`

- Take the class materials (3 sheets)
- Make sure to sit with your group members
  - If you missed the last session and have no group, I will help you find your group today

Types of Tutorial

1. Discussion-based

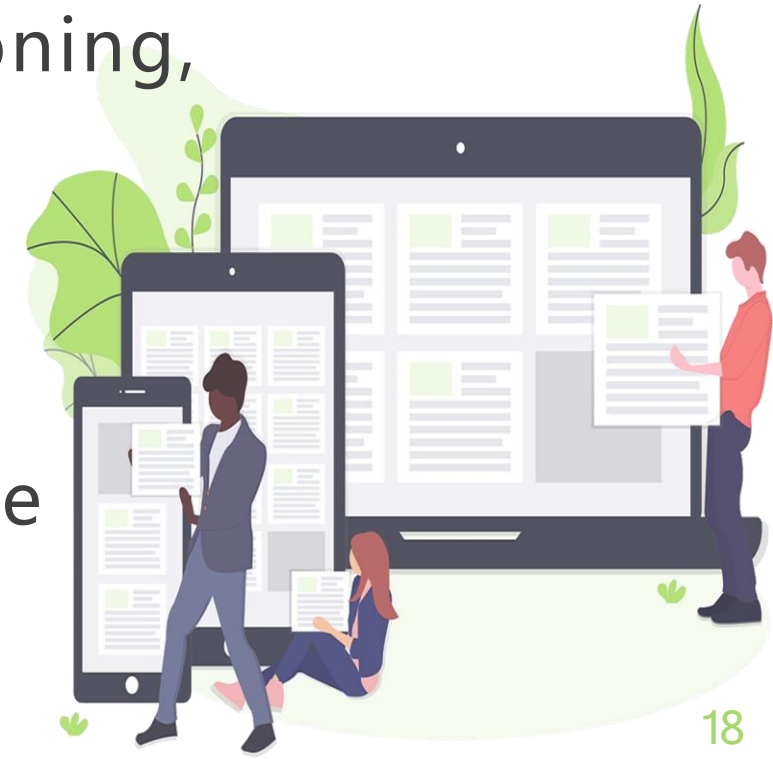
- A deeper exploration of course content through discussions and debates

2. Problem-solving

- Quantitative problem solving and reasoning, common in STEM

3. Review and Q&A

- Preparation for tests or exams in which the tutor reviews or ask questions on the course content



Outcome-Based Education (OBE)

A Learner-Centered Framework

"Learning outcomes are statements of what students CAN DO as a result of a learning experience."

http://cei.hkust.edu.hk/learner-centered-course-design/learning-outcomes

Constructive alignment

Identify the key deliverables of the tutorial: what students can do by the end of the class

Plan and design activities and materials to achieve the key deliverables

Academic Tutorial Learning Experience

Deliver the tutorial content and evaluate if the key deliverables are achieved

Verb(cognitive)+Object(knowledge)

A statement of a **learning objective** contains a **verb** (an action) and an **object** (usually a noun).

- The **verb** generally refers to [actions associated with] the intended **cognitive process**.
- The **object** generally describes the **knowledge** students are expected to acquire or construct. (Anderson and Krathwohl, 2001, pp. 4–5)

In this model, each of the colored blocks shows an example of a learning objective that generally corresponds with each of the various combinations of the cognitive process and knowledge dimensions.

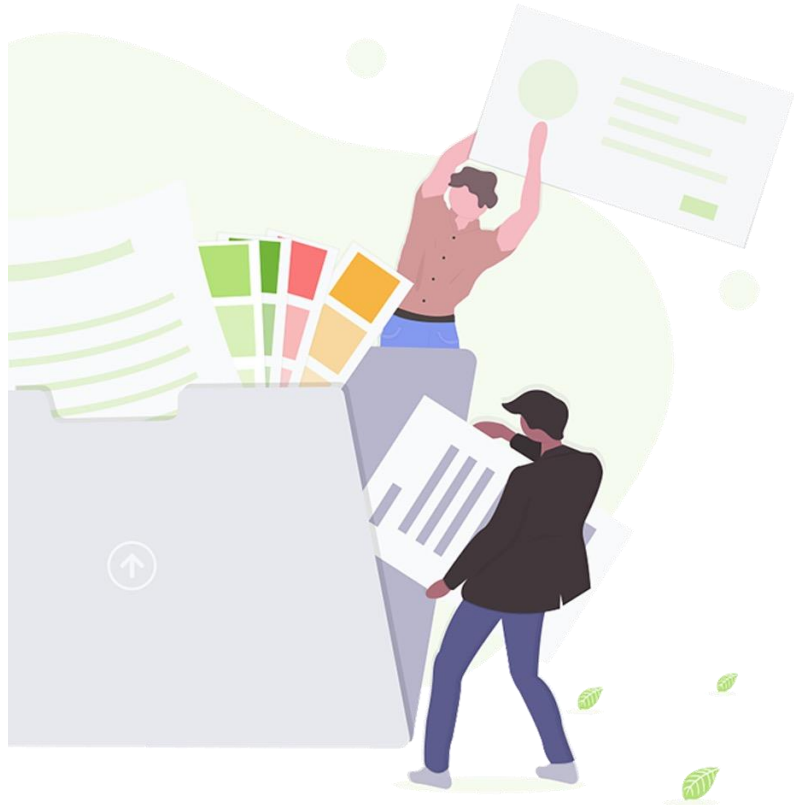
Remember: these are **learning *objectives***—not learning *activities*. It may be useful to think of preceding each objective with something like: "Students will be able to . . ."

*Anderson, L.W. (Ed.), Krathwohl, D.R. (Ed.), Airasian, P.W., Cruikshank, K.A., Mayer, R.E., Pintrich, P.R., Raths, J., & Wittrock, M.C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's Taxonomy of Educational Objectives* (Complete edition). New York: Longman.

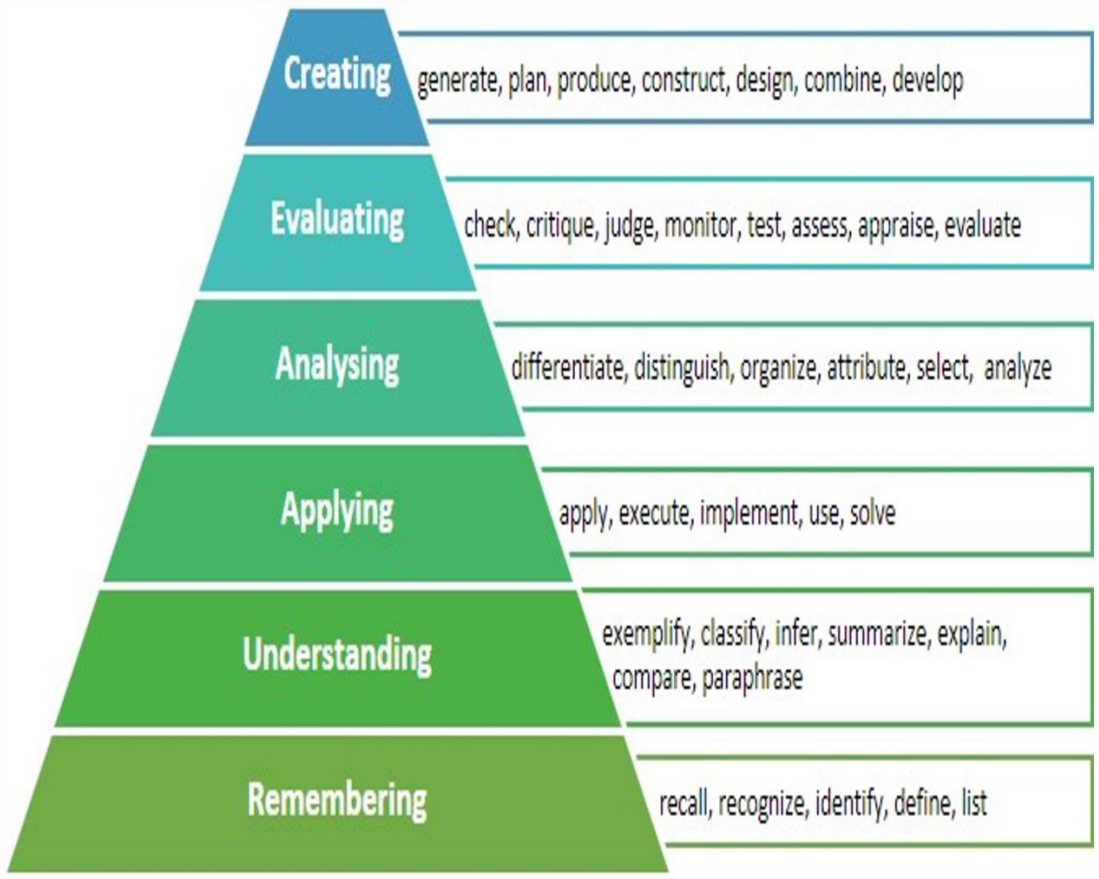
Model created by: Rex Heer
Iowa State University
Center for Excellence in Learning and Teaching
Updated January, 2012

