



# Engaged and Empowered Learners: Pedagogical Practices Supported by Classroom Response Systems

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# Blended Learning

**The integration of online and face-to-face strategies**

(Dzuiban et al., 2004; Graham, 2006; Horn & Staker, 2011; Sharma & Barrett, 2007;  
Ward & LaBranche, 2003; Young, 2002)

**A combination of traditional face-to-face with  
computer-based learning and instruction**

(Kerres & de Witt, 2003)





# Asynchronous vs Synchronous Learning



## asynchronous:

Discussion boards, quizzes, polls, email, digital documents, recorded audio or video, recorded slides with narration, self-paced courses.

**Self-paced Learning**

## synchronous:

Virtual classroom, live presentations, live text chat, instant messaging, live audio or video chat, live quizzes, live polling

**Teacher-led Learning**

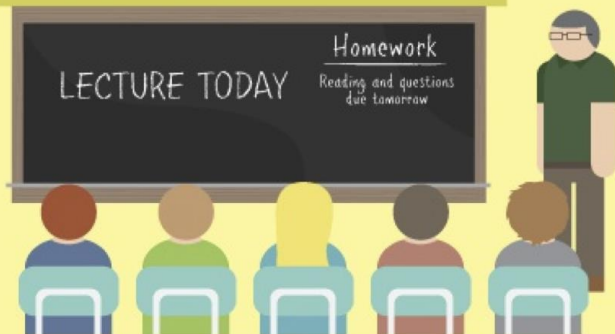


## THE INVERSION

# Flipped Learning

### The Traditional Classroom

Teacher's Role: Sage on the Stage



### The Flipped Classroom

Teacher's Role: Guide on the Side



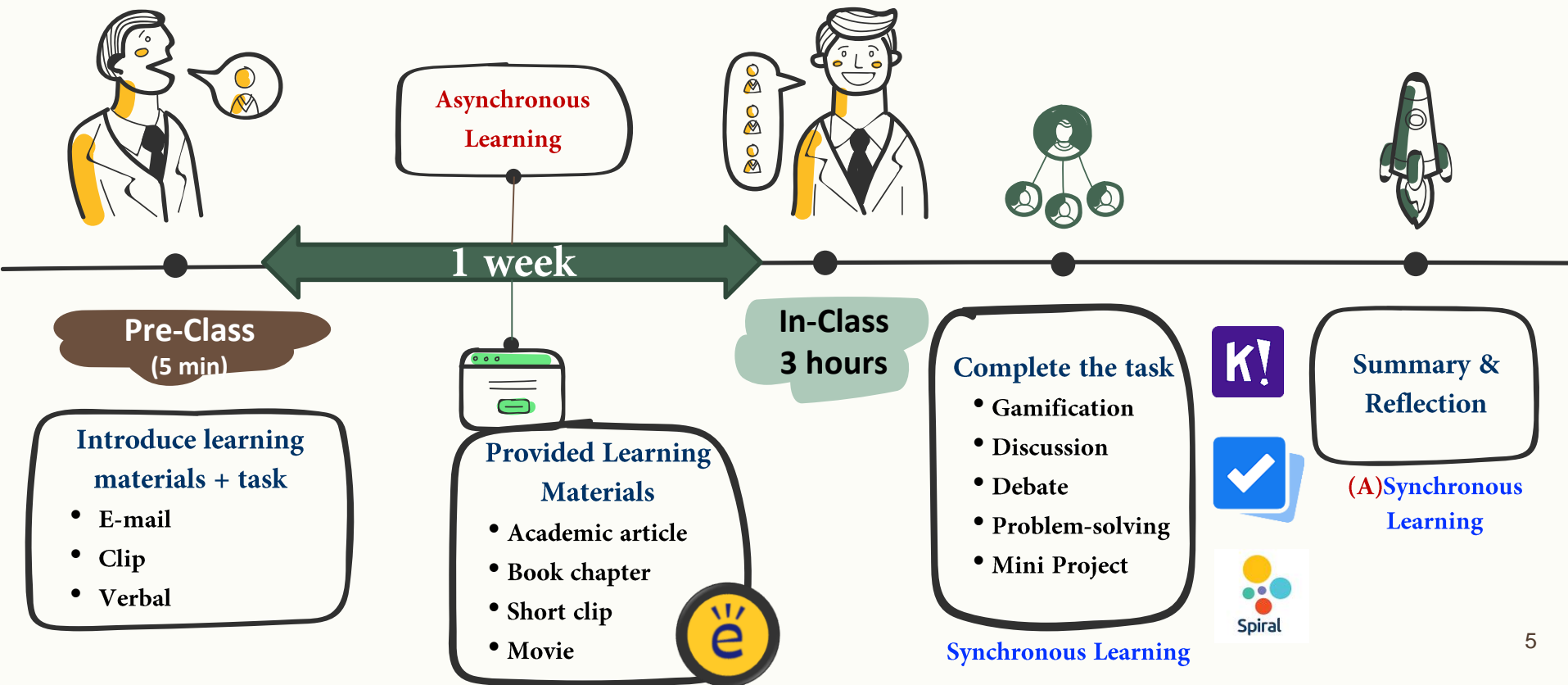
## WHAT A FLIPPED CLASSROOM MODEL DOES



- Students watch lectures at home at their own pace, communicating with peers and teachers via online discussions.
- Concept engagement takes place in the classroom with the help of the instructor.

