

全英課程教學現場-像極了愛情的教學日常

In the mood for love of EMI teaching

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環境與職業流行病學之暴露評估計量模擬及應用
Exposure and Dose Metrics for
Environmental and Occupational Epidemiology

Resources

- Powerpoint slides
- Homework assignment
- Textbook



A Biologic Approach to Environmental Assessment and Epidemiology

Thomas J. Smith and David Kriebel

*To my
good friend - Thanks
for all your help. All the best
for the future!
Regards, Tan*

OXFORD
UNIVERSITY PRESS

2010

Lecture

Midterm

Model Simulation

Paper Critique

Group project presentation

週次	日期	單元主題
第1週		(1) Introduction to nature of exposure and its assessment in epidemiology (2) Review of course organization and schedule
第2週		Exposure characterization – strategies for quantitative measurements and practical issues (I)
第3週		Exposure characterization – strategies for quantitative measurements and practical issues (II)
第4週		Exposure characterization – strategies for quantitative measurements and practical issues (III)
第5週		Applications of exposure assessment in epidemiology (I)
第6週		Personal exposure-tissue Conc. relationship & biomarkers
第7週		Disease process models + HW1
第8週		Midterm
第9週		(1) Review of midterm exam (2) HW1 in-class discussion (3) Exposure and dose metrics: approaches for epidemiologic studies (II) + HW2
第10週		(1) HW2 in-class discussion (2) Exposure and dose metrics: approaches for epidemiologic studies (III) + HW3
第11週		(1) HW3 in-class discussion (2) Research design & critique
第12週		Paper critique 1 (Presentation on application of modelling by instructor, if time permitted)
第13週		(1) Paper critique 2 (2) Elevator speech
第14週		(1) Paper critique 3 (2) Model public hearing prep.
第15週		1. Model Public Hearing 2. Project Preparation
第16週		Project Presentation

The first class, it kept me up at night

- 10-12 students
- “Please introduce yourself”
- “Why do you want to take this course?”
- Background
 - Master and PhD students
 - Some had taken fundamental courses but some had not
 - A few did not public health background in undergrad
 - Different levels of English proficiency
 - 3 were particularly good
 - Half

This course is taught in English, but it is not an English class !!!

My strategy – the very first challenge

- **Long hours of course preparation**
 - 4-6 hours on text book
 - 4-6 hours on the slides
 - 2-4 hours on examples (in-class exercises)
 - Rehearsal...

Possible Obstacles

✗

Cannot follow

Slow down



✗

Unfamiliar
with terms

Speak fast during chats



✗

Partial
understanding

✗

Too nervous

✗

Limited
concentration

Possible Obstacles



Cannot follow

Explain in Chinese



Unfamiliar with
terms



Partial
understanding



Too nervous



Limited
concentration

Possible Obstacles

✗

Cannot follow

Repeat and explain in other words



✗

Unfamiliar with terms

Break the content into small meals



✗

Partial understanding

➡ Freedom to use Chinese in discussion
➡ Consult fellow students

✗

Too nervous

✗

Limited concentration

Possible Obstacles



Cannot follow

Don't worry about grammar



Unfamiliar
with terms

➡ **Personal experience in the states**
➡ **I also get nervous**



Partial
understanding

Help students express their thoughts



Too nervous

Be patient with positive support



Limited
concentration

➡ **I walk towards them**

Possible Obstacles



Cannot follow

Group discussion; ask questions



Unfamiliar
with terms

Watch videos clips



Partial
understanding

Wrap up



Too nervous



Limited
concentration

Midterm evaluation (Anonymous)

2. 開學到目前為止我能聽懂上課主要內容：[4]

雖然是全英文授課，但老師使用的詞彙不深與講話的速度適中，除此之外，即使聽不懂，老師也會努力解釋，因此還能夠滿能了解老師上課的內容。

我認為可以增強英文的聽力與口說，也會比較勇於發言與發問，可能是因為上課人數不多，也可能是老師與學生建立的關係沒那麼疏遠，所以跟其他課程比起來，會比較敢發言或是與老師討論。

在課堂小組討論時，兩組的答案不一定相同，在這部分我覺得滿有趣的，可以知道別人的思考模式，就可以多學習到課堂以外的東西。

還有一個我認為是這堂課最大的優點就是全英文上課!!!全英文上課對於自己來說是一個挑戰，可以在平常的時間訓練自己的英文聽力和口說，強迫自己去努力聽努力用英文來表達，是我認為這門課最大的優點。

首先我認真的覺得老師上課很有條理，總是能夠聽得懂也跟得上老師的思路，這種感覺很好，不僅可以聽得很清楚，也可以立刻就學習起來，另外也很喜歡老師用舉例的方式帶領大家或講解給大家聽。小組討論雖然會占用到老師上課的時間，但是透過大家討論的方式不但可以強迫自己思考，也可以看看其他同學的想法，也是種不錯的經驗與學習。

我認為使用文獻案例作為討論內容的選擇還不錯，由於實際數據並不如理論上說的那麼完美、單純，因此如何闡述、解讀數據以及之後 **critic paper** 的能力對於自己的研究設計應該是有助益的，這也是這堂課的優點與特色。

這堂課應該是我第一次修過的全英文的課，覺得很有挑戰，可是因為很喜歡老師的個性，所以想修修看老師的課，也想說老師很活潑與熱情，上課應該與其他老師比較不一樣，在全英文的課程中不會都聽不懂然後想睡覺，看了這堂課的評分方式有不同作業、報告與考試，感覺更具了挑戰性了~在上課的時候，因為是全英文的方式，所以有時候挫折感會比較重一些，認真聽在想那個不太懂的單字或句子，然後之後就會落掉了一段，之後在接上，但我想這也是我要自己慢慢學習的地方，可能要課前預習、複習以及習慣這種上課方式！

很喜歡老師上課的方式，用輕鬆的口氣上課讓自己也覺得學習沒有那麼難，上課中也會利用白板畫圖來輔助，比起文字更能夠了解想要表達的上課內容。雖然剛開始選課會覺得在繁忙的論文研究中，好像不用在選課增加壓力，但是實際上課後覺得可以除了做很累的論文可以有機會聽到比較輕鬆但又實用的課程是很值得的，在上課時也可以一邊思考自己的論文有沒有甚麼地方需要改進或研究，有些時候東西做得太深入反而會忘記一些相當基本的觀念和想法，可以透過上課再思考，對我很有幫助。

3. 我認為這門課在作業上有何優點，或需要改進的地方（包括小組討論）？

作業可以透過小組討論覺得可以比較沒有壓力也學到更多，透過大家一起討論題目或是想解答總是可以比自己做作業還多些腦力激盪。

很有挑戰性，很難獨自完成，所以無法只分工不合作
⇒很棒！

在作業上的優點在於有小組討論，雖然作業很難，自己在看自己負責那部分題目時也毫無靈感毫無頭緒，但透過和組員們的討論，漸漸釐清問題核心，認真覺得有組員有小組討論好重要啊~

I know I was on the right track!

