

# 有效的教學技巧



邱于真

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# Outline

- Introduction
- **Why** emphasize teaching?
- **How**
  - Motivation
  - Lecture
  - Other teaching methods
- Conclusion



# Introduction



Why emphasize teaching?



# Golden Principles of Undergraduate Teaching??

大學教學的黃金原則



# Motivation-Two perspectives

- “Our biggest problem here is that the students just are not motivated. They just don’t seem to care, they are not interested in learning. I can’t teach students like this, if they don’t have it before they come here, then I don’t know what to do.”

Faculty member



## Motivation-Two perspectives (cont.)

- “Well, to me, it is up to the professor to motivate me. I want to learn, but sometimes the material is so boring and the professor just loves it and they go on and on about meaningless things. You know, just because they are interested in it, it doesn’t mean everyone else is, they should try to listen to a lecture in a subject they don’t know anything about and see if they like it. I bet they would fall asleep too.”

College student



# Factors influencing Motivation

- Amount of choice
- Desire to learn
- Value of the subjects
- Level of challenge





# Motivation-from theory to practices

## ■ Reinforcement theory (強化理論)

- 獎勵、稱讚

## ■ Need theory (需求理論)

- 提供成功的機會

## ■ Attribution theory (歸因理論)

- 失敗---努力



# Motivation-整合型動機策略

- ARCS model (Keller, 1983, 1987)
  - **A**ttention : 維持注意
  - **R**elevance : 有適切感
  - **C**onfidence : 建立信心
  - **S**atisfaction : 獲得滿足

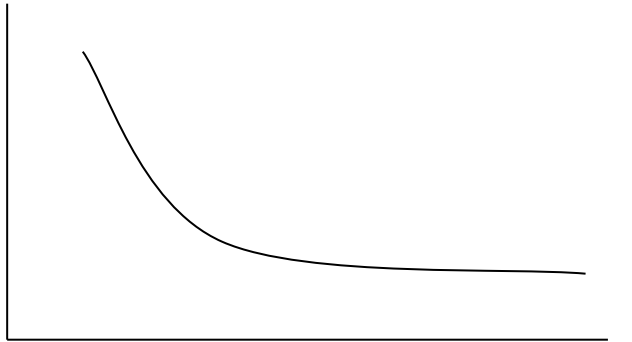


# Motivation-more practical practices

- 安排作業時，將學生的「選擇權」以及「控制感」納入考慮
- 在課堂上分享自己在教學以及研究上的內在動機
- 設法使課程以及討論有趣
- 讓學生在平時考試時熟悉考試形式，並得以從錯誤中學習。批改考卷時，可以考慮將大部分學生答錯的題目刪除，並且在發回考卷的時候，重新再將該觀念教一次
- 教師的回饋必須是即時、有建設性，而非控制性的
- 營造班上氣氛為合作（cooperative），而非競爭的（competitive）