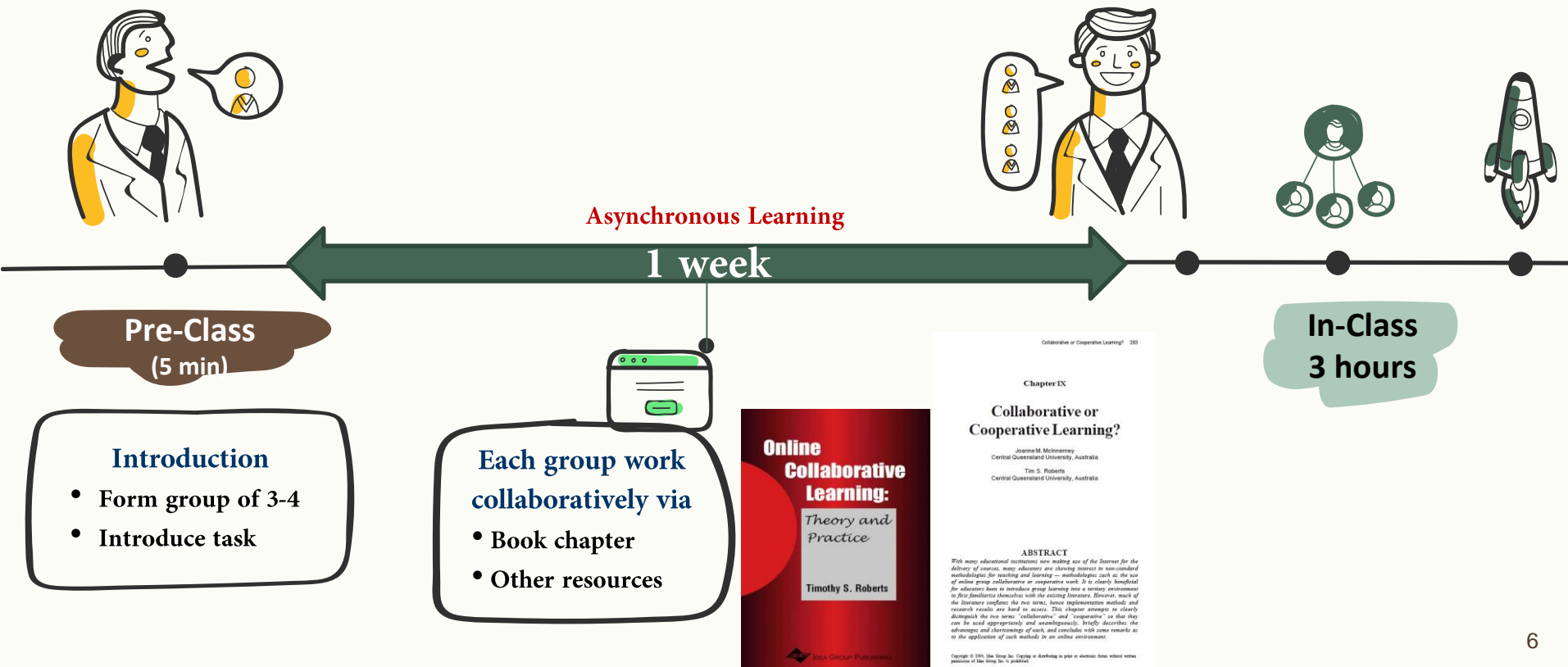


# Flipped Learning



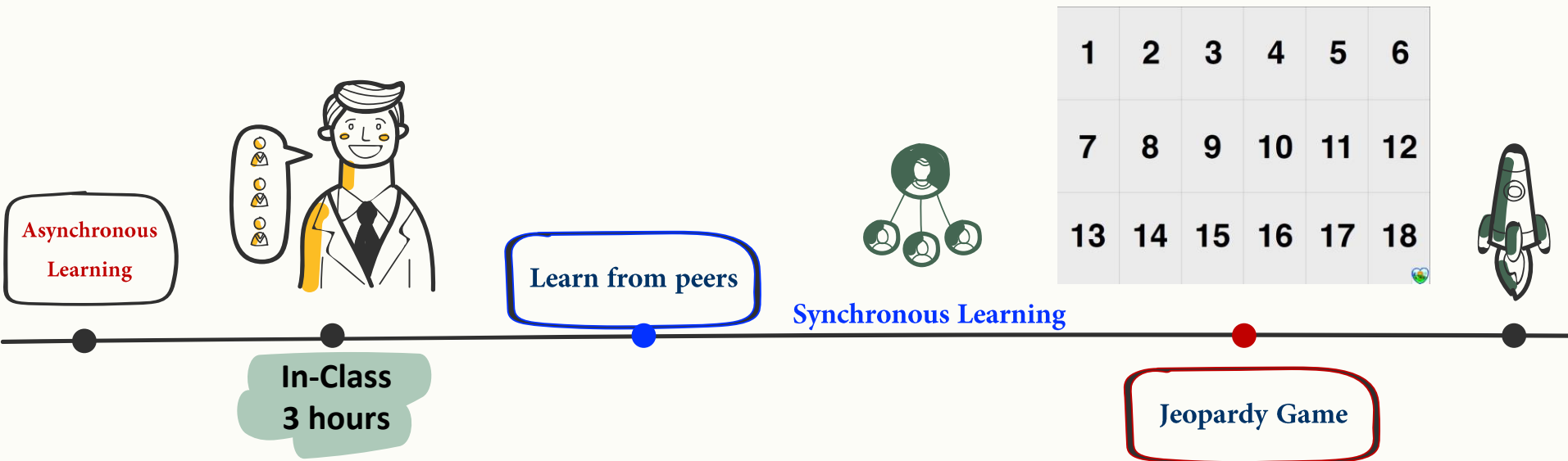


# Model 1: Gamification & Collaboration





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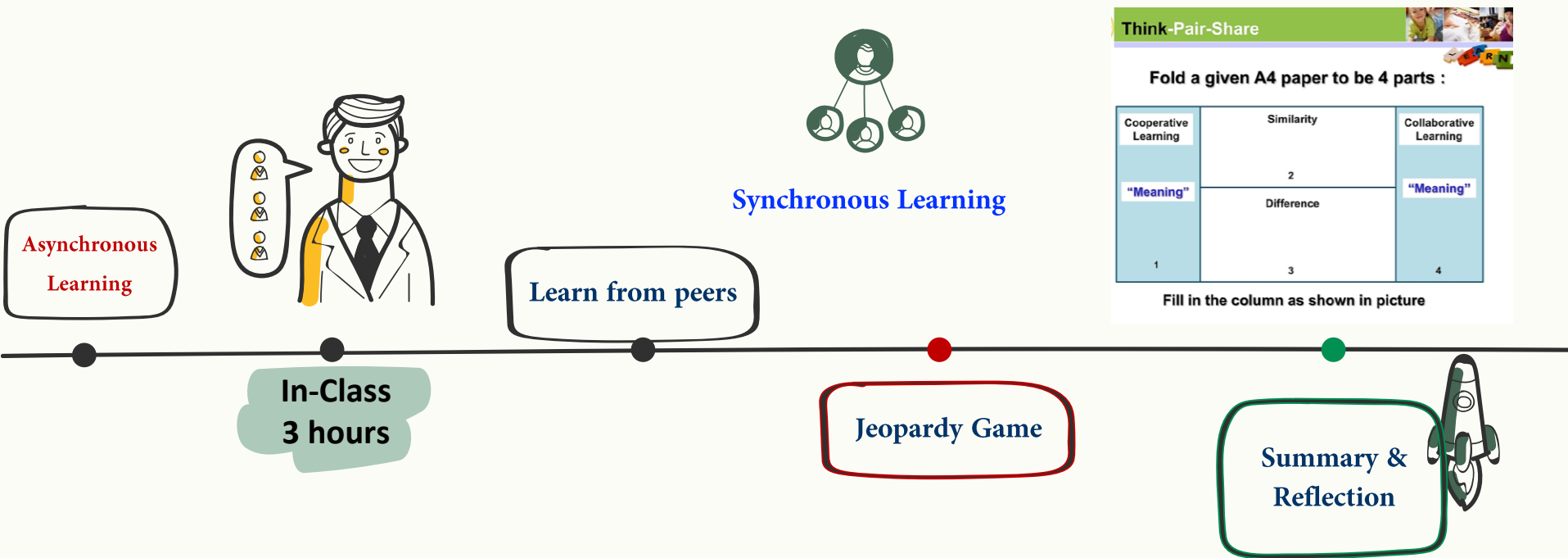


Game rule:

1. Select a representative for each round
2. Turn in a sequence
3. Ring a Bell
4. Respond to a challenge  
(Correct +1 Incorrect -1)



# Model 1: Gamification & Collaboration



## Think-Pair-Share



Fold a given A4 paper to be 4 parts :

Cooperative Learning	Similarity	Collaborative Learning
"Meaning"	2	"Meaning"
1	Difference	4
	3	

