



Deepening Student's Online Learning through Interactive CloudClassRoom

Chun-Yen Chang

National Taiwan Normal University

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Challenges of Classroom (online) Silence

◆ NSC report:

88% of Taiwanese college students are silent in the classroom

怕問笨問題 88%大學生靜悄悄

2013-04-25 | 中國時報 | 李宗祐／台北報導



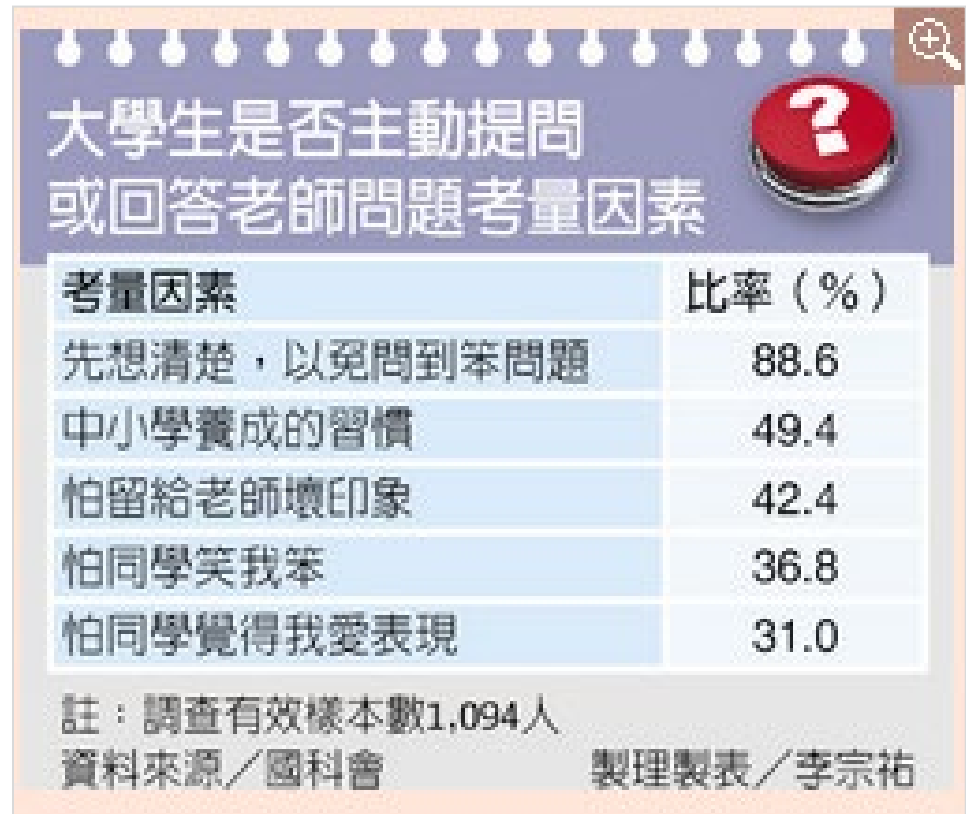
研究發現台灣大學生上課較少發問，主因是擔心問不好或答錯。圖為台大學生在共同教室上課情形。（陳怡誠攝）

國科會研究團隊調查發現，國內大學生高達八成八怕問到笨問題，成為班上笑柄、很丟臉，不敢在課堂上發問。國科會副主委賀陳弘昨日也坦言，他在德國留學時，總是要「深思熟慮」想很久再發問，就是怕問題不成熟，被同學笑。

為找出國內大學生、甚至研究生，為什麼在課堂上總是靜悄悄，台灣大學、清華大學和台北市立教育大學等校教授在國科會補助下，共同從文化角度探討學生提問及回答教師問題態度，昨日在國科會發表研究成果。

Why do students hesitate to express their opinions?

- ◆ Avoid giving teachers/peers a **bad impression**
- ◆ Just act like a **normal student**



Overview

BYOD (Bring Your Own Device)



**Cloud
ClassRoom**

CCR



Envisions

**Empirical
Studies**



BYOD Wikipedia

Bring your own device (BYOD /ˌbiːˈwaɪoʊˈdiː/^[1])—also called **bring your own technology (BYOT)**, **bring your own phone (BYOP)**, and **bring your own personal computer (BYOPC)**—refers to being allowed to use one's personally owned device, rather than being required to use an officially provided device.

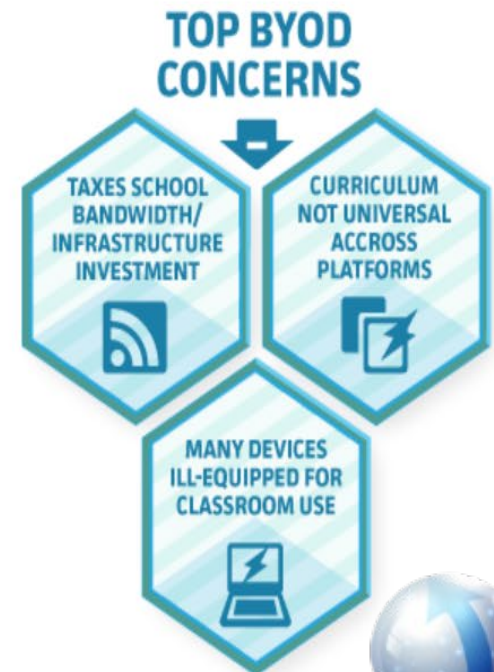
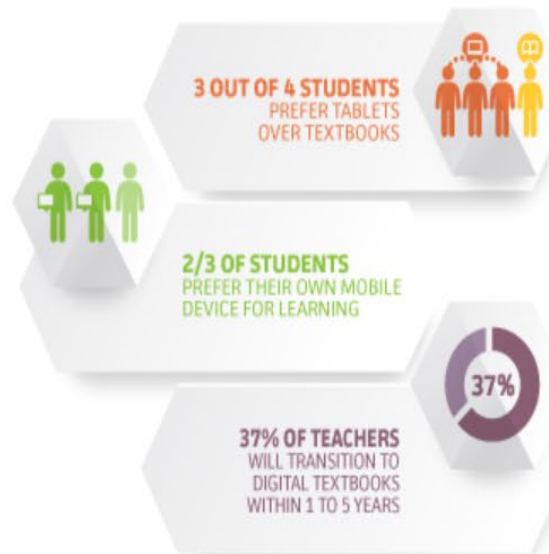
There are two major contexts in which this term is used. One is in the mobile phone industry, where it refers to carriers allowing customers to activate their existing phone (or other cellular device) on the network, rather than being forced to buy a new device from the carrier.^{[2][3][4]}

The other, and the main focus of this article, is in the workplace, where it refers to a policy of permitting employees to bring personally owned devices (laptops, tablets, smartphones, etc.) to work, and to use those devices to access privileged company information and applications.^[5] This phenomenon is commonly referred to as IT **consumerization**.^[6]

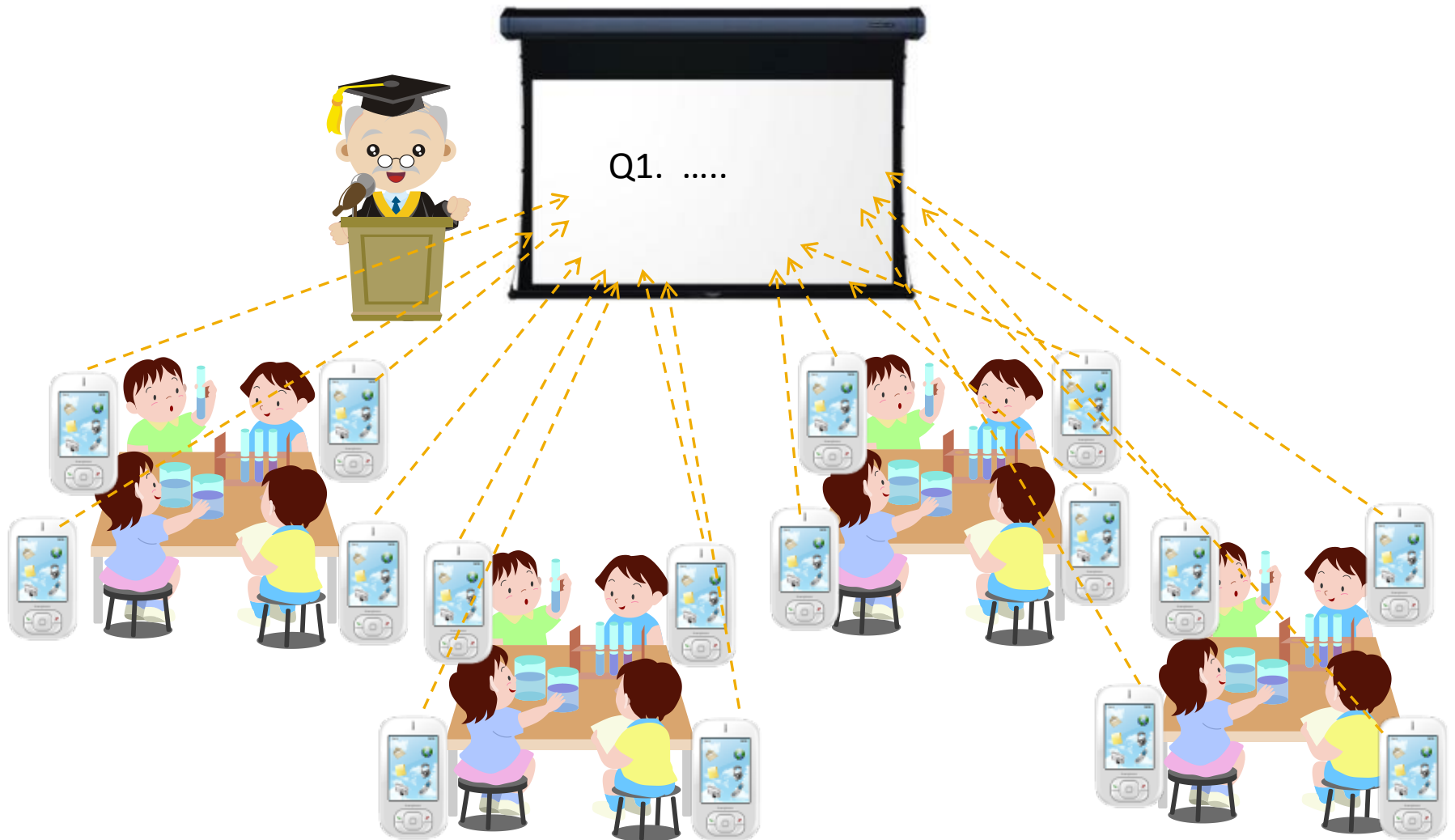
BYOD is making significant inroads in the business world, with about 75% of employees in high-growth markets such as Brazil and Russia and 44% in developed markets already using their own technology at work.^[7] Surveys have indicated that businesses are unable to stop employees from bringing personal devices into the workplace.^[8] Research is divided on benefits. One survey shows around 95% of employees stating they use at least one personal device for work.^[9]

<https://www.k12blueprint.com/toolkits/byod>

BYOD (Bring Your Own Device) is gaining popularity in many schools as a way of increasing access to technology without the cost of purchasing a device for each student. This toolkit is designed to help you evaluate the pros, cons and logistics of bringing student-owned technology into the classroom.



CloudClassRoom



CloudClassRoom



CCR Horizon Report

2019 Exemplar Institution

AWARD

模範機構

CCR 在 2019 Horizon Report 被評為 模範機構！ CloudClassRoom, was selected from over 60 submissions from various institutions in the United States and internationally.

Read More

CloudClassRoom

educau.se/ccrtu

National Taiwan Normal University developed the CloudClassRoom (CCR) mobile platform to transform smartphone devices into powerful interactive tools for classroom learning. CCR enables students to respond to instructors' prompts, and answers are automatically aggregated and analyzed, providing the teacher with a rough picture of student learning progress just in time.

EDUCAUSE



2019 Horizon Report

An Exemplar Institution

CCR was selected as an exemplar institution in the 2019 EDUCAUSE Horizon Report, from over 60 various institutions in the United States and internationally.

	CCR	Socrative	Kahoot	Plickers	Quizizz	Zuvio
Usage fee	Completely free	Basic(free), Pro(pay)	Basic(free), Pro(pay), Premium(pay), Premium+(pay)	The account is free, Pro(pay)	Basic(pay), Super(pay)	Basic (free), Advanced(pay)
Download and install	Web (no download required)	Web, app (need to download)	Web, app (need to download)	Web, app (need to download)	Web, app (need to download)	Web, app (need to download)
Apply for an account	Facebook, Google, other email accounts	Teachers need to register an account	Teachers need to register an account	Google, Apple, other email accounts	Google, microsoft, other email accounts	Teachers need to register an account
Privacy	No need to apply for membership	Teachers need to apply for additional membership	Teachers need to apply for additional membership	If teachers use other emails, they need to apply for additional membership	If teachers use other emails, they need to apply for additional membership	Teachers need to apply for additional membership
Display the question	Mobile device	Mobile device	Mobile device/ Common display device	Common display device	Mobile device	Mobile device
Language	16 languages	20 languages(No Traditional Chinese)	15 languages	English	12 languages (No Chinese)	Chinese, English
Anonymous	Student mode(name) /Guest mode (nickname)	Students need to fill in their names to log in to the classroom	Students need to fill in their names to log in to the classroom	Teacher builds the student list	Students need to fill in their names to log in to the classroom	Students need to register and log into the classroom
Download	V	V	V	V	V	V
Quiz mode	V	V	X	X	V	V
Instant response	V	V	V	V	V	V
Group discussion	V	V	X	X	X	V
Questions are imported directly from Excel	X	X	V	X	V	V
Quiz sharing	V	V	V	X	V	V
Time limit for answering questions	Set by teachers	No limit	Set by teachers (up to 2 minutes)	Set by teachers	Set by teachers (up to 15 minutes)	Set by teachers
Question type (Free version)	True or false, multiple-choice, Q&A, animation	True or false, multiple-choice, Q&A	True or false, multiple-choice	True or false, multiple-choice	True or false, multiple-choice, fill in the blank, Q&A	True or false, multiple-choice, Q&A, group questions
Other functions	<ul style="list-style-type: none"> Gamified interface Class roll call Teacher-student exchange Set up a teaching assistant 	<ul style="list-style-type: none"> Less interactive With description function Game mode in group 	<ul style="list-style-type: none"> Emphasis on gameplay Active and lively interface Up to 50 people per classroom (Basic) 	Answered by paper cards, which are scanned by teacher	There are many public questions	<ul style="list-style-type: none"> Monitor student response status Class roll call Set up a teaching assistant Upload detailed answer

CCR!!!

CCR



Student Teacher Guest

Language: English



CCR © 2021 [CCR](#) Group. [Contact us](#)

CCR

Room Number: 12946 - Students: 0

😄 0% 😡 0% 😞 0% 😊 0%

Question Quiz Download

Manage Flip Attendance

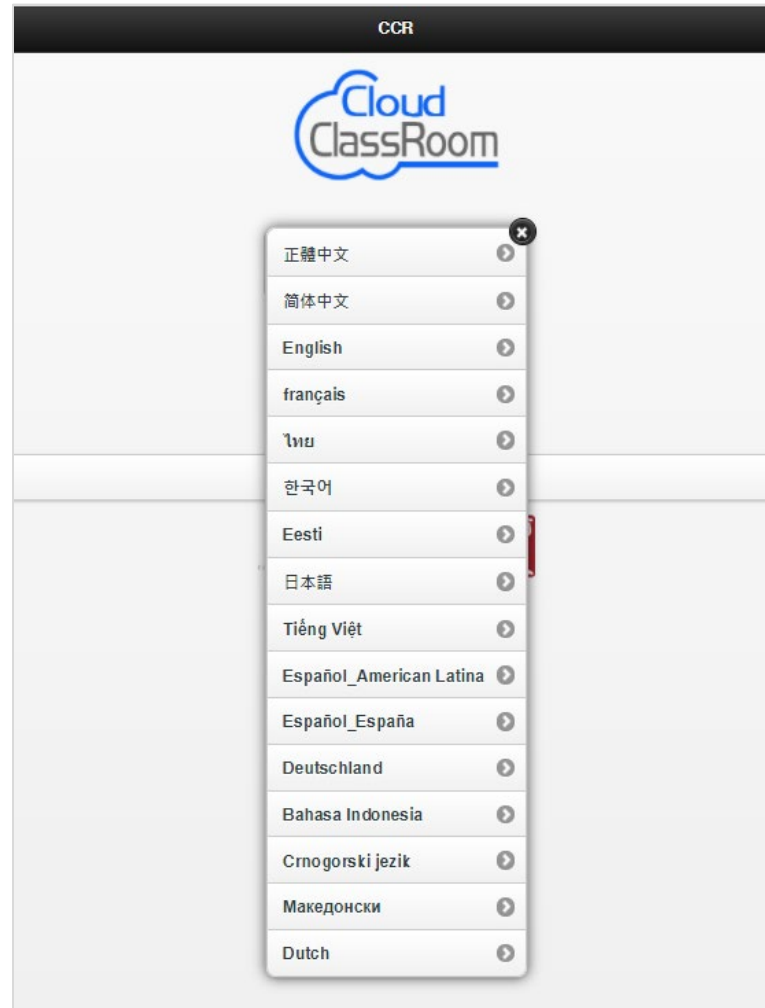
GEARS Game Tools Rank

Interactive Class!