# 學生上課注意力曲線

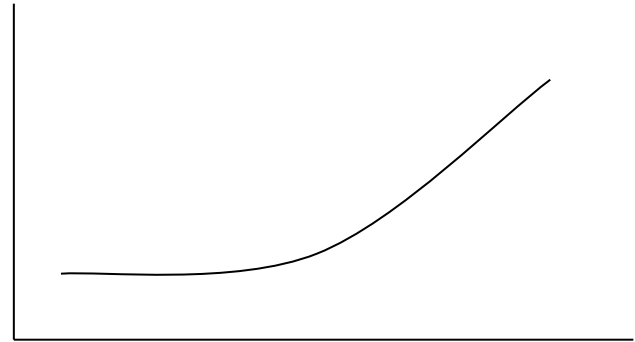
注意力



開始

50分鐘 時間

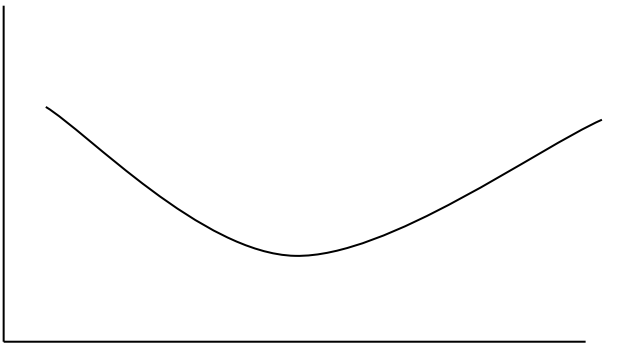
注意力



開始

50分鐘 時間

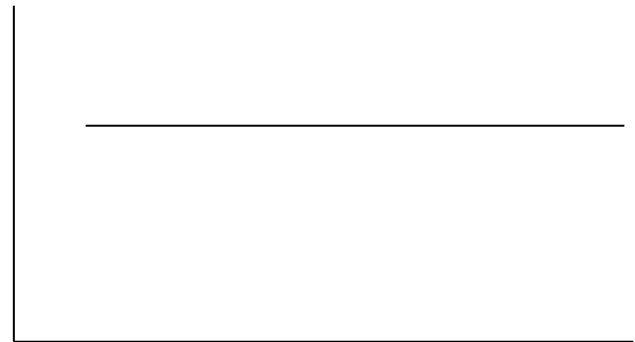
注意力



開始

50分鐘 時間

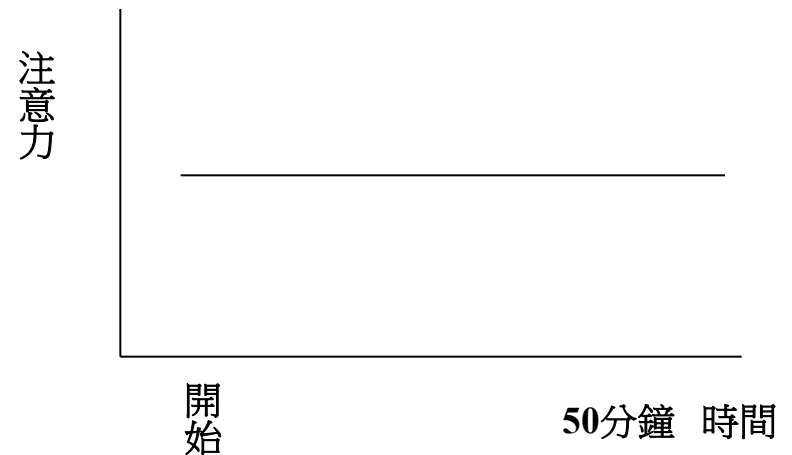
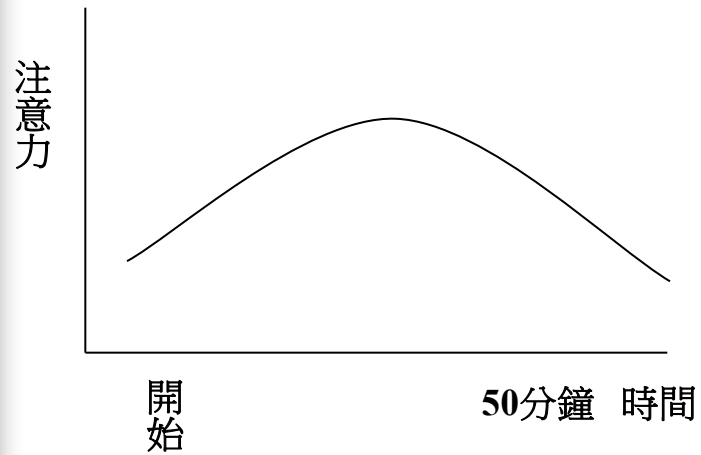
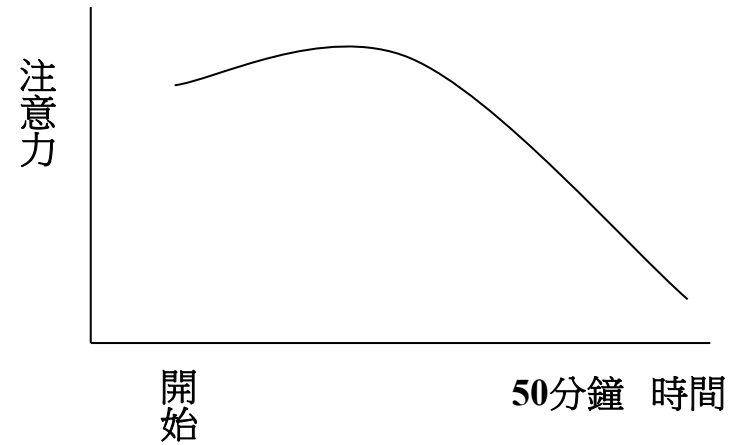
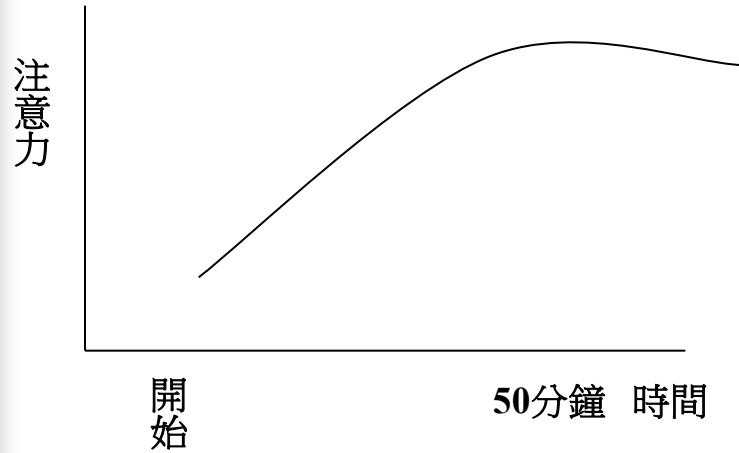
注意力



