香港教育大學
The Education University of Hong Kong

Adopting TBL to meet General Education's intended outcomes
(TBL in GEH1021)

Dr. Yang Lan, Joy

Department of Curriculum and Instruction

Department of
Curriculum and Instruction
課程與教學學系

GEH 1021 Natural Hazards and Post-disaster Recovery

Course Outline

Part I

Course Title: Natural Hazards and Post-Disaster Recovery
自然災害與災後重建

Course Code: GEH1021

Department: C&I

Credit Point: 3

Contact Hours: 39
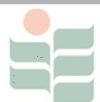
Pre-requisite(s):   GEE1001

Assessment

Assessment Tasks	Weighting (%)	CILO
a. Group Project and class presentation Students will be divided into small groups to complete a project. They should choose a natural disaster relevant to the course content, explain the causes and impacts of the natural hazard (for instance, natural causes, human's influence, or both?), analyze related recovery issues, **and** critically evaluate reconstruction strategies.	40%	$CILO_{1,2,3,5}$
b. Reflective Learning Journal Students will complete one learning journal during the course period, to reflect on personal roles and government's responsibilities, and possible actions to take once natural hazards happened. The word length is around 900.	20%	$CILO_{1,4,5}$
c. Final essay Students are required to write an individual paper on a topic within the scope of the course. They may choose a natural hazard happened in the past one year, critically analyze major causes and impacts (eg. natural causes, human's influence, or both?), responses towards disasters by local people, government and international communities, **or** the status of recovery. The word length is around 1500-2000 words.	40%	$CILO_{1,2,3,4,5}$

Synopsis

➡ This course addresses the issue of the interaction and relation between society and nature through examining the physical and human dimensions of natural hazards.

➡ It covers:

1) categories and causes of natural hazards;

2) their impacts on human society;

3) How do individual, groups and governments respond to disasters; and

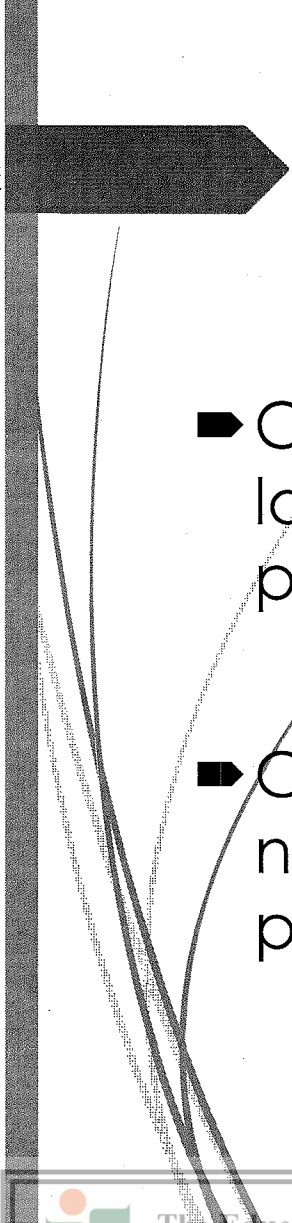4) mitigation efforts to post-disaster recovery

CILOs of GEH 1021 Natural Hazards and Post-disaster Recovery

➡ Upon successful completion of this course, students should be able to:

➡ CILO1 Examine the concepts, causes, and impacts of natural hazards and develop an understanding of how do human being respond to natural hazards and take recovery actions at different levels;

➡ CILO2 Demonstrate the competence in analyzing and systematically inquiring response and recovery issues of natural disasters;

➡ CILO3 Evaluate the effectiveness of reconstruction strategies and propose possible mitigation plans for local communities;

CILOs of GEH 1021 Natural Hazards and Post-disaster Recovery

➡ CILO4 Be more aware of the personal responsibilities as a local and global citizen and appreciate the efforts people have made during reconstruction.

➡ CILO5 Reflect on the relationship between human and nature critically, eg. from the perspective of politics, psychology, and technology.
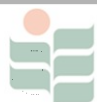
Summary: 5 key Intended outcomes of GE (CILOs can be simplified into…)

1. Knowledge
2. Application
3. Judgments
4. Expression
5. Awareness

TBL INSTRUCTIONAL ACTIVITY SEQUENCE

Phase 1:
Preparation
(pre-class)

Individual study:

- Textbook
- Journal articles
- PPT
- Video clips

Phase 2:
Readiness Assurance Process
(in-class)

Individual Test (iRAT)

Team Test (tRAT)

Appeal

Mini-lecture

Phase 3:
Application of Course Content

4-S

- Same problem
- Significant problem
- Specific choice
- Simultaneous reporting

(Source from Susanna Yeung, 2017)

# GEH 1021course characteristics

Course characteristics:

➡ Natural hazards and post-disaster recovery: 3-credit bearing elective course

➡ "Passive" learners more than active learners, low attendance rate sometimes

➡ **The first two weeks (course drop-and-add period), implement two TBL units**

➡ TBL: use 4 units of this course

➡ **Can I depend on students' individual learning pre-class to prepare them for these key steps in TBL (iRAT, tRAT, AE)?**

➡ **Would my preparation focusing on iRAT, tRAT, mini-lecture, and AE be enough?**

➡ **If the majority of my students drop this course because I "push" them to rely more on independent learning than on my direct instruction, what can I do?**