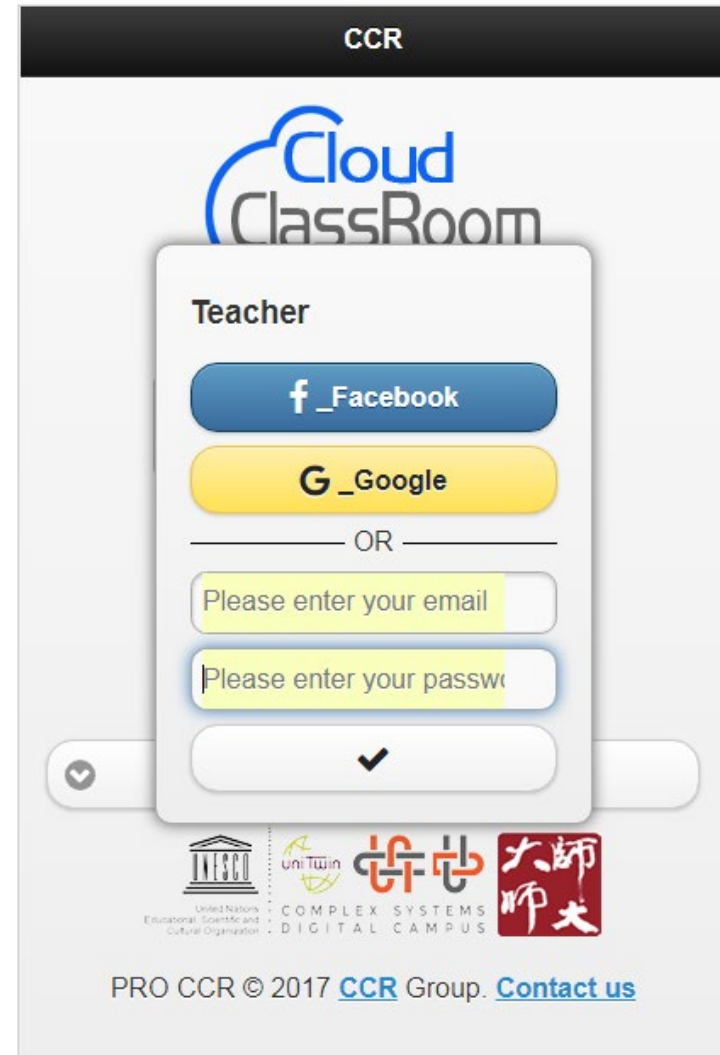


- <http://ccr.tw>
- <http://sg.ccr.tw>
- <http://ccr99.cn>
 - ✓ Cross platform
 - ✓ No download
 - ✓ FREE of charge
 - ✓ Highly interactive
 - ✓ Customized
 - ✓ 16 languages
 - ✓ More than 170,000 S&T and 1 million records

16 languages



Facebook \ Google account login



CCR

登出

進入教室

100

進入教室

Classroom : 100

Multiple classrooms

CCR Logout

Your CloudClassRoom List

- ID:2998 - CDN TEST
- ID:501 - this is a test classroomA

Type course name here and press submit to create a new class

Submit

Quiz Management

- Create a quiz
- Edit quizzes

CCR Logout

Your CloudClassRoom List

- ID:617 - e learning
- ID:497 - 2
- ID:464 - pc123
- ID:430 - DEMO
- ID:402 - Ntnu
- ID:397 - TEST111
- ID:316 - test
- ID:259 - ace 2014
- ID:258 - ace
- ID:63 - 物理101
- ID:1 - aceid 2015

Type course name here and press Submit to create a new class

Submit

Emoji !!!

CCR

Room Number: 501 - Students: 2

😄 100% 😡 0% 😞 0% 🤢 0%

Question Quiz Download

Manage Flip Attendance

A red arrow points to the laughing face emoji (😄) and its 100% percentage.

CCR- Student | User...

6:05

😄 😡 😞 🤢

A red arrow points to the laughing face emoji (😄) in the selection row.

Message to the teacher

The screenshot displays a classroom management application interface. At the top, a black header bar contains a yellow speech bubble icon with '(2)' next to it, indicating two messages, and the text 'CCR' in the center. A red arrow points to this icon. Below the header is a blue bar with the text 'Room Number: 501 - Students: 2'. Underneath, a row of four emojis is shown with their respective percentages: a laughing face (100%), an angry face (0%), a sad face (0%), and a nauseated face (0%). The main area features three large icons: a lightbulb for 'Question', a clipboard for 'Quiz', and a cloud with a download arrow for 'Download'. A yellow message box is overlaid on the interface, containing the text 'Hello teacher! 1min(s) agos' and 'So funny 2min(s) agos', with a 'Delete all Messages' link below. At the bottom, three more icons are visible: a gear for 'Manage', a flip card for 'Flip', and a list for 'Attendance'.

Public questions from students

CCR

Room Number: 501 - Students: 1

delete all data off

public question (most hot questions)

- #229 : what's the subject of this class 8
- #231 : How to make student happy? 2

This screenshot shows the main interface of the CCR app. At the top, there is a 'Go Back' button and the text 'CCR'. Below that, a blue bar indicates 'Room Number: 501 - Students: 1'. There are two buttons: 'delete all data' with a trash icon and 'off' with a toggle icon. A section titled 'public question (most hot questions)' contains a list of two questions. The first question is '#229 : what's the subject of this class' with 8 likes, and the second is '#231 : How to make student happy?' with 2 likes.

CCR- Student | User...

Waiting for the teacher...2017-06-21 10:04:12

public question (voting)

- #229 : what's the subject of this class 8
- #231 : How to make student happy? 2

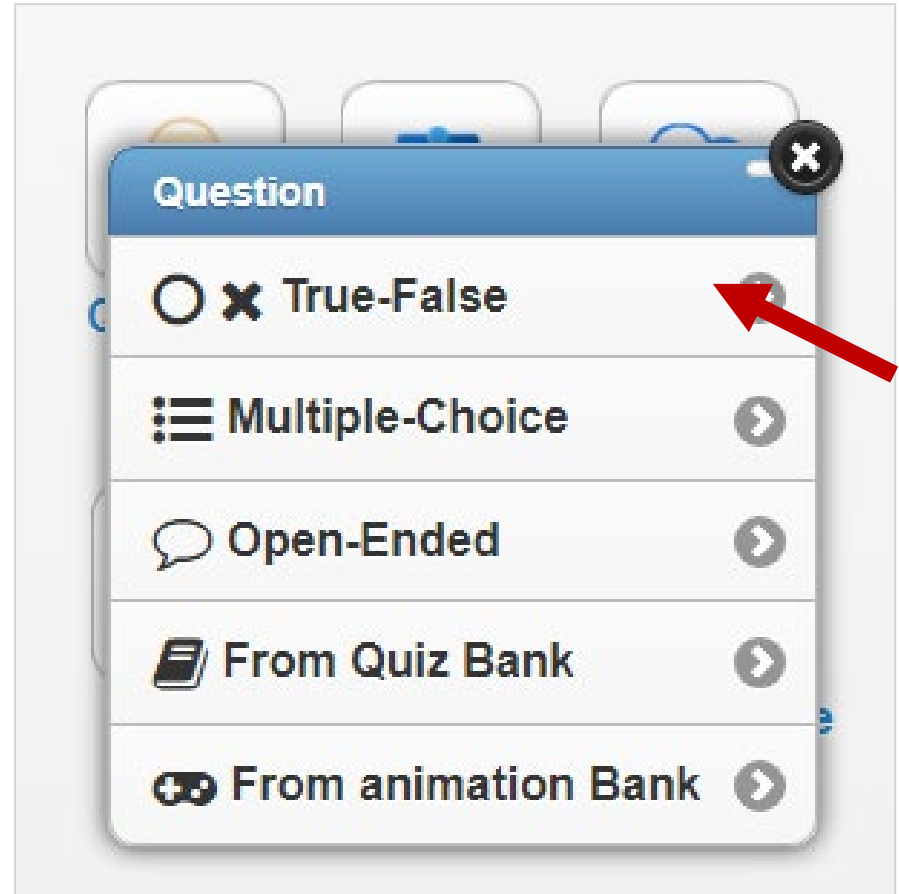
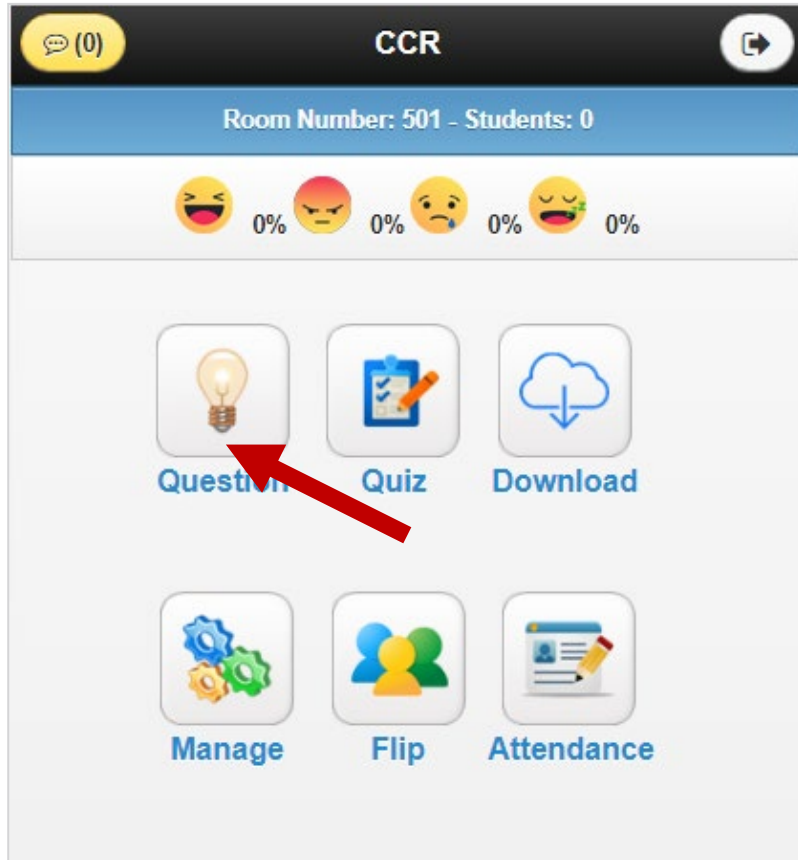
up to 5 questions per person

Please describe your questions

Submit a public question

This screenshot shows the 'public question (voting)' section of the app. It displays the same two questions as the previous screenshot. A modal dialog box is open over the questions, titled 'up to 5 questions per person'. It contains a text input field with the placeholder text 'Please describe your questions' and a checkmark button below it. A red arrow points to the text input field. At the bottom of the screen, there is a blue button labeled 'Submit a public question'.

Question types



Broadcast results

CCR ✕ End question

Room Number: 1 - Students in Room: 2

Votes: 2/2 Result display:N Options Display:Y Group students by their responses:N

Question:How giraffes get long necks?

(A):Giraffes grow their necks to feed off high trees. (B):Female giraffes are attracted to long necks. (C):Male giraffes fight for females by "necking". Having a long and powerful neck would be an advantage in these duels. (D):It's complicated. No one can ever know. (E):It's the phenotype results from the interaction of genes and environment (F):Boring question...

Answer	Count	Percentage
Boring question...	1 - Check students' personal information	50%
Female giraffes are attracted to long necks.	1 - Check students' personal information	50%

- Boring question... 1
- Female giraffes are attracted to long necks. 1

CCR- Student | ID: 1 ⚙️ Leave the classroom

Votes: 2

Question:How giraffes get long necks?

(1):Giraffes grow their necks to feed off high trees. (2):Female giraffes are attracted to long necks. (3):Male giraffes fight for females by "necking". Having a long and powerful neck would be an advantage in these duels. (4):It's complicated. No one can ever know. (5):It's the phenotype results from the interaction of genes and environment (6):Boring question...

Answer	Count	Percentage
Female giraffes are attracted to long necks.	1	50%
Boring question...	1	50%

- Female giraffes are attracted to long necks. 1
- Boring question... 1

Answer with texts or pics

CCR End question

Room Number: 1 - Students in Room: 1

Votes: 1/1 Result display:N Group students by their responses:N

Question: It is true that global warming is caused by human activities?
Explain why?

Select all Cancel

1) Check students' personal information

Yes, because scientists say so.

Group	Yes	No	I'm not sure
General Public	58	38	4
Non-publishers/Non-climatologists	78	8	14
Climatologists	88	5	7
Active Publishers - All topics	88	3	9
Active Publishers - Climate Change	98	2	5

Fig. 1. Response distribution to our survey question 2. The general public data come from a Gallup poll (see <http://www.gallup.com/poll/1615/Environment.aspx>).

Group	Yes	No	I'm not sure
General Public	40	38	22
Non-publishers/Non-climatologists	40	8	5
Climatologists	40	38	22
Active Publishers - All topics	40	3	5
Active Publishers - Climate Change	40	3	5

Fig. 1. Response distribution to our survey question 2. The general public data come from a Gallup poll (see <http://www.gallup.com/poll/1615/Environment.aspx>).

2) Check students' personal information

It depends...

Select all Cancel

Initiate a poll

Broadcast the result



Ask again

Grouping students

advantage in these duels. (D):It's complicated. No one can ever know. (E):It's the phenotype results from the interaction of genes and environment (F):Boring question...

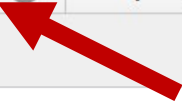


Answer	Count	Percentage
Boring question...	1 - Check students' personal information	50%
Female giraffes are attracted to long necks.	1 - Check students' personal information	50%

- Boring question...

- Female giraffes are attracted to long necks.


1) Group students by their responses:

Heterogeneous  2People 



CCR- Student | ID: 1 

Me(#2752):Hi!
Someone(#3):Hi, let's exchange ideas about this question!
Me(#2752):Okay, which answer did you choose?

Say something ...



BERT and GPT2

BERT (language model)

From Wikipedia, the free encyclopedia

Bidirectional Encoder Representations from Transformers (BERT) is a technique for [natural language processing](#) (NLP) pre-training developed by [Google](#). BERT was created and published in 2018 by Jacob Devlin and his colleagues from Google.^{[1][2]} Google is leveraging BERT to better understand user searches.^[3]

GPT-2 [\[edit \]](#)

Generative Pre-trained Transformer 2, commonly known by its abbreviated form GPT-2, is an [unsupervised transformer language model](#) and the successor to GPT. GPT-2 was first announced in February 2019, with only limited demonstrative versions initially released to the public. The full version of GPT-2 was not immediately released out of concern over potential misuse, including applications for writing [fake news](#).^[51] Some experts expressed skepticism that GPT-2 posed a significant threat. The [Allen Institute for Artificial Intelligence](#) responded to GPT-2 with a tool to detect "neural fake news".^[52] Other researchers, such as Jeremy Howard, warned of "the technology to totally fill Twitter, email, and the web up with reasonable-sounding, context-appropriate prose, which would drown out all other speech and be impossible to filter".^[53] In November 2019, OpenAI released the complete version of the GPT-2 language model.^[54] Several websites host interactive demonstrations of different instances of GPT-2 and other transformer models.^{[55][56]}

Talk to Transformer

See how a modern neural network completes your text. Type a custom snippet or try one of the examples. [Learn more below.](#)


Custom prompt

GPT-2 is an unsupervised Transformer language model, a generative model of language. Its authors argue unsupervised language models to be general-purpose learners,

[GENERATE ANOTHER](#)

Completion

GPT-2 is an unsupervised Transformer language model, a generative model of language. Its authors argue unsupervised language models to be general-purpose learners, such as models trained with decision trees or evolutionary algorithms. It is not entirely clear, however, how ML-based unsupervised learning systems are applicable to certain types of linguistic problems in the absence of explicit learning rules. The present work was motivated by the following question: How can ML-based unsupervised learning systems exploit the structure of common syntactic structures?

An instance of GPT-2 writing a paragraph based on a prompt from this article. 

CCR open-ended question

1. Open-ended questions



已答人數: 65/0 公佈結果: N 依照結果進行分組: N

題目: 霸王龍只有在獵物移動的時候，才可以看到獵物的存在。

A screenshot of a presentation slide. The slide features a large image of a Tyrannosaurus Rex in a dark, industrial setting. To the left of the image, the text '个人探究问题' (Personal Inquiry Question) is written vertically in yellow. Below this, a bullet point reads: '霸王龙只有在猎物移动的时候，才可以看到猎物的存在。' (Tyrannosaurus Rex can only see the existence of its prey when the prey is moving). The slide also includes the statistics '已答人數: 65/0 公佈結果: N 依照結果進行分組: N' at the top.