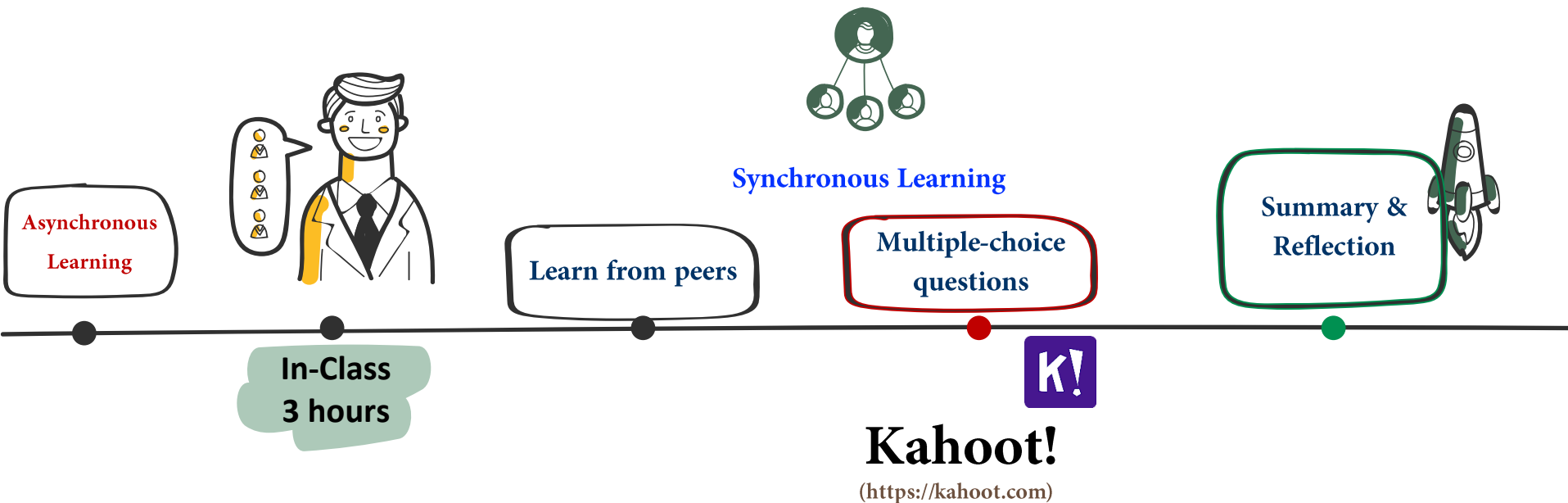
Fill in the column as shown in picture

1. Summary
2. Apply what they have learned to design a lesson (poster)





# Model 1: Gamification & Collaboration





# Kahoot!

(<https://kahoot.com>)

- **various modes of response**

**(for free version : close end only)**

- **1-time submit response**





# Model 2: Critical Thinking



**Pre-Class**  
(5 min)

## Introduction

- Introduce task
- Suggest resources for preparing

**Asynchronous Learning**

**1 week**



## Individual Learning

- Read articles
- Watch video clips



**In-Class**  
3 hours



## Dynamics of Population Immunity Due to the Herd Effect in the COVID-19 Pandemic

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**Abstract:** The novel Coronavirus 2 Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) has led to the Coronavirus Disease 2019 (COVID-19) pandemic, which has triggered health authorities around the world, quickly producing a global health crisis. Different actions to cope with this situation are being developed, including prevention, different measures to prevent progression, and the control of the first cases. In epidemiology, herd immunity is presented as an area that could also solve this new global threat. In the review, we present the basis of herd immunity, the dynamics of infection transmission that induce specific immunity, and how the application of immunology and herd immunity could be used to control the actual COVID-19 pandemic, along with a discussion of its effectiveness, limitations, and applications.

**Keywords:** SARS-CoV-2; COVID-19; herd immunity; vaccines; pandemic; epidemiology

### 1. Background and Basis of Herd Immunity

The term herd immunity was first used in 1923 by Taylor and Wilson [1]. It subsequently served as the basis for vaccine and their application, vaccine progress and analysis, and the evaluation of disease risk in complex and infectious diseases such as polio and diphtheria [2–5]. The concept of herd immunity is used to describe the immune response between individuals in a population, the threshold of immune individuals that will lead to a decrease in disease incidence, and the pattern of immunity that will prevent a population against a new disease [2, 6]. Herd immunity depends on the size of the population immunity and the dynamics of the transmissibility of etiologic agents [3, 7]. Different studies have analyzed the effectiveness of vaccine progress to achieve herd immunity [8, 9] and their impact on the transmission of immunocompromised against different diseases [10]. The most representative



