



網奕資訊科技股份有限公司  
HaBook Information Technology Inc.  
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# IRS即時反饋系統

## 研習會

網奕資訊科技股份有限公司  
台中分公司 副理  
許 嘉 雄

# IRS互動教學即時反饋系統

## IRS即時反饋系統

(Interactive Response System，簡稱IRS)

讓課堂中全班學生可以即時反饋資訊給老師的一種教學應用系統。

# IRS即時反饋系統設備

- 老師上課遙控器
- 學生作答遙控器
- 訊號接收器
- **IRS**作業軟體
- 單槍投影機



# IRS即時反饋系統運作方式

Haboard互動電子白板

接收器

網路

資訊講桌  
(IRS即時反饋系統)

老師遙控器

投影機

學習歷程資料庫網站

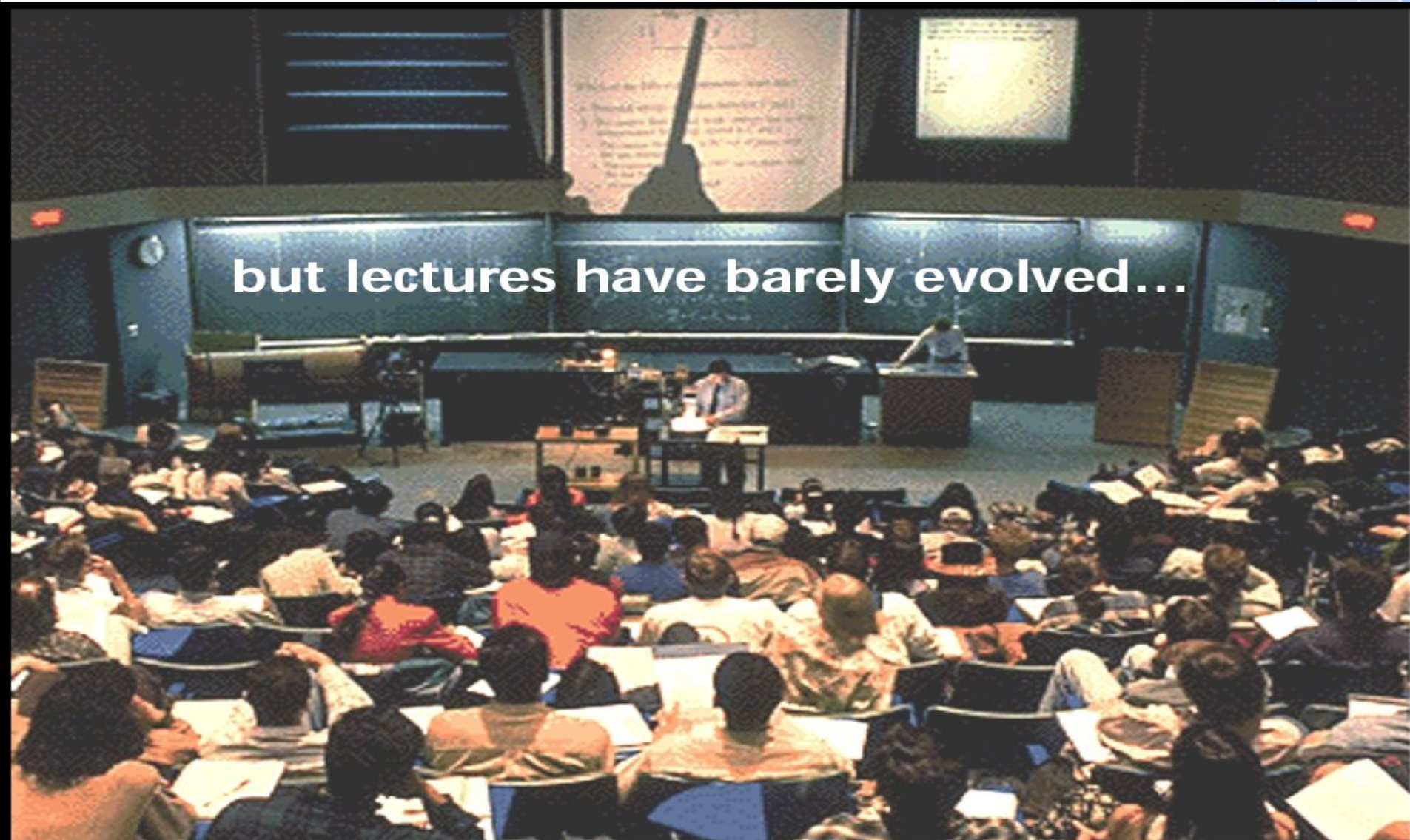
學生反饋裝置





# 為何要使用 IRS 輔助教學系統？

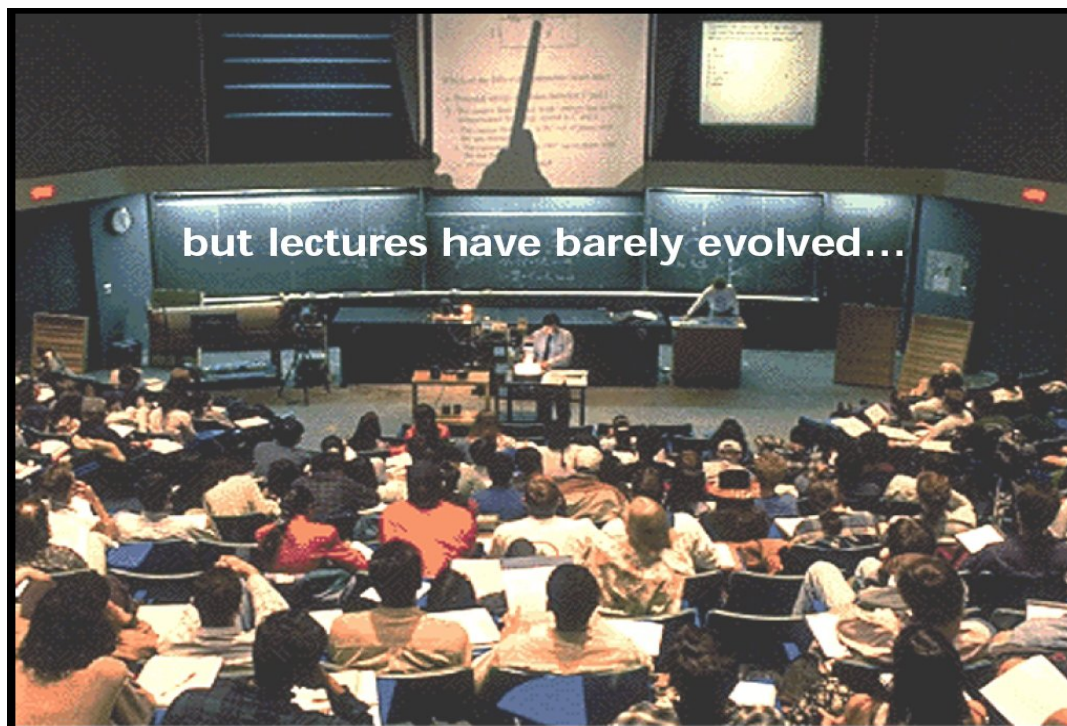
but lectures have barely evolved...