For additional resources, see:
www.celt.iastate.edu/teaching/RevisedBlooms1.html

IOWA STATE UNIVERSITY
Center for Excellence in Learning and Teaching



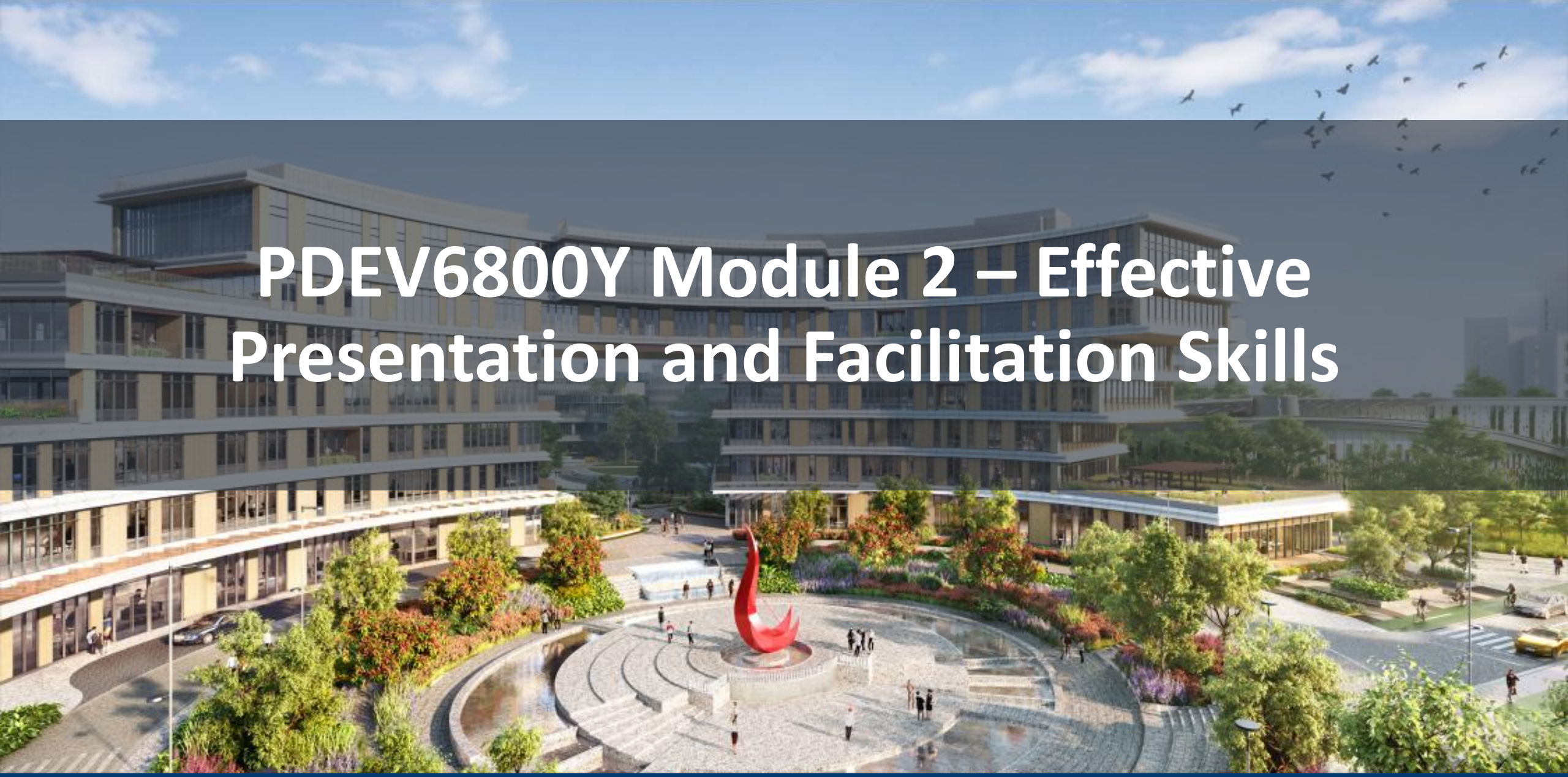
Aligned with AL techniques



This spectrum arrange active learning techniques by complexity and classroom time commitment (O'Neal and Pinder-Grover, 2023).

ILOs by ABCD method

- **Who** is the intended learner? **(actor)**
- **What** the student is expected to do ? **(behavior)**
- **How** the student will be able to perform? **(condition)**
- **Which** level of achievement the student is expected to reach? **(degree)**



PDEV6800Y Module 2 – Effective Presentation and Facilitation Skills

香港科技大学(广州)
THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (GUANGZHOU)