# Model 2: Critical Thinking

Asynchronous  
Learning



In-Class  
3 hours

Constructing mind map  
with MindMeister©

Learn from peers



Synchronous Learning

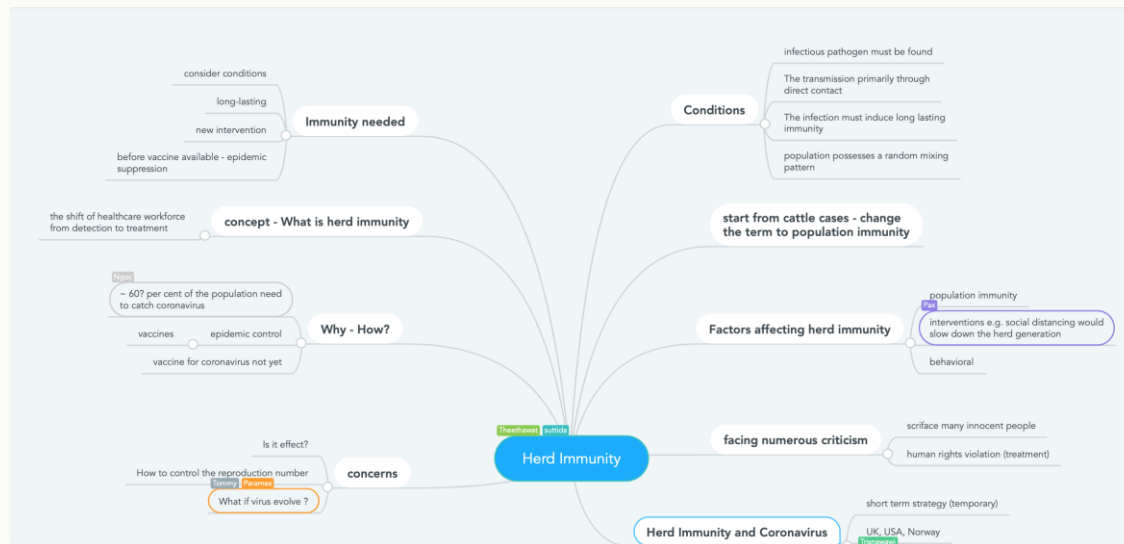
Plickers



(<https://get.plickers.com>)



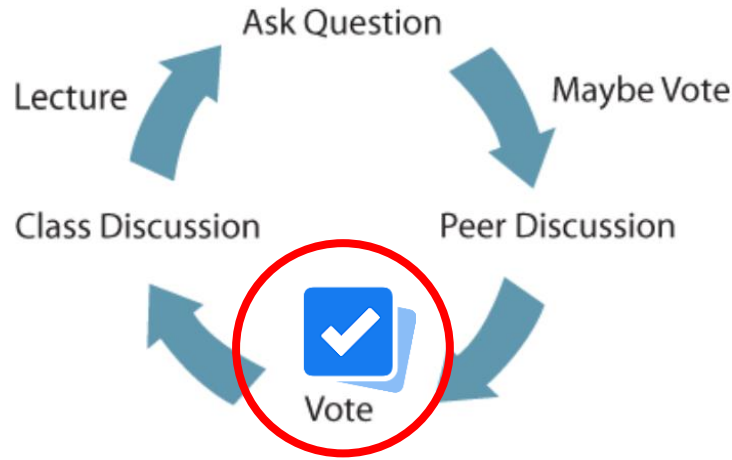
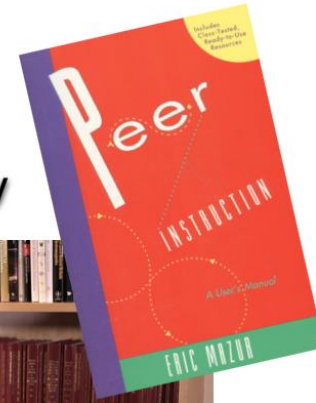
Debate