開始

50分鐘 時間

# 教師上課注意力曲線



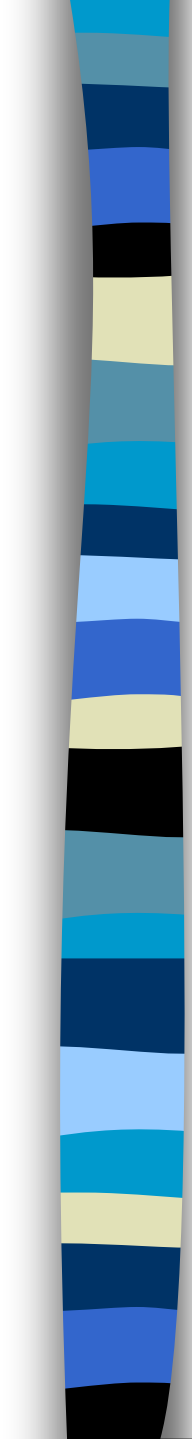


*All are sleeping*

*Just one is preaching*

*Such performance is called here  
“teaching”*

(A German Jingle)



Dilworth (1996) :

# *Spray and Pray*

噴灑與祈禱學習法



# Lecture : pros and cons

- 歷史最久，最廣為使用之教學法
- **Pros** : transmit facts, share complex intellectual analyses, synthesize ideas, clarify controversial issues, compare and contrast different viewpoints
- **Cons** : lack of promoting independent thought or developing thinking skills





# Lecture : in the beginning of class

- 上課前在黑板旁寫本單元outline
  - 讓學生知道本單元的what, why, relationship, conclusion



# Lecture : in the beginning of class

- 引起動機之opening

- **gap in cognitive structure**, provocative questions, startling statement, unusual analogy, striking example, personal anecdote, dramatic contrast, powerful quote, short questionnaire, demonstration, recent news



