

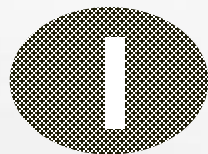
淡江大學104學年度教學創新成果報告

科技與遊戲混合之教學應用方法

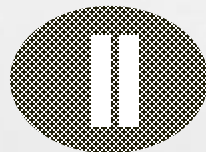
課程設計者：張瑋倫 教授（淡江大學企業管理學系）

整理者：教師教學發展組

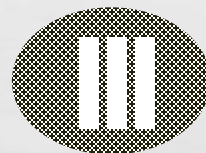
CONTENTS



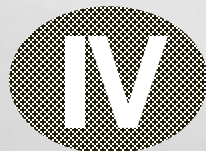
背景與動機



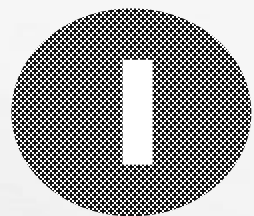
課程目標、設計與規劃



學生學習成效與回饋



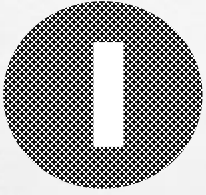
創新教學成果自評



背景與動機

一、背景

二、動機



一. 背景

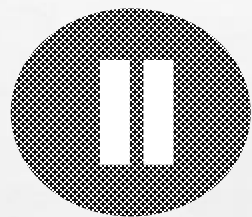
- McCoy (2013) conducted a survey for digital distractions in the classroom and results showed only 7.93% of students never used digital devices during classes.
- The survey from CENGAGE Learning (2014) showed students texted (35%) and used social media (20%) during classes.



背景與動機

二. 動機

- Since discussion forums and smartphone are the two major reasons for distraction in classes, this course used games and smartphones to stimulate interaction and participation.
- **Blended Design:**
 - Traditional game-based learning concept(Bingo Game) and the use of mobile technology(Socrative) on the learning motivation, knowledge sharing and critical thinking.

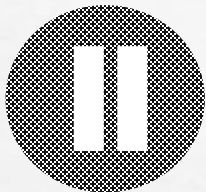


課程目標、設計與規劃

一、開課基本資料

二、課程教學目標

三、課程設計與規劃



課程目標、設計與規劃

一. 開課基本資料

開課教師

張瑋倫

開課系級

淡江大學企業管理學系

課程名稱

資訊管理
Management of Information System

年級

3年級

開課學年度

104學年度第2學期

選課人數

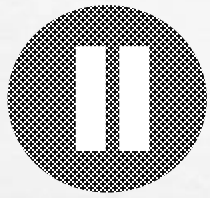
50-70人



二. 課程教學目標

➤ Goal of the Course

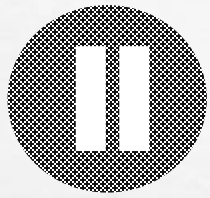
- The course “information management” is one of the five management concepts in core courses of department of business administration.
- The goal of this course was to teach students understand the basic concepts of information technology, importance of information technology, and the applications of information in enterprises.



二. 課程設計與規劃 (1/8)

➤ Teaching Strategy and Method

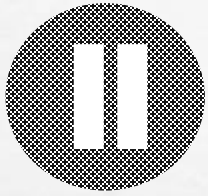
- The proposed teaching strategy and method is the concept of **game-based learning**. The instructor needed to prepare questions in advance for students and combine with :
 - **IRS (Socratic)**
 - **Bingo Game.**



二. 課程設計與規劃 (2/8)

➤ Socrative-introduction

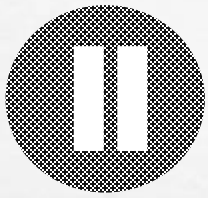
- “Socrative” (an IRS system) allows teachers to design/manage quiz easily through any device. The advantage of Socrative is to allow students use own device to input answers. Students can simply sign up and sign in designated classroom by student ID and answer the designed questions. Teachers can show the answers from projector by hiding students’ names and check attendance.



二. 課程設計與規劃 (3/8)

➤ **Socrative- application in class**

- Students were required to read assigned article(s) every week and answer a pre-designed question through Socrative.
- At the beginning of the class each week, the instructor check students' report and then show the right answers via projector during classes.
- During class, advanced or new questions are asked on Socrative; students are encouraged to share their ideas anonymously through their smartphones and the instructor may check the attendance as well.



