

What is the optimum class size for online learning?



什麼是線上學習最適宜班級規模？

Scientists have spent lifetimes researching numbers: everything from Pi, which measures the ratio of a circle's circumference and can be found in nature, to predicting the amount of snow the Wasatch Mountains will receive in a season. We are both baffled and motivated by numbers, which represent so much more than just a simple quantity.



科學家們花了一生去研究數量：似乎任何事物皆來自 PI，PI 是用來測量圓的周長，你也可以在自然界發現它，像是預測一整季沃薩奇山脈的雪量。我們對這些數字可能感到困惑與激勵，因為它們代表的意義不僅僅只是一個簡單的數量。

And so it may be no surprise that the optimum class size for online learning is not an absolute and simple amount. To many students and educators in higher education, it's an unsolved equation.



因此最好的線上教學班級規模不會是一個簡單且絕對的數量，這並不值得驚訝，對許多受過高等教育的學生們與教育家們來說，它仍然是一個尚未解決的方程式。

For University of Utah accounting major Lisa Liu, the bottom line is how much she can learn and how difficult the online course is. She sits in the Marriott Library, neck straining over a large stack of books, room as quiet as it is empty. She explains how she took an online economics class in which class size seemed unimportant compared to the compact schedule and lack of extra credit.



對於在猶他大學裡主修會計學的麗莎·柳而言，最根本的問題是在於她可以學到多少，以及線上課程的難易度如何。麗莎坐在萬豪圖書館裡，埋頭於大堆的書籍當中，房間就像空蕩蕩一樣的安靜。她解釋如何參與線上經濟學課程，而修課人數與緊湊的工課表和缺乏的學分相比，似乎顯得不那麼重要。

“We only had readings and a couple of tests so the size of the class didn’t really matter. The teacher was readily available to help, but I like regular classes better,” she says.



“我們只有一些的讀書會和考試，所以班級的人數並沒有多大的影響。雖然老師能隨時提供幫助，但是我還是比較喜歡一般的上課模式”麗莎·柳說。

Recent studies — including [a meta-analysis](#) by the U.S. Department of Education released in June 2009 — show that college students who take part in online instruction tend to perform better than through the same course in a traditional classroom setting. But overall, little is evidenced on how many students per course make for the best online learning experience.



最新的研究(包含由美國教育部於 2009 年 6 月所發表的 meta 分析)，顯示出大學學生參加線上課程的表現往往會優於在教室教學的傳統學習模式。但總體而言，幾乎沒有資料顯示，一堂課有多少學生才能製造出最佳的線上學習經驗。

When the University of Utah began its online program in fall 2000, the U wanted to grow the program slowly “to be able to monitor and research what strengthened the program and what did not,” said Jay Deuel, the U’s online program director. That monitoring didn’t necessarily include research about online class size. The [Technology Assisted Curriculum Center](#) does not decide the number of students allowed in each online class. “The individual departments are in charge of making those decisions. We are just the support system,” Deuel explained.



當猶他大學在 2000 年的秋天，開始實施線上教學計畫後。計畫主持人杰·德埃爾說：“先能監控與研究出在這計畫中什麼地方能夠加強;什麼地方不行。”，所以 U(猶他大學)需要這個計畫成長與實行。而監控設備不必包含有關線上課程人數的調查。技術輔助課程中心並未決定每一堂線上課程的學生人數，德埃爾並解釋說：“每一個開課系所負責該堂課的上課人數，我們僅提供系統支援”

Eric Oestmann, Online Educators International president, and psychologist Joanne Oestmann studied whether there were differences in learning outcomes based upon online class size. Their report, “Relationship between online class size and student discussion interactivity,” released in 2005 through the Journal of Online Educators (JOE), shows that an online class with 20 or more students has more interaction (classroom discussion and number of discussion posts) and higher final grades than a smaller online class of 10 or less students. Helpful information when deciding online class size, but much more goes into the process than a simple optimum number for an online course.