Example: Public hearing

- Role play – representatives from/as
 - Government
 - Residents
 - Company
 - Scholars
- Prepare standpoints
 - Use what they learn in class as scientific reasoning and evidence

NTU course evaluation score=5

Statistical Results of the Course Questionnaire

The Second Semester, Academic Year 2016, National Taiwan University

Course Title: Exposure and Dose Metrics for Environmental and Curriculum Number: EH5026 Class:

Instructor: 李婉甄(WAN-CHEN LEE)

Date of Issue: 08/22/2017

*** Students' Written Feedback ***

Please share your learning experience of this course or provide your comments and suggestions to the instructor.

雖然是英文授課但老師很厲害、上起來幾乎沒有障礙，老師的課程規畫相當細心，上課也很有活力，收穫良多 <3

106-1 Essentials of Global Health

- Liberal art course
- Students of diverse backgrounds
- 30-40 students
- Course design
 - Weekly lecture on different topics
 - Lecture + Group discussion + presentation
 - Weekly assignment: pre-reading
- Discussion-based
- TAs

Indoor Air Quality (IAQ) (Oct. 23, 2017)

Wan-Chen Lee, ScD

Institute of Environmental Health, College of Public Health, NTU

Goal of this session:

Difference in life style has led to a change in the time people spend indoors, including in different types of buildings and countries. This also involves elevated exposure to indoor air pollutants which very often have higher concentrations compared to those outdoors. As a result, the importance of indoor air quality (IAQ) cannot be over-emphasized.

This class will start with a short review in IAQ history and is designed to cover basic IAQ issues in both the low/middle- and high-income countries, including major sources of exposure and intervention strategies. Students will familiarize IAQ topics through lectures, in-class discussions and homework.

Required reading:

1. "Global health: Deadly dinners" from *Nature*
<https://www.nature.com/news/global-health-deadly-dinners-1.15286>
2. "Improving Indoor Air Quality" from US Environmental Protection Agency (USEPA)
<https://www.epa.gov/indoor-air-quality-iaq/improving-indoor-air-quality>
3. Watch the following video on Chinese drywall:
<https://www.youtube.com/watch?v=hMZxl2YIkrc>

Questions for assignment:

- 1) What are the differences in source(s) of indoor air pollution between developing and developed countries?
- 2) According to US Environmental Protection Agency (USEPA), what are the three main solutions to indoor air pollution?
- 3) Please answer the following questions after watching the short clip on "Chinese Drywall."
 - What are the signs of potential indoor air quality problem(s)?
 - What is (are) the suspected emission source(s)?
 - What are the emitted air pollutant(s) from the source(s)?
 - What are the potential health effects?
 - What do you think should be done to confirm the source(s) and pollutant(s)?
 - What do you think can be done to solve this IAQ problem based on the USEPA category?

Questions to be discussed during the class:

- 1) What are the obstacles to replace more fuel-efficient and low-emission cookers in low- or middle-income countries? In other words, why would people switch back to traditional ways of cooking after given an improved cooker?
- 2) Following the Q(1), in addition to IAQ problems, what are other public health concerns that you can think of when using traditional way of cooking? And who are the vulnerable populations?
- 3) Share your experience on any bad IAQ scenarios in life and what your intervention strategy was or would have been. Choose a couple/few stories to share in the final group presentation.

- Goal of this session
- Required reading
- Questions for assignment
- Questions to be discussed during the class

2017



My observation

- No TA training
 - Students compare
- Discussion became less effectiveness towards the end of the semester

Co-instructor

Instructor

2017

2018

TA training Weekly TA meeting

- Time table
- Preparation before class
- Discussion flow

2018-09-17 GBD

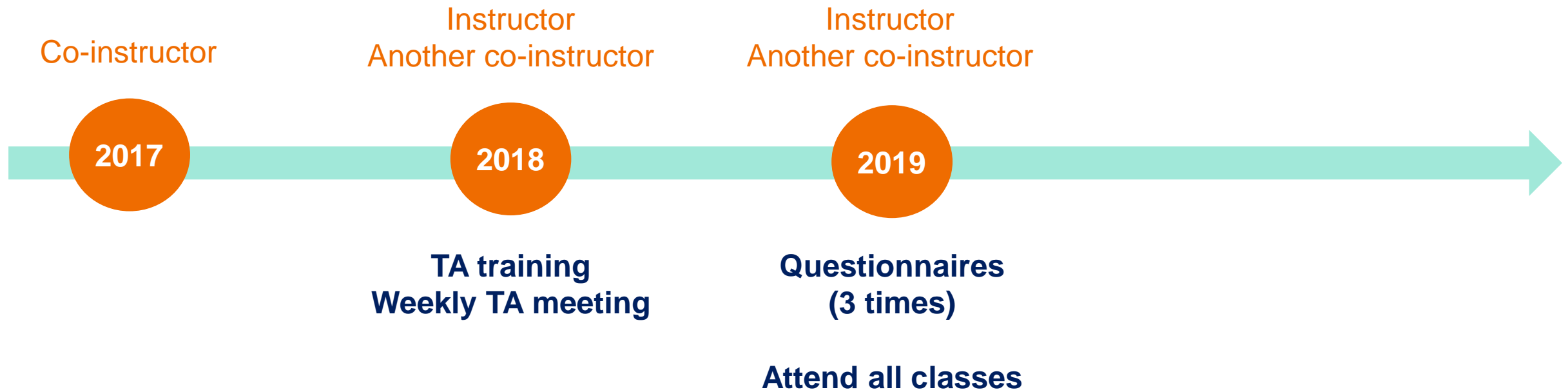
Time	Activity	Notes
1:20 - 2:10	Lecture	
2:10 - 2:25	TA announcement	Announcement (Assignment Policy, makeup class); Demo
2:25 - 2:35	break	
2:35 - 2:45	TA: Session begins	Student self introduction, Signup sheet, divide to groups (multiple countries v.s. time frame), who to present
2:45 - 2:55	TA: Actual Exercise	Decide on countries and risk factor
*2:55	TA: Reminders	Formulate/Discuss on Hypothesis
*3:00	TA: Reminders	Start preparing for slides
*3:15	TA: Reminders	Wrap up
*3:20	TA Discussion Ends	Pickup slides to USB
3:20 - 3:30	Break	
3:30 - 4:10	Student Presentations	
4:10 - 4:20	TA Preview for next class	
4:20	Class Ends	Describe and reminders for next class's topic, assignment, reading, and assignment