➡ A low SET score? a "disaster" to me

Direct implications of all phases to GEH 1021 without any adjustments?
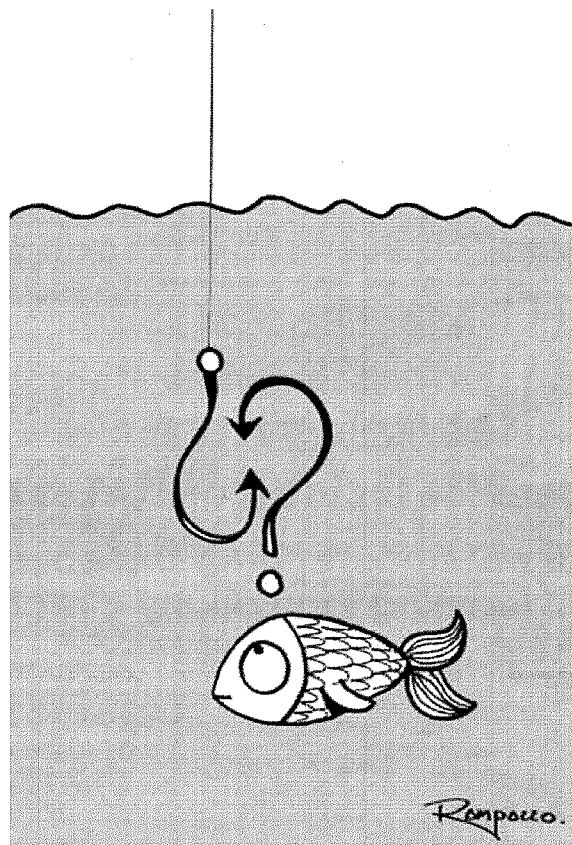
Do they have strong intrinsic motivation to do pre-reading tasks? If not, hardly can the follow-up phases of TBL be implemented.

Traditional TBL flow

| TBL: Pre-reading | → | TBL: iRAT, tRAT | → | TBL: mini lecture | → | TBL: Application exercises |

| TBL: ~~reading~~ | → | 50 minutes to 1hr lecture | → | TBL: iRAT, tRAT | → | TBL: mini lecture (optional) | → | TBL: Application exercises |
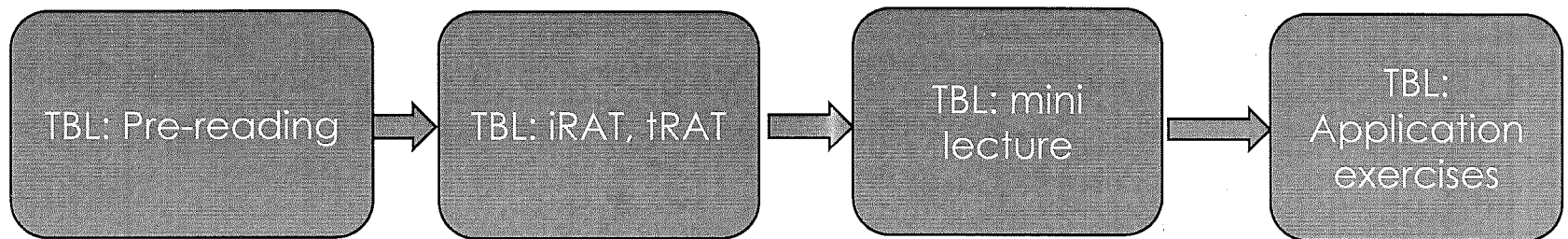
A modified pattern of lecture (changing from 3 hrs to 50 minutes/1hr)
To elaborate important course content (knowledge delivery)
To ensure content coverage
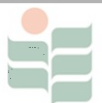
Students doing iRAT: Independent learning, concentration
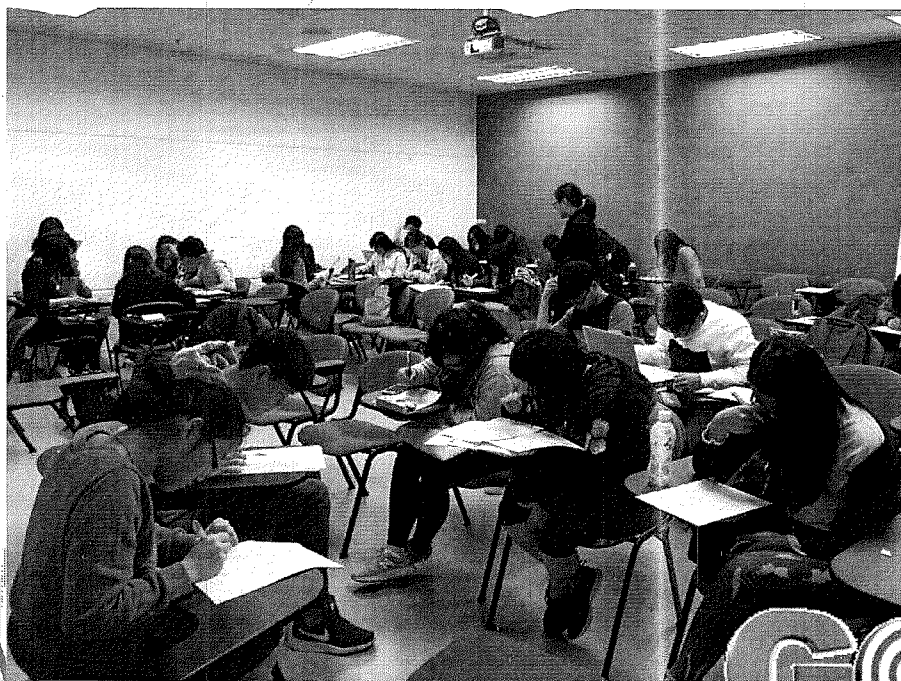
Students doing tRAT: interactions
among peers, engagement & achievement
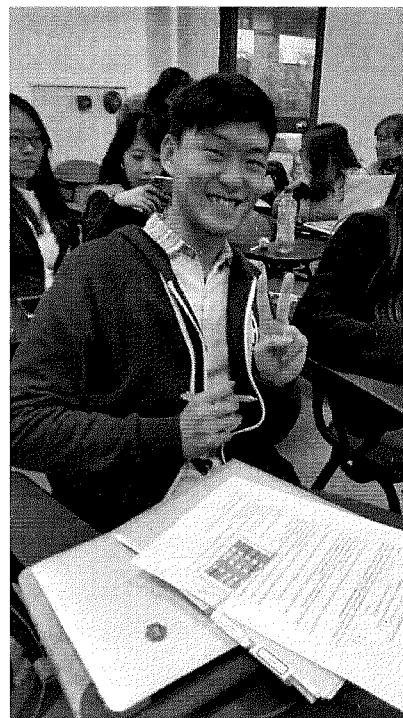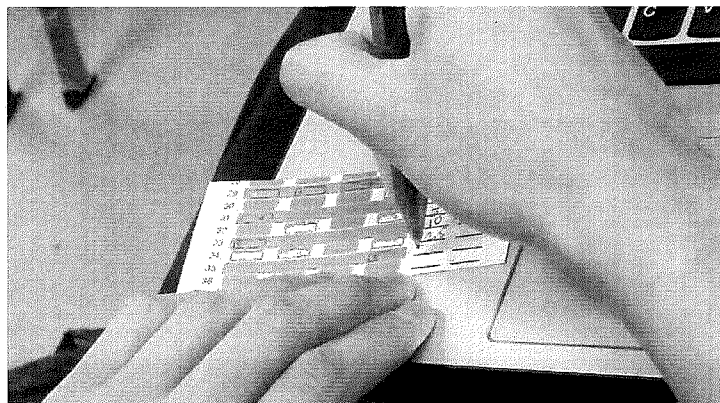
Immediate feedback
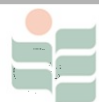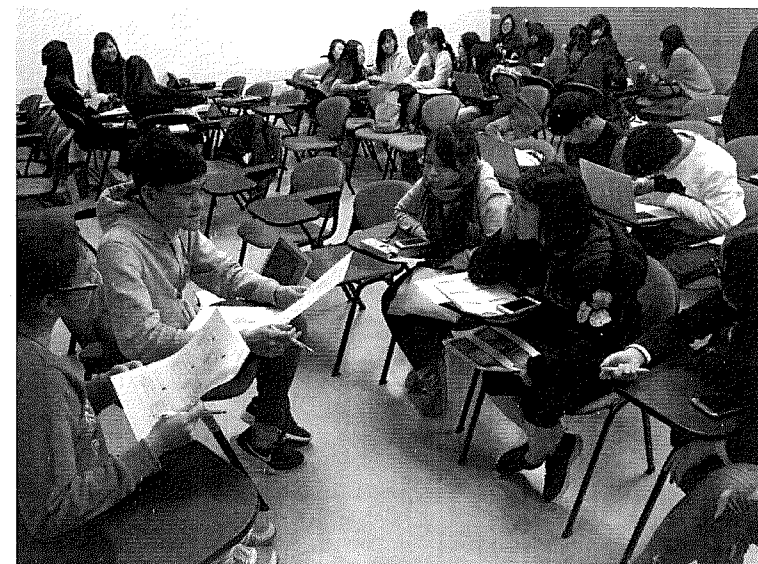
G©AL
ACHIEVE