Semantic clustering

Responses/Answers

8) 姓名：未填寫姓名(#32480) / Email : 1552795632@qq.com

暴龙的眼睛朝向前面，使双眼的视觉重叠区比较大，可以看到更广的立体影像，使暴龙具有颇佳的立体视觉。所以我认为恐龙真相

9) 姓名：未填寫姓名(#32463) / Email : guest20180802093520@ccr.tw

不对

10) 姓名：未填寫姓名(#32459) / Email : guest20180802093511@ccr.tw

霸王龙靠脚底的触觉来感受猎物。

11) 姓名：未填寫姓名(#32539) / Email : guest20180802094107@ccr.tw

是的

12) 姓名：未填寫姓名(#32542) / Email :

2.Semantic clustering



8) 姓名：未填寫姓名(#32455) / Email : guest20180802093501@ccr.tw

哎哟 我怎么知道哟

全選 取消

給學生投票

公布結果

1) 依照語意分類

3類 確定送出

Semantic clustering

組別 #:1 Email:guest20180802093718@ccr.tw, 學生編號:32515, 答案:是的。目前已知许多不同特征。暴龙的头颅骨后方宽广, 口鼻部狭窄。暴龙的眼睛朝向前面, 使双眼的视觉是指发现的暴龙头骨化石中其大脑的位置形状及视神经区域的位置形状与现存的鳄鱼极其相似, 所以科学家根据鳄鱼只能看见移动的目标的特性来推测暴龙捕食的时候只能看见移动的目标, 而对静止的目标视而不见, 但是异龙就不同, 它有类似鸟类的视神经, 所以能看见静止的目标。

組別 #:1 Email:guest20180802093528@ccr.tw, 學生編號:32468, 答案:幻象, 具体的根据现存的鳄鱼极其相似, 所以科学家根据鳄鱼只能看见移动的目标的特性来推测暴龙捕食的时候只能看见移动的目标, 而对静止的目标。但是电影毕竟是电影, 现在的科学研究发现暴龙这种传说可能就要推翻了。

組別 #:1 Email:986853046@qq.com, 學生編號:32482, 答案:真的, 具体的根据应该是指其相似, 所以科学家根据鳄鱼只能看见移动的目标的特性来推测暴龙捕食的时候只能看见移动的目标, 而对静止的目标。但是电影毕竟是电影, 现在的科学研究发现暴龙这种传说中最大的可能就要推翻了。

組別 #:1 Email:guest20180802093340@ccr.tw, 學生編號:32447, 答案:具体的根据应该是鳄鱼极其相似, 所以科学家根据鳄鱼只能看见移动的目标的特性来推测暴龙捕食的时候只能看见移动的目标, 而对静止的目标。但是电影毕竟是电影, 现在的科学研究发现暴龙这种传说中最大的可能就要推翻了。

組別 #:1 Email:guest20180802093531@ccr.tw, 學生編號:32470, 答案:正确, 因为霸王龙体型巨大, 而且通常集体捕猎, 才有能力摆倒那些大型蜥脚类恐龙, 所以口裂大小也是很重要的。再咬断猎物的喉咙, 霸王龙只能看到活动中的物体这点跟青蛙很像, 它一般是发现移动中的物体。

組別 #:1 Email:guest20180802093536@ccr.tw, 學生編號:32479, 答案:幻像, 因为霸王龙爱移动的地方的地方, 可是它却看不到, 霸王龙岂不是会饿死。而且如果猎物不移动就无法捕猎。

組別 #:1 Email:guest20180802093719@ccr.tw, 學生編號:32516, 答案:1.暴龙是吃肉的, 物掌握这个规律, 从而逃脱它的追杀, 那为什么暴龙还是会以猎杀而被我们熟知呢? 2.暴龙是吃肉的, 物掌握这个规律, 从而逃脱它的追杀, 那为什么暴龙还是会以猎杀而被我们熟知呢?

組別 #:1 Email:guest20180802093607@ccr.tw, 學生編號:32491, 答案:我觉得这个是个错误的观点, 移动的时候才能看得到的话, 那么恐龙在移动的过程中就会跌跌撞撞, 撞到各种路上的障碍物。

組別 #:1 Email:guest20180802093706@ccr.tw, 學生編號:32509, 答案:假象, 因为对于暴龙这种自然选择者生存的法則, 会将其淘汰, 所以在其进化的过程中会优化这一功能。也就是说它

3.Clustering finished!

組別 #:2 Email:guest20180802093617@ccr.tw, 學生編號:32496, 答案:我认为这是真相

組別 #:2 Email:guest20180802093645@ccr.tw, 學生編號:32504, 答案:幻象吧

組別 #:2 Email:guest20180802094128@ccr.tw, 學生編號:32541, 答案:幻想

組別 #:2 Email:guest20180802093531@ccr.tw, 學生編號:32470, 答案:幻象

組別 #:2 Email:guest20180802093520@ccr.tw, 學生編號:32463, 答案:不对

組別 #:2 Email:251177350@qq.com, 學生編號:32460, 答案:对

組別 #:2 Email:guest20180802094420@ccr.tw, 學生編號:32547, 答案:对

組別 #:3 Email:806889503@qq.com, 學生編號:32458, 答案:从化石和现有的动物对比,

組別 #:3 Email:guest20180802093501@ccr.tw, 學生編號:32453, 答案:哎哟 我怎么知道


組別 #:3 Email:guest20180802093534@ccr.tw, 學生編號:32475, 答案:我认为这是幻象

組別 #:3 Email:guest20180802093531@ccr.tw, 學生編號:32470, 答案:不是

Self-fie to check in

Date : 2014-12-08 14:58:36

People : 18




Podium

✕

資工系

確定取消?



Podium

Role swapping

CCR

Room Number: 501 - Students: 2

0% 0% 0% 0%

Question Quiz Download

Yan Li

Yuta

A red arrow points to the name 'Yuta' in the student list.

CCR- Student | User...

,now you have become the TEACHER!

Question

- True-False
- Multiple-Choice
- Open-Ended

A red arrow points to the message ',now you have become the TEACHER!'.

Teacher Broadcasting

The screenshot displays a CCR (Classroom Broadcasting) interface. At the top, it shows 'CCR' and a button to '结束广播' (End Broadcast). Below this, it indicates '教室编号: 501' (Classroom ID: 501) and '在线学生: 1' (Online Students: 1). There are four emoji icons with '0%' next to them, representing different feedback or status indicators. A message in Chinese reads: '这是广播讯息!! 同学 等等课堂10分钟后开始, 大家先看个图片跟影片。' (This is a broadcast message!! Classmate, wait for the class to start in 10 minutes, everyone please look at a picture and a video first.)

The main content area shows a video player with the title 'Nachdi Phira - Full Audio | Secret Superstar...' and a play button. The video thumbnail features a woman singing into a microphone, with the text 'NACHDI PHIRA FULL AUDIO' and 'SECRET SUPERSTAR' overlaid. Below the video player is a photograph of a giraffe being fed from a white bottle.

- Teachers could broadcast texts, images, video at anytime...
- All the activities will stop until the broadcasting ends...

Download student records

From :

To :

There are 81 items.

- Ture-false - 11111111
- Open-ended - 科學不一樣是什麼東東
- Open-ended - 科學不一樣是什麼東東
- Ture-false - 地球大氣中含量最多的溫室氣體是二氧化碳。
- Ture-false - OH YA
- Ture-false - 你支持多元成家嗎
- Ture-false - 可愛嗎
- Open-ended - 請問出題時應該注意什麼?
- Multiple-choice - 請問出題時應該注意什麼? - 你覺得哪個...

	A	B	C	D	E	F	G	H	I	J	K	L
1	姓名	學號/座號	信箱	第1題:有	第2題:有	第3題:在	第4題:在	第5題:在	第6題:問	第7題:問	第8題:問	第9題:問
2	成姿蓓	未填寫學	pei2289@gB	B	A	D	D	B	A	C	C	
3	李俞萱	未填寫學	w334439wB	B	A	A	A	B	A	A	D	
4	薛揚	未填寫學	kevin8093:B	B	A	D	D	C	A	C	D	
5	游昱霖	未填寫學	single97@B	B	D	A	A	A	D	C	C	
6	陳沛蓉	未填寫學	a139149@B	B	A	A	A	A	A	B	C	
7	王思涵	未填寫學	r375515@:B	B	D	A	A	A	A	C	D	
8	Ivo Tung	未填寫學	ivotung112B	B	A	A	A	A	A	A	A	
9	蔡俊彥	未填寫學	qwskykite2B	B	B	D	D	A	A	C	B	
10	許文鳳	未填寫學	wendy509:C	B	A	A	A	A	D	C	B	
11	陳學冠	未填寫學	d3307820C	B	C	D	D	A	A	C	B	
12	陳漢穎	未填寫學	hbg85092fB	B	A	A	A	A	A	A	C	
13	李宜庭	未填寫學	melody851B	B	D	A	A	B	A	A	D	
14	周俊傑	未填寫學	jay851212B	B	A	A	A	B	A	A	C	
15	莊鈺婕	未填寫學	betty86071B	B	A	A	A	B	A	B	C	
16	楊皓任	未填寫學	abc123456B	B	D	A	A	B	A	B	D	
17	黃瀚賢	未填寫學	james1101'B	B	C	A	A	A	A	C	B	
18	辛偵餘	未填寫學	klint710@:B	B	A	A	A	未作答	未作答	未作答	未作答	

Animation-based question

CCR- Student | User Name: 501

Question: 粉塵爆炸動畫試題(請先將螢幕橫放，以利作答)

已知物質要能夠燃燒，必須要有三個要素，包括「可燃物」、「助燃物」、「熱源」。根據爆炸現場的採證報告，請拖曳下方的「電線走火」、「氧氣」、「粉末」圖示，將它們正確配對至「可燃物」、「助燃物」或「熱源」。

The diagram illustrates the fire triangle with three elements: 熱源 (Heat Source), 可燃物 (Fuel), and 助燃物 (Oxidizer). The 助燃物 is represented by a globe with '氧氣 O₂' (Oxygen O₂). To the left, there are three draggable items: '電線走火' (Short circuit), '粉末' (Powder), and '氧氣' (Oxygen). A red arrow points from the '粉末' item towards the '熱源' position.

- <https://ccr.tw/>

CCR- I 編號: 32866

題目:甲烷疑雲II(手機一定要放橫)(請將手機橫放,以利作答)

✓ 前言 1

實驗 1

問題 1&2

實驗 2

問題 3

問題 4

問題 5&6

前言 2

前言 2 (續)

問題 7

問題 8

問題 9

問題 10

前言

根據經濟學人 (The Economist) 最近的報導 (Apr. 28th, 2018), 過去的十年間, 大氣中的甲烷 (CH₄) 含量驟升, 已達工業革命前的2.5倍 (如【圖1】)。甲烷具有強大的吸熱能力, 雖然大氣中甲烷的排放量相較於二氧化碳 (CO₂) 較少, 在大氣中存留十年左右後, 即幾乎偵測不到, 但相同分子數或相同體積的條件下甲烷造成大氣暖化的指數, 卻是二氧化碳的25倍。

科學家們對於大氣中甲烷的增加提出各自的研究成果, 其中, 加州大學伯克利分校的 Alexander Turner 研究團隊認為大氣中氫氧自由基 (·OH) 的減少, 是大氣中甲烷驟升在數學上最有可能的解釋。因為·OH 可與甲烷反應, 產生水及二氧化碳, 進而消解大氣中的甲烷, 然而為什麼大氣中·OH 會減少則是另一個未解的難題。

小柯想探討「·OH 對甲烷的影響」, 根據相關文獻設計了以下實驗。

Gassing up

Atmospheric methane, global monthly average
Parts per billion (mole fraction)

Source: NOAA

Economist.com

【圖1】

實驗開始! >

Question number	Reasoning and argumentation	Critical thinking	Imagination and creativity	Construction of models	Thought or behavior
Multiple choice	1、2、3、4	--	--	7	--
Open-ended question	5	6、8	9	7	10

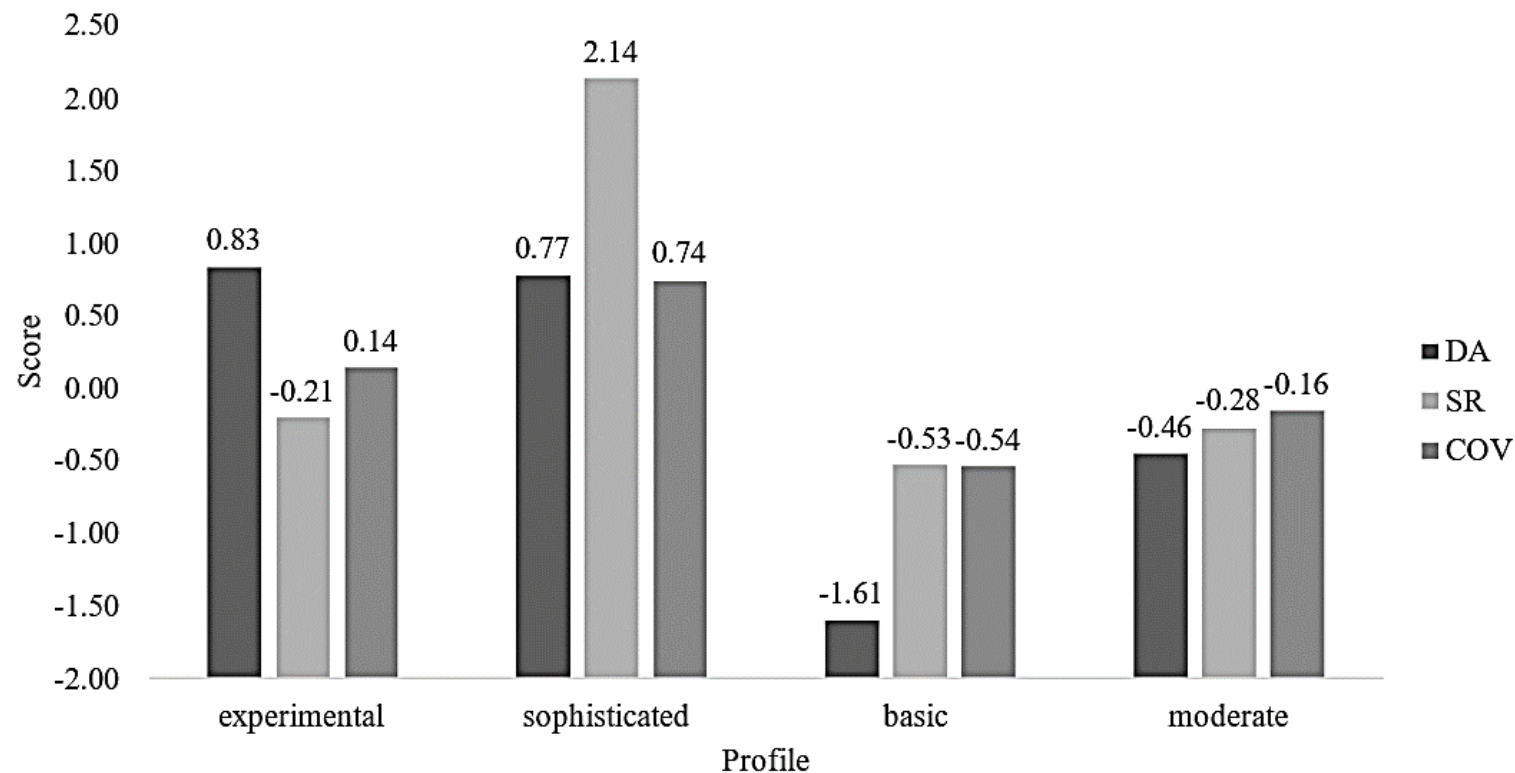


RESEARCH ARTICLE | [Full Access](#)

Do they have inquiry skill profiles? Exploring high school students' scientific inquiry in an animation-based activity

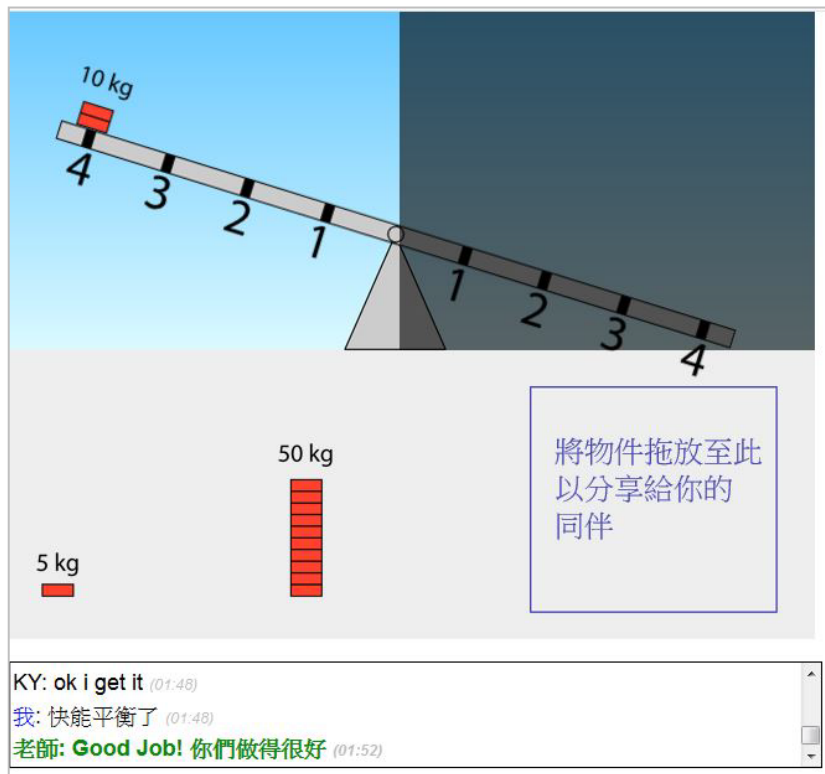
Chi-Jung Sui, Sheng-Yi Hsiao, Shih-Chao Yeh, Pingping Zhao, Chun-Yen Chang✉, Jing Lin✉

First published: 02 November 2023 | <https://doi.org/10.1002/sce.21844>



CCR Seesaw Collaborative Problem Solving (CPS)

左邊學生畫面



10 kg

4 3 2 1 1 2 3 4

50 kg

5 kg

將物件拖放至此以分享給你的同伴

KY: ok i get it (01:48)
我: 快能平衡了 (01:48)
老師: **Good Job!** 你們做得很好 (01:52)

右邊學生畫面



30 kg

4 3 2 1 1 2 3 4

將物件拖放至此以分享給你的同伴

我: ok i get it (01:48)
林達為: 快能平衡了 (01:48)
老師: **Good Job!** 你們做得很好 (01:52)

輸入聊天內容

↑

方框為討論視窗 →

CCR CPS chat room

老師進入學生討論視窗

Both teachers and robots could join the discussion



CCR- 組別 #: 2

林達為: xd (01:38)

KY: What? (01:42)

林達為: 我把30公斤的丟給你 (01:42)

KY: (01:43)

KY: (01:43)

KY: okok come on (01:43)

林達為: 太好了 (01:47)

林達為: 我把30kg的丟過去喔 (01:47)

KY: ok i get it (01:48)