# 請問在這樣的大班教學環境

老師是否容易掌握大多數學生課堂上學習的狀況？

1. 很容易
2. 容易
3. 不容易
4. 有困難
5. 很困難

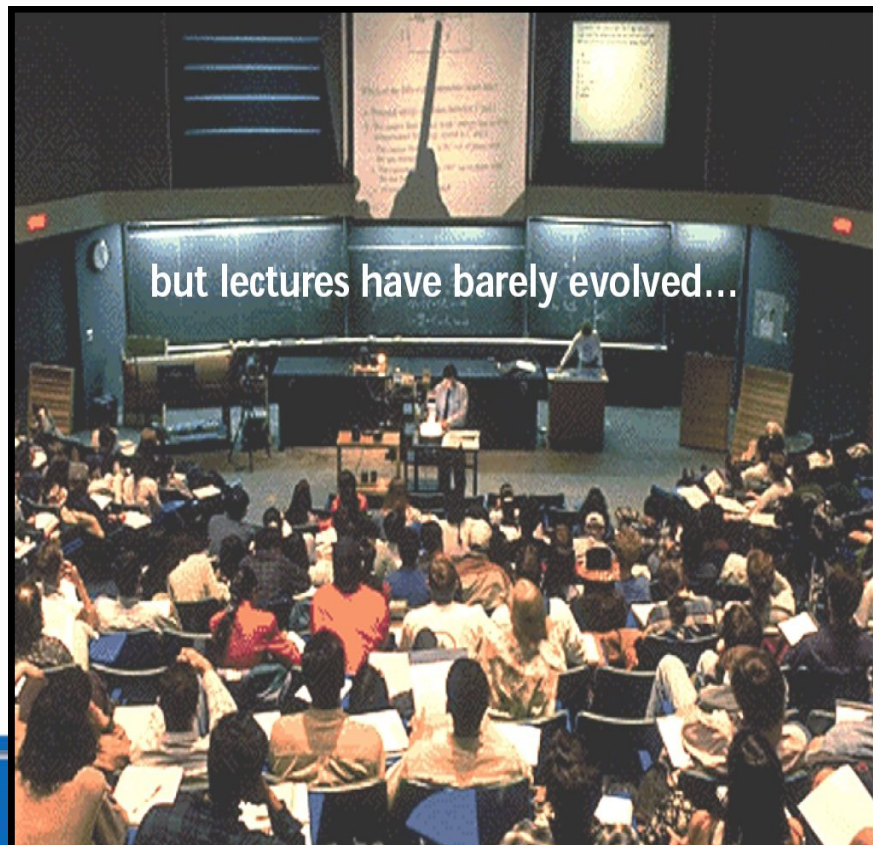




# 請問在這樣的大班教學環境

老師您最常發現哪些學生的情形？

1. 大多數人都專心聽課
2. 低頭抄筆記
3. 蹺課
4. 上課打瞌睡
5. 做其他非課堂內事情
6. 其他





# 請問老師在一堂課結束後，您能掌握學生對授課內容的理解程度是多少？

- 1. 20~30%
- 2. 30~50%
- 3. 50~70%
- 4. 70~90%



# 老師教學時常用的策略

## 常見的教學策略

## 目的

## 學生的感受

1 提問

瞭解學生 吸收的程度

不一定問到我

2 作業

瞭解學生 吸收與應用的程度