Application exercise (AE)

AE Characteristics (4S)

Same problem
Significant problem
Specific choice
Simultaneous reporting

Course characteristics

Open-ended questions for student discussion

To deepen your understanding of vulnerability, please read two articles and try to answer the following questions. Note: the two articles are available at Moodle: Reading materials.

Article 1: about Ebola (e.g., WHO reports 3 new Ebola cases—all in Guinea)
Article 2: about SARS (e.g., Timeline of the SARS outbreak)

Guiding discussion questions:
1) Describe the different degrees of vulnerability in Hong Kong and Guinea.
2) Describe the root causes, dynamic pressures, and unsafe conditions for the biological hazards in Guinea and Hong Kong.
3) Can you imagine what would have happened if SARS occurred in a less developed country such as Guinea?
4) What would have if Ebola epidemic happened in a more well-developed country such as the United States?

AE format 1: Poster and concept map

➡ Understand interactions among natural hazards

➡ Depict your understanding of the interactions between natural hazards which are listed in a concept map

Same problem
Significant problem
Specific choice
Simultaneous reporting
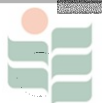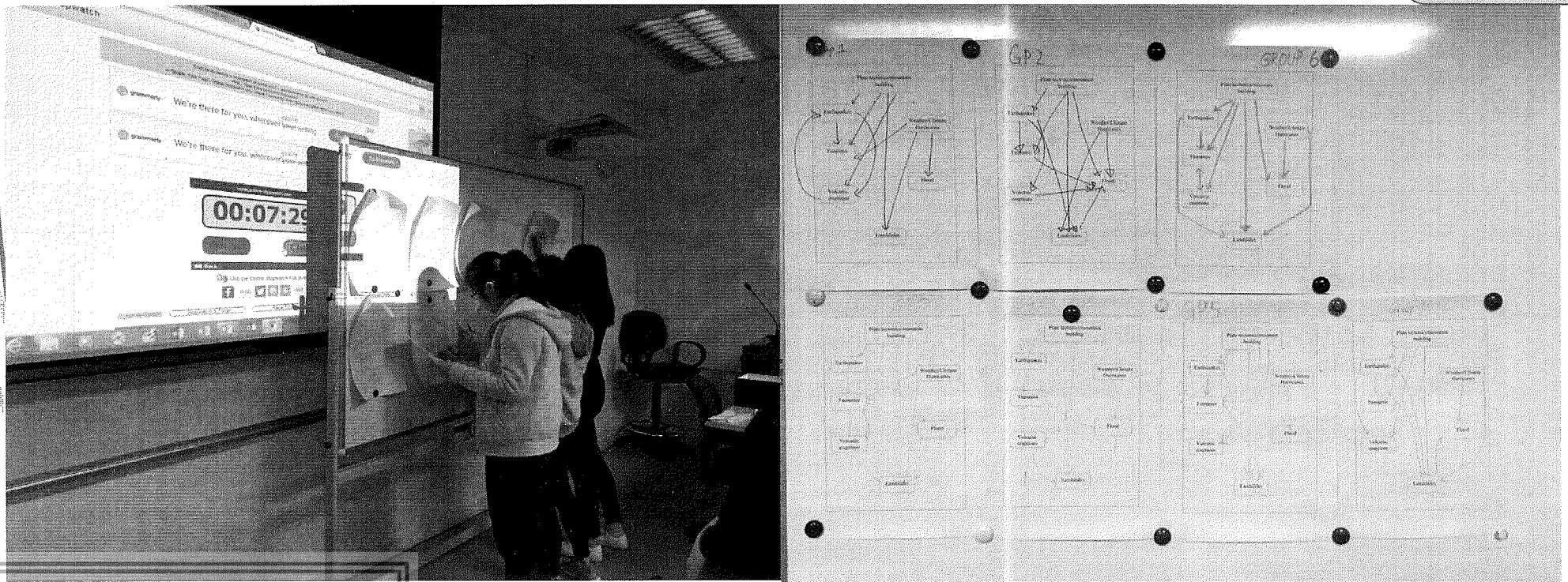
AE format 2: Case scenario