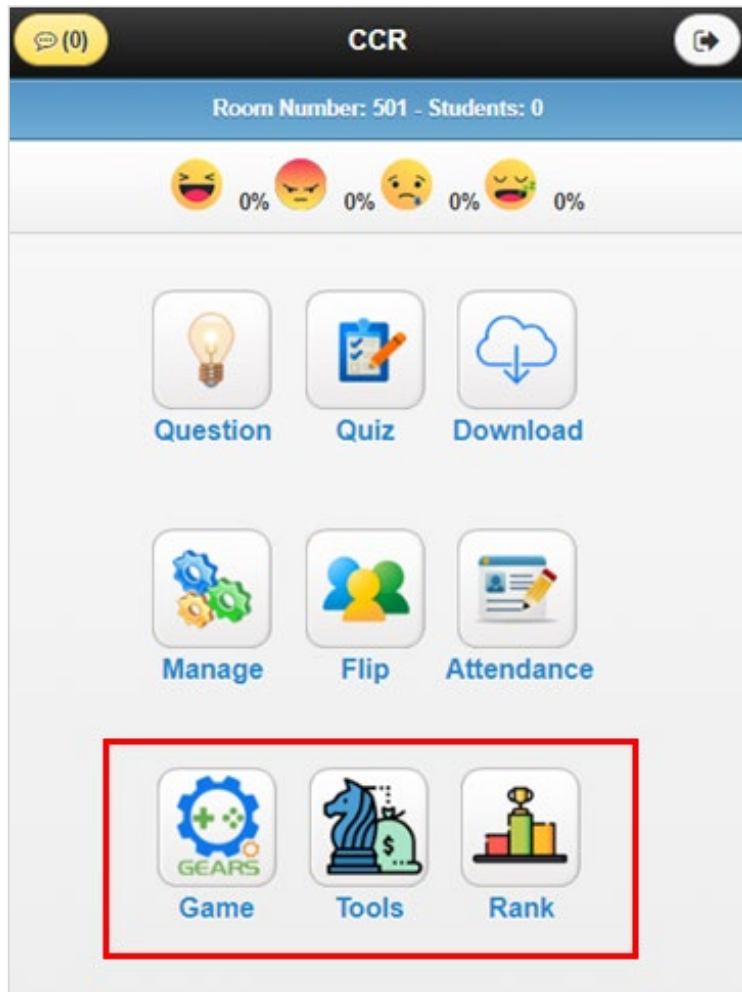
林達為: 快能平衡了 (01:48)

老師: Good Job! 你們做得很好 (01:52)

輸入聊天內容

確定送出

CCR – GEARS Gaming Module (1/4)



GEARS

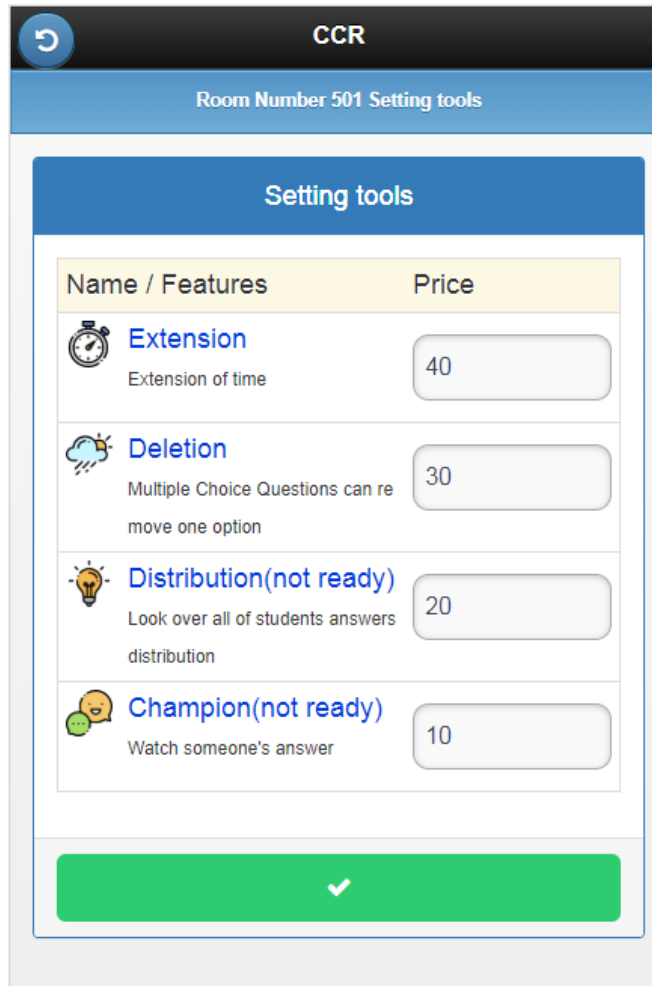
(Gamified Electronic Audience Response System)



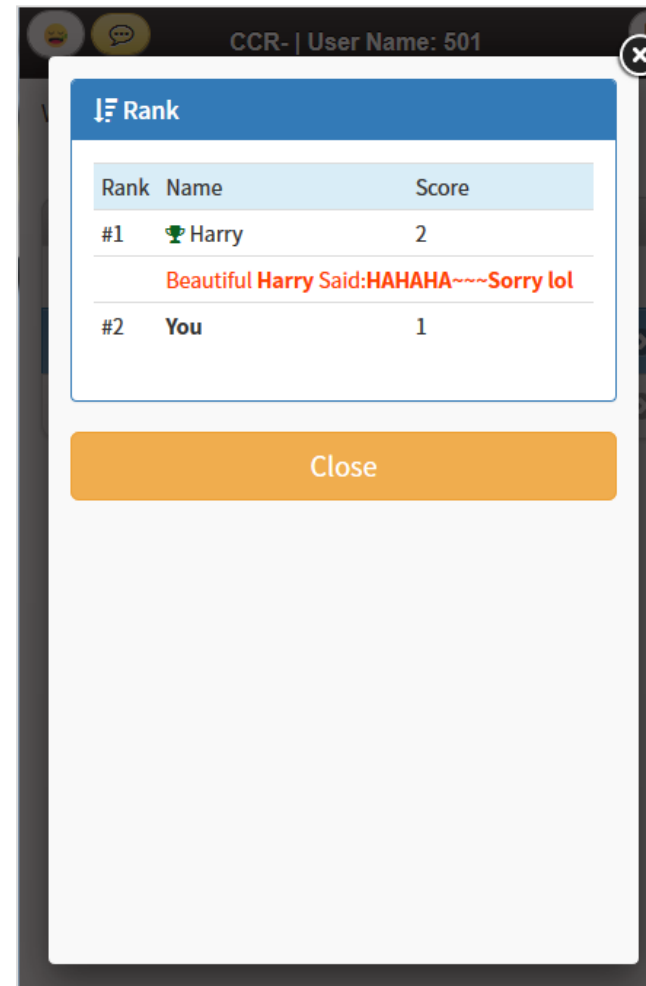
GEARS could make questions answering more fun as the following:

1. Limiting time for each question
2. Gaining points for correct answers
3. Buying tools/weapons with points
4. Using tools/weapons to answer next question
5. A ranking board makes competition more fun

CCR – GEARS Gaming Module (2/4)



Tools



Ranks

CCR – GEARS Gaming Module (3/4)

CCR

Room Number: 501

Question

Time limit No time limit Sec

Please type a number, ex: 60 or keep it blank for no time limit

Video ex:https://www.youtube.com/watch?v=-2PibJ!

Correct answer Options1

Correct answer Options2

Correct answer Options3

Correct answer Options4

\$ G point Students can win the G point when they ansv

Photo

✓

CCR

Room Number: 501

Question

Which is the first step in the software development life cycle ?

Time limit 20 Sec

Please type a number, ex: 60 or keep it blank for no time limit

Video ex:https://www.youtube.com/watch?v=-2PibJ!

Correct answer Planning

Correct answer Analysis

Correct answer Design

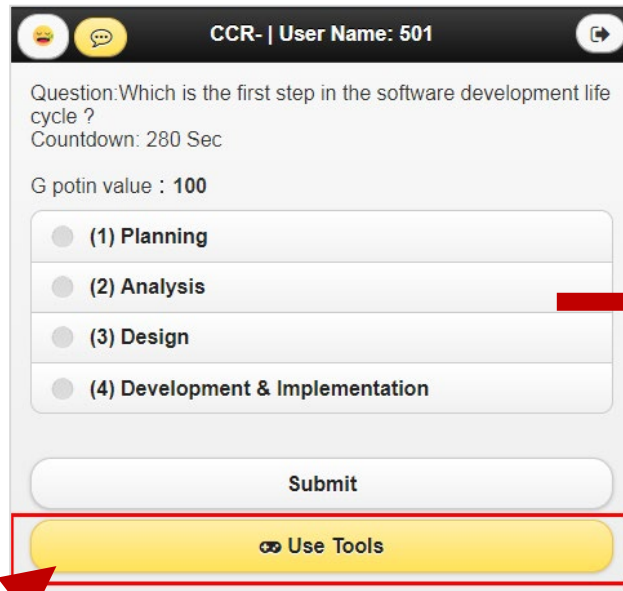
Correct answer Development & Implementation

\$ G point 100

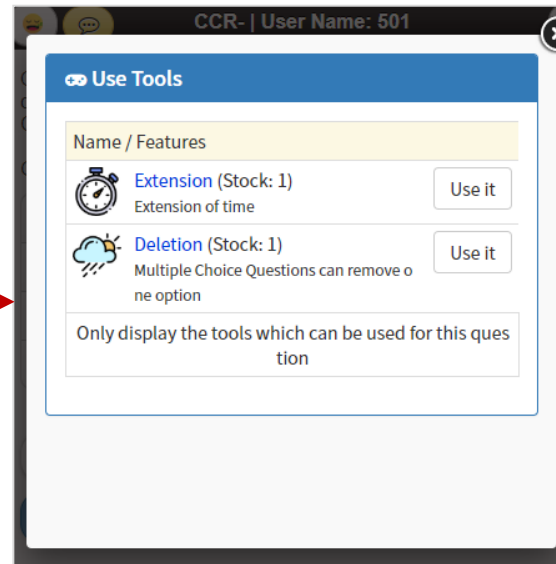
Photo

✓

CCR – GEARS Gaming Module (4/4)



Student interface



Using deletion

Basic CCR statistics

13,090
Teachers

20,838
Classrooms



116,788
Students

61,263 + 834,954
Questions & Answers

(Till June 17, 2022)


Basic CCR statistics




CCR 統計 2022-06-17

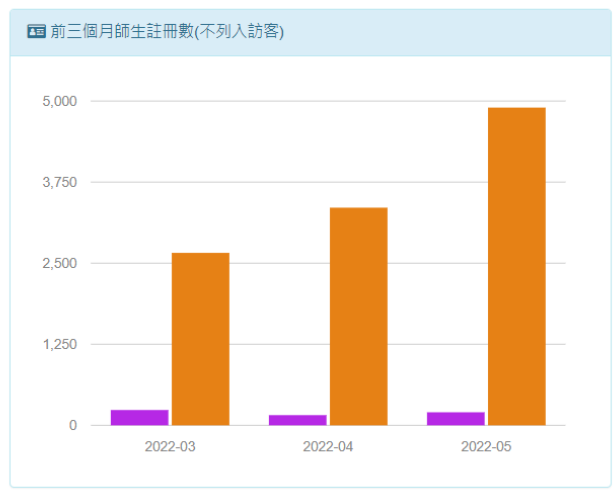
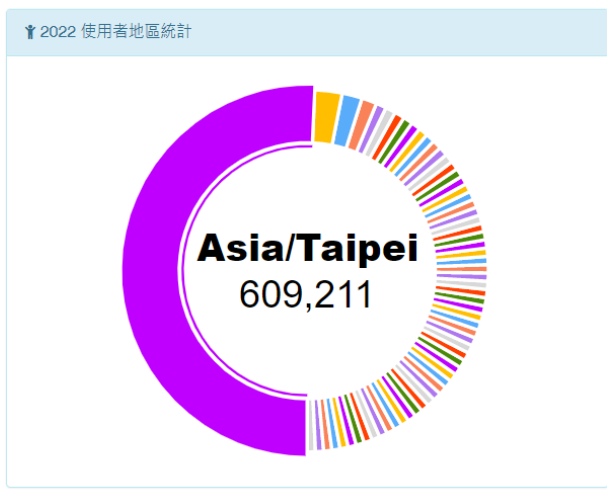
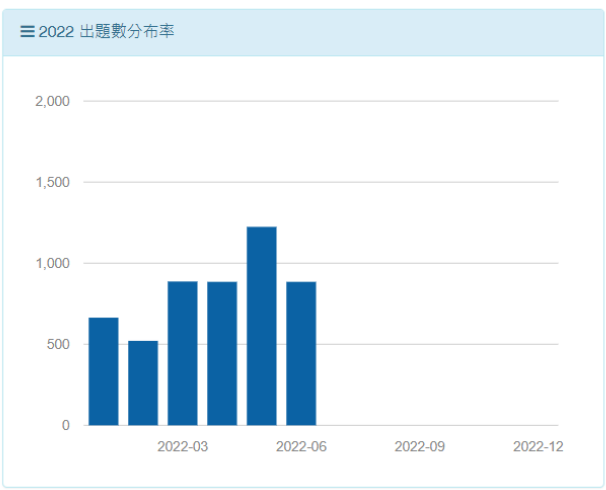
More Detail

 **13240**
位老師
[View Details](#)

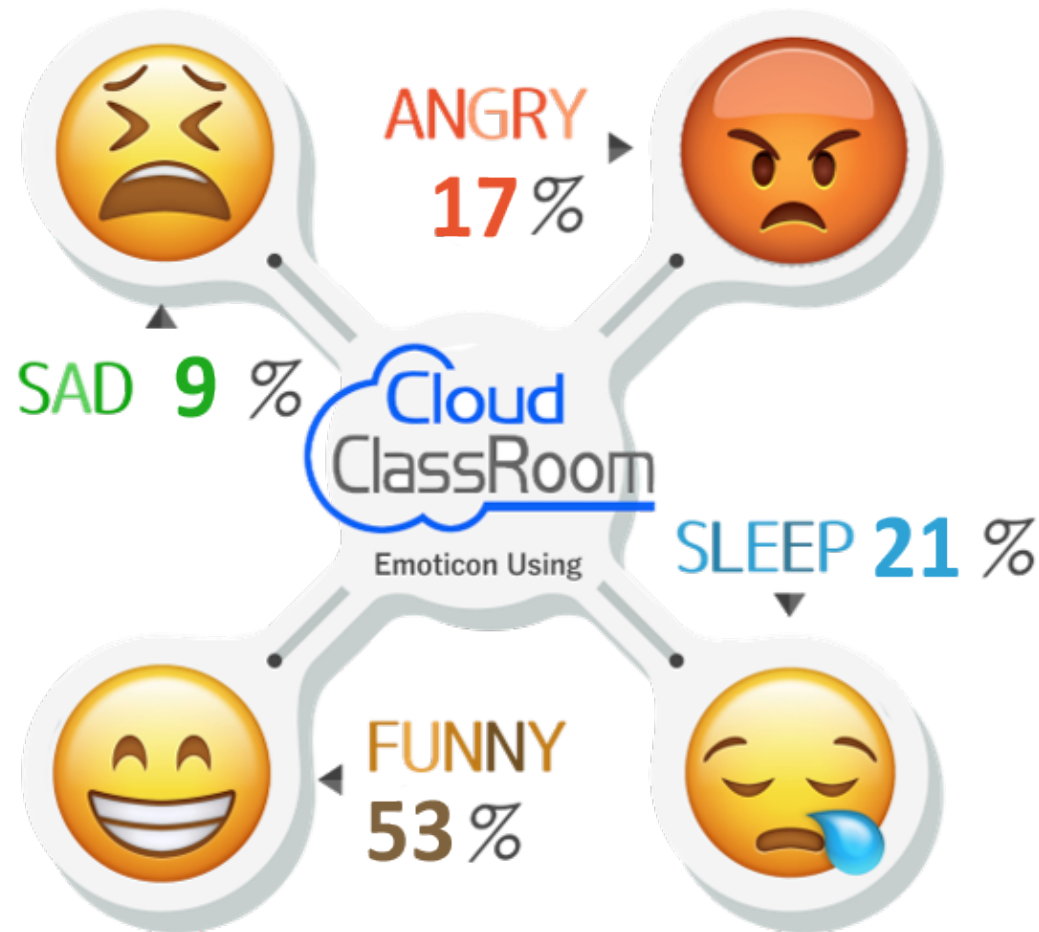
 **119210**
位學生
[View Details](#)

 **20982**
間教室
[View Details](#)

 **62249 + 853112**
條問題+條回答
[View Details](#)

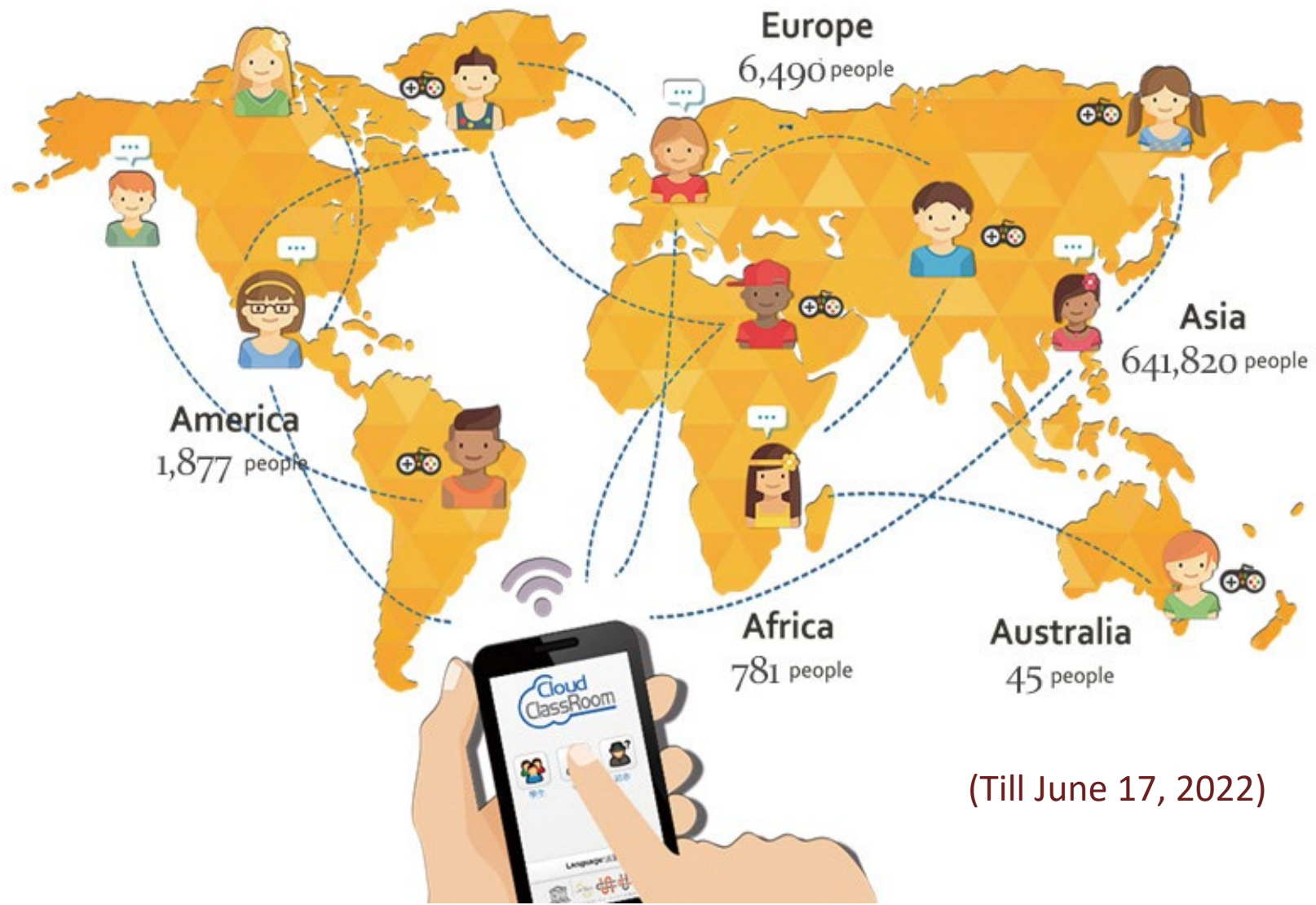


CCR emoji statistics



(Till June 17, 2022)

CCR World Wide Use



(Till June 17, 2022)

CCR website: <https://www.ccr.tw/en/>



Home Feature Example FAQ About Us Terms Start Language

CROSS-PLATFORM

It supports Windows, OSX, Linux, iOS, Android, BlackBerry, etc., regardless of the region and environment, whether indoors or outdoors. As long as there is a network device, you can use it immediately.