Prepare Before Class

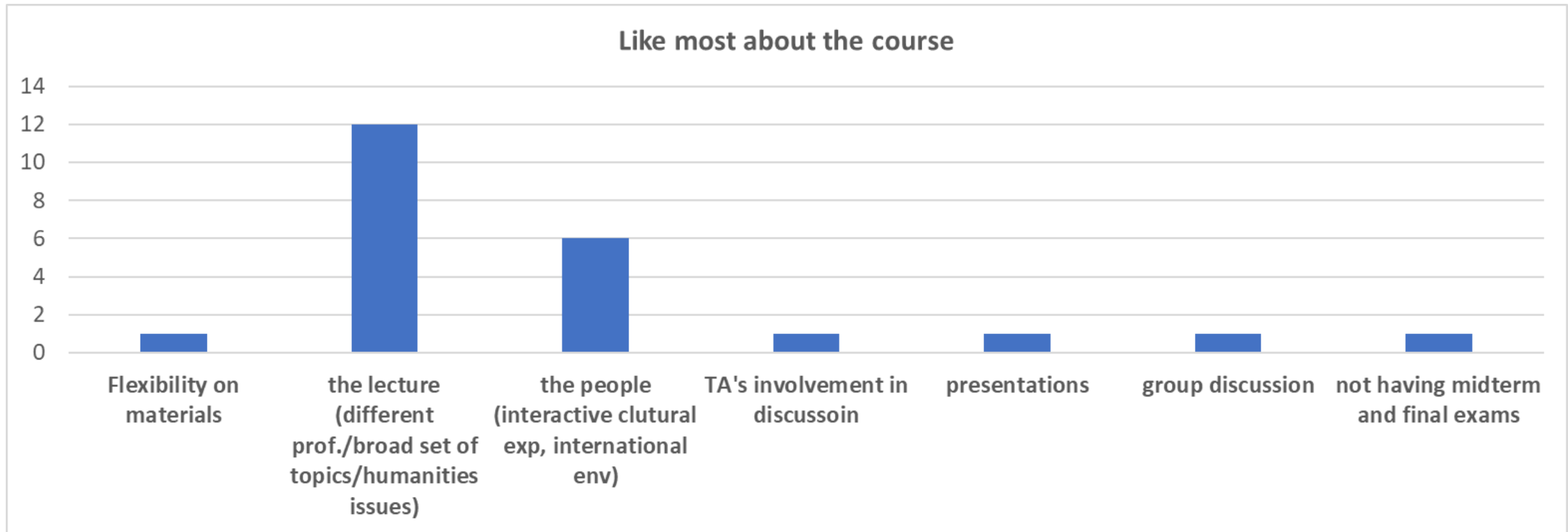
- Bring an USB flash drive
- Paper for name cards
- Preload GBD Website

Discussion Flow

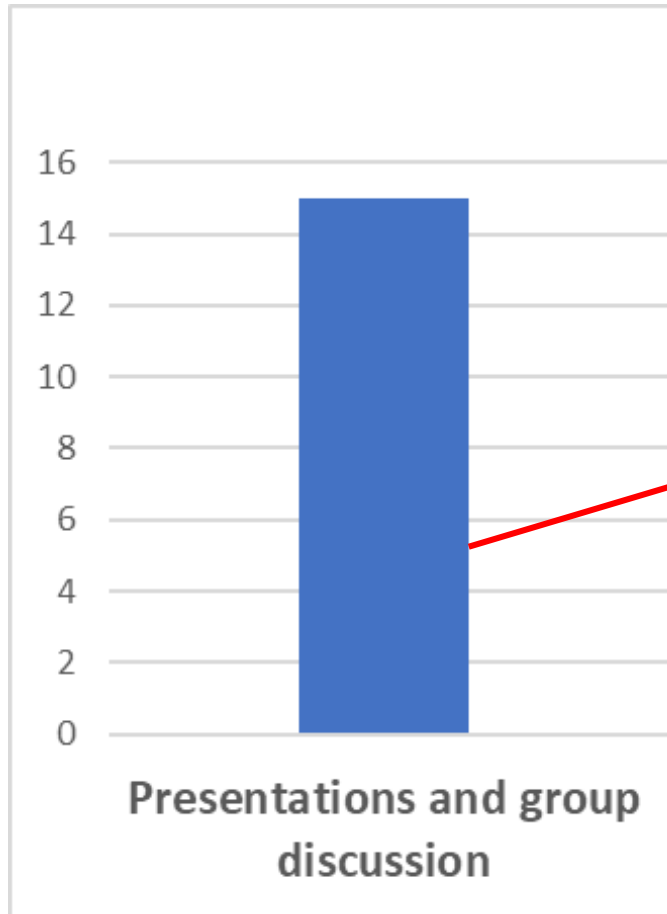
- Demo together in the big classroom
 - Announcement
 - Makeup class
 - Inform policy adjustment:



Liked most about the course

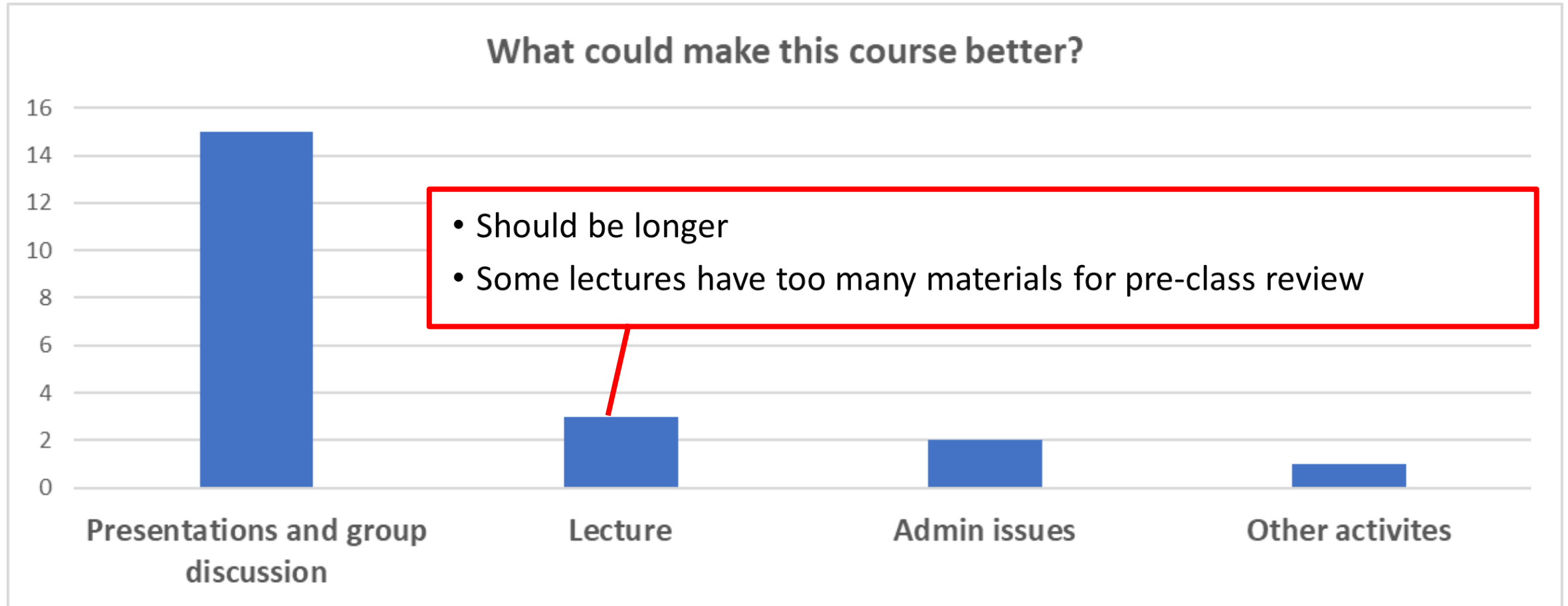


What could make this course better

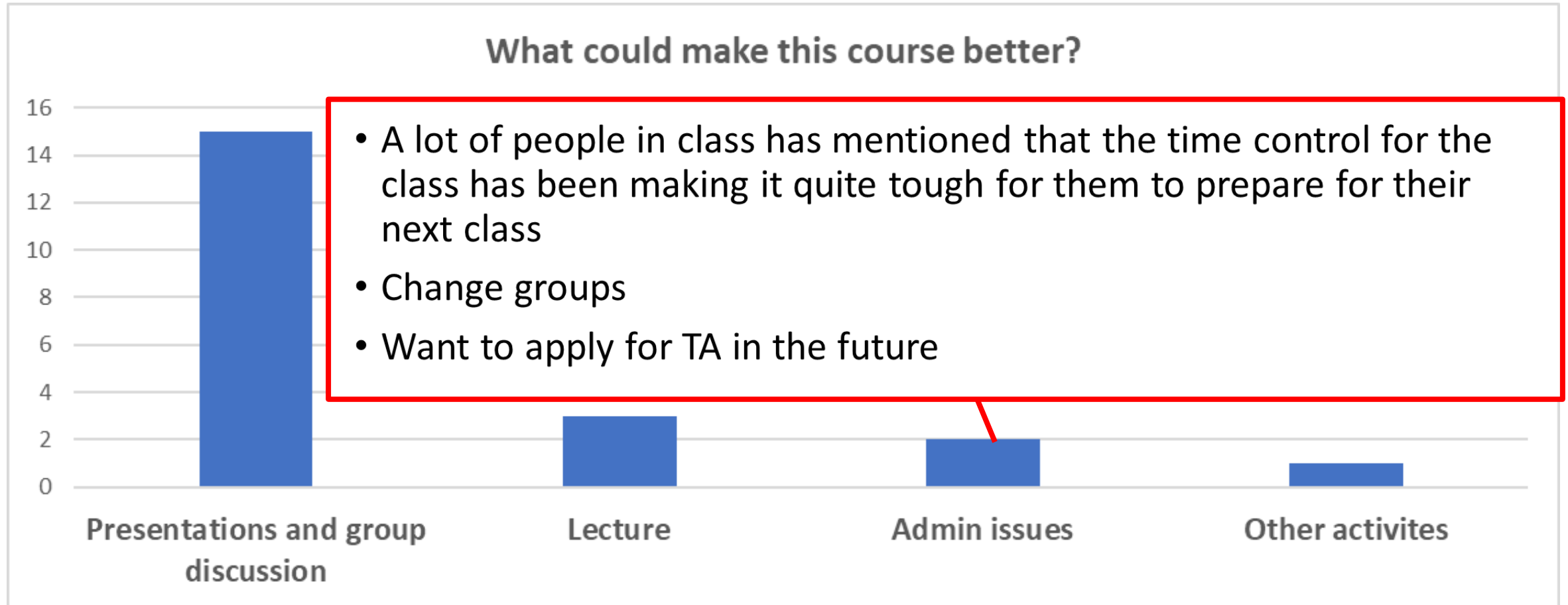


- Too stressful, not enough time to prepare
 - Less student presentations. We just copy stuff off of Google, put it on the slide and read off of it. We don't learn anything.
 - Another idea might be to not have the presentation and more just tell people what the group came up with. When it's so little time, it feels unnecessary to put time in organising a ppt as well
 - Don't have presentations every week
-
- Have group discussions in small groups about various, broad topics, which we then discuss in class, and the professor can respond to the thoughts of the group