➡ Psychological first aid(PFA)-imagine that you (as a volunteer) are going to help a lady in a crisis situation right after the mass disaster. When you approach the lady, what can you do to provide best help?
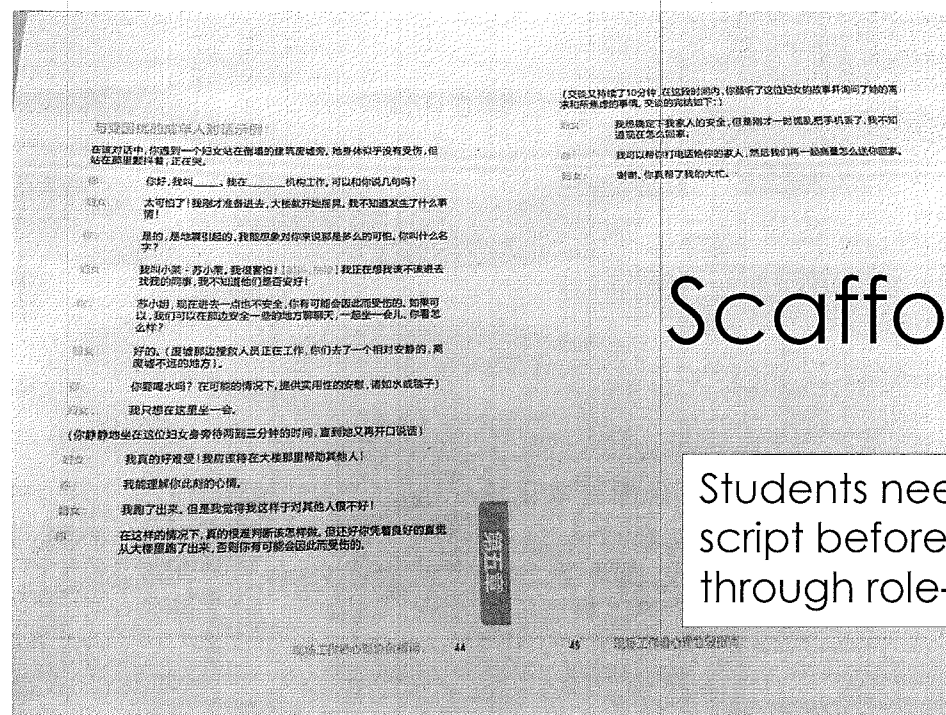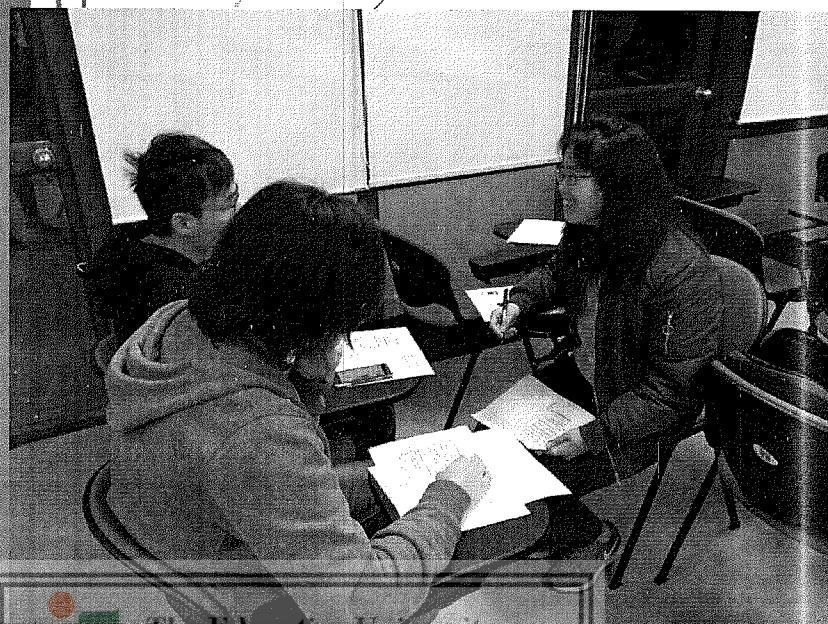
Scaffolding

Students need to write script before they act through role-playing.

Exemplars from the PFA manual by WHO were provided.
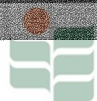
ROLE PLAY

ROLE PLAY

Group 3

Great work!! The helper is patient even though facing the victim who is extremely intense. It is good to persuade the victim to leave the dangerous situation first.

Last group's performance

Goooooooooooooooooooooood

Group 4's drama

The helper is calm and nice. However, I think you should consider helping the victim in other ways not only providing advices. For instance, giving some food or like Group 7, staying with the victim, maybe also possible for mental healing. Great :)

Group 1

The helper is very calm and constructive. Giving lots of advice to the victim. Nicely done :)