# Lecture : in the middle of class

- 配合及調整學習曲線
  - 學生注意力集中10-20分鐘
  - 改變教學活動(problem solving in group, demo, audio-visual)
- 集中在幾個主要論點 (**Less is more**)
  - 從不同角度彰顯3-4個主要論點
- 說明解釋
  - 具體 → 抽象
  - 多使用與學生生活經驗或知識相關的例子



# Lecture : at the end of class

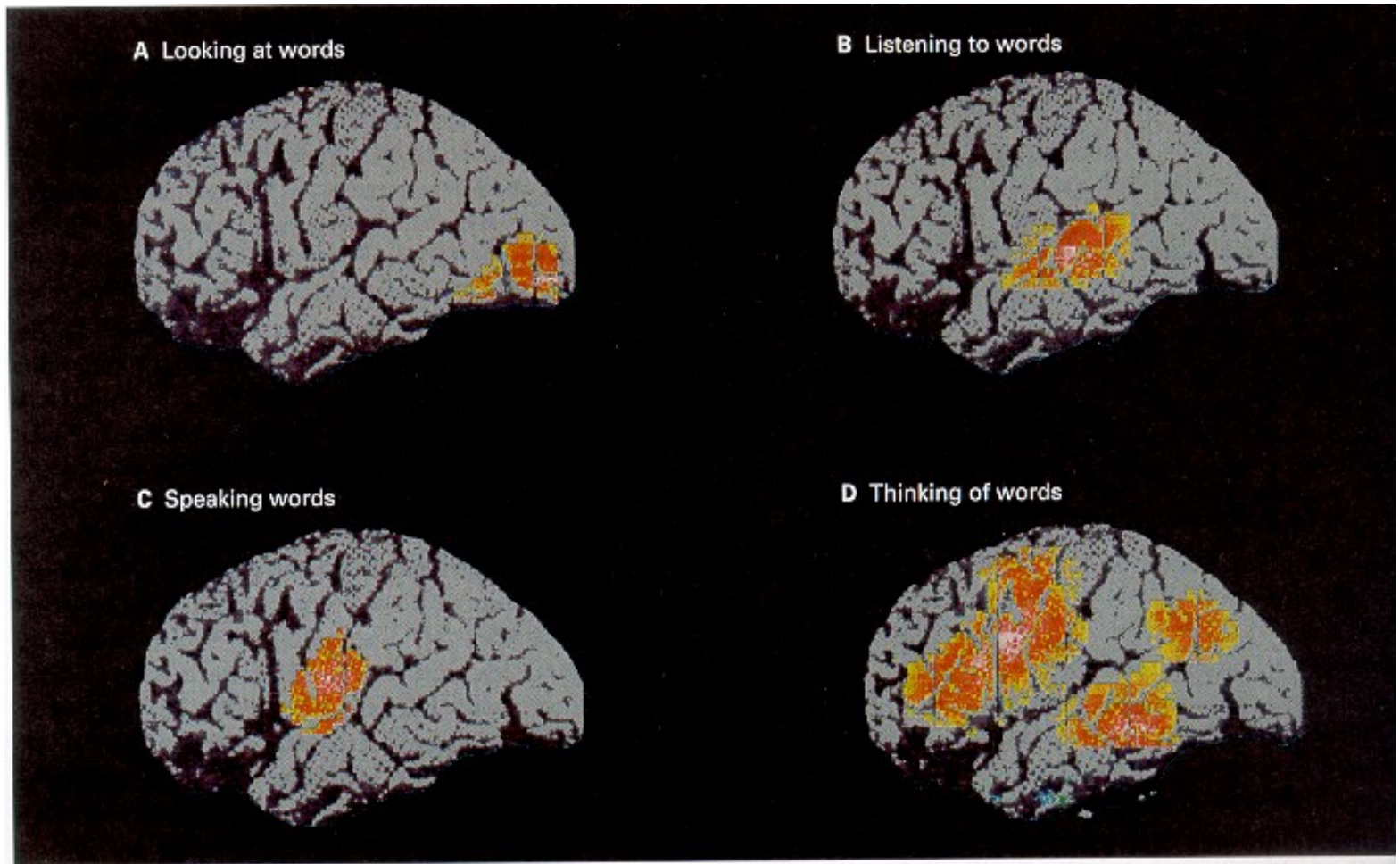
- 連結已學與下次課堂內容
- 請一位學生總結今日上課內容
- 一分鐘報告 (one-minute report)
  - 今日學到重要觀念
  - 尚未獲得解答的疑惑