Outlines

01 Essentials of a good facilitation

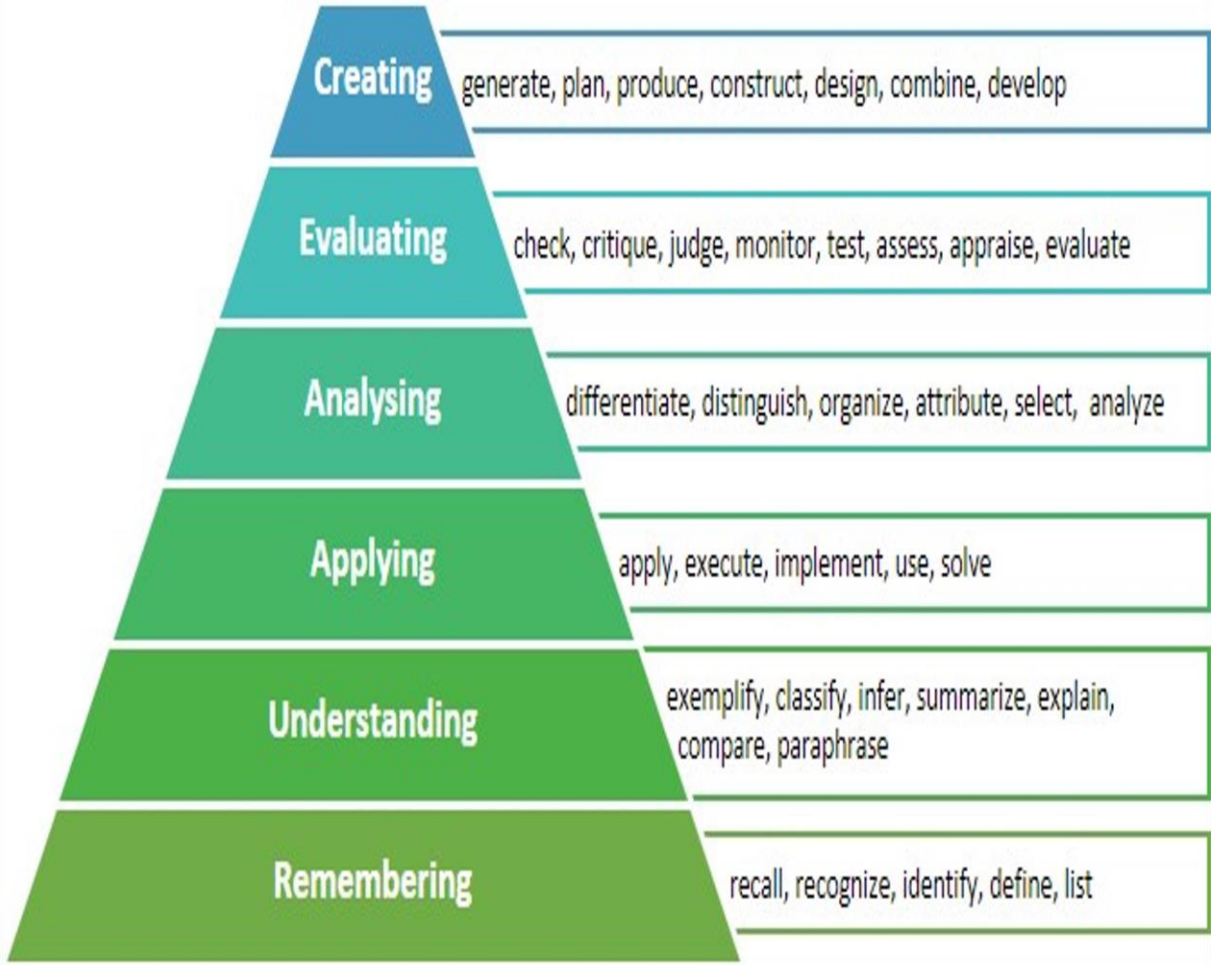
02 Outcome-based education

03 5E model for activity design

04 Bookend model to structure a tutorial

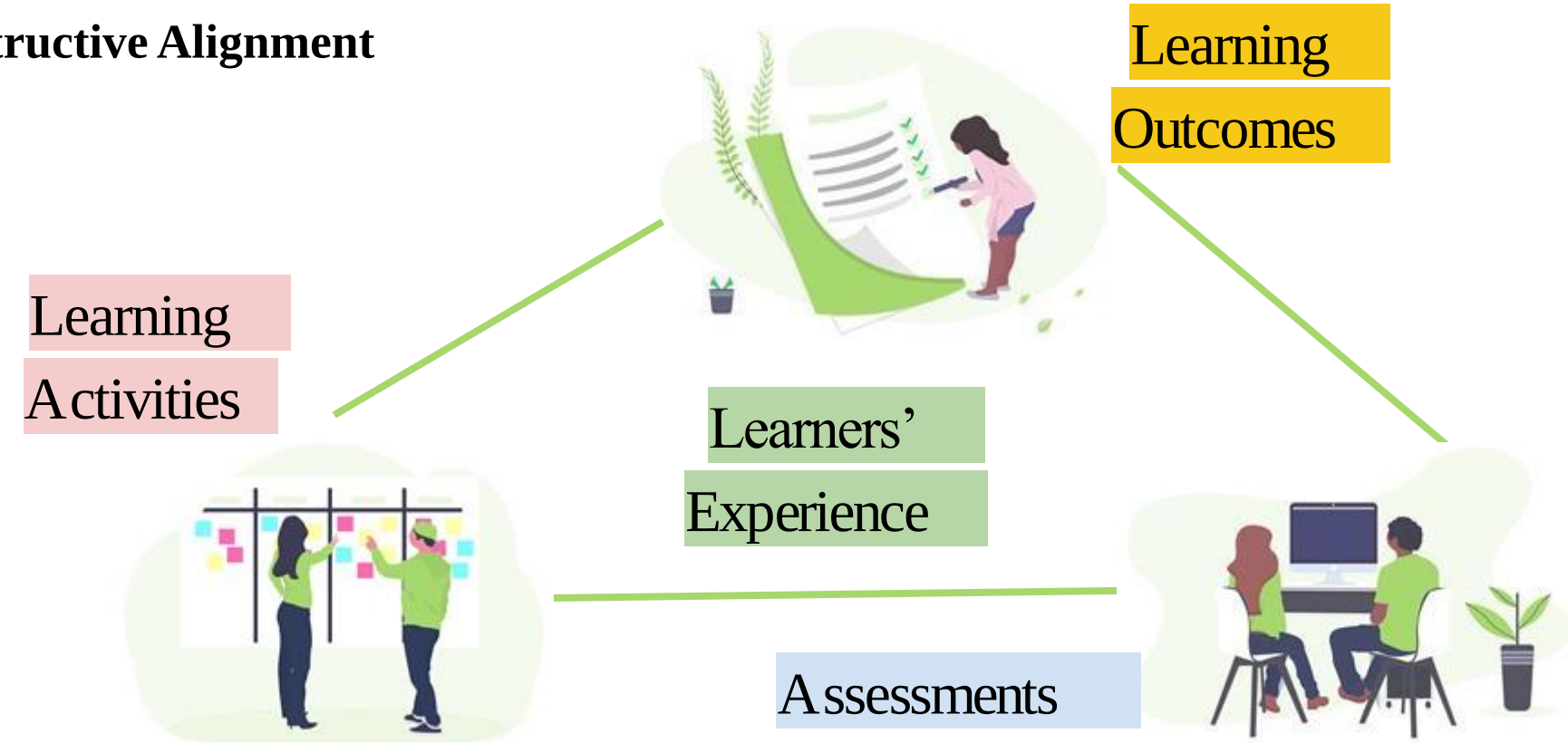
Intended Learning Outcomes

- **Determine** how to present well in a
- **Apply** the 5E and Bookend Model i
- **Identify** various strategies to facilit



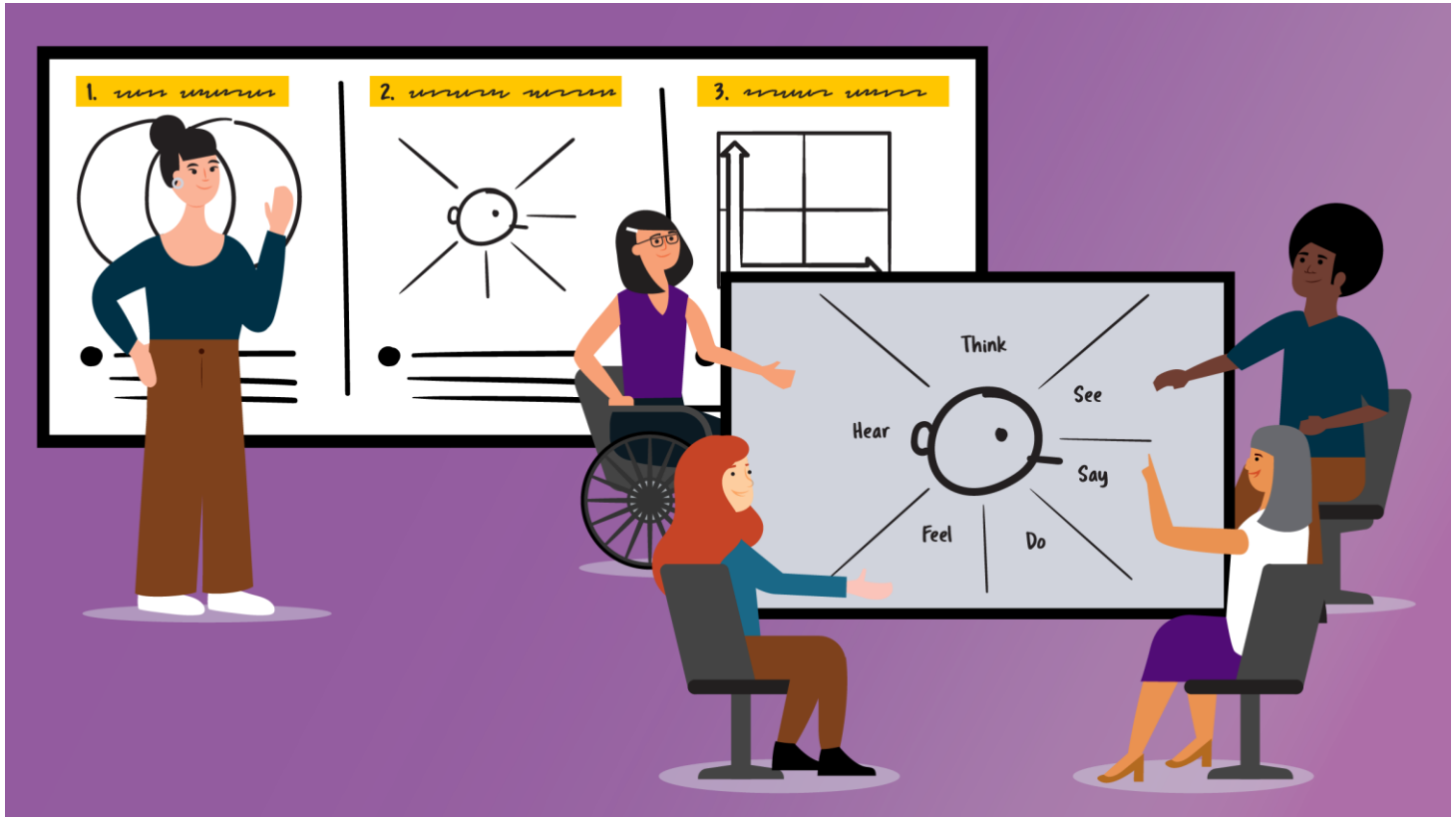
Outcome-based Education

Constructive Alignment



Essentials of A Good Facilitation

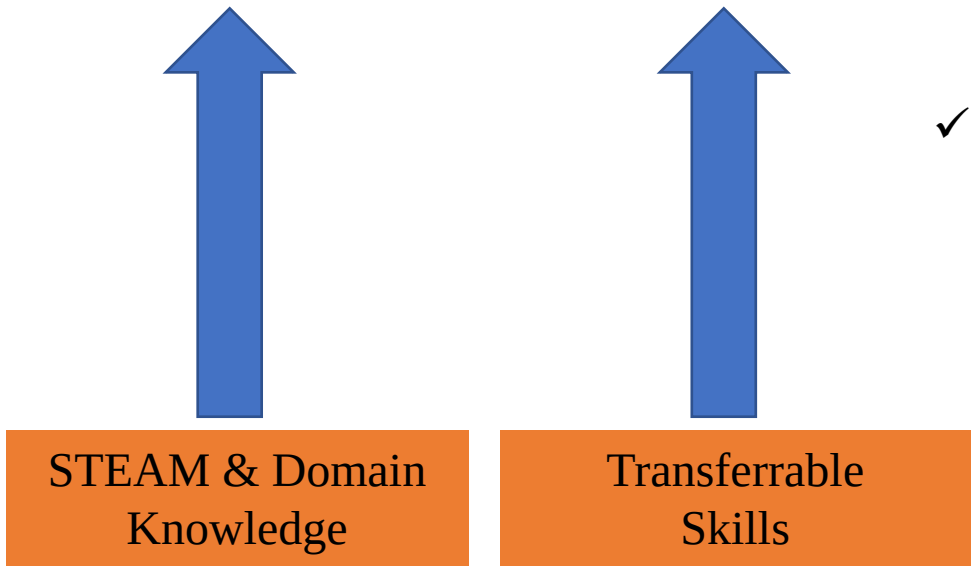
- Purposes and outcomes
- Structure
- Verbal and Non-Verbal Communication
- Presentation Tools



The picture is from https://xplane.com/how-to-enhance-your-facilitation-skills-using-visual-communication-tools/

Purposes and Outcomes

- Define your end goals
  - What are the key things your students need to know or act upon?
  - Why do students need to know the things you are going to share?