Group 1 role play

Maybe comfort the victim more before start asking more about what has happened in the disaster to make the victims feel relieved to talk.
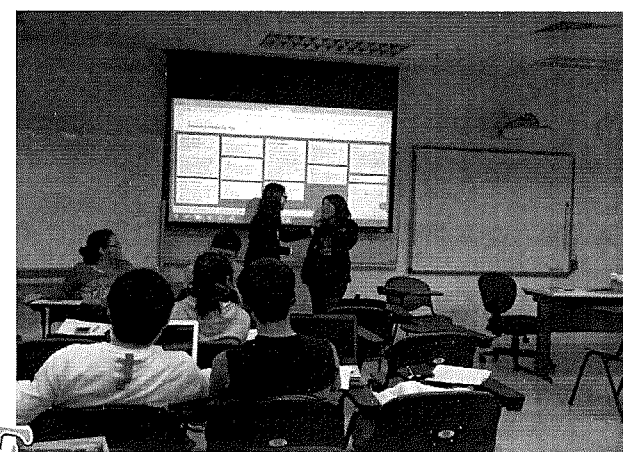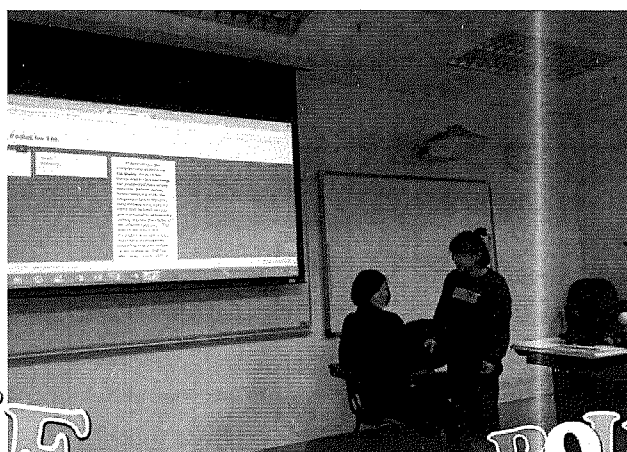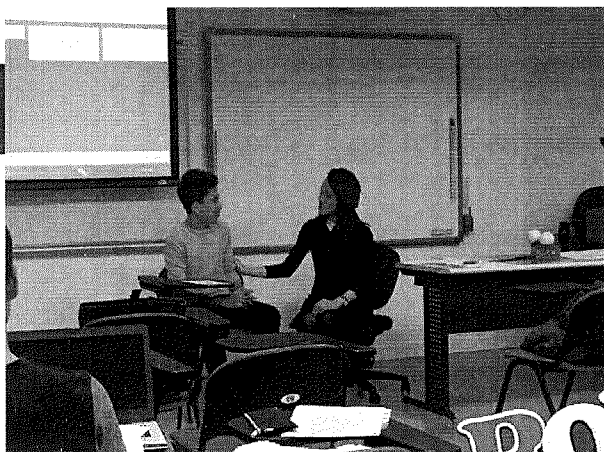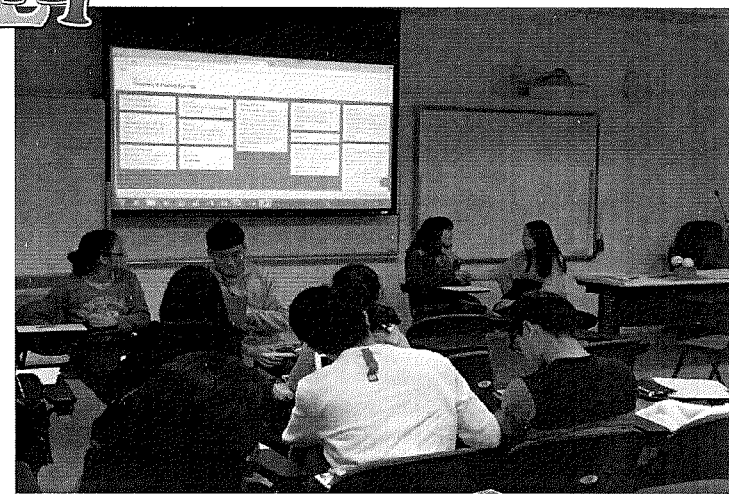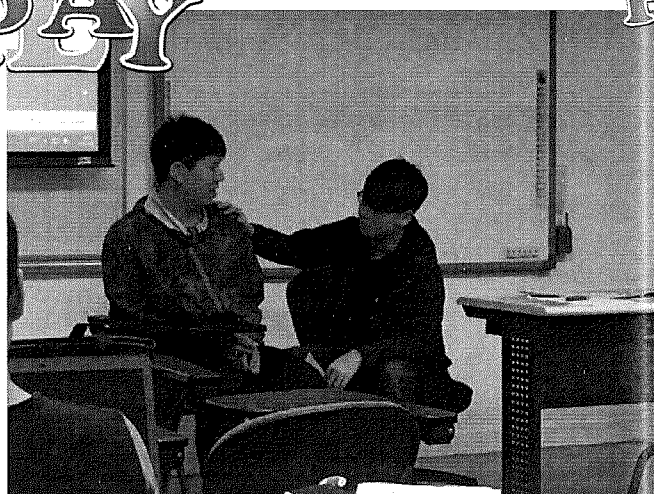
Group 2

good acting
exaggerated acting^^

Last group

The play is a bit short. The helper can talk more to calm down the victim.

Group (Forget...)'s Drama

Very professional and believably effective in helping the victim.

Also, the victim and the helper performs a real situation that a victim is trying to deny the assistance provided by the helper. It's a role play with a real context. Like :-)

Group 4

Instead of asking whether the victims felt scared and frightened about the disaster, it would better to ask whether the victims feel better after the disaster.

Group 7's drama

Sometimes, remaining silence is a good way to help the victims in the disaster :)

Group 7
Well done
Good acting
Very good job

GEH1021 is interesting.

I think so. Hahahaha.

Last group's role play

The victim performed emotional instabilities, which is very realistic.
Good job!

Group 5

The helper has provided some useful advice, like contemporary shelter.

Group 4

The helper acts professionally. It seems that she is quite experienced in helping the needed.

Group 1

Maybe it is inappropriate to promise finding the friends or family of the victims.

Group 7

It's not apporirate for the helper to directly ask the victim what's happened just now, because she might be still afraid and shocked. Also, she might not be willing to talk about the accident at the very beginning of the conversation. However, you have done a great job. The helper is professional.

HAPPY SHARING;)

Same problem
Significant problem
Specific choice
Simultaneous
reporting

AE format 3: AE with multiple-choice questions: Reading journal articles

What Good Are Positive Emotions?

Barbara L. Fredrickson

Author information ▶ Copyright and License information ▶

Abstract

Go to: ⌄

This article opens by noting that positive emotions do not fit existing models of emotions. Consequently, a new model is advanced to describe the form and function of a subset of positive emotions, including joy, interest, contentment, and love. This new model posits that these positive emotions serve to broaden an individual's momentary thought–action repertoire, which in turn has the effect of building that individual's physical, intellectual, and social resources. Empirical evidence to support this broaden-and-build model of positive emotions is reviewed, and implications for emotion regulation and health promotion are discussed.