# Peer Instruction

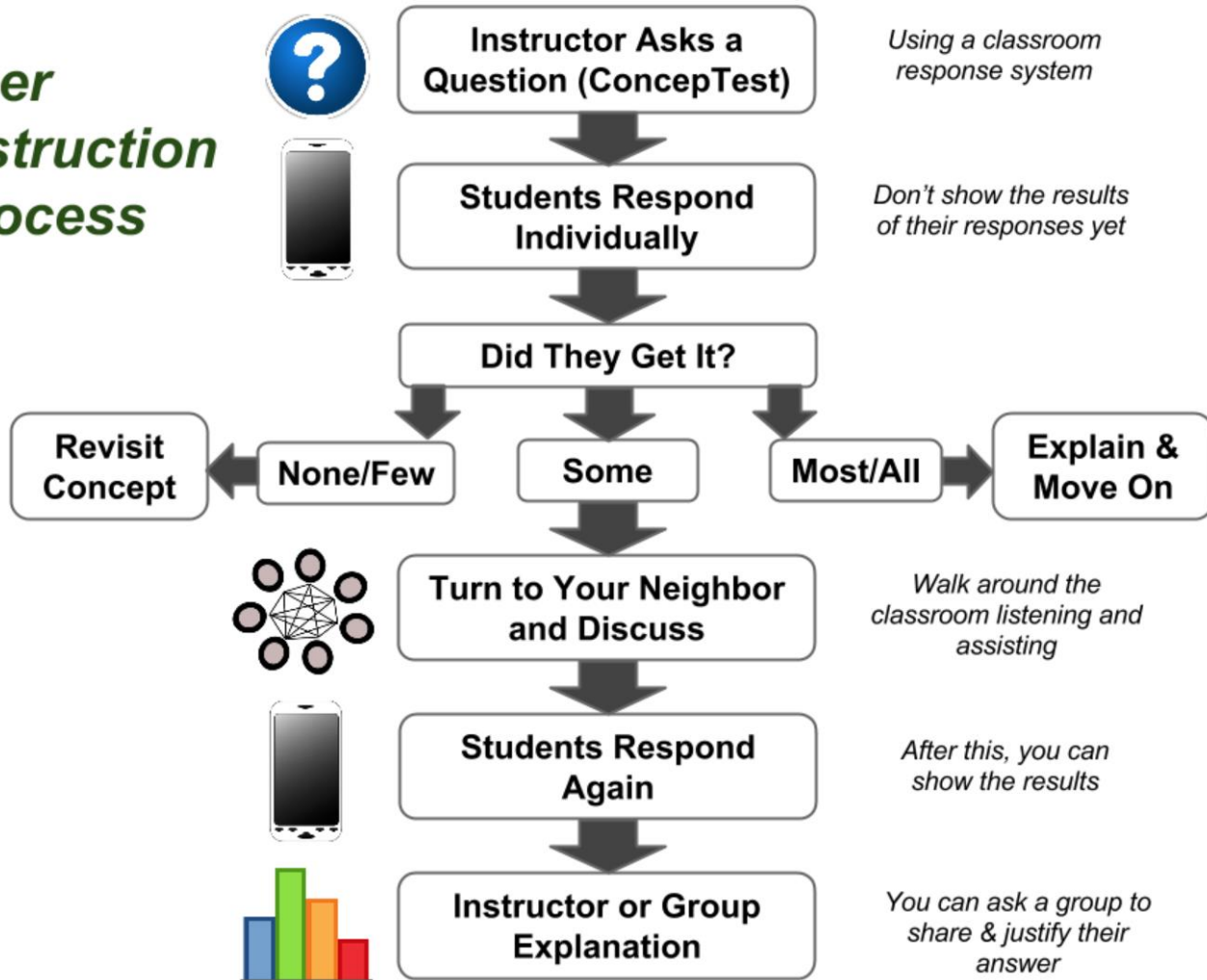
Originated by Prof. Eric Mazur from Harvard University



Peer Instruction Model by Eric Mazur