Some Transferrable Skills

- ✓ Ethical behavior and trustworthiness
- ✓ Analytical Reasoning, Problem Solving
- ✓ Critical Thinking, Design Thinking & System Thinking
- ✓ Leadership, Followership, Teamwork
- ✓ Adaptability, Creativity, Curiosity
- ✓ Communication, Writing, Listening
- ✓ Independent Learning
- ✓ Project Management
- ✓ Relationship Building
- ✓ Computer Skills
- ✓ Management

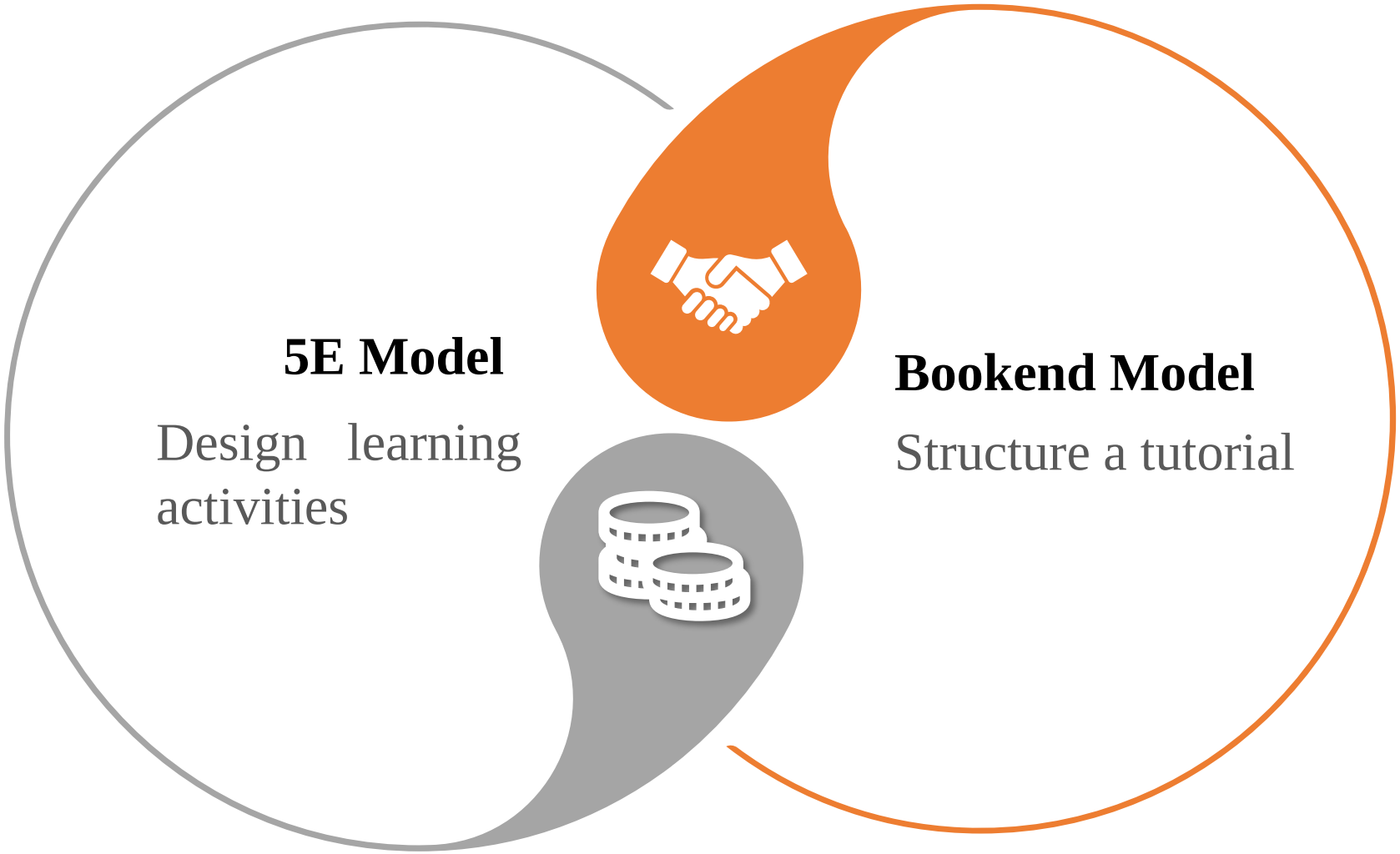
Structure of the Facilitation

- Know your students
  - Are they novices or experts on the topics?
  - What is their prior knowledge of the topics?
- Engage them at the beginning
  - Start with a ‘hook’ - the ‘Why’
  - Then the ‘What’ and ‘How’
- Chunk it
  - Break it down into smaller pieces with a key ‘concept’ for each
  - Have an activity or a quick re-cap in- between pieces

Dos and Don'ts Tutorial Structure

	Problem-based tutorial	Discussion-based tutorial
Subject	Science and Engineering	Social science and Humanities
Students' task from the instructor	Students need to complete a problem-set from the course instructor	Students need to prepare for a given topic to explore and discuss
Tutorial's objective	To help students complete and understand the problem set questions	To help students provide arguments, insights, solutions to the given topic
What it shouldn't be		
Your task	How to break [students' tasks] down such that the structure can help students practice the skills and knowledge learned from the lecture?	

How to Structure a Good Facilitation



5E Model for Activity Design

Engage

- Hook students' attention
- Establish relevancy

Explore

- Get students directly involved in the topic
- Active and inquiry-based learning

Explain

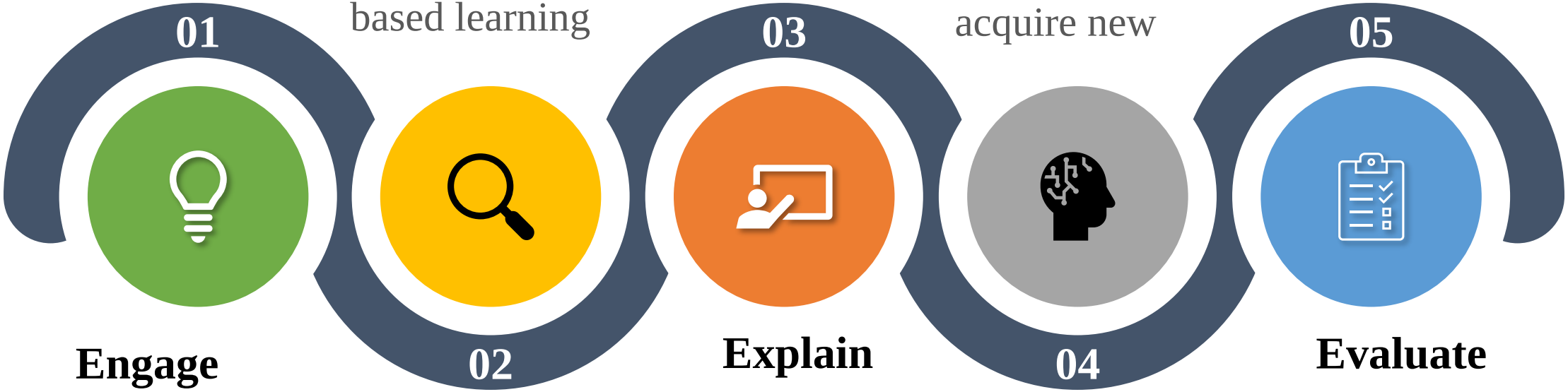
- Reflective process
- Students demonstrate their understandings

Elaborate

- Construct new learning
- Help students apply prior learning and acquire new

Evaluate

- Assess learning
- Help students measure learning



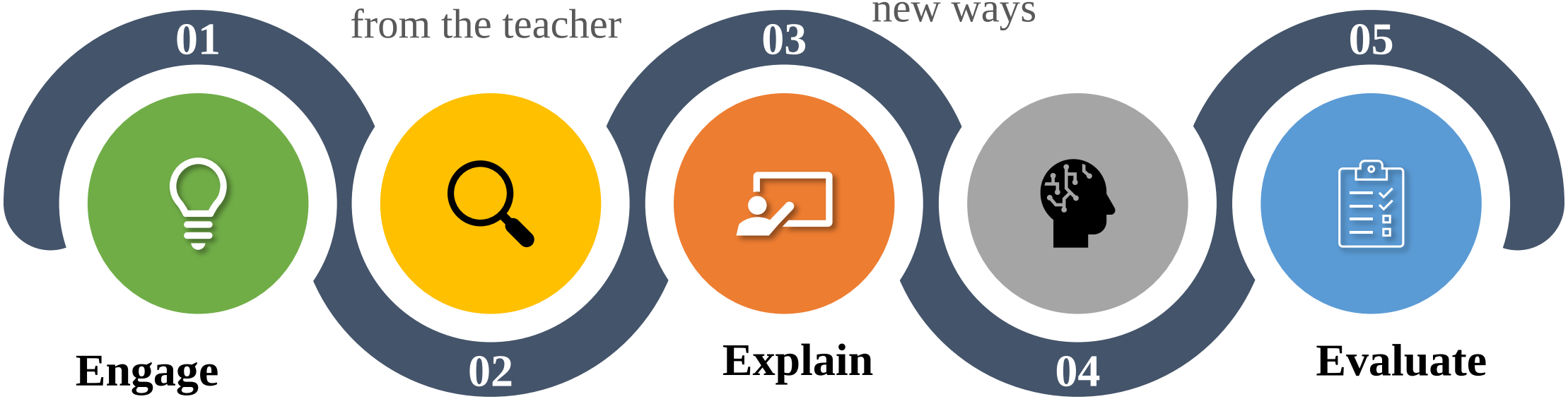
5E Model for Activity Design

Explore

- Students work independently with minimum supervision from the teacher

Elaborate

- The teacher clarifies the misconception, further expands the topics
- Students apply their understandings in new ways