課程目標、設計與規劃

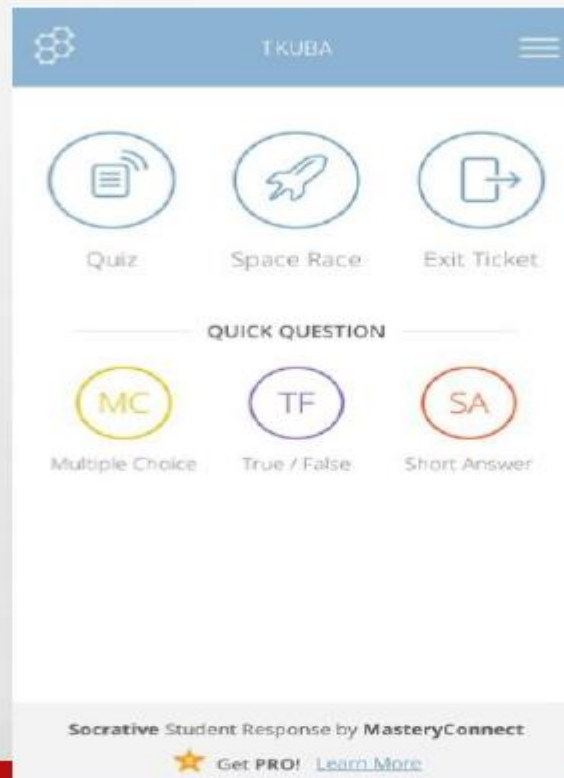
二. 課程設計與規劃 (4/8)

➤ Socrative- teacher's interface

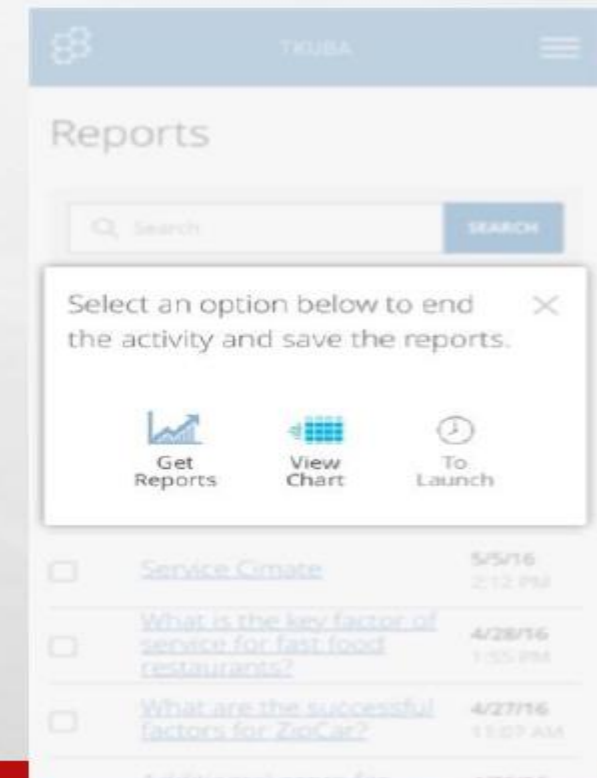
login

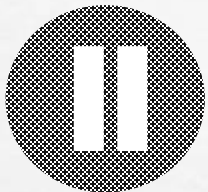
The login interface for Socrative by MasteryConnect. It features the Socrative logo at the top. Below it, there is a 'Teacher Login' section with fields for 'Email' (containing 'wchang@mail.tku.edu.tw') and 'Password' (masked with dots). A blue 'SIGN IN' button is positioned below the password field. At the bottom, there are links for 'Reset password' and 'Get account', and a 'Sign in with Google' button with the Google logo.

