獨思-配對-分享

拋出一個問題讓學生思考解決辦法，可先提供參考答案，讓每位學生自己想二到五分鐘（獨思），再讓他們和鄰座同學討論三到五分鐘（配對），最後選幾組學生向全班分享想法（分享）。我在 12 人到 340 人學生數不等的班級都成功試過此法。

## (2) Collaborative learning groups

These may be formal or informal, graded or not, short-term or long-term. Generally, you assign students to heterogeneous groups of 3-6 students. They choose a leader and a scribe (note-taker). They are given a task to work on together. Often, student preparation for the CLG has been required earlier (reading or homework). The group produces a group answer or paper or project. These work best in small to medium size classes, but I have also used them in a class of 340 students. If interested, see my short paper on "Collaborative Learning Groups in the Large Class: Is it Possible?" in *Teaching Sociology*, 1993, 21, 403-408.



### 合作學習小組

不論正式或非正式、年級、時間長短，分組概念皆相同。一組三到六位學生，選一位組長或紀錄，一起討論問題，並提出最終的答案、報告或計畫來解決問題。通常分組前會讓學生完成事前作業，像是相關的閱讀或作業等。中小型的班級較適用此法，但我也曾在一班 340 人的班級試過。

## (3) Student-led review sessions

Instead of the traditional instructor-led review session, have the students do the work. For example, in my review sessions, we spend half the time working in small groups. Each student is to ask at least one question related to the material he or she doesn't understand, and to try to answer a question raised by another student. Students can also practice discussing, illustrating and applying difficult material or concepts, or drafting exam questions. For the second half of the review session, the whole class works together. Students may ask questions; other students volunteer to answer them. All students who ask or answer questions receive a "treat" (I bring small candy bars, gum, and boxes of raisins). I try to only speak if there is a problem. Again, I have done these in classes as large as 340 students. Be sure to explain what will be going on ahead of time so students are less frustrated when you don't stand up there and simply review the material or give the answers or tell them what to study!



### 學生引導的課程複習

不同於傳統上老師主導的複習方式，此法主要由學生來帶領複習。在複習前半段，我們會花很多時間來進行小組討論，每位學生都至少提供一個與教材相關或想提出來討論的問題，並負責回答一個其他同學的問題。過程中，學生能練習討論、描述、應用難度較高的教材或想法，或是設想考試題目。複習後半段，全班共同參與，提出問題或回答問題的同學能獲得小禮物，我僅在遇到疑難時出面解決。此法我也在 340 人一班的班級嘗試過。實施前應和學生溝通，讓他們明白這種複習方式是由學生來主導而非老師。

#### (4)Games

Games such as jeopardy and crossword puzzles can be adapted to course material and used for review, for assignments, or for exams. They can be used at the individual, small group or full class levels. There are now some computer programs, for example, to help you create crossword puzzles.

遊戲

遊戲，如闖關遊戲或填字遊戲等皆適用於上課教材、複習、作業或考試，小至個人大至班級都合用。目前還有電腦程式輔助遊戲設計，例如製作填字遊戲的程式。

#### (5)Analysis or reactions to videos

Videos offer an alternative presentation mode for course material. Videos should be relatively short (5-20 minutes). Screen them to make sure they are worth showing. Prepare students ahead of time with reaction or discussion questions or a list of ideas on which to focus; this will help them pay attention. After the video, have them work alone or in pairs to answer critical questions, write a "review" or reaction, or apply a theory.



影片分析

影片可當教材使用，但長度不可過長（5-20 分鐘為宜），並注意內容適切性。讓學生事先準備或討論影片相關的問題或概念，能更專心欣賞影片。放映後，讓學生單獨或兩人一組，回答事先準備的相關問題，寫出評論、感想或提出理論等。

#### (6)Student debates

These can be formal or informal, individual or group, graded or not, etc. They allow students the opportunity to take a thesis or position and gather data and logic to support that view, critically. Debates also give students experience with verbal presentations. Some faculty members ask students their personal view on an issue and then make them argue the opposite position.



## 學生辯論

不論正式或非正式、年級、時間長短，辯論能訓練學生提出論點並收集資料來支持論點等邏輯批判能力，同時訓練口才。有些老師會請學生針對某議題說出自己的想法，讓持相反意見的學生進行辯論。

### (7) Student generated exam questions

This can be used for review or for the actual exam. This technique helps students actively process material, gives them a better understanding of the difficulties of writing reliable and valid exam questions, helps them review material, and gives them practice for the exam.



#### 學生出題

此法適用於複習或真正的考試，幫助學生主動閱讀、複習教材，為考試做準備，並讓學生體驗出一份信度和效度兼具的考卷之困難。

### (8) Mini-research proposals or projects; a class research symposium

Have the students work on designing a research study on a topic from the class. In some situations, you may be able to have them collect data during class time (observe some situation or give out some short surveys) or you may have them doing this as part of an outside-of-class project. Either way, have students present their research in a class research symposium similar to what we do at professional meetings. Invite other faculty and students.



#### 小型研究計劃；班級研究論文集

讓學生針對一項主題進行研究，有時可在課堂上空出時間讓學生能蒐集資料（觀察或作短期調查），有時可當作課外作業，無論何種方式，最後讓學生展示研究成果時，應比照正式專業的場合，可邀請其他老師或學生來參與發表。

### (9) Analyze case studies

Bring in case studies for students to read (for example, I will put a case example of sexual harassment on an overhead). Have students discuss and analyze the case, applying concepts, data,

and theory from the class. They can work as individuals or in groups or do this as a think-pair-share. Consider combining this with a brief in-class writing assignment.



### 個案研究

提供學生個案資料（像我會提供性騷擾案例），請他們討論、分析，應用課堂所學的概念、資料和理論，依個人、小組或比照獨思-配對-分享（think-pair-share）的流程來討論皆可，亦可結合寫作練習來進行。

## (10) Keeping journals or logs

Have students make journal or log entries periodically (on paper or computer, in or outside of class). Require a brief critical reflection or analysis of each entry as well. For example, in my gender class, students must record instances of sex inequality (sex discriminations, sexism, sexual harassment against women or men) they observe. They then discuss this instance applying course terms and theories. Be aware of ethical issues if you ask students to record and analyze personal events or issues.



### 寫日記

讓學生定期寫日記（利用紙筆或電腦、課堂上或課堂外皆可），針對事件寫出簡短、具批判性的感想或分析，例如在性別議題的課程中，我要求學生紀錄他們所觀察到性別不平等的實例（性別歧視、性別偏見、性騷擾等），並用課堂所學的名詞或理論來討論。若要求學生紀錄、分析個人發生的事件，要特別注意隱私問題。

## (11) Write and produce a newsletter

Have small groups of students produce a brief newsletter on a specific topic related to class. Students should include articles with relevant research, post information on upcoming related public events, and so on. Share these with faculty and students in related courses or in the major.



### 寫班報

讓同學分組合寫一份和課程有關的報導，文章內容可選相關研究或最近發生的新聞等，並與其他老師、同學分享。

## (12) Concept mapping

Here students create visual representations of models, ideas, and the relationships between concepts. They draw circles containing concepts and lines, with connecting phrases on the lines, between concepts. These can be done individually or in groups, once or repeated as students acquire new information and perspectives, and can be shared, discussed, and critiqued.



## 概念圖

請學生利用與概念相關的模型、想法和關係製作圖像，可畫圈來表示某概念，再畫線並在線上寫出關鍵詞來表達概念之間的關聯。製作概念圖不限於個人或小組、一次或多次，每當學習新資訊時，都可以畫概念圖來與他人分享、討論或評論等。