不用心、粗糙

3 考試

瞭解學生 吸收與應用的程度

考完就罷

4 點名

提高學生 出席率

人到心沒到

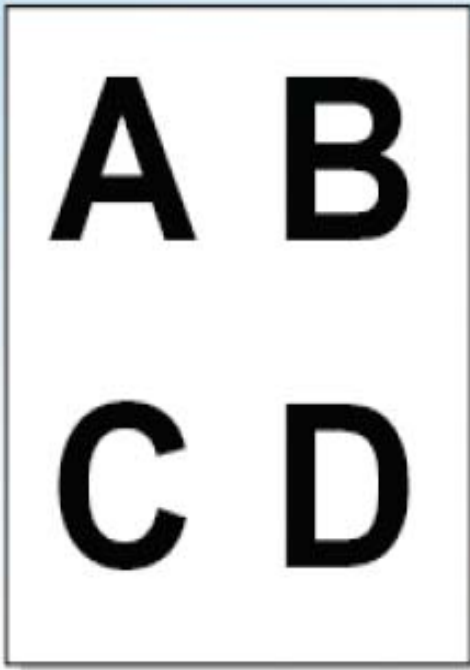
## ■ 常見的學生學習態度與策略：

課前不預習； 課後不複習； 上課遲到缺席；  
作業草率拖欠； 考前抱佛腳； 考後不檢討；  
成績不代表實力； 課中做自己愛做的事等。

怎樣  
改善 學生的學習態度？  
與  
提高 教師教學的成效？

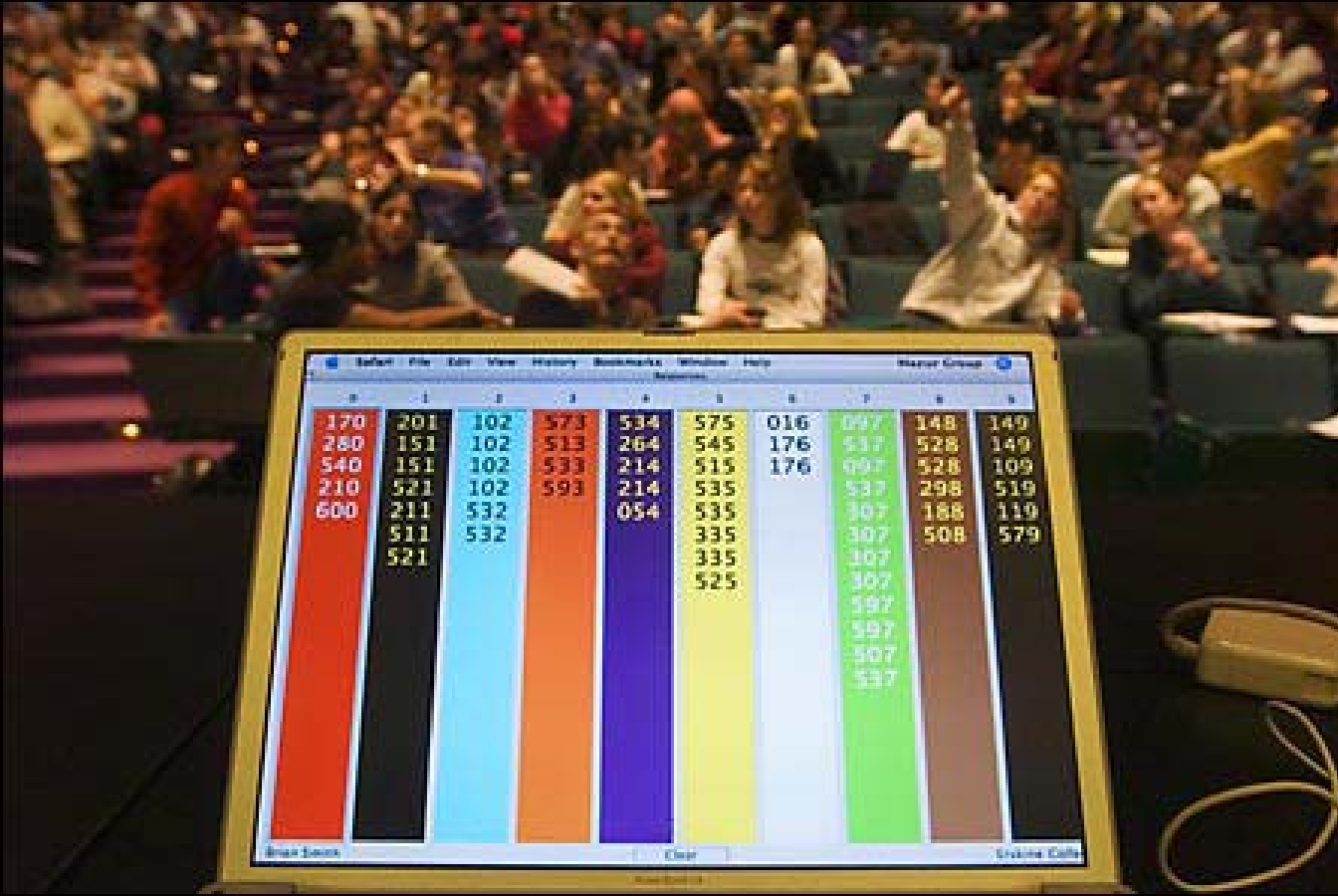


- Flashcards



爲了發展可以讓學生可以即時反饋的教學輔具，早在1991年，美國哈佛大學物理系教授Eric Mazur 便設計了Flashcard讓學生可以立即反饋問題的選項，應用於同儕教學法（Peer Instruction）中。