activities



results





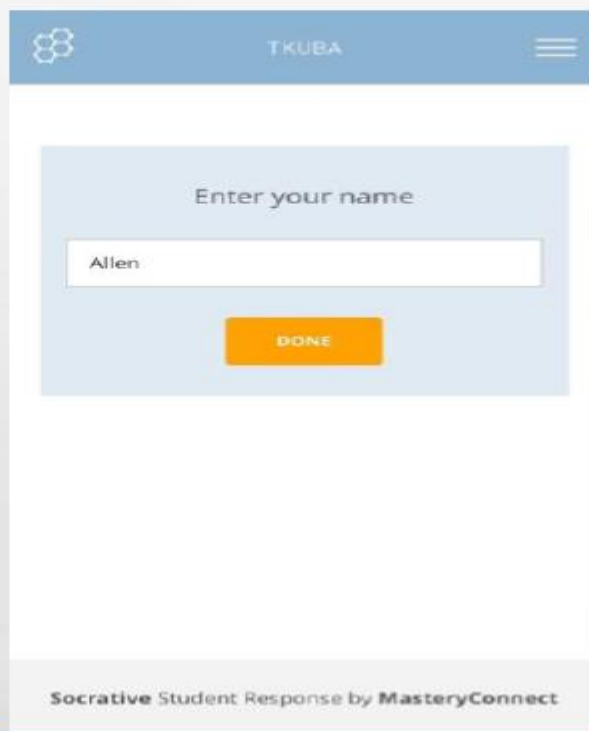
二. 課程設計與規劃 (5/8)

➤ Socrative- students' interface

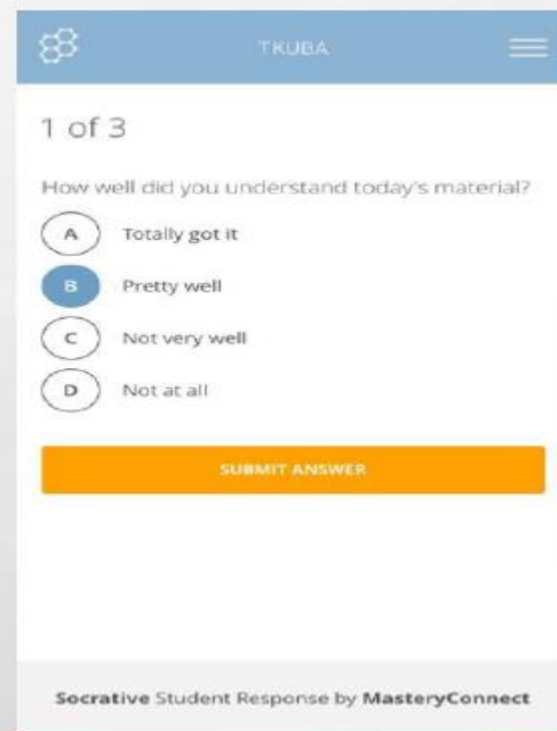
wait to start

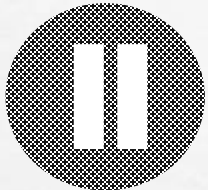


enter your name



Start to answer

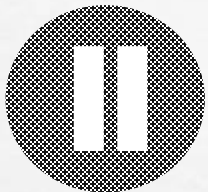




二. 課程設計與規劃 (6/8)

➤ Bingo game-introduction

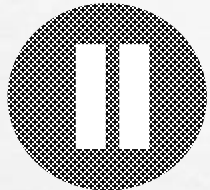
- Bingo game was used to encourage students talk and share each other during classes. Students were allowed to flip bingo cards when they share ideas and thoughts on **Socrative**. When they get five numbers and achieve a line on the bingo card(either vertical, diagonal, or horizontal), they get a point. The group has highest points at final week get an extra point for each member.



二. 課程設計與規劃 (7/8)

➤ Bingo Game- bingo card set

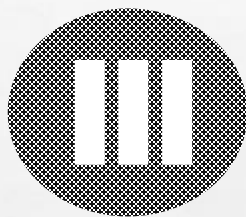




二. 課程設計與規劃 (8/8)

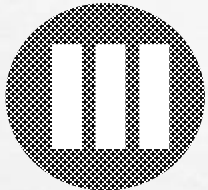
➤ Learning Performance Evaluation

- The learning performance was evaluated by midterm exam of written test (30%), final exam of written test (30%), attendance of participation (10%), assignment of homework (15%), and case presentation/discussion (15%). In addition, bingo game was the extra bonus on top of the final grade (up to 5%).