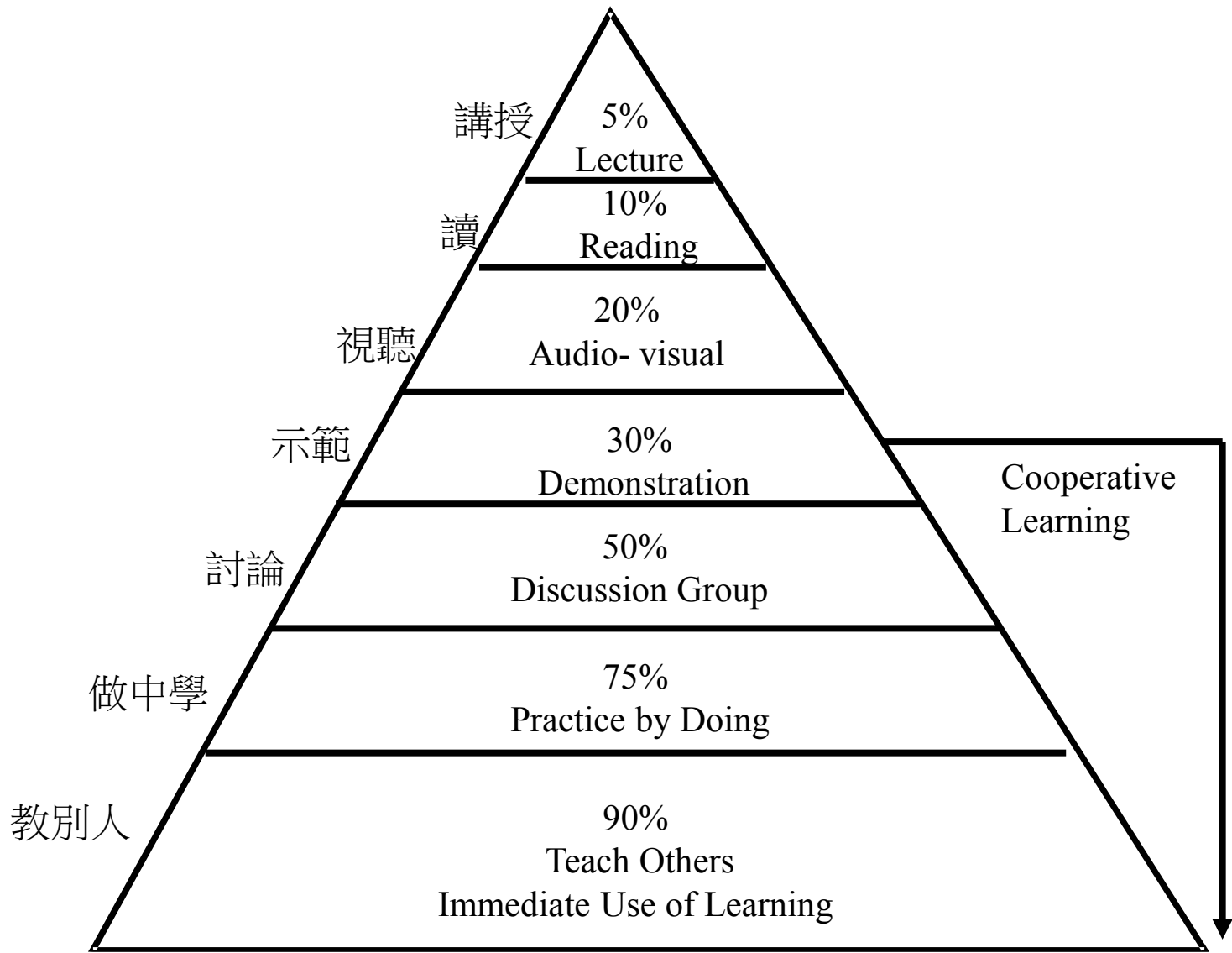


# Lecture : attention

- 「考試會考」!
- 變化：聲音高低、大小、強弱、速度的變化，停頓；身體語言、臉上表情、身體位置移動；eye contact；視聽媒體的運用
- 維持動機：與學生興趣結合、製造衝突解決的懸疑情境等
- 充沛的體力
- 口袋笑話
- Breaks