Eric Mazur教授說：『我從講述式的教學轉換到問答式教學，利用Flashcard表決，是幫助我能夠立即清楚學生學到什麼，或者思考學生學到什麼。』



## ■ 哈佛大學IRS應用



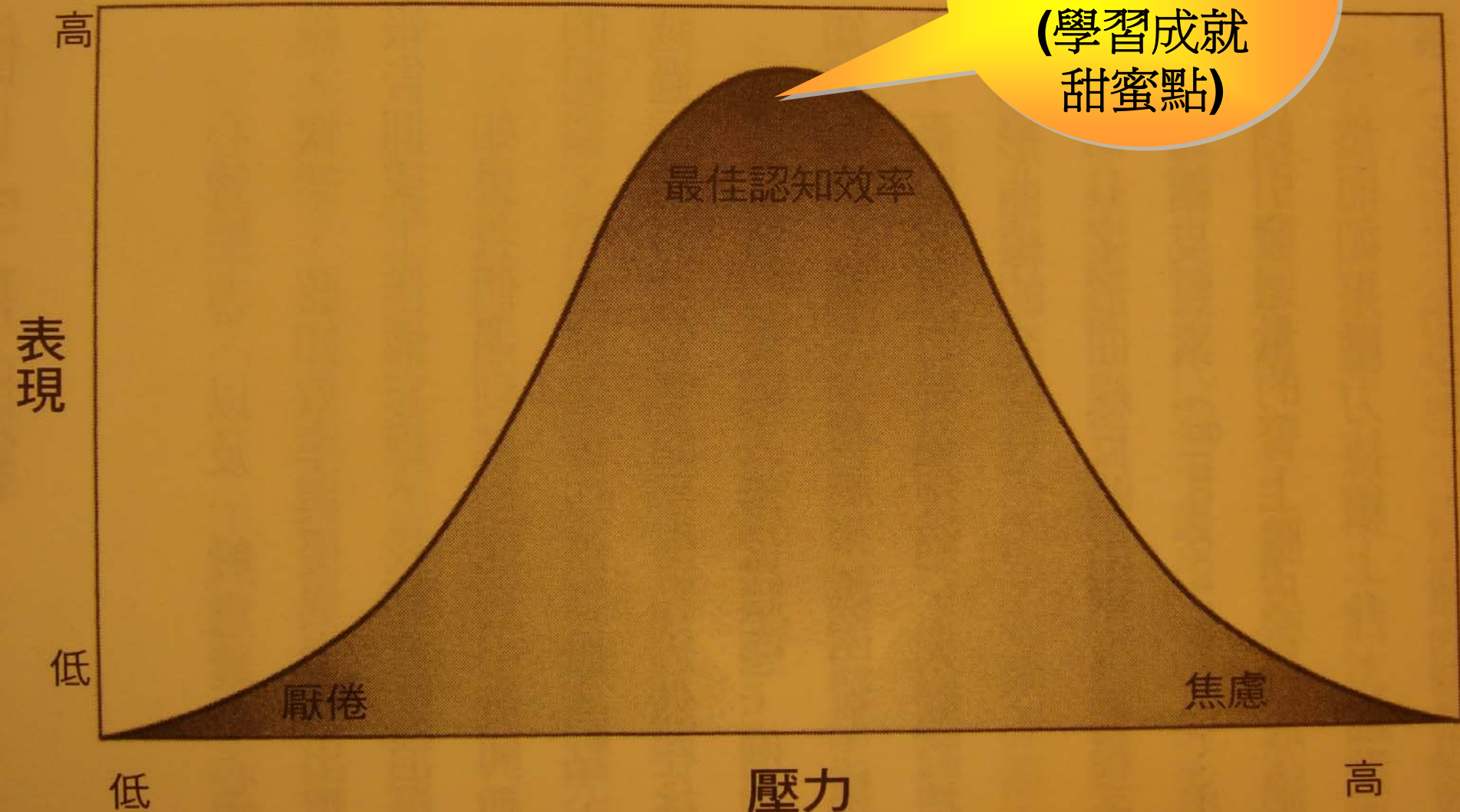


# IRS應用於課堂的研究發現

- 讓學生隨時保持專注
- 激勵學生主動學習

# 倒u字形學習曲線

專注和動機  
達到最高點  
(學習成就  
甜蜜點)



# 成功案例.成果分享





http://www.it.northwestern.edu/srs/



Google



檔案(F) 編輯(E) 檢視(V) 我的最愛(A) 工具(T) 說明(H)



Student Response System (SRS), NUIT, Northwestern ...

# 西北大學

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### Student Response System (SRS)

Installing SRS Software  
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ABOUT NUIT

### Student Response System (SRS)

Student Response System (SRS) refers to an integrated hardware and software system that allows instructors to pose questions and gather students' responses during a lecture. Student Response Systems are also called Classroom Response Systems, Personal Response Systems, Audience Response Systems or Clickers.



SRS has two hardware components; a remote (or clicker) for students, and a receiver for instructors. The SRS software component is an application installed on the instructor's computer that allows instructors to create an interactive PowerPoint presentation.

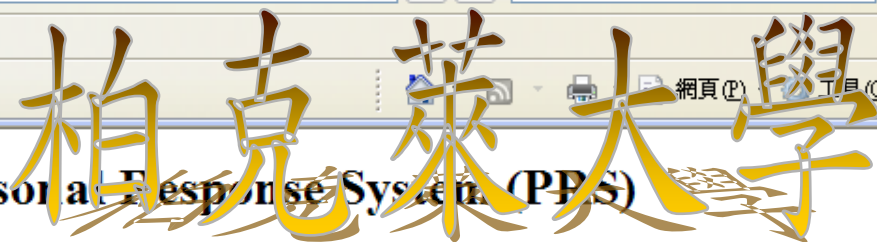
During class, students respond to the questions or problems in the presentation by using their clicker, and then the receiver on the instructor's computer gathers the data, and shows summaries of student responses to instructors and students. Answers are also stored electronically for later viewing.