學生學習成效與回饋

- 一、成效評量工具及面向
- 二、成效評量結果
- 三、學生回饋



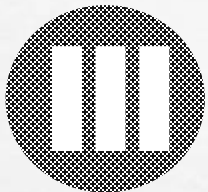
一. 成效評量工具及面向

➤ **Evaluation Tool:**

- (Pre-test and) post-test questionnaire

➤ **Three major evaluation aspects:**

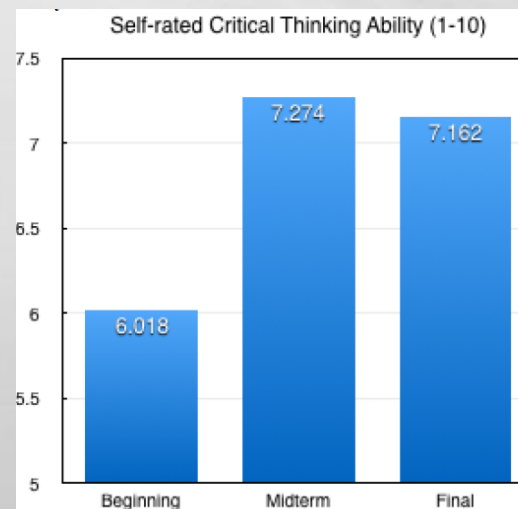
- critical thinking ability
- the use of mobile application
- the use of bingo games

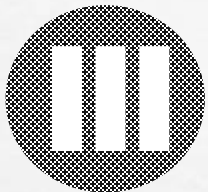


二. 成效評量結果 (1/6)

➤ critical thinking ability-1

- the average score of self-rated critical thinking ability is **6.018** in the range of 1 to 10.
- the average score increased to **7.274** in the midterm week (i.e., increased 21%).
 - The outcome shows bingo game and Socratic indeed stimulated students and help them think critically.

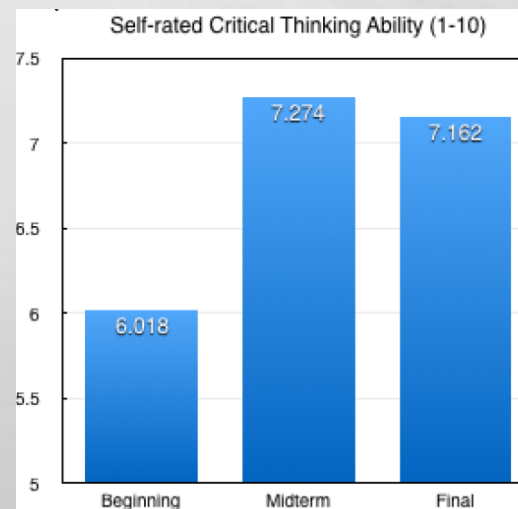


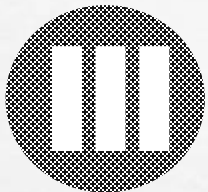


二. 成效評量結果 (2/6)

➤ critical thinking ability-2

- The average score at the end of semester dropped to **7.162** but did not show the significant decrement.
 - The slightly decrement from midterm week to final week was acceptable because students may still lose their focuses on classes.

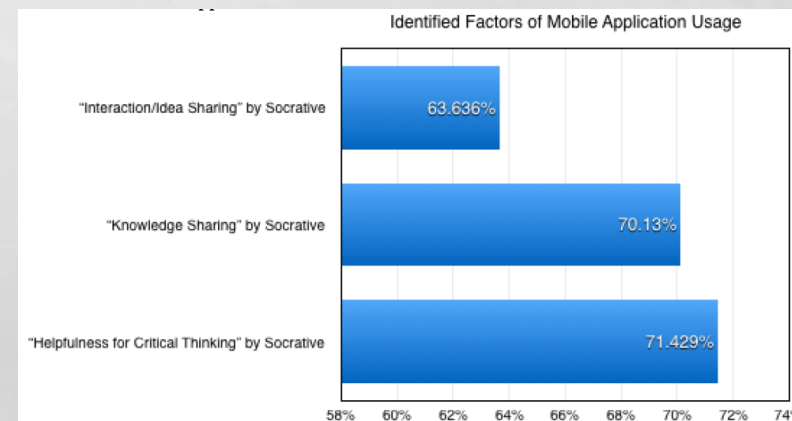


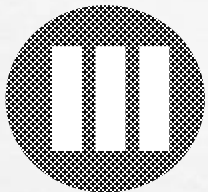


二. 成效評量結果 (3/6)

➤ the use of mobile application-1

- **71.429% of students** considered it was helpful for critical thinking process.
 - Students responded Socrative can allow them see answers instantly and anonymously.
- **70.13% of students** considered Socrative helped them share knowledge.
 - Students may see others responses on projector instantly and they had pressure to provide unique answers. It's more like an implicit competition to students.