Engage

- Ask Why, What, and How questions
- Examples from daily life

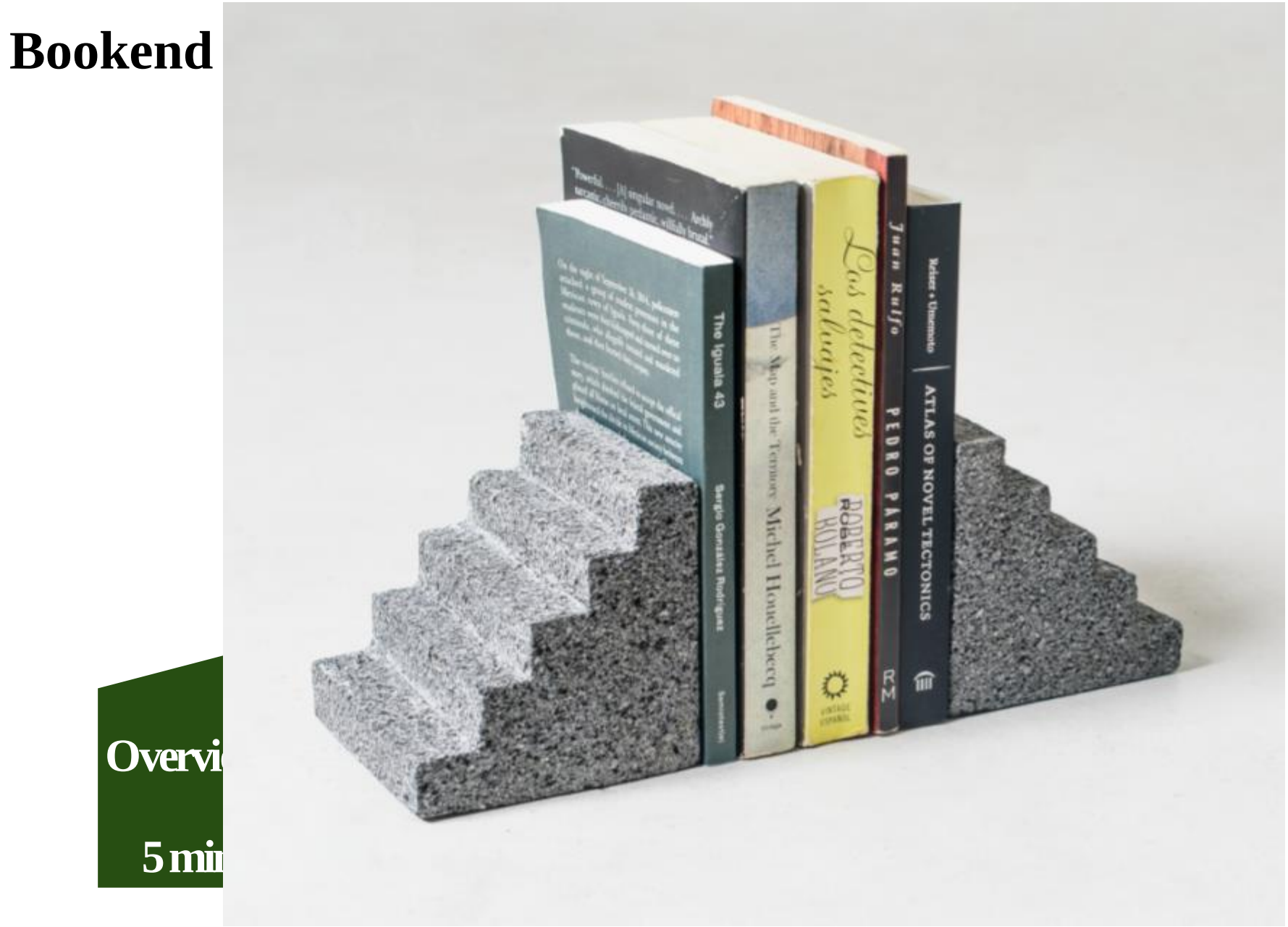
Explain

- Students communicate what they have learned

Evaluate

- Test, interview, models and performance tasks
- Rubrics

Bookend



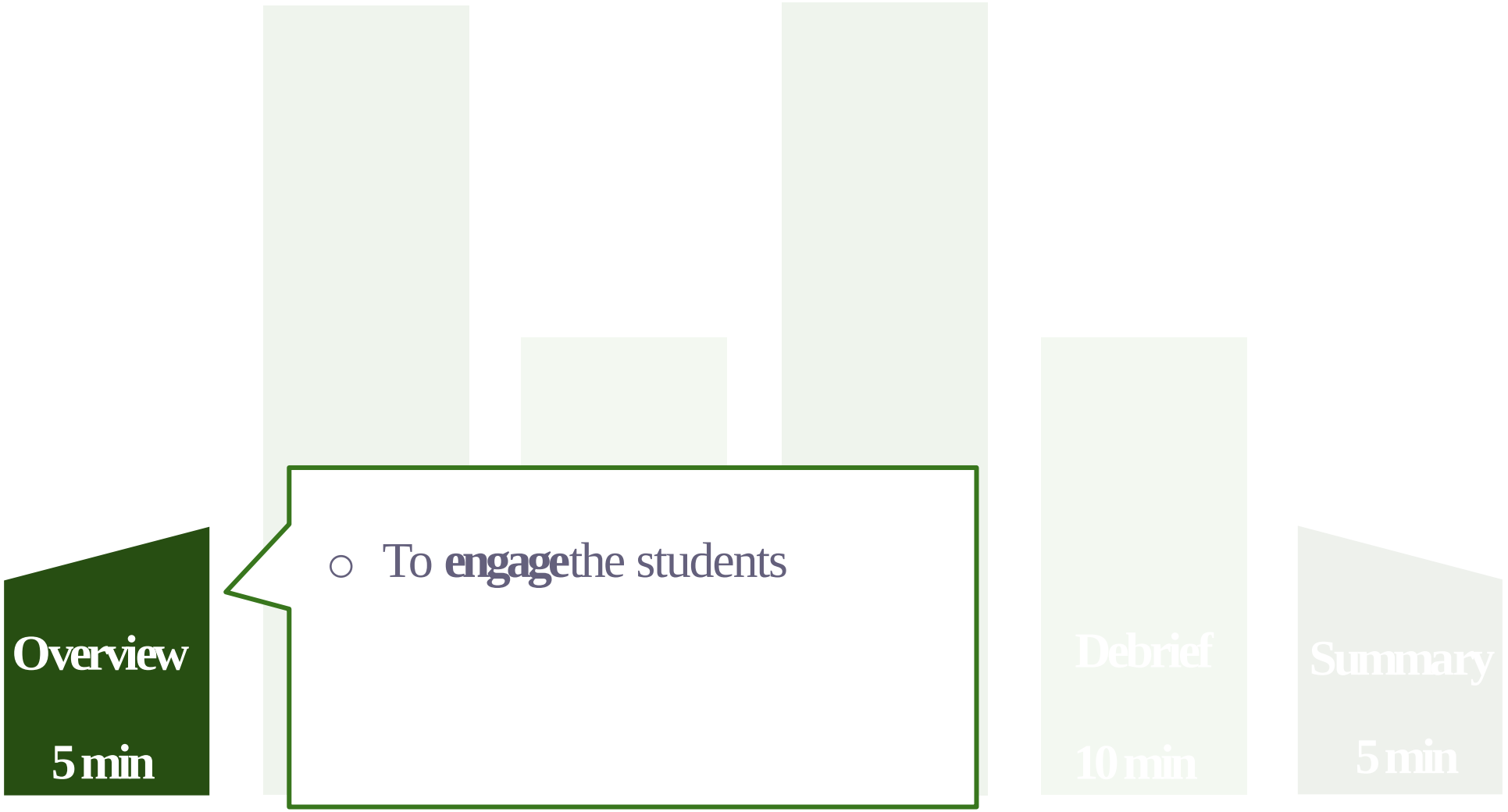
Overvi

5 mi

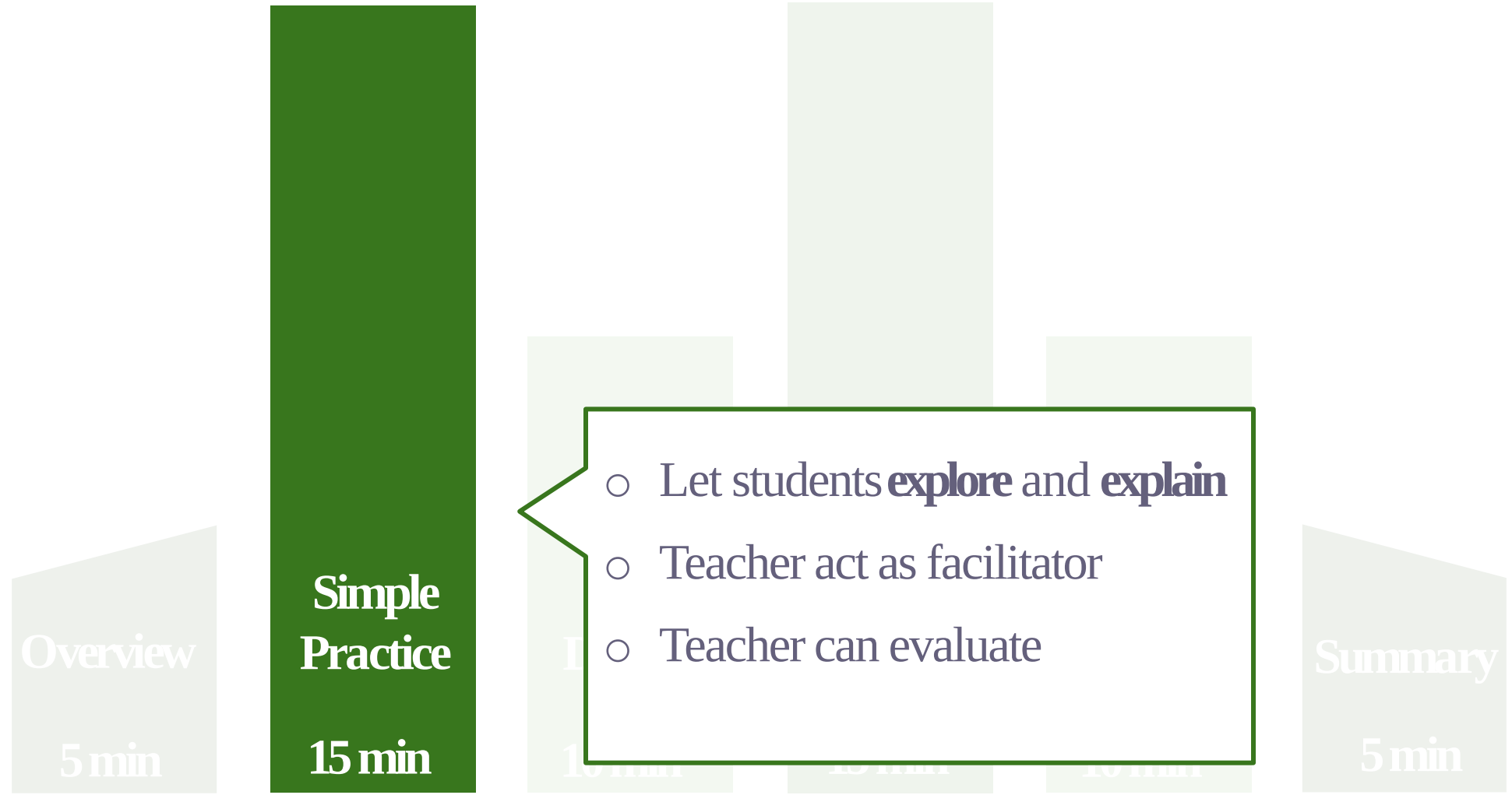
Summary

5 min

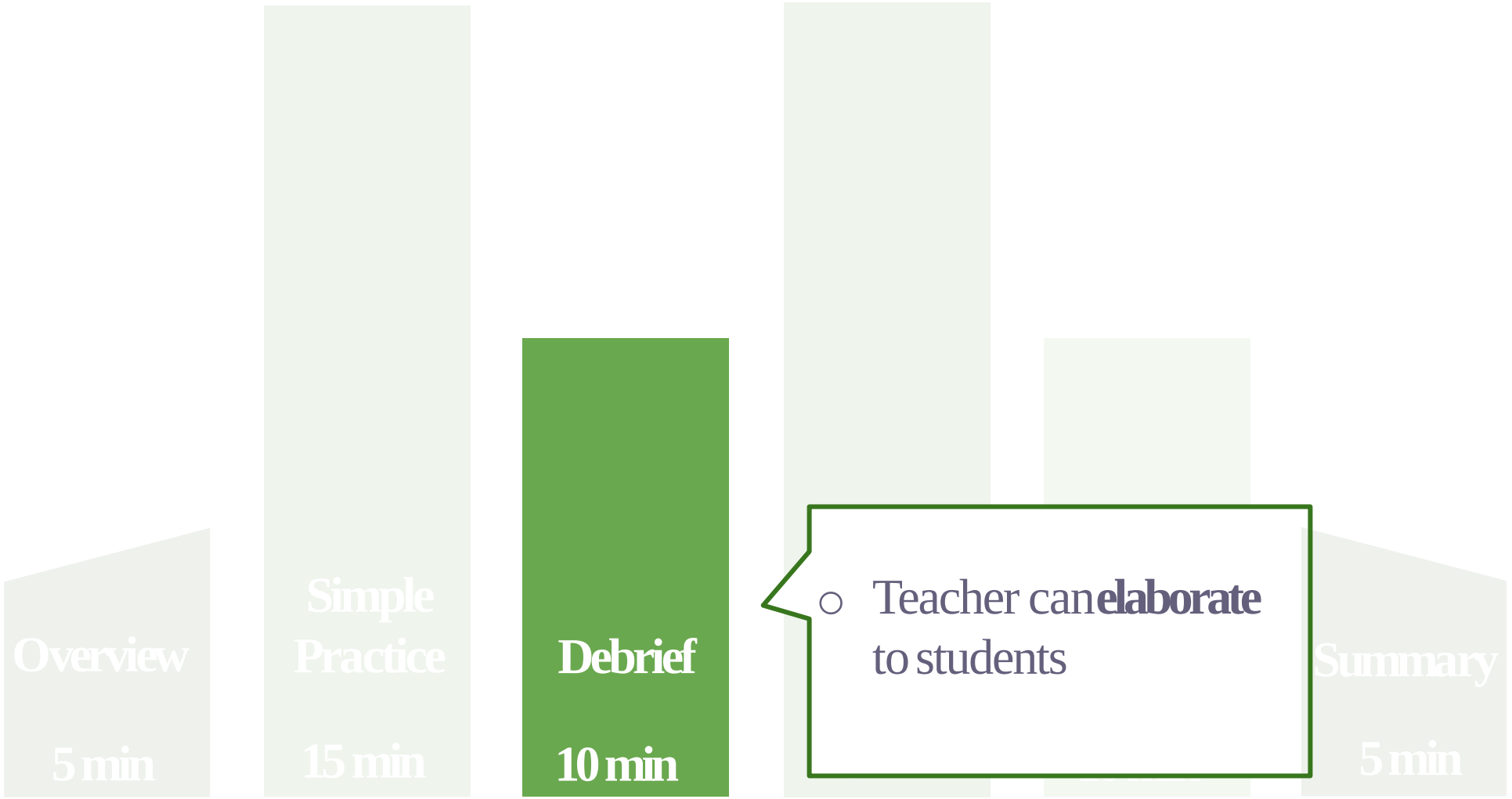
Bookend Model to Structure a Tutorial



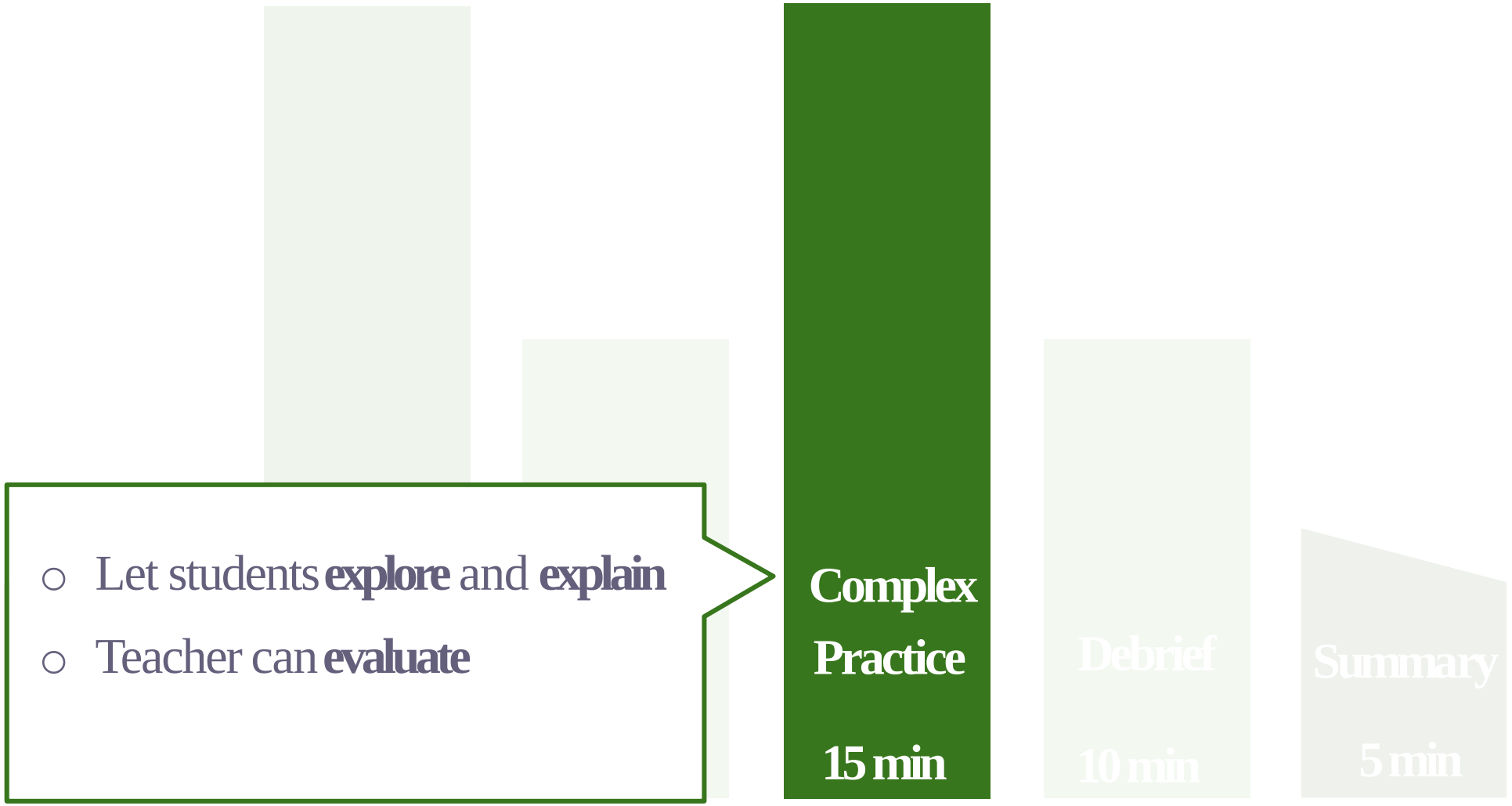
Bookend Model to Structure a Tutorial



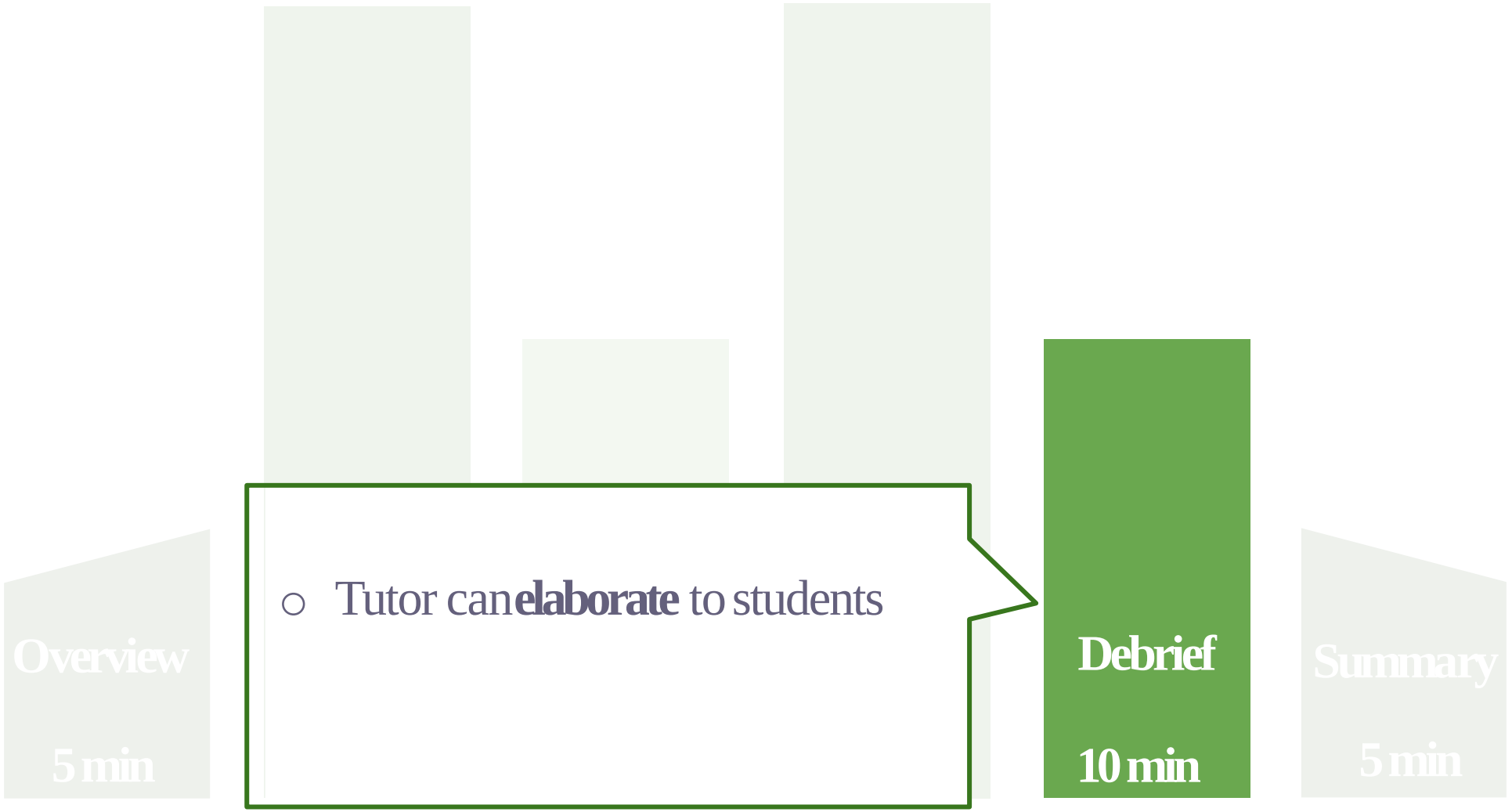
Bookend Model to Structure a Tutorial



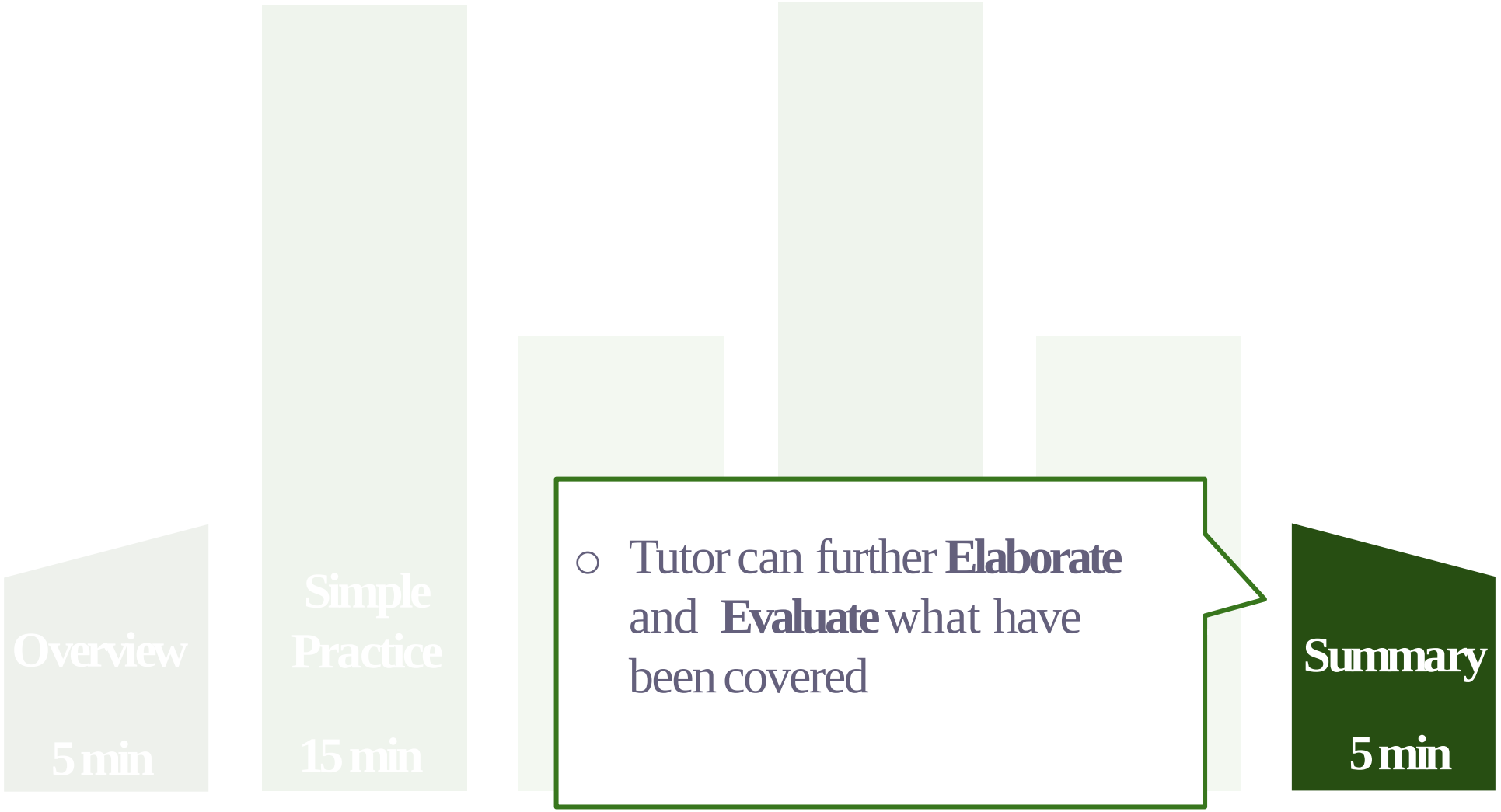
Bookend Model to Structure a Tutorial



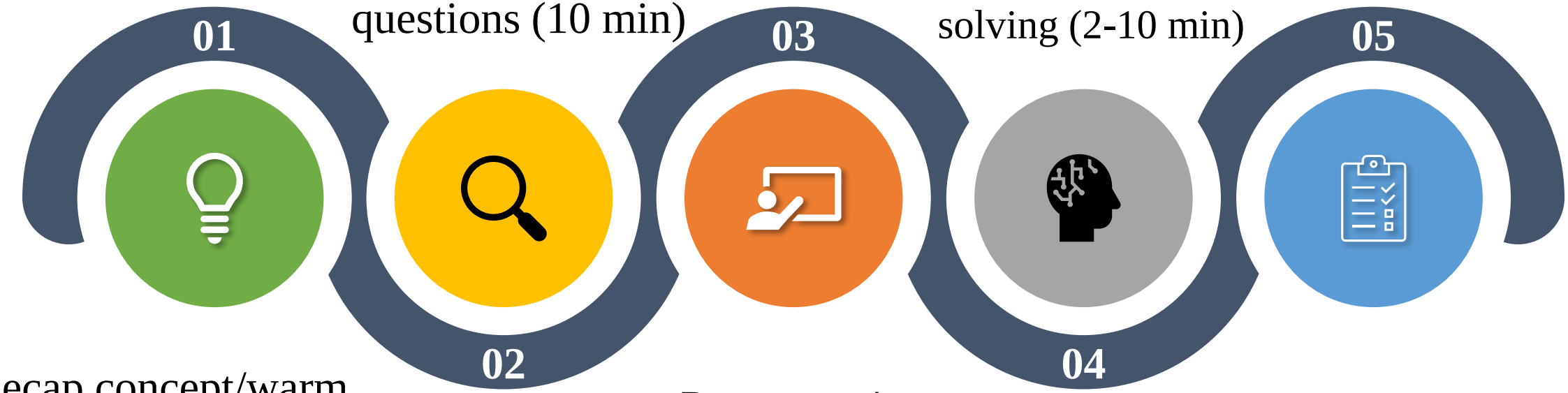
Bookend Model to Structure a Tutorial



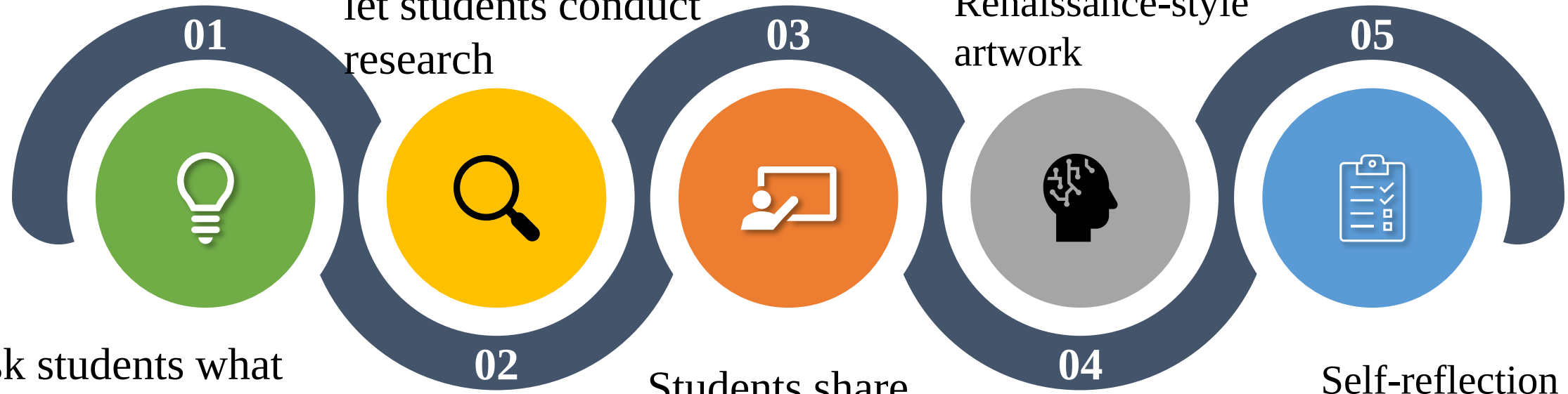
Bookend Model to Structure a Tutorial



Example – Andrew NG's Machine Learning Class



Example – ChatGPT's Renaissance Class



Ask students what they know about Renaissance and what they would like to learn

Provide student a list of questions and let students conduct research

Students share their research findings

Let students create their own Renaissance-style artwork

Self-reflection or peer review through an essay

Teamwork: Matching Student-centered Tactic

- **Read** the table in the worksheet
- **Recall** what you have learned about 5E and Bookend Model
- **Discuss** with your team on the statements
- **Match** the correct statement and **fill in** the letter in blank line on the right

Problem-based Tutorial		Discussion-based Tutorial
1._____ - Overview the learning roadmap and relate the prior knowledge to this tutorial's objectives -Categorise the problem sets by (1) concepts, (2) applications (3) level of difficulties	**Overview (5-10m)**	- Explicitly recap the key concepts in the lecture or asking students to complete a quick quiz 7._____ - Introduce the topics to be discussed