Northwestern has standardized clicker devices and supporting software from

NUIT



## Using the InterWrite PRS Personal Response System (PRS)



### INTERIM REVIEW of PRS - Digital Chem1A Spring 2003

The Department of Chemistry maintains a system in 1 Pimentel Hall for real-time, interactive collection and display of student responses to questions posed by the instructor.

**How it Works:** Students register their response via individual IR transmitters (similar to a TV remote controller). IR receivers in the ceiling receive the signal. Wireless RF clients collect the data and broadcast it to an RF server attached to a host PC running PRS software. The students' responses can then be displayed in a variety of formats, on the fly, or all at once via computer projection.

**The PRS components:** (RED: supplied by students; GREEN: supplied by instructor; BLUE: installed or provided in 1 Pimentel Hall)

- **Transmitters:** These are handheld units that students can buy at the local bookstores. There is no supply of loaner transmitters at this time.
- **Personal Computer (PC):** Student response data is collected, processed, and presented using a host PC which must have PRS software v2.81 installed. Most laptop PC's have the required serial (RS232, 2-row, 9-pin) port, and an auxiliary VGA (3-row, 15-pin) graphic output port needed for projection. Contact [Lonnie Martin](#) (ph. 2-6687) to have the software installed if you prefer to use your own computer as the host PC. Contact [Richard Bloom](#) for access to a properly configured on-site laptop host PC in 1 Pimentel Hall. Contact Campus Educational Technology Services ( [ETS](#) ) for longer term loan of a laptop PC.
- **Computer Projector:** ETS can project the PRS Data from the host PC onto the overhead screen in 1 Pimentel, or they can provide a portable projector for display elsewhere in the room. Make arrangements with ETS in advance.
- **Receivers:** Permanently installed in the ceiling; students just need to point their transmitters 'up'.
- **RF Client and Server:** Used to transfer the data from the receivers in the ceiling to the host computer. The Client (RF transmitter) is permanently installed in the ceiling of 1 Pimentel; the Server (RF receiver) connects to the serial (RS232) port of the host computer.

How to Use the PRS in your class:

Instructional Technology  
Classroom Facilities[Overview](#)[Browse by Building](#)[List all Rooms](#)[Advanced Search](#)[Support Documents](#)[Event Support](#)

## 220 Chrysler

[Click Here to View a Virtual Reality  
Panoramic Photo of this Room](#)

## CoE Classroom

## Overview

Building: Chrysler ([Map](#))

Capacity: 234

Writing Surfaces: 4 whiteboards

Equipment/Capabilities:

- [Video Projector](#)
  - [DVD Player](#)
  - [VCR Player](#)
  - [Microphone](#)
- [Document Camera](#)
- [Student Response System](#)
  - [Touchscreen Panel for Control](#)
- [Lecture Capture System](#)
- [Special Event Support](#)

## Equipment Notes

GTCO CalComp InterWrite PRS





## Qwizdom in LSA

### Home

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### Background

Used to promote interactivity and guide the grasp of concepts, student response systems or "clickers" offer faculty a means to give students a new way to engage with course material and simultaneously assess their level of understanding. Using aggregated data showing responses to question slides, instructors are immediately able to see what students understand and then tailor class time as a result. See Educause research and resources on [Student Response Systems](#).

For the past 2 semesters, an LSA-sponsored pilot of the Qwizdom response system has been highly successful, with over 7000 enrolled students using the clickers in 27 [LSA](#) courses. Overall faculty and student reaction and formal evaluations have been very positive. As a result, the LSA Dean's Office has approved Qwizdom as the standard system that will be supported in LSA. The College will provide instructors who would like to explore using Qwizdom in class with the equipment they need to get started, free of charge.

### Using Qwizdom in Fall 2007: Deadline June 1

So that remotes can be available for your Fall class, we will need to communicate with the ITCS Computer Showcase by June 1 to request the remotes be in stock for student purchase. Contact Carla Stellrecht ([cstellre@umich.edu](mailto:cstellre@umich.edu)) if you would like to use the Qwizdom student response system in Fall 2007.

Qwizdom remotes will be available for students to purchase through the ITCS Computer Showcase in the Fall. To see Showcase Qwizdom information:

[Qwizdom Student Remote](#)

OR

[Showcase Form for Requesting Qwizdom for Fall Courses](#)



在美國有超過**1000**所大  
學導入**IRS**互動教學系統

規定每一位學生在開學  
時自行買一隻遙控器