Even though research on emotions has flourished in recent years, investigations that expressly target positive emotions remain few and far between. Any review of the psychological literature on emotions will show that psychologists have typically favored negative emotions in theory building and hypothesis testing. In so doing, psychologists have inadvertently marginalized the emotions, such as joy, interest, contentment, and love, that share a pleasant subjective feel. To date, then, psychology's knowledge base regarding positive emotions is so thin that satisfying answers to the question "What good are positive

---

Lecture 4: Recovery from natural hazards: Socio-economic and Psychological (II)

Team-based Learning: Application exercises

Part 1

Please read the paper entitled *What Good Are Positive Emotions* (Fredrickson, 1998) and answer the questions based on your understanding of key concepts in it.

1. 'Young child jumping out of bed on a sunny morning, running around and seeking things to play with and to enjoy.' This scenario quoted in Fredrickson's (1998) review is describing which positive emotion?
   A. Interest
   B. Pride
   C. Joy
   D. Gratitude

2. Based on Fredrickson's (1998) review, _____ can have the incidental effect of building an individual's physical, intellectual, and social skills which are durable resources and can be drawn on later.
   A. Serenity
   B. Gratitude
   C. Amusement
   D. Joy

3. Cited in Fredrickson's (1998) review, _____ arises in situations appraised as safe and as having a high degree of certainty and a low degree of effort (Ellsworth & Smith, 1988b).
   A. Joy
   B. Interest
   C. Contentment
   D. Love

4. What statement is WRONG according to Fredrickson's (1998) review paper?
   A. Positive emotions broaden an individual's thought-action repertoire.
   B. People experiencing positive emotions are more likely to create and use more inclusive cognitive categories.
   C. People experiencing positive emotions are more likely to perform better on standard tests of creative thinking.
   D. Positive affect broadens the scope of thinking can be taken as direct evidence that positive affect will also broaden the scope of action.

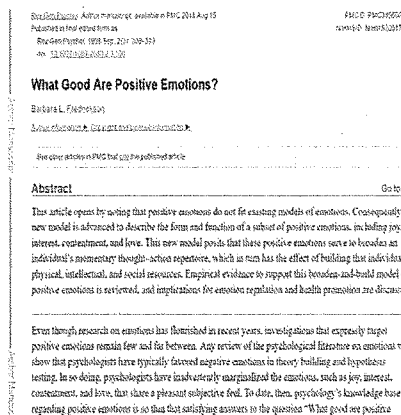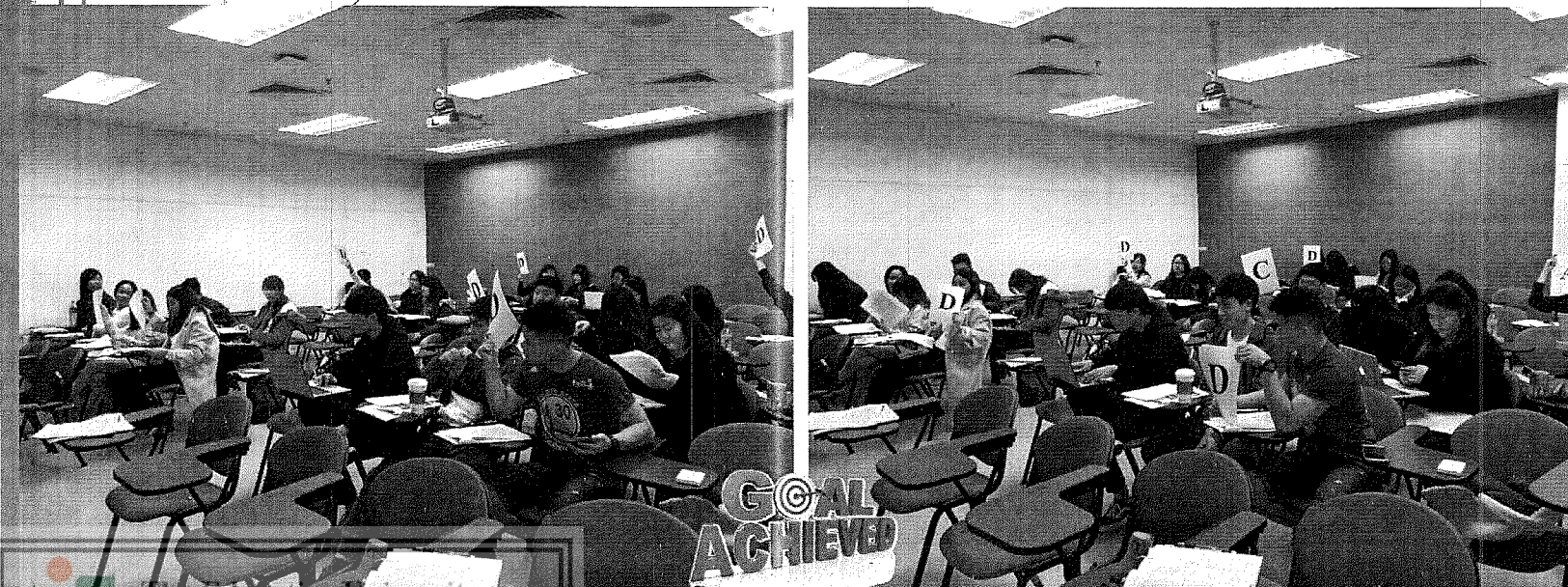# AE format 3: AE with multiple-choice questions: journal articles

- Please read the paper entitled **What Good Are Positive Emotions in crisis** (Fredrickson, 1998) and answer the questions based on your understanding of key concepts in it.

- ABCD Card- **simultaneous reporting**

Intra and inter-team discussion

What Good Are Positive Emotions?

Barbara L. Fredrickson
Author information ► Copyright and License information ►

See other articles in PMC that cite the published article.