Planning: - Select problems that cover basic knowledge and skills 2._____ During: - Walk around to observe students' progress - Avoid spending a long time for particular students - Pick up common misunderstandings and misconception	**1st practice (10-15m)**	- Form students into groups/team - Ask each group with 1-2 questions to discuss 8._____ - Remind students of the key concepts to consider/apply.
3._____ - Give tips on dealing with the problems	**1st debrief (5-10m)**	- Encourage students to learn from each other - Invite groups to share their key findings 9._____ - Review the common misunderstanding and unclear concepts. - Suggest possible perspectives to address the topic
Planning: 4._____ During (on top of tips in 1st practice) - Ask students to work in groups (eg. buddy, mixed grouping, group combining) - Observe the group progress	**2nd practice (10-15m)**	- As above 10._____
5._____ - Review the common misunderstanding and unclear concepts - Give tips on dealing with the problems	**2nd debrief (5-10m)**	- Invite each group, or good performing groups, to summarise their findings 11._____ - Same as above
6._____ - Ask students to link the key takeaways with their prior knowledge - Remind students of where to pay attention in the next week's tasks	**Summary (5-10m)**	- Summarize the key takeaways 12._____ - Remind students of where to pay attention in the next week's tasks

Matching the correct statement

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

Teamwork: Matching Student-centered Tactic