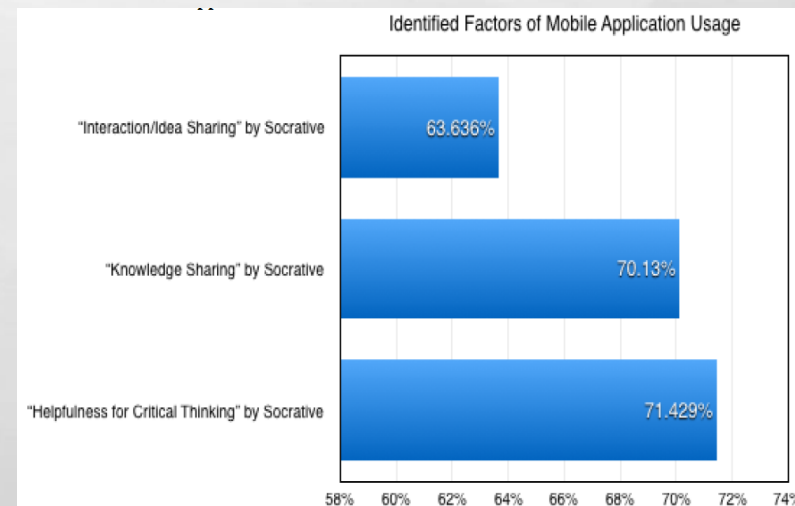


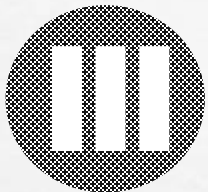


二. 成效評量結果 (4/6)

➤ the use of mobile application-2

- Finally, **63.636% of students** mentioned Socrative increased their willing to share and interact during classes.
 - Idea sharing can help students generate new thoughts by stimulation. The advantage of Socrative is to enhance informal learning process instead of lectures.

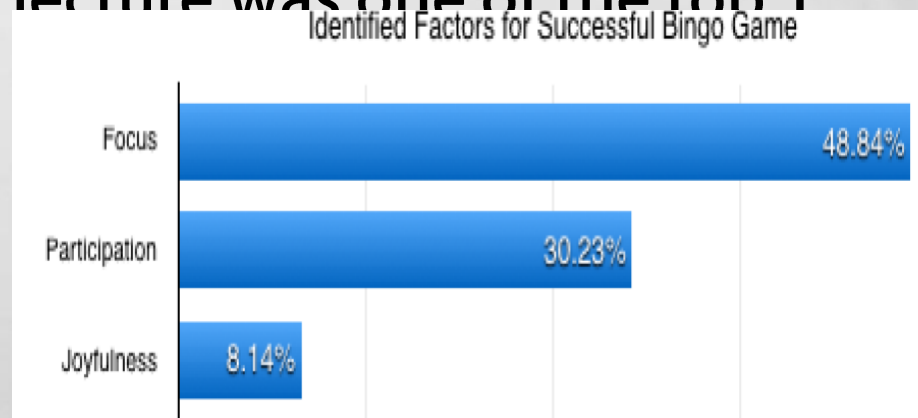


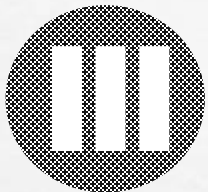


二. 成效評量結果 (5/6)

➤ the use of bingo game-1

- **48.84%** students believed bingo game can draw attention back to classes
 - because most students may lose focus during the classes without games.
- **30.23%** students believed the game increased their participation, which was the second highest factor.
 - Most college students indicated quality of lecture was one of the top 1 reason to attend the class.