Read More



FEATURES

Installation-free



No need to purchase special equipment, to install any software or APP, to register or apply for an account. As long as you have a network, a mobile phone, tablet or computer, as long as you are interested, and as long as you have a passion, you can have an instant access to the best interactive teaching solution with the IRS instant feedback system - "Free, simple, and perfect."

Cross-platform



The IRS instant feedback system supports PC, OSX, iOS, and Android. The system is written in HTML5 architecture and supports almost all computers and mobile devices. As long as your device can open web pages and access the cloud classroom, you can instantly enter the cloud classroom and feel the charm and fun of the IRS instant feedback system.

Free of cost



As this project is supported by the "Aim for Top University Project" of the Taiwan Normal University, the software, equipment room and bandwidth of the IRS instant feedback system are all developed, set up and maintained by our team. Upholding the concept of academic freedom and promotion of education, we welcome all teachers to freely use relevant resources and make a contribution to the field of education.



CCR Facebook: CloudClassRoom

C.C.R. CloudClassRoom 雲端教室
http://www.ccr.tw

CloudClassRoom - CCR
@myccr

IRS 即時反饋系統
CloudClassRoom 學習在雲端!

已說讚 追蹤中 分享

瞭解詳情 發送訊息

5.0 5 (滿分為 5) - 根據 2 位用戶的意見

社群

- 邀請朋友 對這個粉絲
- 297 人說這讚
- 303 個人正在追蹤
- Yan Li 說這裡讚

相片

建立粉絲專頁



Examine students' misconceptions

◆ How giraffes get long necks?

- a) Giraffes grow their necks to feed off high trees.
- b) Female giraffes are attracted to long necks.
- c) Male giraffes fight for females by “necking”. Having a long and powerful neck would be an advantage in these duels.
- d) It's complicated. No one can ever know.
- e) It's the phenotype results from the interaction of genes and environment
- f) Another boring question again...

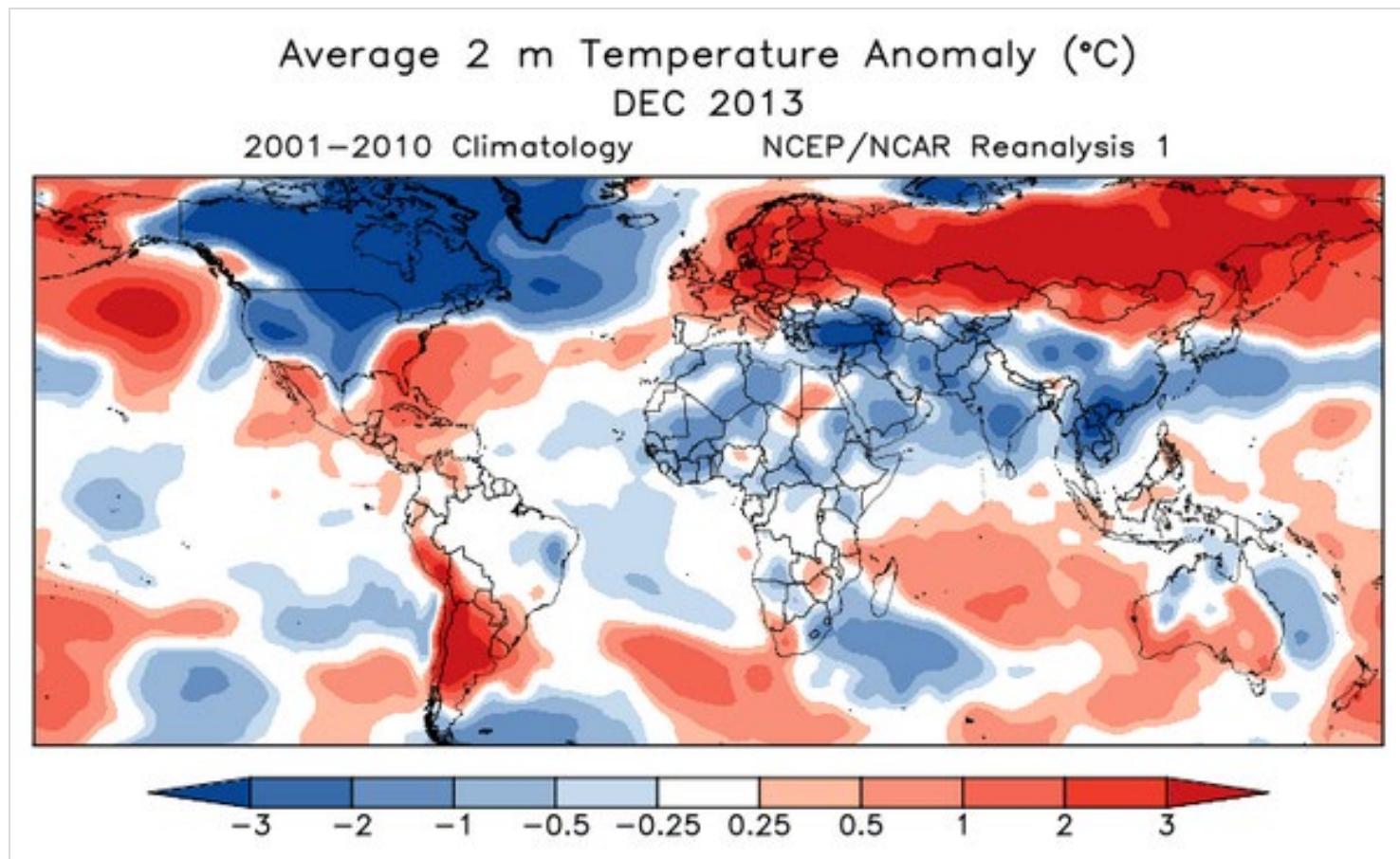
An excellent SSI lesson with CCR!

- ◆ Can global warming be real if it's cold in the U.S.? Um...?!
- ◆ By Brad Plumer January 6 at 2:44 pm, 2014
- ◆ Washington Post Wonkblog



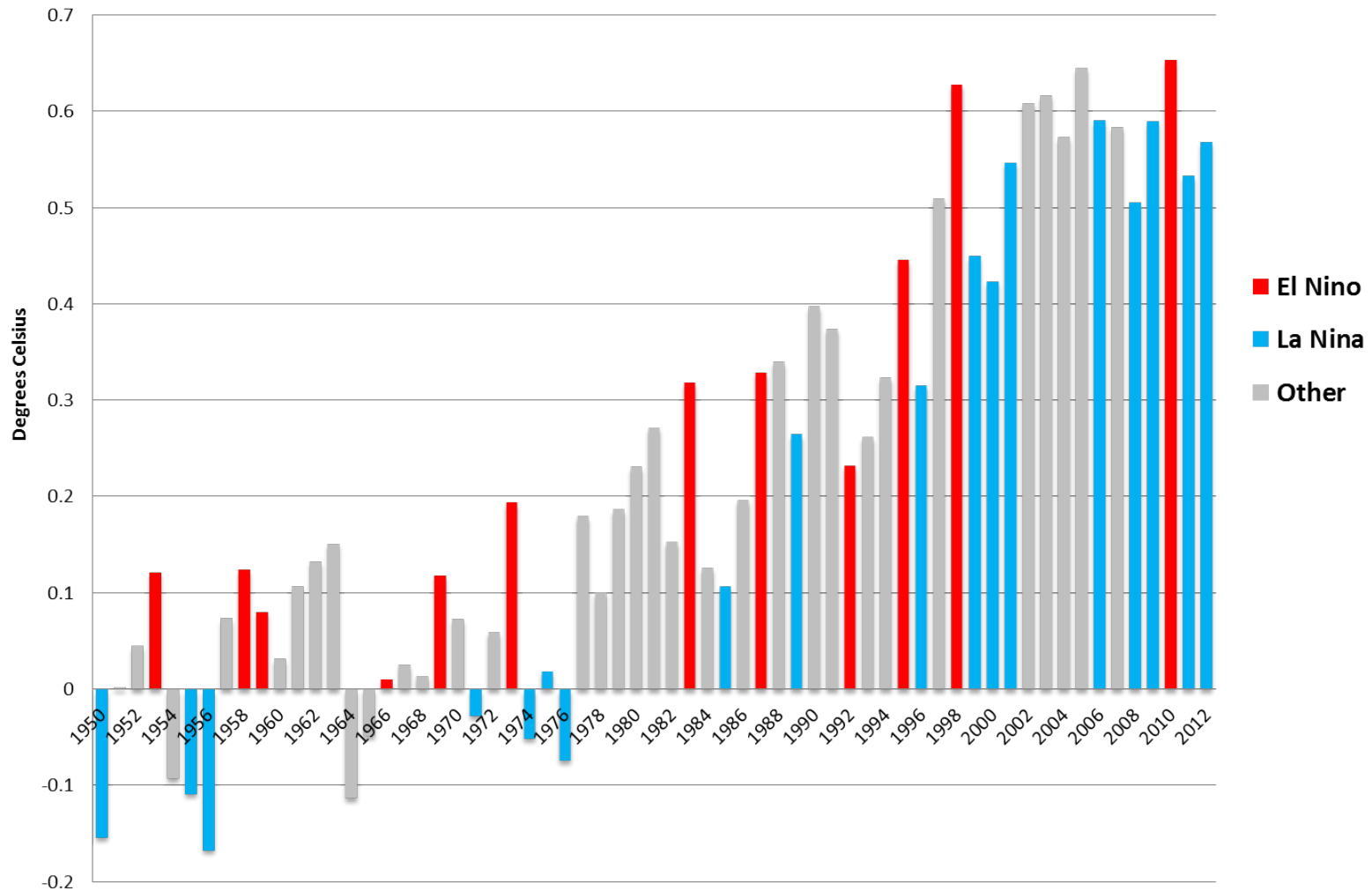
What is global warming?

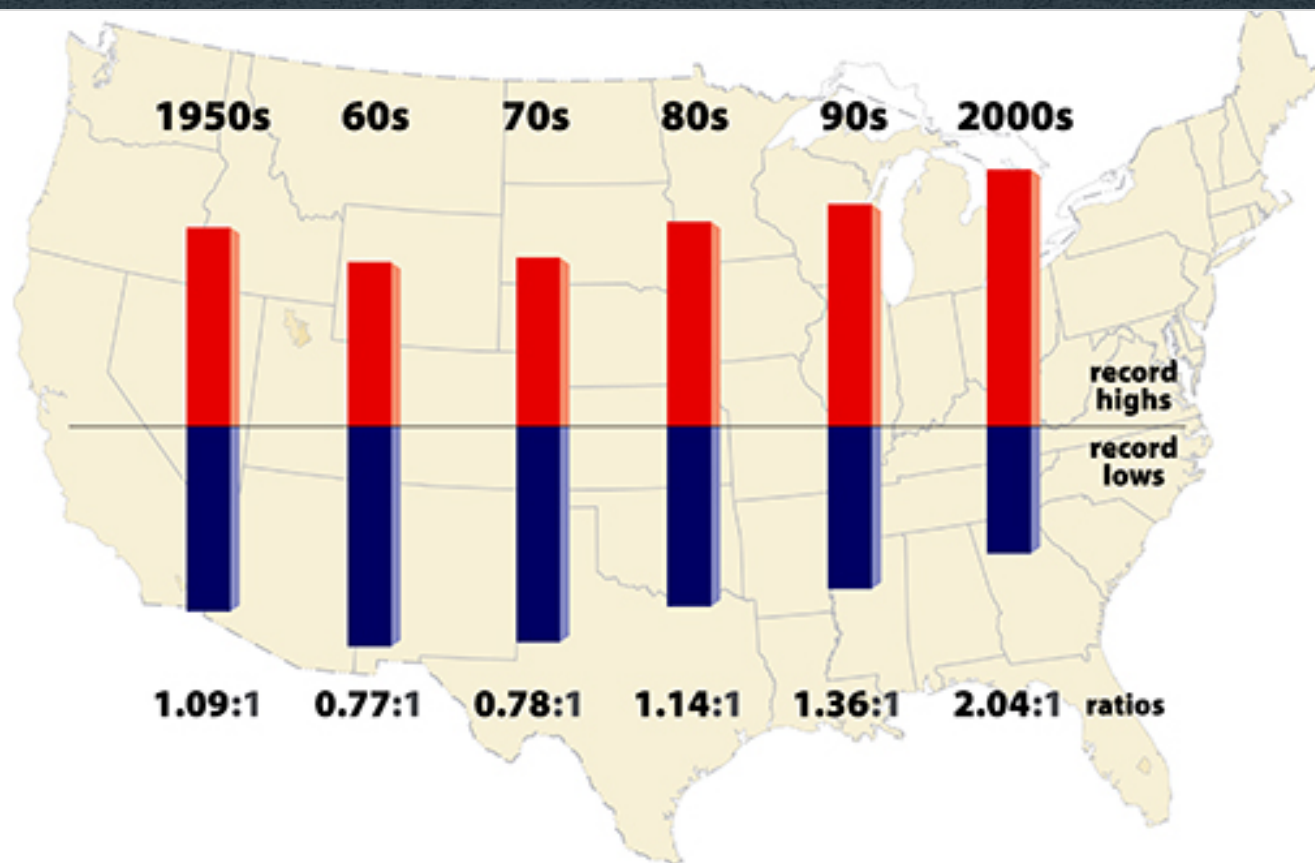
Global warming refers to the whole planet, not just the United States



The global temperature

Annual Global Temperature Anomalies
1950 - 2012





This graphic shows the ratio of record daily highs to record daily lows observed at about 1,800 weather stations in the 48 contiguous United States from January 1950 through September 2009. Each bar shows the proportion of record highs (red) to record lows (blue) for each decade. The 1960s and 1970s saw slightly more record daily lows than highs, but in the last 30 years record highs have increasingly predominated, with the ratio now about two-to-one for the 48 states as a whole. [\[ENLARGE\]](#) (©UCAR, graphic by Mike Shibao.)

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NATURE | NEWS FEATURE

Sex redefined

The idea of two sexes is simplistic. Biologists now think there is a wider spectrum than that.