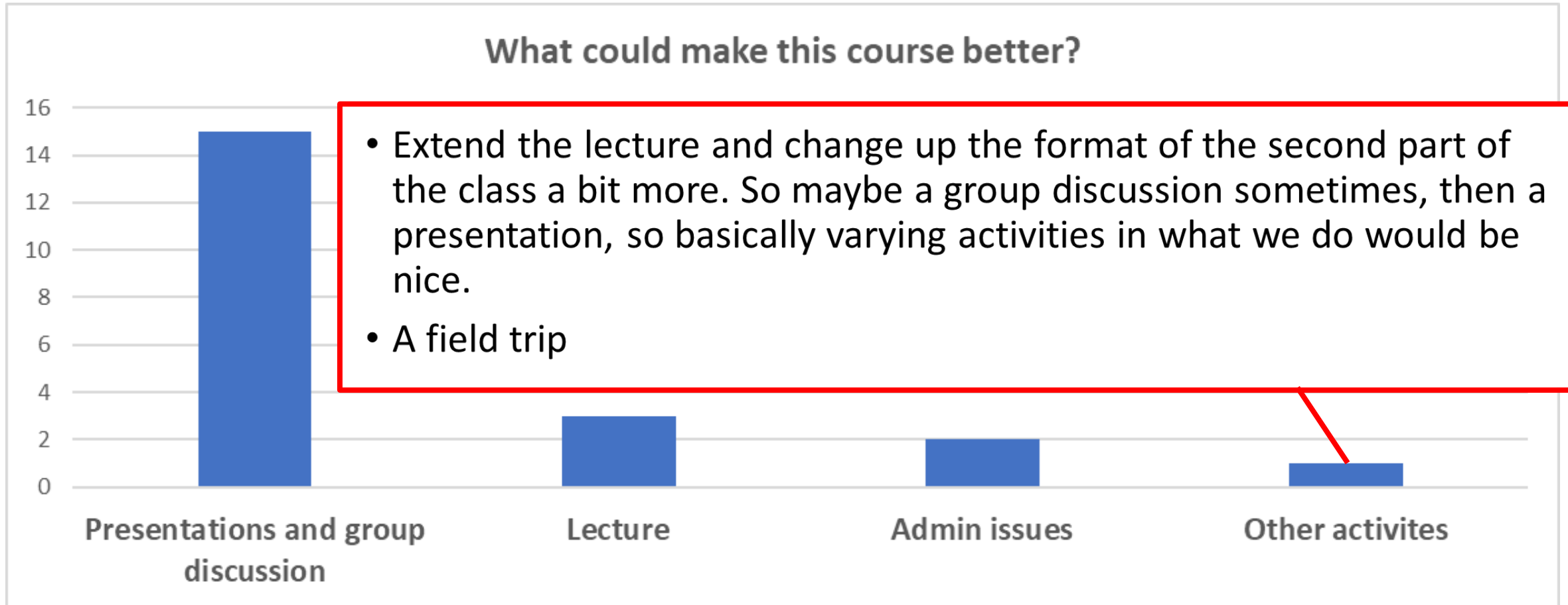
What could make this course better



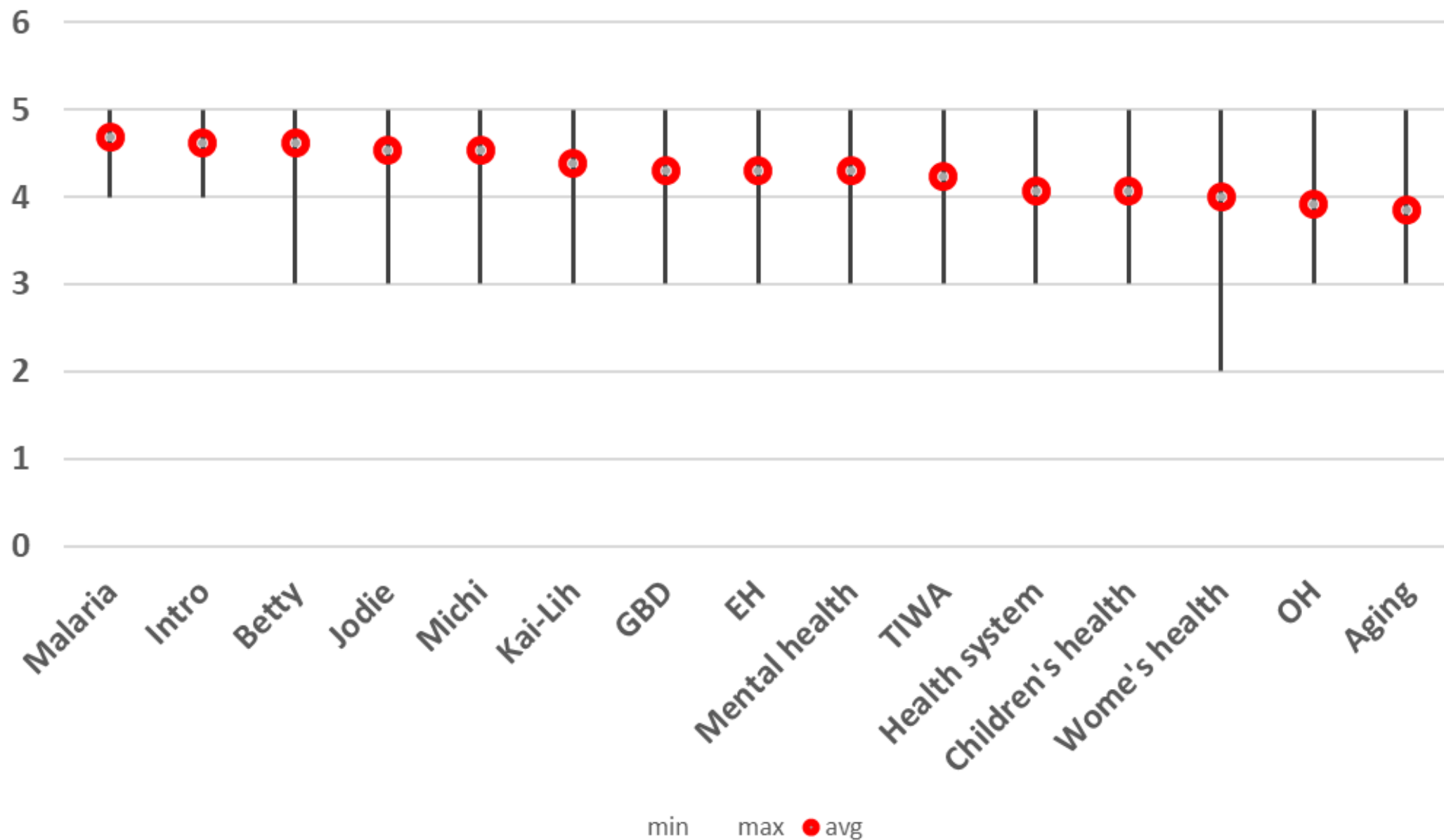
What could make this course better

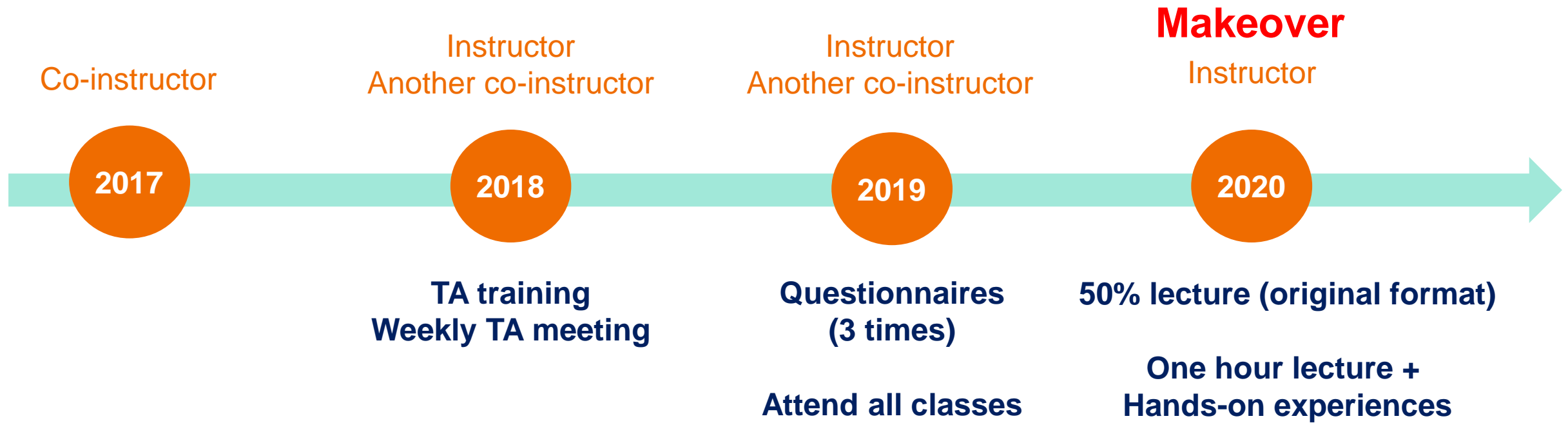


What could make this course better



Evaluation by Topic





Co-instructor

Instructor

Makeover

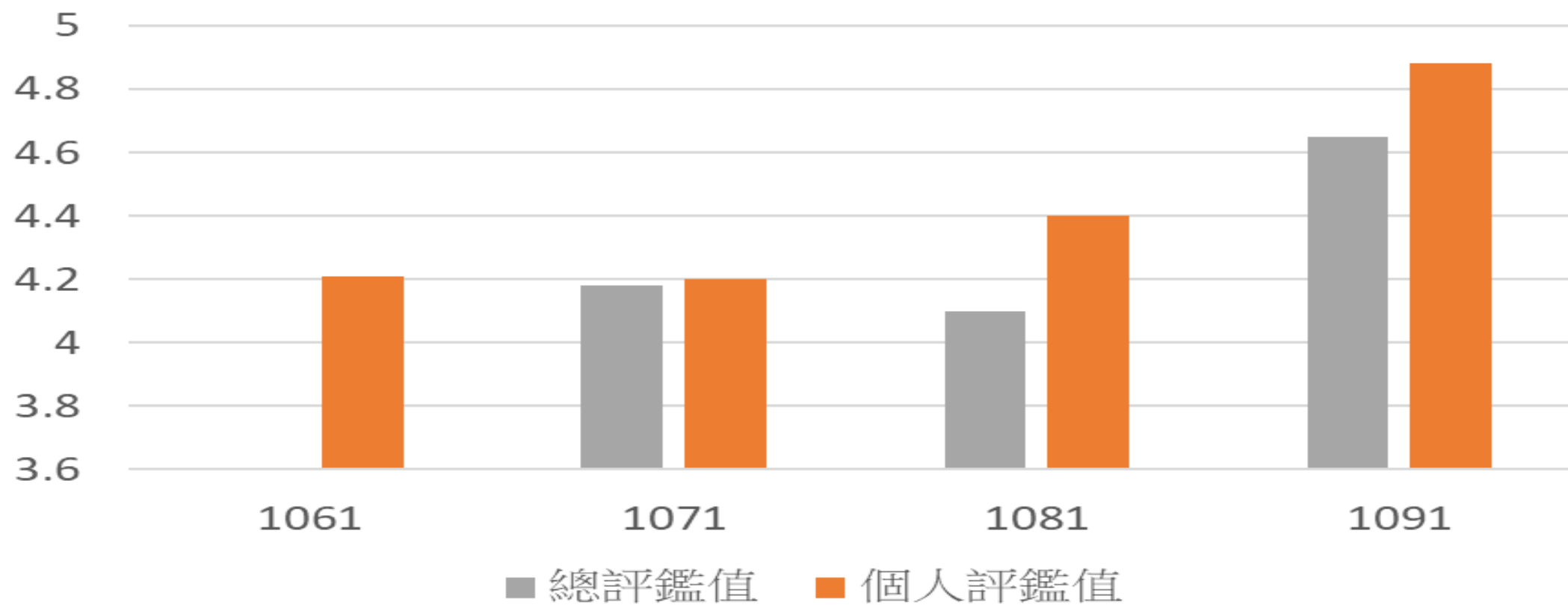