A	Overview the learning roadmap and relate the prior knowledge to this tutorial's objectives	G	Be realistic of how many questions can be completed
B	Ask a question built on the previous practice to discuss	H	Invite students to present their solutions or problem-solving approaches
C	Walk around to facilitate the discussion	I	Suggest how to further develop the key findings for their assignments
D	Summarise the key takeaways	J	Explicitly recap the key concepts in the lecture or asking students to complete a quick quiz
E	Review the common misunderstanding and unclear concepts	K	Highlight the insightful arguments picked up during discussion
F	Ask follow-up questions based on the groups' sharing	L	Pick more challenging, complex problems

Teamwork: Matching Student-centered Tactic

	Problem-based Tutorial		Discussion-based Tutorial
	- **Explicitly recap the key concepts in the lecture or asking students to complete a quick quiz** - Overview the learning roadmap and relate the prior knowledge to this tutorial's objectives - Categorise the problem sets by (1) concepts, (2) applications (3) level of difficulties	Overview (5-10m)	- Explicitly recap the key concepts in the lecture or asking students to complete a quick quiz - **Overview the learning roadmap and relate the prior knowledge to this tutorial's objectives** - Introduce the topics to be discussed
	Planning: - Select problems that cover basic knowledge and skills - **Be realistic of how many questions can be completed** During: - Walk around to observe students' progress - Avoid spending a long time for particular students - Pick up common misunderstandings and misconception	1st practice (10-15m)	- Form students into groups/team - Ask each group with 1-2 questions to discuss - **Walk around to facilitate the discussion.** - Remind students of the key concepts to consider/apply.