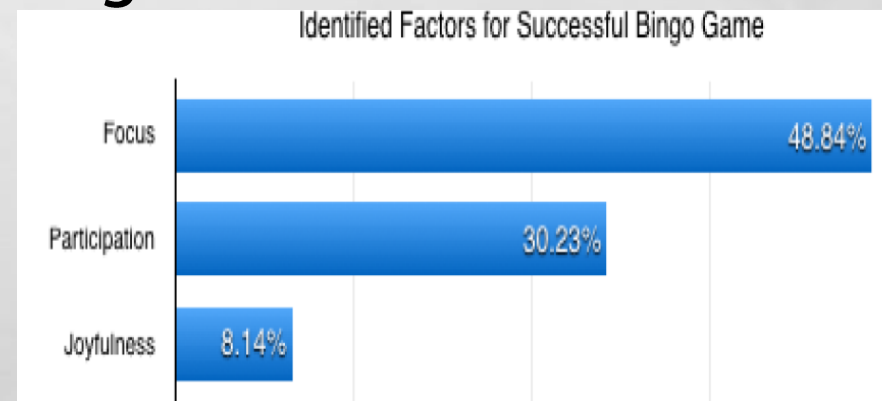


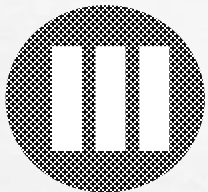


二. 成效評量結果 (6/6)

➤ the use of bingo game-2

- **8.15%** students believed bingo game increased Joyfulness, which was the third factor.
- The result confirmed that a successful game in classes may enhance student attendance. In other words, bingo game not only provided fun to students but also encourage them to come to classes and participate actively.

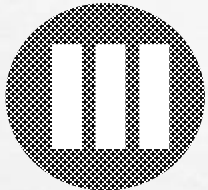




三. 學生回饋 (1/4)

➤ Question 1:

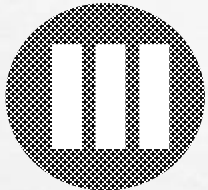
Question 1: Do you think the use of mobile application for learning purpose in the class can enhance your critical thinking skill? Why?			
● Interaction / Idea Sharing	49	64%	"I rarely speak in the class but Socrative was fun and allowed us to share ideas easily." "I can see many aspects of knowledge from other responses."
● Instant and Anonymousness knowledge sharing	7	9%	"I can use mobile application to share my thought without revealing my identify."
● Intention for participation	6	8%	"I have higher intention to participate the class by using mobile application."
● Less limitations of learning	6	8%	"Mobile device and application reduce the limitation of learning process to me in the class."



三. 學生回饋 (2/4)

➤ Question 2:

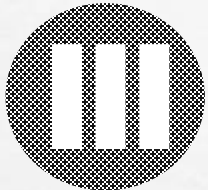
Question 2: Do you think it is useful to you by using mobile application in the class? Why?			
● (Anonymous) knowledge sharing	54	70%	"I can obtain new knowledge from others' responses." "I can share knowledge anonymously which may close to real thinking."



三. 學生回饋 (3/4)

➤ Question 3:

Question 3: What aspects of Socrative may enhance your critical thinking skill?			
● Brainstorming	55	71%	"Socrative helps brainstorming and allows us to see responses of others."
● Focused attention	14	18%	"Socrative can draw my attention in the class when I sometimes distracted."
● Critical thinking and sharing	18	23%	"I feel comfortable to train my logical thinking and share with others by using Socrative."
● Interaction	25	33%	"I can review and criticize others' responses critically and learned from different aspects."
● Idea stimulating	14	18%	"The use of Socrative is helpful because I can see different ideas and stimulate more thoughts critically."

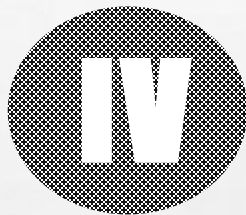


三. 學生回饋 (4/4)

➤ Question 4:

Question 4: How do you find the use of bingo game with lecture?

● Focused attention	42	48.84%	"I think using bingo game with lecture help me staying focused and learning joyfully."
● Discussion and participation	26	30.23%	"Bingo games can enhance class discussion and participation."
● Joyfulness	7	8.14%	"I think bingo game is really helpful because it not only brings fun but also enhance student engagement in learning."
● Atmosphere and attractiveness	6	7.98%	"The bingo games can make learnings much more interesting. Students have the chance to have fun and at the same time, get more involved in the class with questions and answers.It brings the spirit of team work."
● Attendance	2	2.33%	"Bingo games can encourage me to attend the class."