Claire Ainsworth

18 February 2015

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Recommended



US vaccine researcher sentenced to prison for fraud

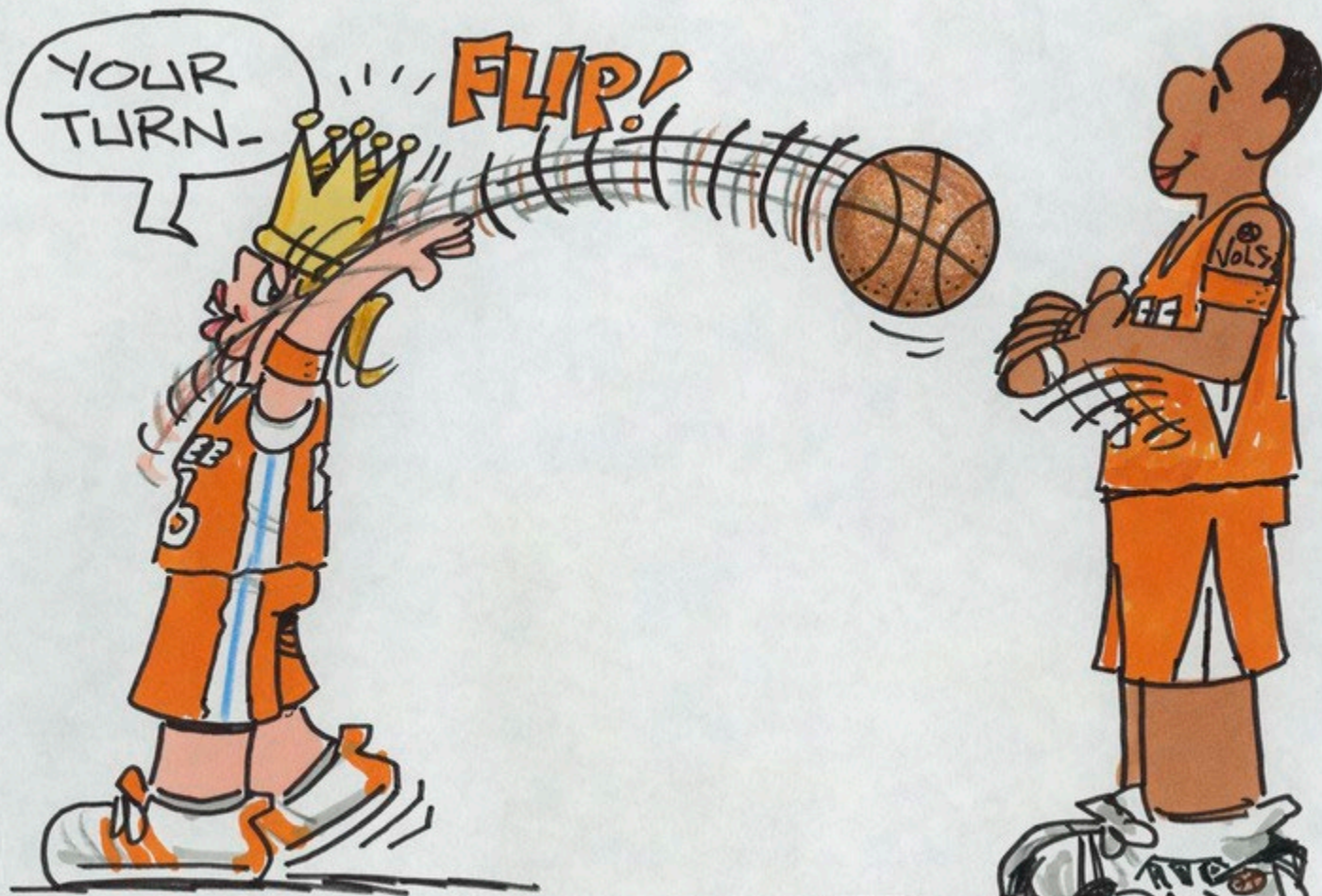
The case of Dong-Pyoo Han illustrates the uneven nature of penalties for scientific misconduct.



Recent	Read	Commented	Emailed
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2. How BP's \$18.7-billion oil-spill settlement could help the Gulf of Mexico <i>Nature</i> 03 July 2015			
3. Airborne spiders can sail on seas <i>Nature</i> 02 July 2015			
4. China pledges to curb emissions <i>Nature</i> 02 July 2015			
5. Ultrasound fingerprint scanners amplify			

YOUR
TURN.

FLIP!



daniel@knews.com

©NEWS SENTINEL



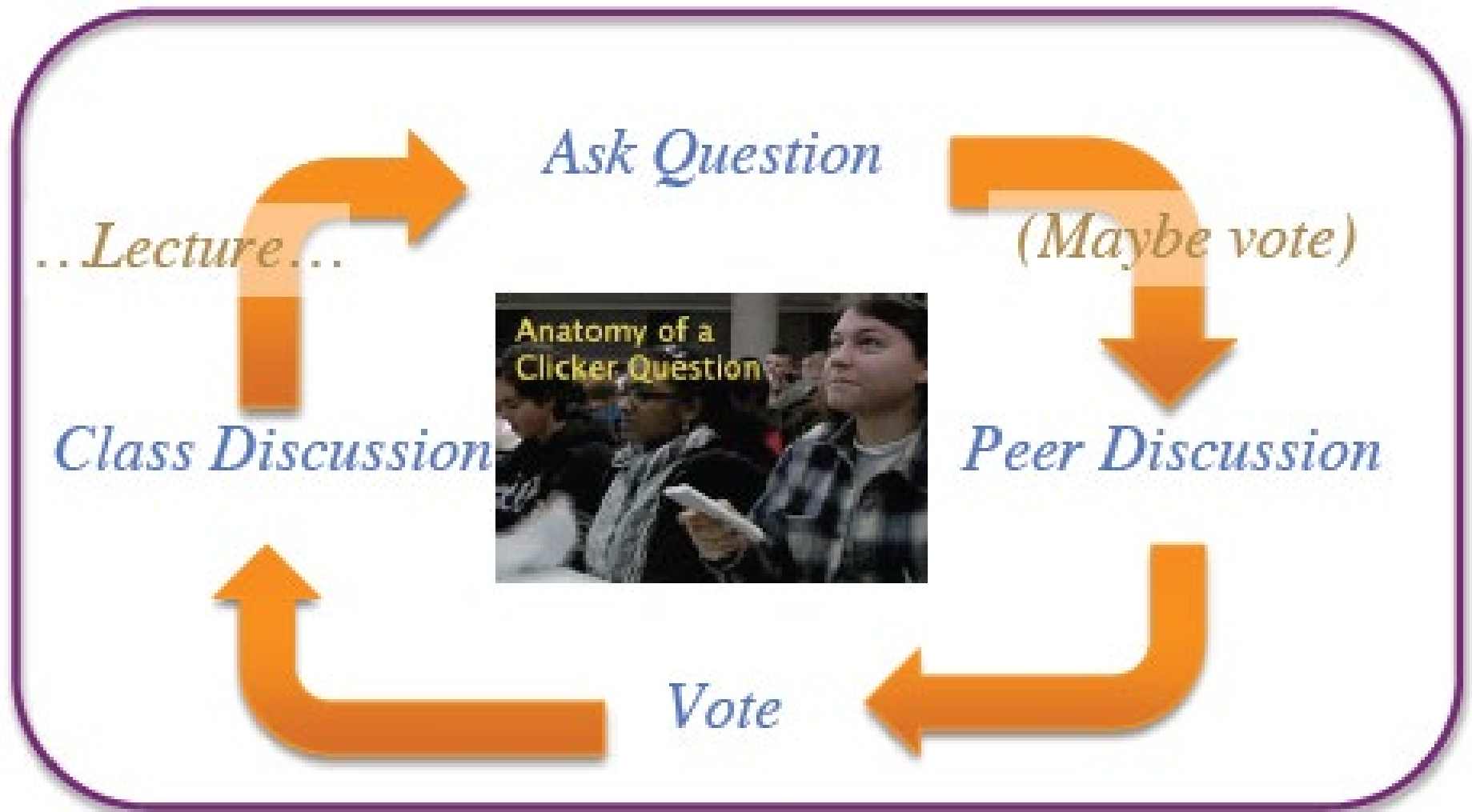
Clickers in the large classroom!

- Jane E. Caldwell (2007). Clickers in the large classroom: Current research and best-practice tips. *CBE—Life Sciences Education*, 6, 9-20.
- Instructors have reported using clickers in classes ranging from 15 students (e.g., Draper, 2002) to more than 200 students (e.g., Cue, 1998; Draper and Brown, 2002; Wit, 2003).
- Modes of implementation are as varied as the instructors who use them, but typically between two and five questions are given per 50 minutes of class instruction (e.g., Burnstein and Lederman, 2001; Elliot, 2003; Jackson and Trees, 2003; Beatty, 2004; Caldwell et al., 2006).

Evil Big Brother?!

- You MSUT MUST MUST explain to students why you are using clickers. If you don't, they often assume your goal is to track them like Big Brother, and force them to come to class. Students highly resent this ([Duncan, 2008](#)).

The best practice!



Research into the use of Clickers

- Louis Deslauriers, Ellen Schelew, & **Carl Wieman**. (2011). Improved learning in a large-enrollment Physics class. *Science*, 332, 862-864.
- **Carl Wieman**
 - ◆ An American physicist and recipient of the Nobel Prize in Physics for the production, in 1995 with Eric Allin Cornell, of the first true Bose–Einstein condensate.

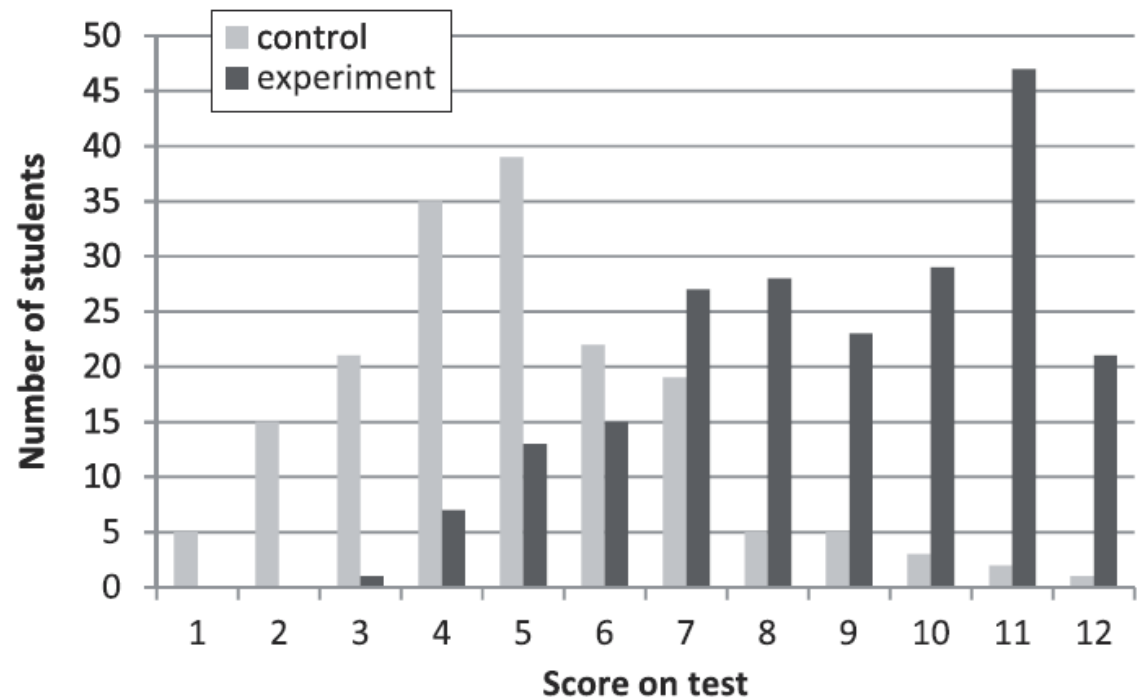


Improved Learning in a Large-Enrollment Physics Class

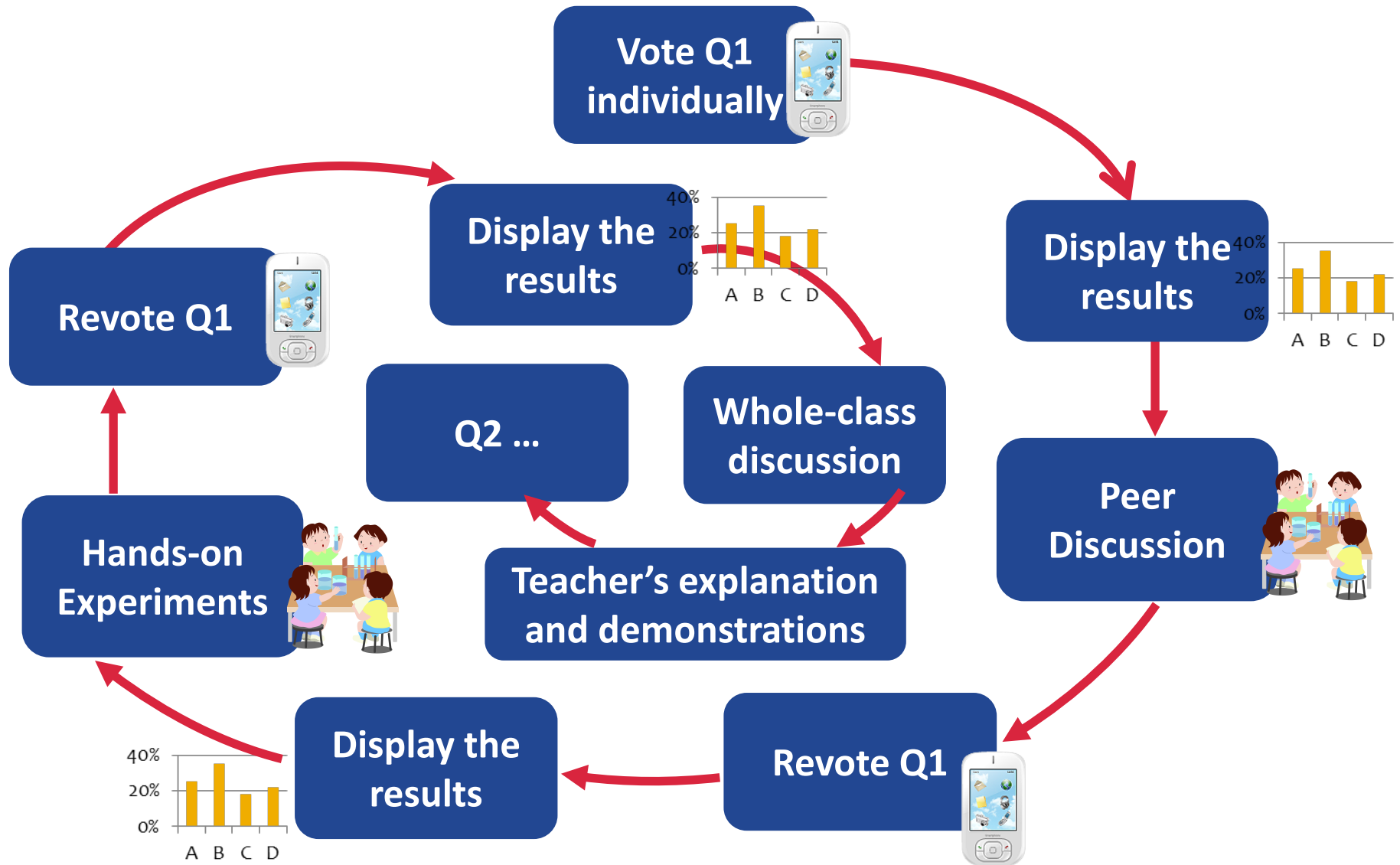
- Louis Deslauriers, Ellen Schelew, Carl Wieman*†‡
- *Science 332, 862-864.(2011)*
- We measured the learning of a specific set of topics and objectives when taught by 3 hours of traditional lecture given by an experienced highly rated instructor and 3 hours of instruction given by a trained but inexperienced instructor using instruction based on research in cognitive psychology and physics education.

Results

Fig. 1. Histogram of student scores for the two sections.



Modified Peer Instruction with CCR



Modified Peer Instruction with CCR

◆ Friction and Newton's 1st Law

- 1 entrance question (vote → discuss → revote)
- 2 hands-on questions (vote → discuss → revote → experiment → revote → whole-class discussion → teacher's demonstrations and explanations)
- 2 hands-on activities (air hockey table, ruler, iPad, and slow-motion app [SlowMo])
- 3 exit questions (1 basic question and 2 transfer questions: vote → teacher's demonstrations and explanations)
- 2 video presentations
- 1 working sheet

Revealing students' misconceptions through CCR and peer discussion

- ◆ A hockey puck is at rest on the horizontal, frictionless surface of a rink. Which of the following ways can keep the puck moving along the surface of the rink at constant speed?
 - 1) Use a stick to keep pushing the puck parallel to the surface.
 - 2) Use a stick to hit the puck once parallel to the surface.
 - 3) Use a stick to hit the puck parallel to the surface; but it should be noted that the puck will need another hit anytime to keep it moving.
 - 4) None of the above.