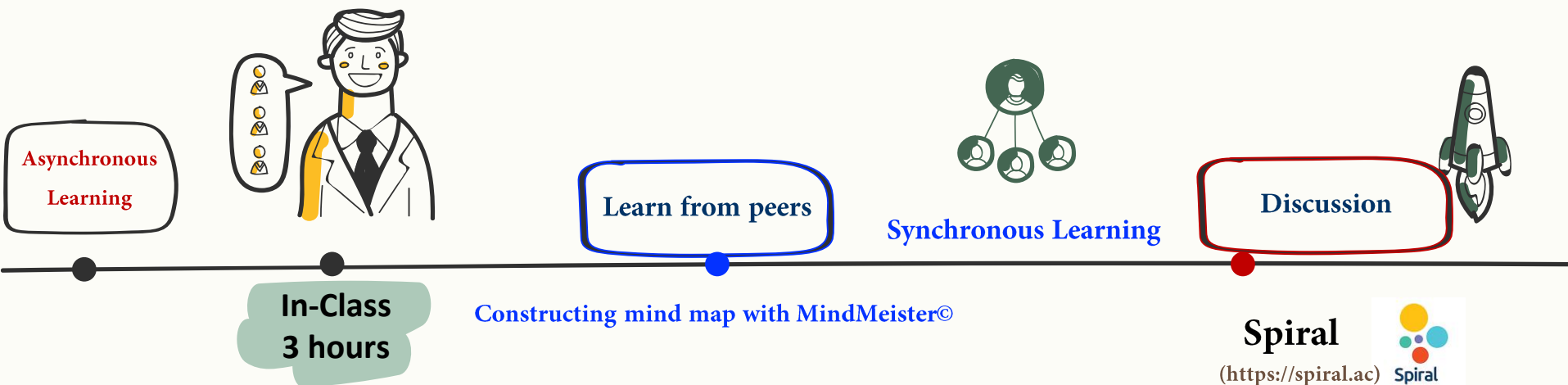


## Peer Instruction Process





# Model 2: Critical Thinking



Imagine that you are the leader of a country.