線上教育國際主席 埃里克·奧斯特曼和心理學家 喬安妮·奧斯特曼研究根據線參與上課程的人數多寡是否會對學習成果產生差異。他們於 2005 年線上教育者期刊 (JOE) 中發表的“線上課程的班級大小和學生討論互動性的關係”，提到線上課程有 20 名或以上的學生會有更多的互動(如：

課堂討論和數個討論的即時報告)，而學生的期末成績也高於 10 人或 10 人以下的班級。這對決定一個線上課程的班級人數來說，是有用的資訊，但還有更多要從事的過程，才能得到簡單且最佳的數字。

Nora Wood, Political Science Department advisor and instructor, said her department makes decisions about online class size from the feedback they receive from professors. "Through experience, professors find the optimal class size for the curriculum they are teaching."



政治科學系的教授與講師 諾拉·伍德說她的系所在制定課程人數時，是根據每個任課教授的反應。“通過教學經驗，教授找出所任教課程的最佳上課人數。”

In her online POLS 1100 class, Wood finds that about one-third of her class does the bare minimum, while five to six students keep the online conversations going. "A class needs enough people so that the discussion continues, while too many students (which seem to be more than 30 in my class) make it difficult for the professor to keep up with grading," she said. Online classes were once capped at 20 students in the Political Science Department, but the demand for more online course offerings raised the number to 30 students. "Online classes need to have enough students to make the cost worthwhile for the department offering the class," Wood said.



在她的 POLS 1100 線上課程中，伍德發現大約三分之一的規模為最低限度，能同時和 5-6 名學生保持線上通話。她說“一個班級需要足夠的人數來延續課堂討論，但太多學生(在我的班級中，似乎約超過 30 人)使教授難以了解學生的程度。”在政治科學系中，每個線上課程的人數上限是 20 個學生，但針對某些課程的需要，將會提高人數到 30 位學生。她說：“線上教學需要足夠的人數來提供足夠的開銷，讓系上能夠提供這門課程”。

The percentage of students signing up for online courses has increased steadily since 2000, Deuel said. The delicate balance between varying factors such as

course goals, technology and department guidelines further complicates the equation of the perfect online class size. But does it really make a difference to students?



德埃爾說：從 2000 年開始，註冊線上課程的學生比率一直穩定地上升。這是在種種的因素中取得巧妙的平衡，像是課程目標、技術、系所的指導方針，使最佳線上教學規模的方程式，更加的複雜。但這真的對學生有不同的影響嗎？

Easton Ercanbrack, a chemical engineering student, said he wouldn't let on if there was a problem with the size of the online class — instead he'd work harder to get the work done. "I took a financial lit class online ... and the number of students in the class was not a concern to me."



一名化學工程系的學生伊斯頓·埃爾詹·布拉克說，假如因為線上教學的規模而出現問題，他並不會去告訴別人 – 取而代之的，是他會更加努力把工作完成。"我參加一個金融文學的線上課程 ...而在課堂中，學生的數量並不是我關心的問題。"

Biomedical engineering student Seth Welborn would speak up. "Fifty people signed up for my online ethnic studies class. With the amount of people that participate, about 30 ... the discussions are very helpful. If there were more people contributing it would be overwhelming and I would probably say something to the professor."



生物醫學工程學生，賽斯韋爾伯恩說"我的線上種族研究課程中有五十人登記上課，而實際參與討論的同學約 30 人 ...與他們所得的討論是非常有用的。如果有更多的人貢獻他們的想法，那真是無法抗拒的，我可能會對教授表達一些意見。"

There may be no magic number for the optimum size of an online course and it may not matter. With more and more students signing up for — and departments offering — this style of course, it may only be an issue of personal taste.



可能沒有神奇的數字來表達線上課程的最佳規模，這並不重要，隨著越來越多的學生登記參加和系所的開設，這種形式的課程，它可能只是一種個人品味的問題。

Sandy Margulies contributed to this story.

這個故事來自桑迪·馬古利斯。