Combating misconceptions through hands-on activities

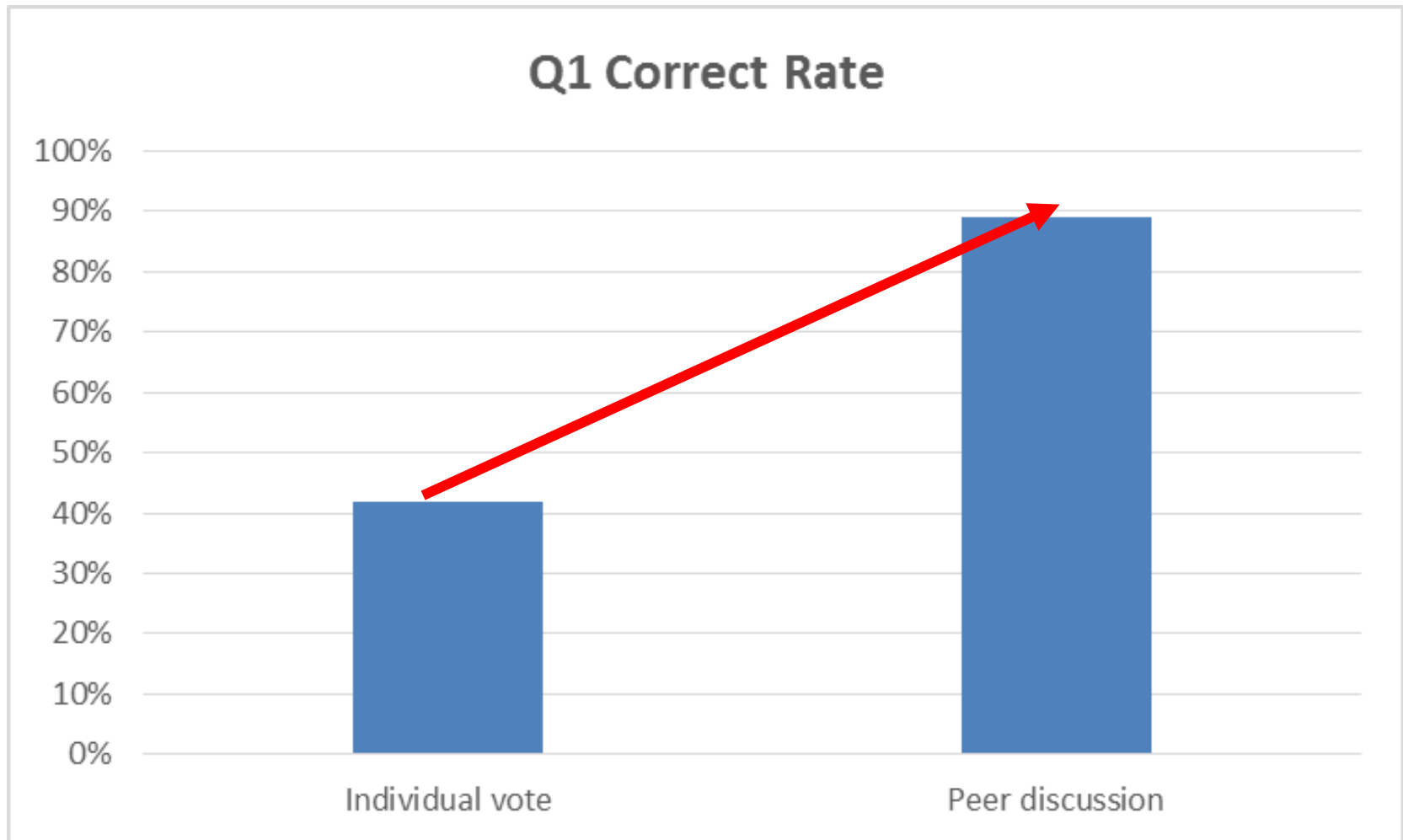
Using SlowMo app to examine the hockey's movements frame by frame



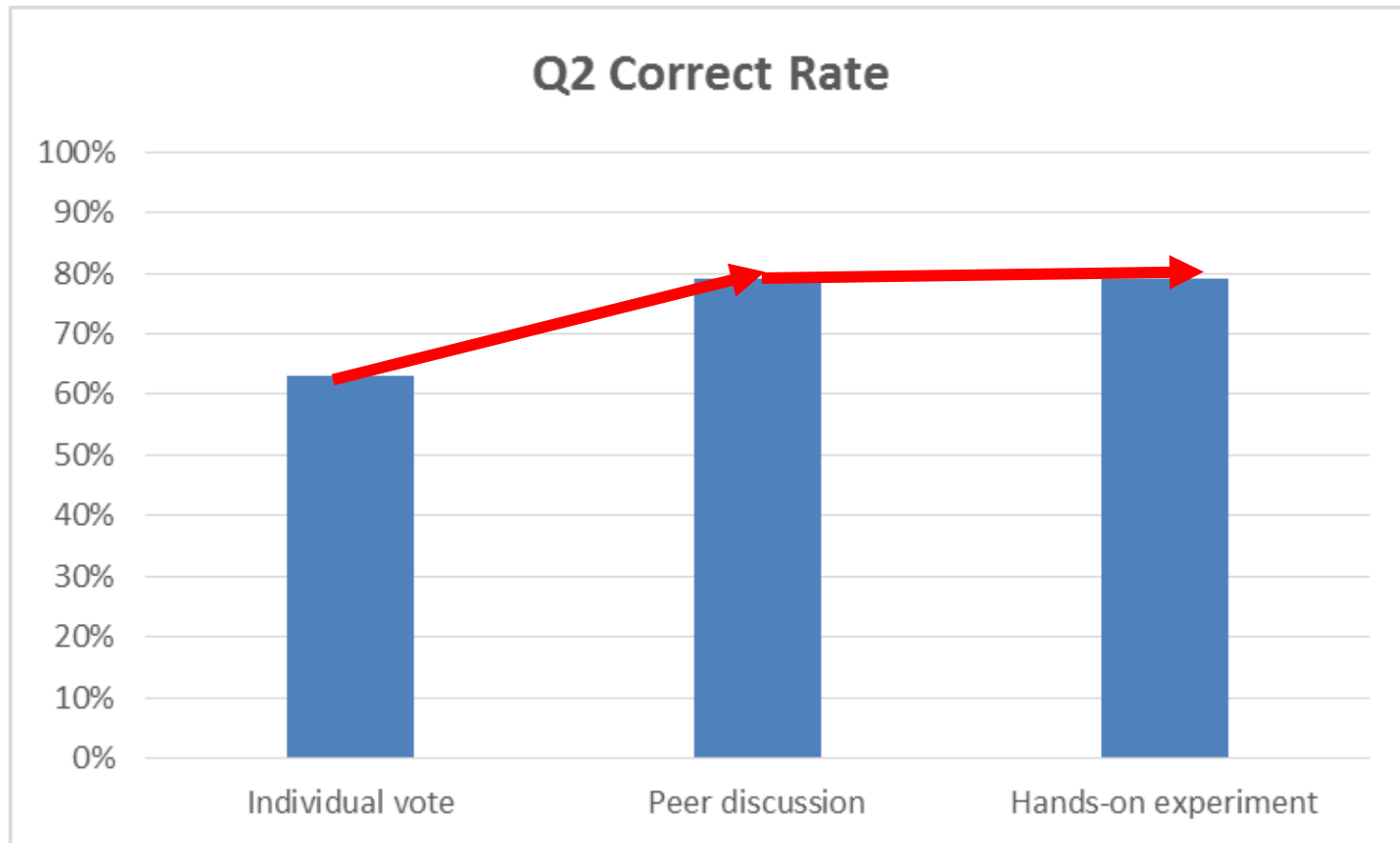
Active engagement in hands-on activities



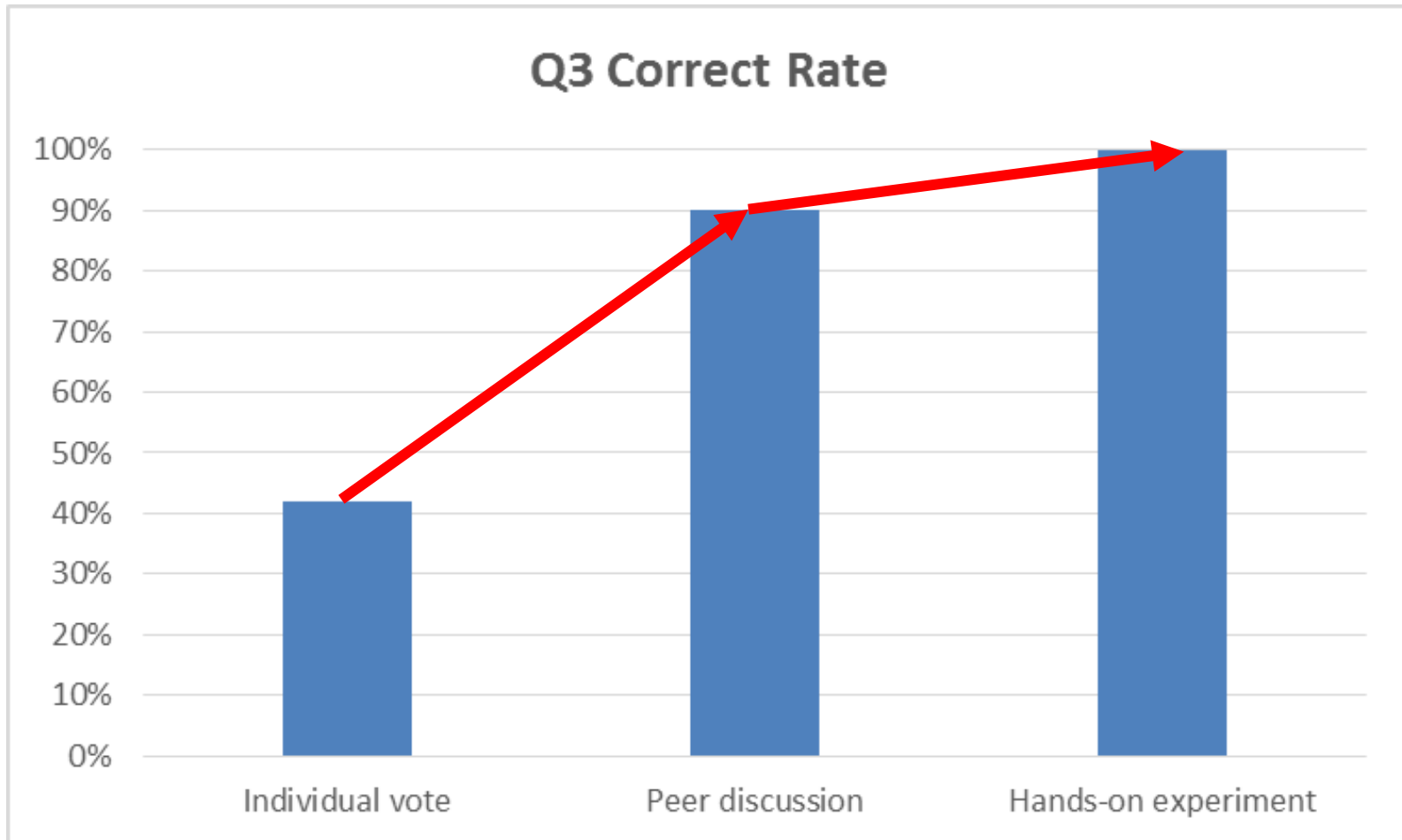
Students' learning progress



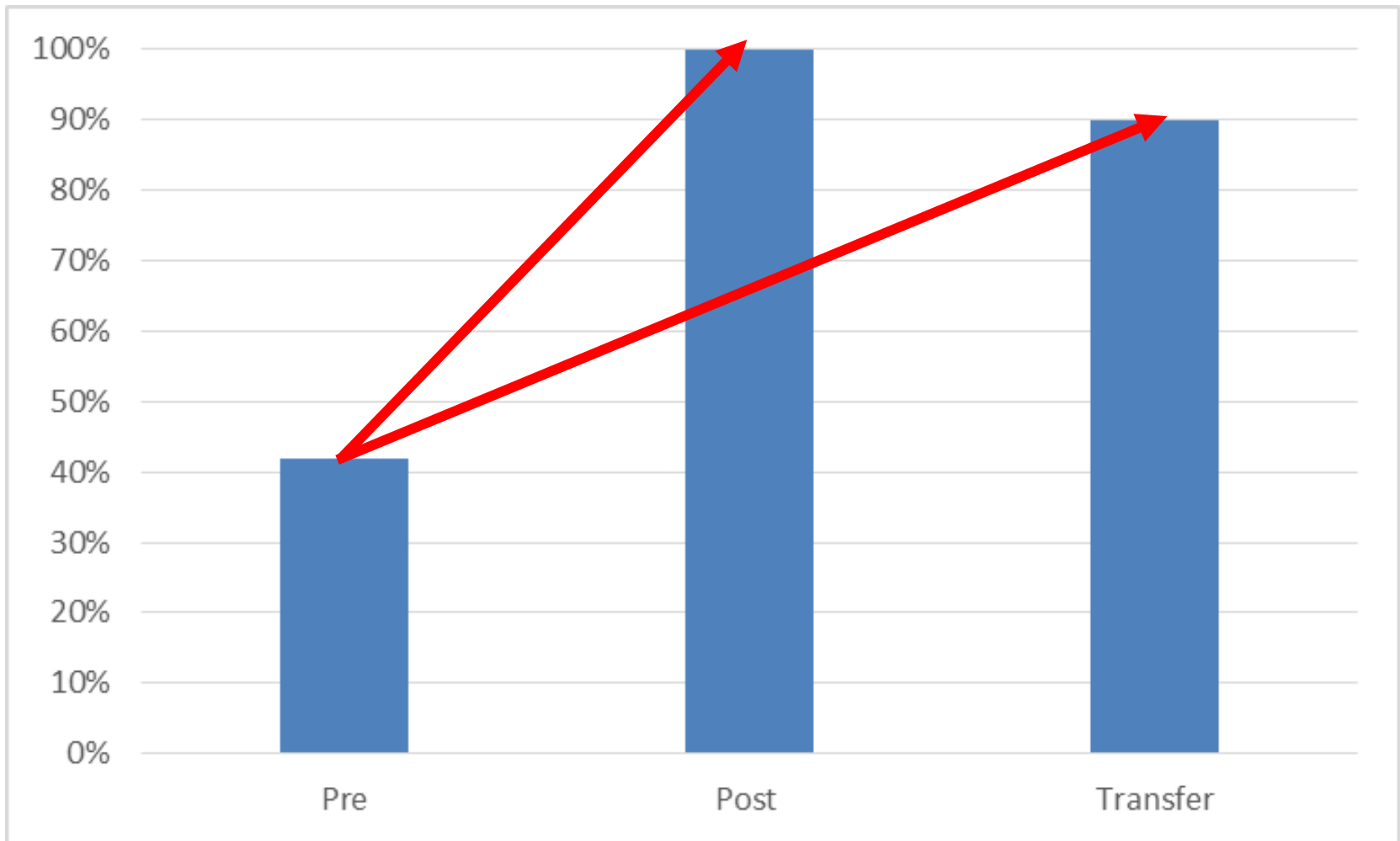
Students' learning progress



Students' learning progress



Students' learning progress



Latest study 1: Hosted by Beijing Normal University

Conferencing tools integrated with CCR

QQ, Facebook, Google account login

<https://ccr99.cn/>

The screenshot displays the Cloud Classroom (CCR) login page. It features three main panels for different user roles: Student, Teacher, and Guest. Each panel includes the CCR logo and icons representing the user type. The Teacher panel is highlighted, showing login options for QQ, Facebook, and Google. The Google login section includes input fields for email and password. The footer of the page contains logos for various institutions and the text 'PRO CCR © 2017 CCR Group. Contact us'.

發言者視訊畫面

董艳

嘉宾请改名

赵佩

洪荣昭教授

张俊彦-台湾师大

錄影

解除静音

開啟視訊

與會者 379

問答

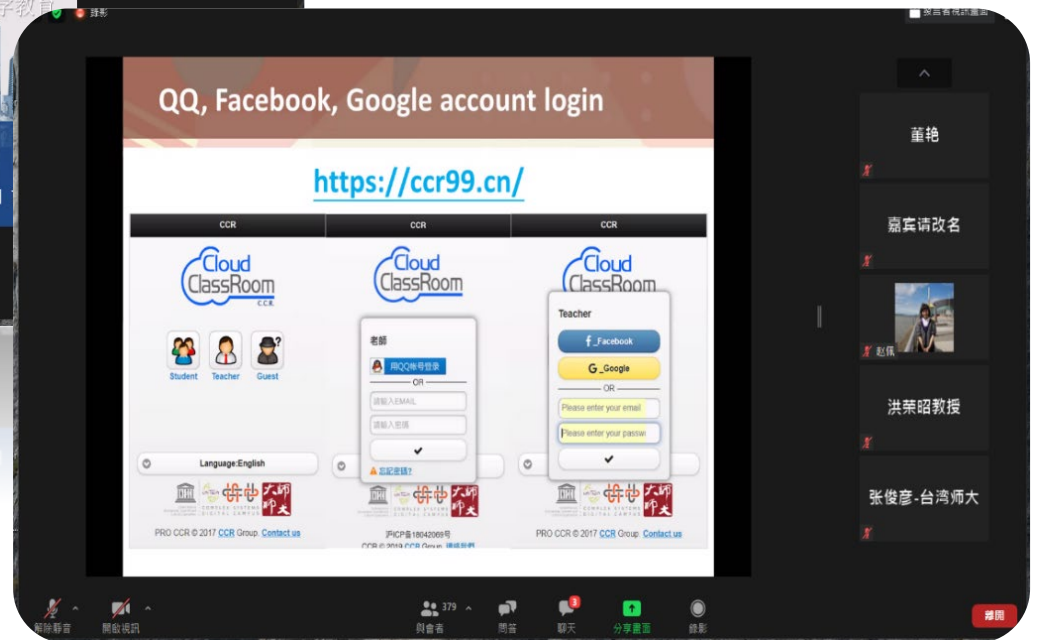
聊天 3

分享畫面

錄影

離開

Conferencing tools used: Zoom & CloudClassRoom (CCR)



Online Class

- ◆ Topic: Literature Re-View and Re-Search
 - **Two examples of meta-analysis research on**
 - ✓ Clicker-Integrated Instruction
 - ✓ STEM enactment effectiveness in Asian student learning
- ◆ Zoom Participants: 379 university professors and students
- ◆ CCR Participants: 136 university professors and students (**Active Audiences**)

Latest study 2: Hosted by Guangxi Normal University Conferencing tools integrated with CCR

8.5日师资班课程(12/15) | 00:13:03



主持人錄製中

云课堂：强大的师生互动平台！



- <http://ccr.tw>
- <http://ccr99.cn>
- ✓ 跨平台
- ✓ 免安装
- ✓ 不收费
- ✓ 高互动
- ✓ 客制化
- ✓ 14种语言界面
- ✓ 7万师生 60万笔纪录

入會口令

添加參會人

搜索已入會成員

已入會(12)

未入會(3)

我 我

俊彥 張俊彥

建东 蒋建东
主持人

王庐茜 張俊彥 正在發言

張俊彥

DingTalk 靜音 關閉鏡頭 共享窗口 掛斷 邀請 全員靜音 錄製 演講 宮格 列表 設定

Conferencing tools used: Ding Talk & CloudClassRoom (CCR)



Online Lecture

- ◆ **Topic: The FACT and FALLACY regarding Dinosaurs**
 - Online lecture about the distinctive characteristics of the various dinosaurs
 - Distinguish between the facts and fallacies about dinosaurs from the movie clip of *Jurassic Park*
- ◆ DingTalk Participants: 63 Pre-Service Teachers
- ◆ CCR Participants: 63 Pre-Service Teachers (**Active Audiences 100%**)