2017

2018

2019

2020

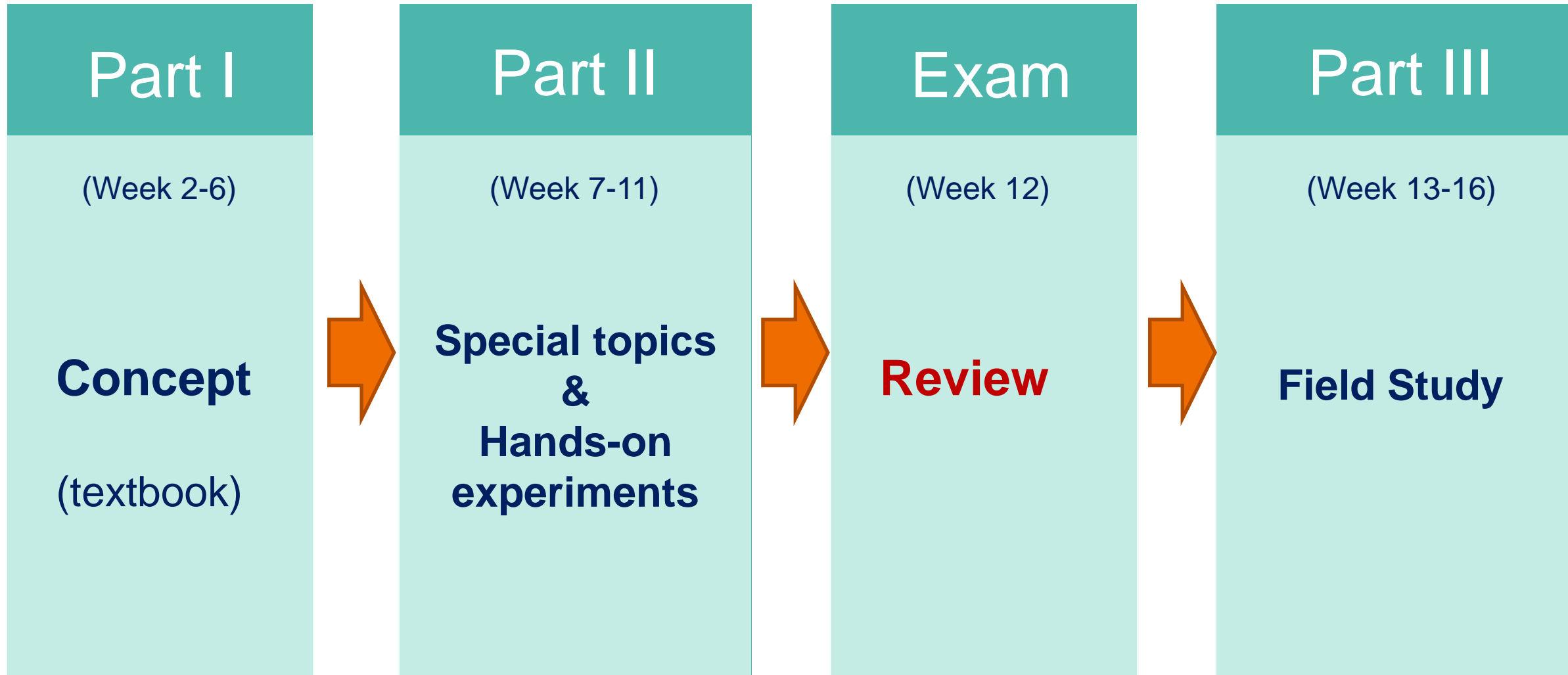
全球衛生通識課程歷年評鑑值



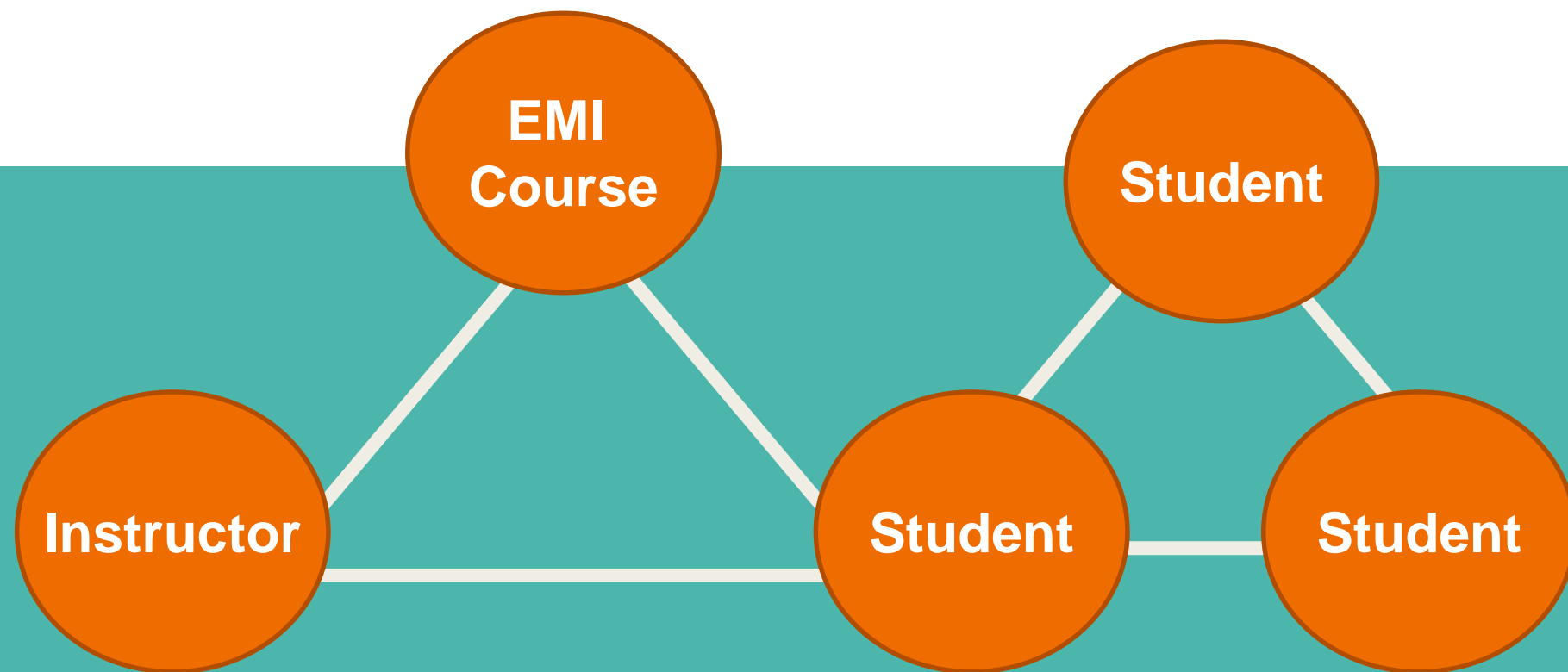
2019 Essentials and Practice in Exposure Assessment

- The only fundamental exposure course in English
 - Knowledge
 - Hands-on sessions
- Application

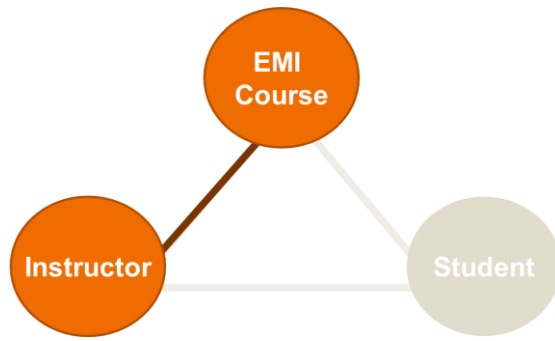
Course structure



像極了愛情的EMI教學日常



Instructor



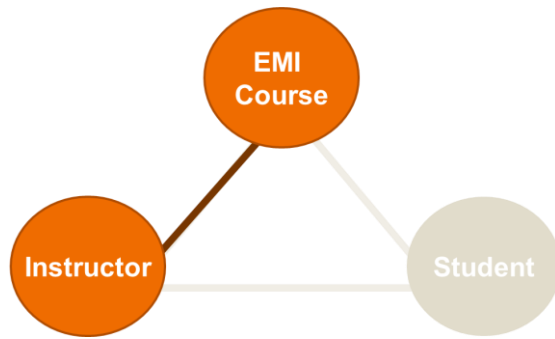
Motivation

* Why do I teach in English ?

- **Maintain my English proficiency**
 - Conferences
 - Travel
 - Writing (語感)
 - Collaboration...
- Public speaking training



Instructor



Motivation

* Why do I teach in English ?