Suppose your country faces COVID-19 epidemic, please propose ideas to balance between the health of the public and the economy. Provide reasons to support.

Spiral is free for the duration of home schooling

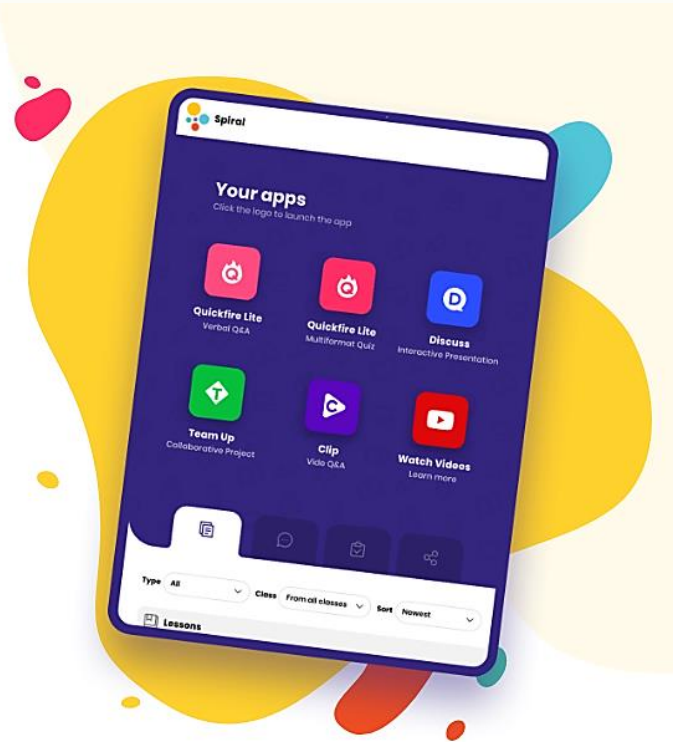
# All your favourite formative assessment apps in one platform

Engage students in lessons and at home with simple to use everyday learning activities.

**Sign up for a free 30 day trial**

**Spiral Pro Pricing**

No apps to install. No download required.



**Launch an activity or post an assignment to be completed asynchronously**



**Students connect with the activity using a simple code**



**Students answers appear live so they can learn from each other**



**Or you can review, grade and feedback assignments off-line**





# Collaborative apps for everyday learning activities

(<https://spiral.ac>)



## Quickfire

Carry out a quickfire formative assessment to see what the whole class is thinking



## Team Up

Students teams can create and share collaborative presentations from linked devices



# Spiral



## Discuss

Create interactive presentations to spark creativity in class



## Clip

Turn any public video into a live chat with questions and quizzes





# Spiral



(<https://spiral.ac>)

- collaborative learning
- no. of students:  $\leq 100$

## Suggestions for technique used in class

- Questioning: Why, How, Evaluate
- Brainstorming / Discussion
- Agree-Disagree Statement
- Self-Reflection such as 1-minute summary, 1-sentence summary, exit ticket, etc.





## Open-ended comprehension questions

- Amplify
- Clarify
- Summarize/Paraphrase
- Cause/Effect
- Compare/Contrast
- Example
- Definition / Characteristic
- Qualification



# LEARN

Summary & Reflection



# Asynchronous Learning: Self-Reflection / Exit Ticket

Date:				1 min
Topic:				
		1	2	3
4	5	6	7	





# Asynchronous Learning: Self-Reflection / Exit Ticket



01

1 minute summary



03

3-2-1 summary

- 3 things I learned today
- 2 things I found interesting
- 1 question I still have



02

1 sentence summary



04

4Rs (Ryan, 2013)

- Reporting & Responding
- Relating
- Reasoning
- Reconstructing



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*Learning begins with student engagement,  
which in turn leads to knowledge and understanding*

—Shulman, 2002 p38





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# Thank You

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