Instant survey by CCR

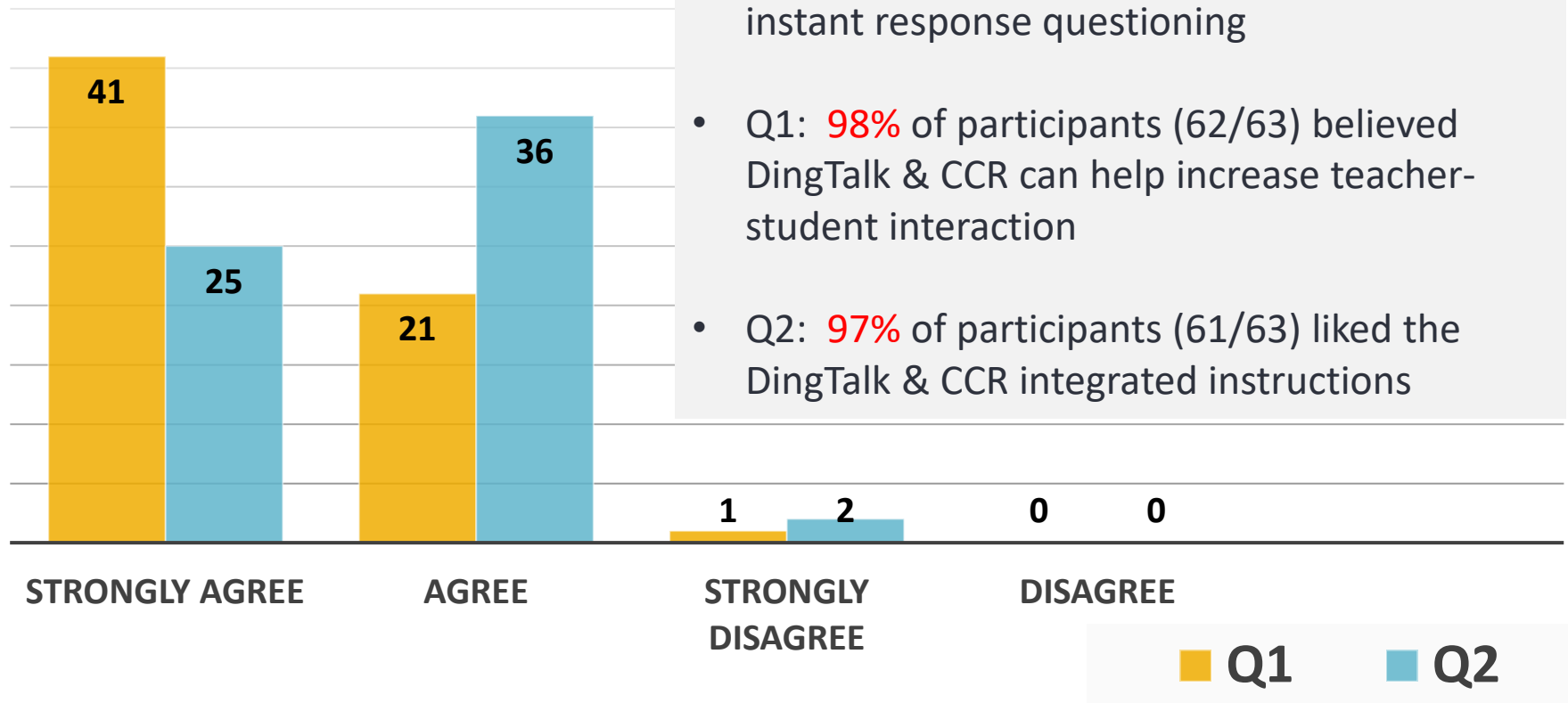
- After the online lecture in DingTalk, two multiple-choice questions were raised by the speaker using CCR:

Q1 : Do you think the integration of DingTalk & CCR in teaching can enhance teacher-student interaction?

Q2 : Do you like the DingTalk & CCR integrated instruction?

Results

Responses Distributions



- A total of **63** participants responded in CCR instant response questioning
- Q1: **98%** of participants (62/63) believed DingTalk & CCR can help increase teacher-student interaction
- Q2: **97%** of participants (61/63) liked the DingTalk & CCR integrated instructions

CCR Open-Ended Question Results

- Students were also asked to comment on their perceptions on DingTalk &CCR integrated instruction
- Students gave positive feedbacks towards the systems such as:
 - teacher-student interaction is greatly enhanced
 - CCR's instant response feature helps strengthen interactions with the teacher and offsets the shortcomings of DingTalk in online teaching
 - It is more convenient to communicate with the instructor
 - the gaming feature of CCR helps increase the incentives to participate in Q&As
 - This kind of instruction allows me to have better engagement in the class
 - an excellent way to carry out online teaching
 - this kind of instruction is fun and enjoyable

CCR Open-Ended Question Results

- There are also few negative feedbacks such as:
 - the Wi-Fi network is too slow
 - too much ambient noise
- Overall, majority of the students enjoyed the online instruction using DingTalk & CCR and felt this kind of instruction can facilitate their learning processes.



Teaching socio-scientific issues through integrated STEM education: an effective practical averment from Indonesian science lessons

Bevo Wahono, Chun-Yen Chang & NGUYEN Thi To Khuyen (2021),
International Journal of Science Education, 43:16, 2663-2683

Limited Studies have integrated STEM and SSI

01

A recent study has examined senior pre-service teachers on theoretical and practical courses on STEM education and socio-scientific issues. This study reveals that **SSI** can be an **appropriate context** for the **practice** of STEM education (Bozkurt, Ozturk, & Yenilmez, 2018)

02

Other studies that reveal the relationship between SSI, and STEM state that **morals** (another form of SSI) are considerations for **advancing** STEM education. This study reinforces the basic foundation in integrating STEM and SSI in an instruction (Kahn, 2015).

03

Another study argues that a sociocultural perspective framed through socio-scientific considerations is offered as an **alternative conceptualization** as well as a **surplus model** to hegemonic STEM education (Zeidler, 2014).

Moreover, to facilitate collecting the data and analysis result, an online platform called the **Cloud Classroom (CCR)** has been used.







Multi-level Assessment Result of SSI Based Instruction by STEM-6E

Classes	Assessments	N	Pre-test mean	SD	Post-test mean	SD	t	Cohen's <i>d</i>
A	Proximal	25	34.40	13.56	80.80	16.81	-9.56*	1.90
	Distal		42.40	20.26	64.00	16.33	-4.30*	0.86
B	Proximal	26	38.46	16.89	68.46	18.90	-7.72*	1.51
	Distal		33.07	22.58	63.84	16.98	-5.75*	1.12
C	Proximal	32	36.87	21.01	68.75	21.51	-5.84*	1.03
	Distal		35.62	24.74	65.62	18.48	-5.56*	0.98
D	Proximal	26	33.07	15.92	73.84	18.56	-8.78*	1.72
	Distal		38.46	21.85	53.07	21.12	-2.51*	0.49
ABCD	Proximal	109	35.78	17.22	72.66	19.56	-14.89*	1.42
	Distal		37.24	22.52	61.83	18.76	-8.92*	0.85

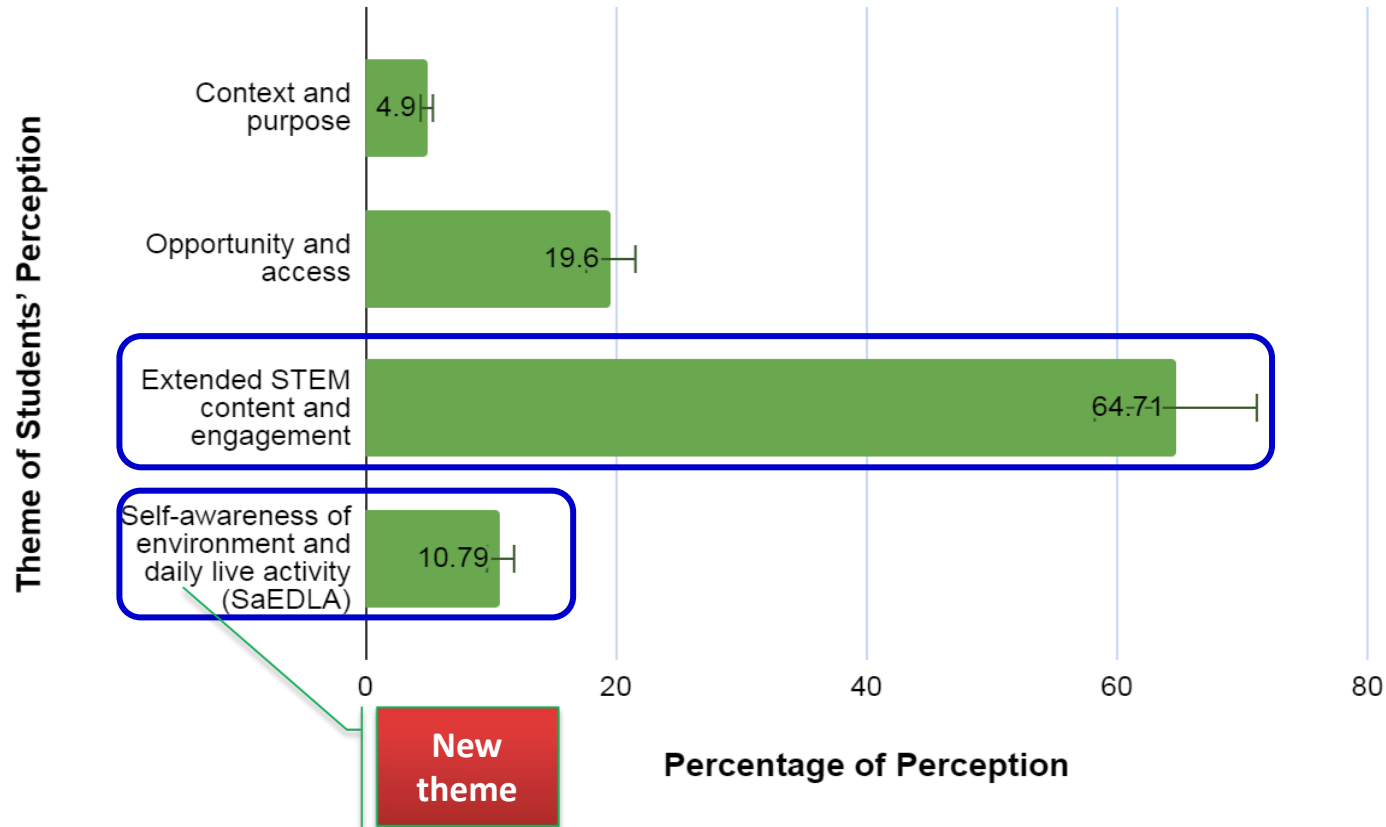
* $p < .05$

Differences of academic abilities

"Strongly deli very power"

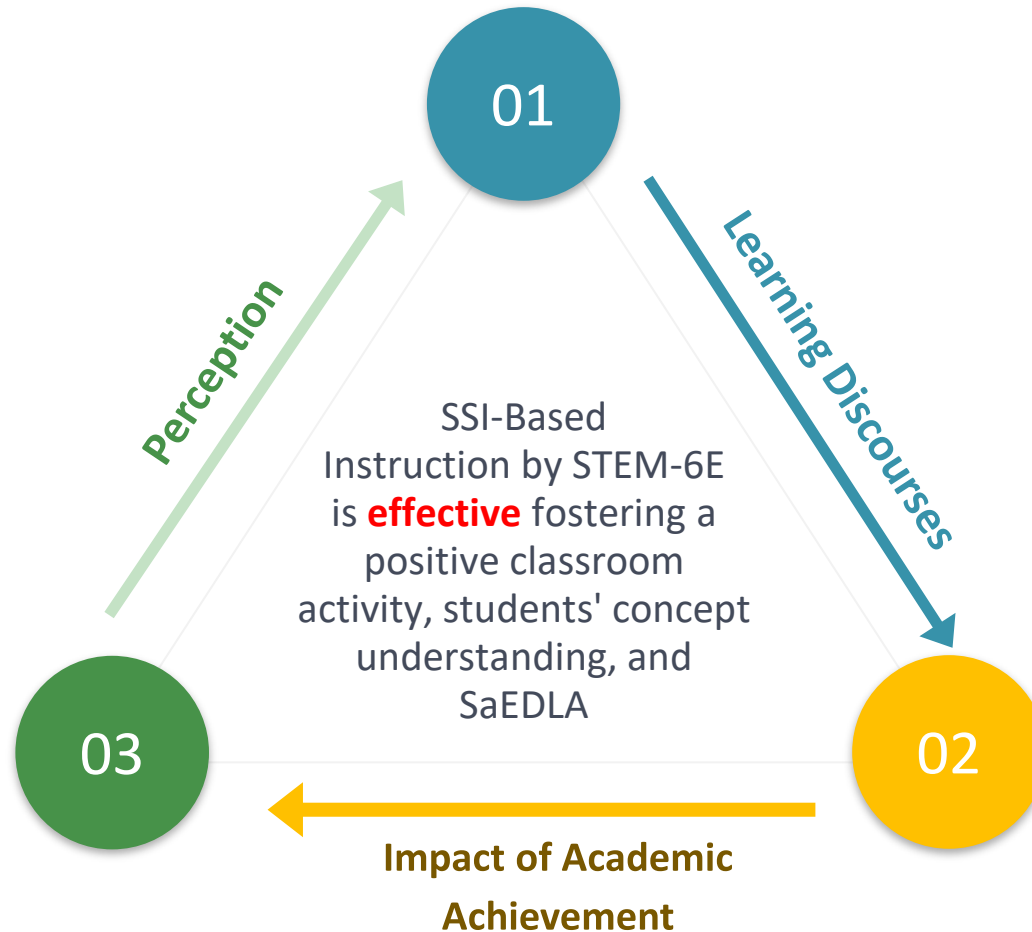
RQ 2: Is SSI based-instruction by the STEM-6E special course effective in terms of student' learning outcomes?

Students' Perception after the Intervention

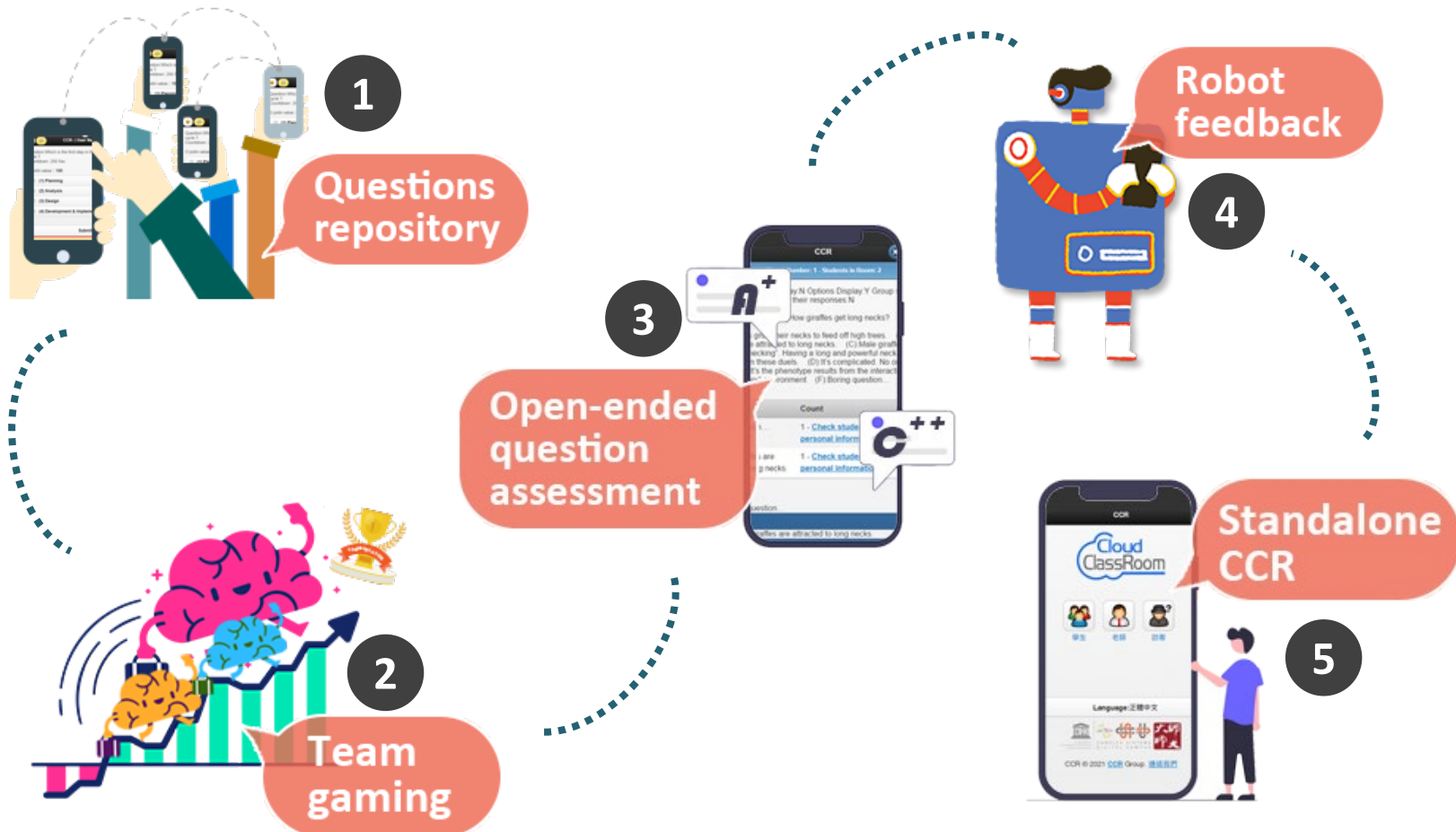


RQ 3: What are students' perceptions regarding teaching and learning on the SSI based instruction by STEM-6E special course?

Conclusion



Planned future work



Q&A