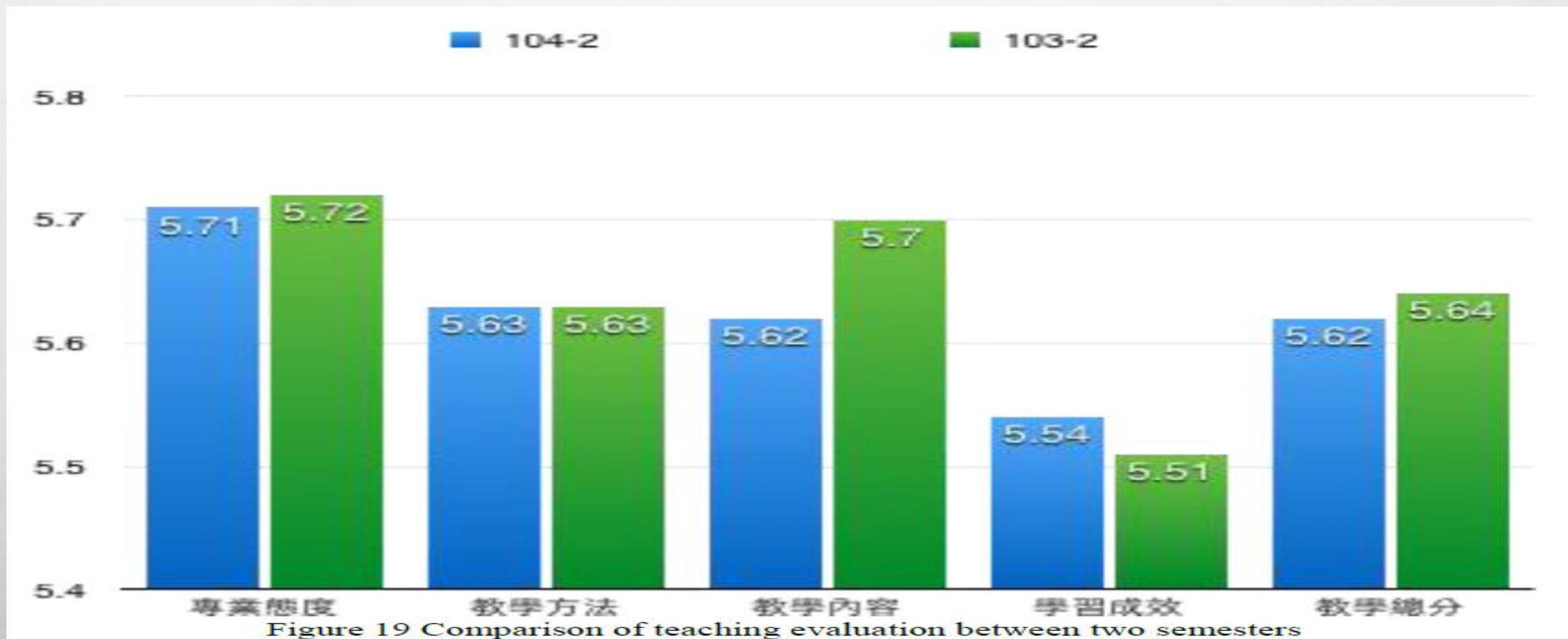
創新教學成果自評

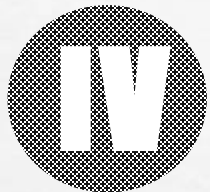
一、教學評量結果

二、教學結果自評

一、教學評量結果 (1/2)

➤ the comparison between 104-2 and 103-2





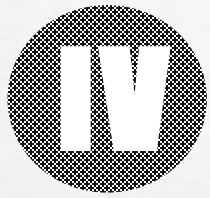
一、教學評量結果 (2/2)

- **the comparison between 104-2 and 103-2**
 - Learning performance was enhanced from academic year 103 (5.51) to 104 (5.54).
 - The overall satisfaction scores were close for two semesters (5.64 for academic year 103 and 5.62 for academic year 104).
 - In summary, all reports showed students recognized the used teaching strategy and good learning performance for both semesters.



二、教學成果自評 (1/2)

- The student feedback and evaluation showed the used strategy worked perfectly for two semesters.
- Students had strong impression of each topic by playing bingo game and connect concept to real world practice (cases).
- The instructor should control the pace of bingo game depends on the students' responses and participation.



二、教學成果自評 (2/2)

- The instructor could also provide feedback during discussion (via Socrative).
- Students' learning performance was also stable and superior to traditional lectures.
- This proved bingo game and IRS on mobile phone indeed improve participation effectively and brainstorm efficiently.