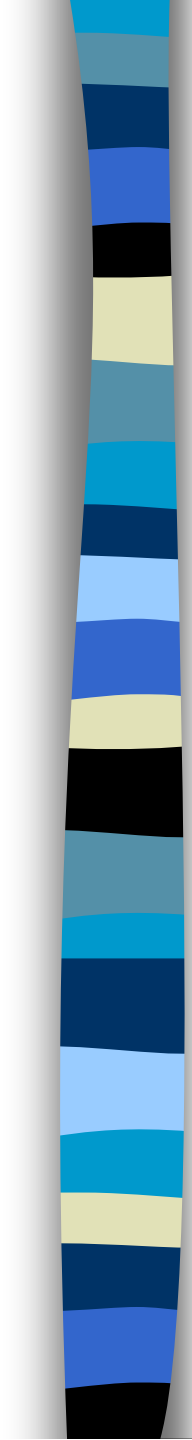
# Other teaching methods





# LEARNING PYRAMID

## % of Average Retention Rate



*Tell me, I forget;*

*Show me, I remember;*

*Involve me, I understand.*

(Chinese proverb)





## 荀子儒效篇：

不聞不若聞之，聞之不若見之，  
見之不若知之，知之不若行之，  
學至於行而止矣。



# 常用 vs. 有效教學法

- 「臺灣高等教育資料庫」大學教學研究
  - 最常用：單向講解課本與講義，卻是對學生最無助益的上課方式
  - 較不常用：師生互動討論及實作、實驗，卻是對學生較有助益的上課方式

# 學生對教學方式的好惡

| 最不喜歡的教學方式                        | 最喜歡的教學方式                |
|----------------------------------|-------------------------|
| 照本(講義/powerpoint)宣科、不加解釋、填鴨教學、沉悶 | 生動活潑、師生互動討論、學生分組討論      |
| 沒內容、組織散漫、表達不清                    | 有組織、有系統、有內容、與時事相關或生活化例子 |
|                                  | 有啟發、有挑戰(老師有創見、啟發性問題)    |
| 缺乏熱忱、自負、不尊重學生                    | 關懷鼓勵、尊重多元立場             |



# 多元教學法

- 依課程性質與內容，請儘可能嘗試多元教學法
- 影片欣賞、角色扮演、實地參訪、腦力激盪、辯論、同儕合作、小組討論……



# Conclusion

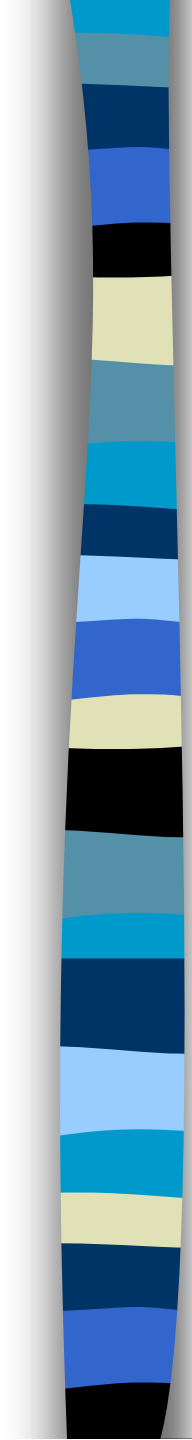
$$C = (K + S)^A$$

C=competence

K=knowledge

S=skill

A=attitude



感謝聆聽！  
敬請指教