Abstract   Go to: ⊡

This article opens by noting that positive emotions do not fit existing models of emotions. Consequently, a new model is advanced to describe the form and function of a subset of positive emotions, including joy, interest, contentment, and love. This new model posits that these positive emotions serve to broaden an individual's momentary thought–action repertoire, which in turn has the effect of building that individual's physical, intellectual, and social resources. Empirical evidence to support this broaden-and-build model of positive emotions is reviewed, and implications for emotion regulation and health promotion are discussed.

Even though research on emotions has flourished in recent years, investigations that expressly target positive emotions remain few and far between. Any review of the psychological literature on emotions will show that psychologists have typically favored negative emotions in theory building and hypothesis testing. In so doing, psychologists have inadvertently marginalized the emotions, such as joy, interest, contentment, and love, that share a pleasant subjective feel. To date, then, psychology's knowledge base regarding positive emotions is so that satisfying answers to the question "What good are positive

Same problem
Significant problem
Specific choice
Simultaneous reporting

Test students' learning outcomes

Survey (pre- and post- tests)

➡ <u>Achievement emotions (positive versus negative emotions)</u>

➡ <u>School engagement</u> (cognitive and behavioral domains, 6 items)

➡ Perceived effectiveness of <u>peer feedback</u> (10 items)

➡ <u>Team-based learning experience</u> (19 items)

Achievement scores: To be added

Quantitative results

➡ <u>Achievement emotions</u>

➡ **Definition:** Emotions tied directly to achievement activities or achievement outcomes (Pekrun, 2006, p. 317).

➡ **Sample items in this study:** In studying this course, I enjoyed acquiring new knowledge.

Measure	Treatment	Pretest Mean	SD	Posttest Mean	SD
Positive emotions	Experimental group	3.86	0.458	4.12	0.263
	Control group	3.27	0.417	3.34	0.563
Negative emotions	Experimental group	2.28	0.503	1.64	0.587
	Control group	2.65	0.520	2.44	0.752
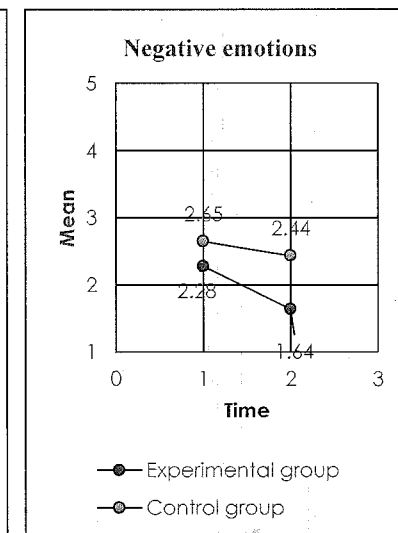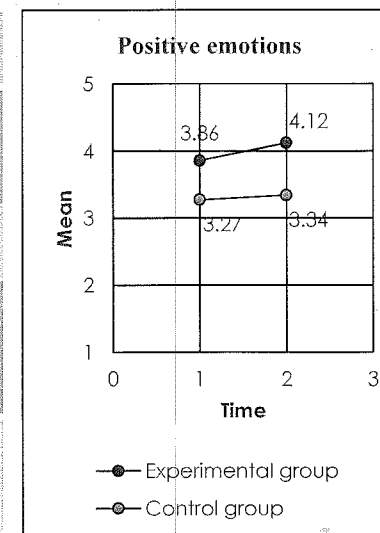
PE (enjoyment and hope), the higher, the better; NE (anxiety and boredom), the lower, the better

Quantitative results

➡ <u>School engagement</u>

➡ **Definition:** School engagement comprises of three dimensions--**behavioral engagement** (e.g. involvement and participation in school-relatd activities), **emotional engagement** (e.g. students' affective reactions to school) and **cognitive engagement** (e.g. self-regulated learning and positive coping with difficulties)(Fredricks, Blumenfeld & Paris, 2004).

➡ **Sample items in this study**: while studying this course, I pay attention to class.

Measure	Treatment	Pretest Mean	SD	Posttest Mean	SD
School engagement	**Experimental group**	**3.73**	**0.611**	**3.89**	**0.607**
	Control group	3.06	0.292	3.28	0.574
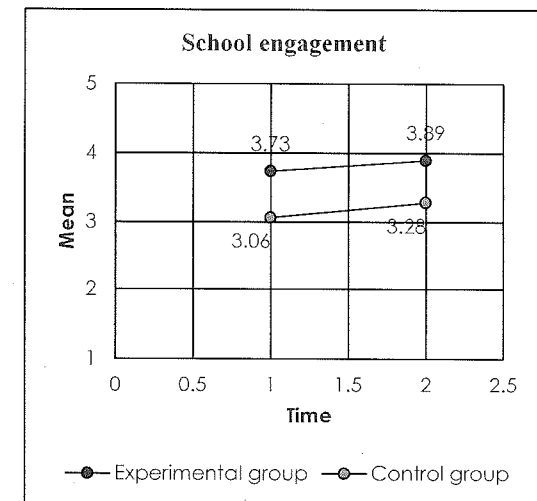
School engagement

Quantitative results

➡ <u>Perceived effectiveness of peer feedback</u>

➡ **Definition**: a communication process through which learners enter into dialogues related to performance and standards' (Liu & Carless, 2006, p.280).

➡ **Sample items in this study:** In studying this course, how effective was your peer's feedback in indicating the quality of your work?

Measure	Treatment	Pretest		Posttest	
		Mean	SD	Mean	SD
Peer feedback	Experimental group	**3.74**	**0.443**	**4.05**	**0.293**
	Control group	3.09	0.233	3.29	0.689
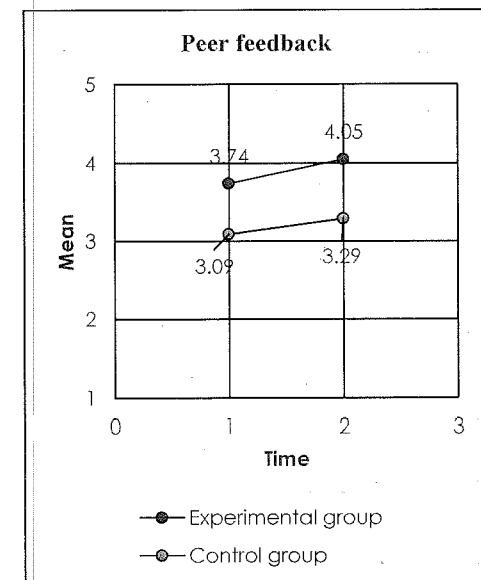
Peer feedback

Quantitative results

➡ Team-based learning experience

(1) Overall satisfaction with experience.