- Bring the world into the classroom
 - Share my life stories
 - Metaphors



Rewards

1. 本堂課架構完整，內容知識含量高，且包含實作與討論，實屬課程設計之典範。
授課老師用心投入於每堂課中，能適度依學生的學習狀況調整進度步調，細心觀察分組討論之情況，鼓勵並引導同學表達想法之餘，亦能拋磚引玉帶出更進階的問題幫助同學思考。
整體而言是一堂充實、嚴謹的邏輯思考訓練課，不僅傳達知識，更強調將思維模式應用於學生自己的研究、提問、paper review等實質幫助。
強烈推薦將這門課列為所上重點特色課程。
2. 增進英文能力和邏輯思考能力，對於日後進行科學研究很有幫助。
3. 非常感謝老師的用心教學，也仔細地與我們檢討作業與問題，鼓勵我們課堂上以及課後的小組討論也確實對於學習有很好的助益與成效。
這學期以來對於暴露評估有了更透徹的認識，對我而言，作業實作比起純粹聽講的學習效果更好，也能夠漸漸將課堂所學的一些概念和邏輯應用於其他課程，特別是資料圖表解讀能力有大幅提升；加上這堂課是用英文授課，因此也無形中訓練了我的英文聽說能力。感謝老師給予我們很好的的課堂體驗～
4. 很有幫助的一堂課！
5. The course material was challenging, but the instructor was always helpful in providing additional explanations and support to understand the concepts. The class discussions and assignments also helped to process what has covered in class and reflect on the class materials.

Students



Need

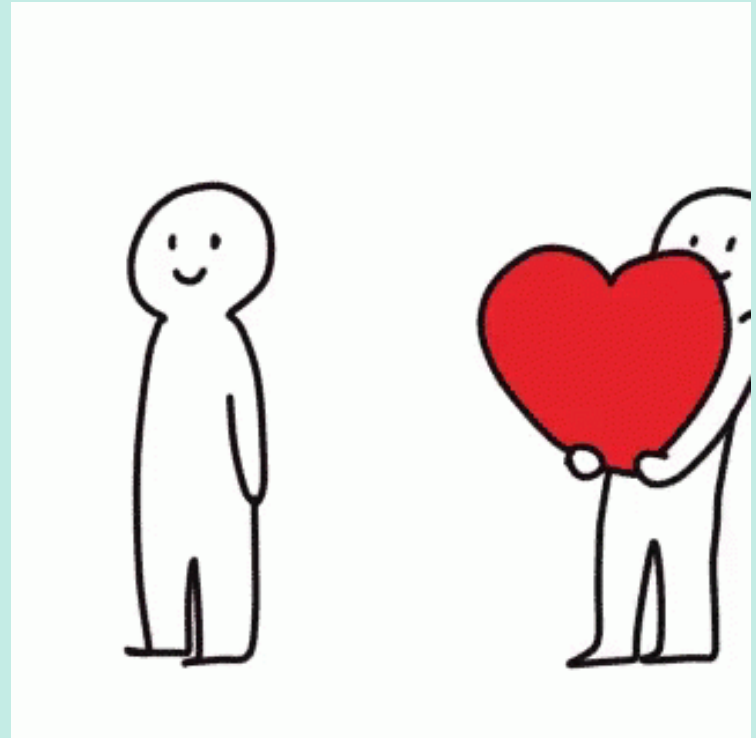


Capability

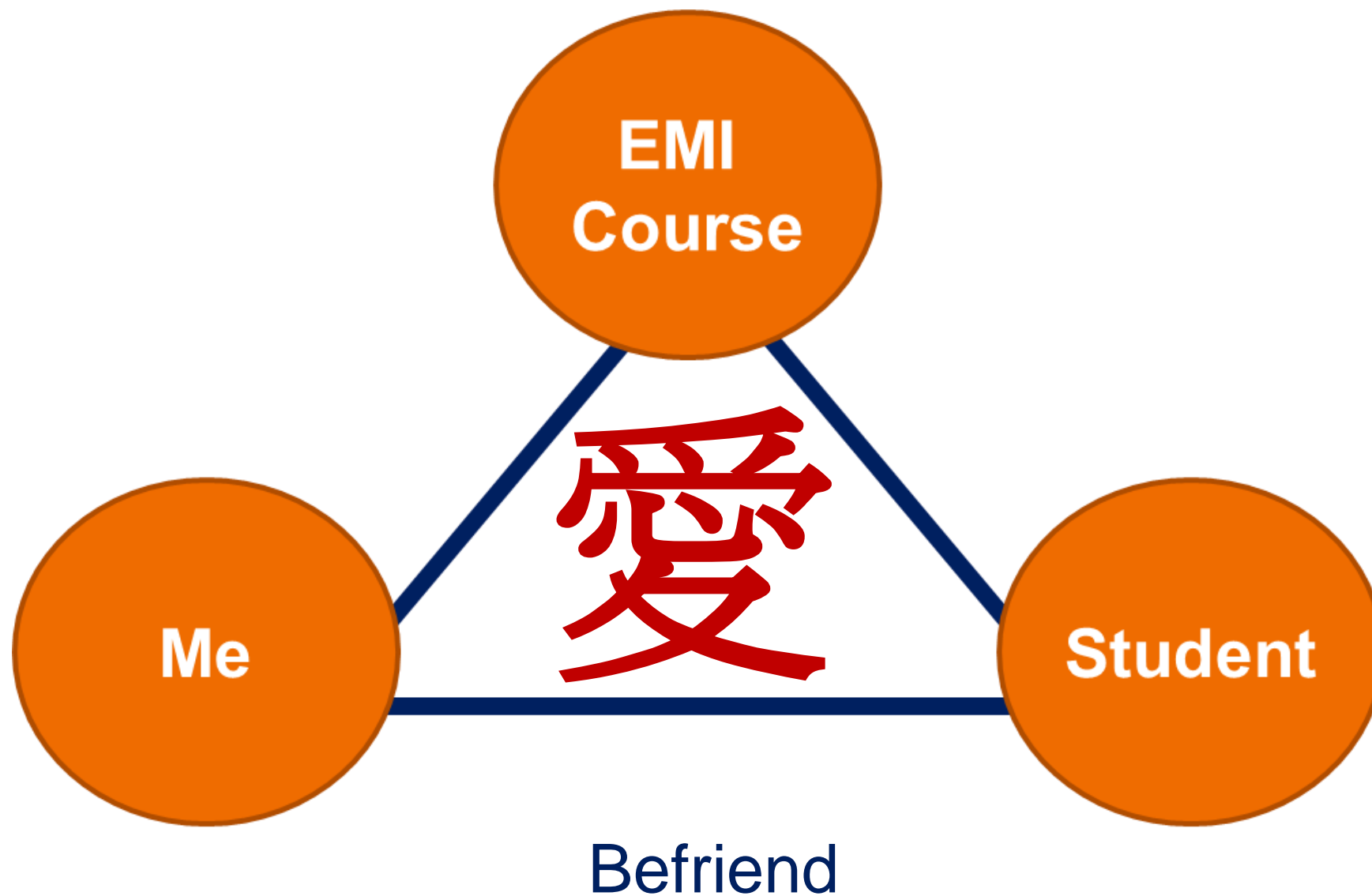


Mutual Support

Prepare yourself !



For me



In the mood for love of EMI teaching



Thank you