I have found working as part of a team in my classes to be a valuable experience.

(2) Team impact on quality of learning.

I have found that teams help me learn course material more than if I just studied alone.

(3) Satisfaction with peer evaluation.

I have found that my peers have been fair in judging my contributions to a team.

(4) Team impact on critical thinking ability.

I have found that being on a team has helped me become better at problem-solving.

(5) Professional development.

I have found that working with a team helps me develop skills in working with others.

Measure	Treatment	Pretest Mean	SD	Posttest Mean	SD
Team-based learning experience	**Experimental group**	**3.98**	**0.571**	**4.33**	**0.360**
	Control group	3.36	0.375	3.43	0.783
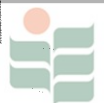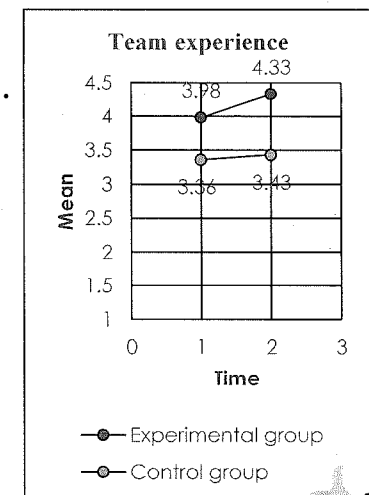
Team experience

Qualitative Results

▶ "Application exercise對我的學習非常有幫助。前面做的練習和討論是比較理論的東西，但在做這個application exercise的時候反而需要更多的意見和創意 (needs more reflections and creativity), 要我們動腦 (requires critical thinking)。比如最深刻 (the most impressive part)是做role play, 做為NGO要怎樣安慰受害者呢(how to comfort affected people in disasters)? 以前我從來沒有接觸過，就算堂上教的要怎樣做，但實際上要怎樣操作都是要自己去操作過才知道，而TBL就是讓我們去具體操作 (TBL guides us to learn and practice through role-playing)，所以最有幫助是這個。 (it is very helpful)"

Qualitative Results

➡ "傳統課堂如果要上課3個小時會很累，但TBL的好處是可以分Parts, 比如Readiness assurance process 是吸收知識，之后可以在application exercise那裡馬上應用出來。感覺每個課程比較豐富，對學生的記憶有幫助"。

➡ Felt tired of a 3-hour's traditional lecture

➡ TBL divides a traditional lecture into several parts

➡ Acquire knowledge in readiness assurance process (iRAT, tRAT in TBL), apply knowledge acquired through application exercises

➡ Have fruitful learning experiences in each lecture, which is good for (long-term) memory

Qualitative Results

➤ "第三堂課是role play，我個人是很喜歡的。因為它的互動形式很足夠，除了可以加強我和組員的溝通合作外，還可以加強我們的oral communication skills，因為我們要表達自己的意見。也可以增加我們的組織性，因為我們要想整個role play從一開始要講什麼，要怎樣整合整個流程。這個過程讓我學到很多東西"。

➤ I like role-playing in unit 3.

➤ Adequate interactions among group members, through which oral communication skills can be strengthened.

➤ I benefit a lot from the process of preparing role-playing.

TBL in GEH1021

➡ With collective effort, we achieved key objectives to enhance student learning (in terms of positive achievement emotions, perceived effectiveness of peer feedback to support learning, engagement, and team based learning experience)
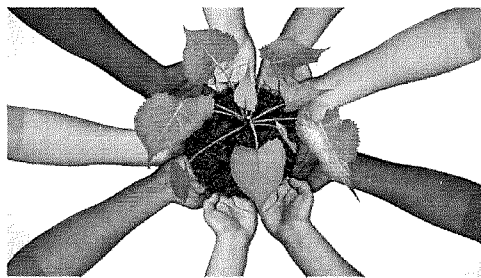
Is it possible for you to try TBL?

➡Busy schedule?

➡No time to prepare materials as requested by these TBL phases?

Semester 2, 2016/2017: Implemented TBL

Term Code: 201701 (SEMESTER 2, 2016-17)

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
08:30 - 09:20					
09:30 - 10:20					
10:30 - 11:20	TLS3003 Curriculum and Assessment -03E(27211-5BEd(SL)-2) 1030-1320 03/01-29/04/2017 B4 LP-10			HPI1001 HONOURS PROJECT I (PART A)- 02E(26144) 1030-1320 03/01-21/01/2017 D1-G/F-03	
11:30 - 12:20					
12:30 - 13:20					HPI1001 HONOURS PROJECT I (PART A)- 01P(26469-ASB060-4) 1230-1520 03/01-
13:30 - 14:20					21/01/2017 D4-G/F-05B
14:30 - 15:20				GEE1001 GE Foundation Course 09E	
15:30 - 16:20					
16:30 - 17:20	HPI1001 HONOURS PROJECT I (PART A)- 01P(26469-ASB060-4) 1630-1920 03/01-	SLH1021 Natural Hazards and Post-Disaster Recovery -04E(27541-FT UG)	HPI1001 HONOURS PROJECT I (PART A)- 02E(26144) 1630-1920 03/01-21/01/2017	GEE1001 GE Foundation Course 10E	
17:30 - 18:20	21/01/2017 B4-LP-03	1630-1920 03/01-03/06/2017 B3-P-12	D4-LP-03		
18:30 - 19:20					
19:30 - 20:20					
20:30 - 21:20					

TRY, TRY, TRY

A starting point for me to implement TBL in this course and other courses in my coming semesters

Acknowledgement

➡️ Teaching Development Grant awarded to the speakers (T0174).

➡️ Leading PPS: Dr. Susanna Yeung

➡️ Research Assistant: Ms. Maggie Qiao Shen

➡️ Advisor: Dr. Fraide Ganotice

➡️ Students who participated in this TDG project

THANK YOU