	- **Review the common misunderstanding and unclear concepts** - Give tips on dealing with the problems	1st debrief (5-10m)	- Encourage students to learn from each other - Invite groups to share their key findings - **Highlight the insightful arguments picked up during discussion** - Review the common misunderstanding and unclear concepts. - Suggest possible perspectives to address the topic
	Planning: - **Pick more challenging, complex problems** During (on top of tips in 1st practice) - Ask students to work in groups (eg. buddy, mixed grouping, group combining) - Observe the group progress	2nd practice (10-15m)	- As above - **Ask a question built on the previous practice to discuss**
	- **Invite students to present their solutions or problem-solving approaches** - Review the common misunderstanding and unclear concepts - Give tips on dealing with the problems	2nd debrief (5-10m)	- Invite each group, or good performing groups, to summarise their findings - **Ask follow-up questions based on the groups' sharing** - Same as above
	- **Summarise the key takeaways** - Ask students to link the key takeaways with their prior knowledge - Remind students of where to pay attention in the next week's tasks	Summary (5-10m)	- Summarise the key takeaways - **Suggest how to further develop the key findings for their assignments** - Remind students of where to pay attention in the next week's tasks

Matching the correct statement

1. J
2. G
3. E
4. L
5. H
6. D
7. A
8. C
9. K
10. B
11. F
12. I

Verbal and Non-verbal Communication

- Know the content
  - It’s a must for any instructor or GTA
  - Show your passion for the content is always a plus
- Good language proficiency
  - English as the medium of instruction
  - Rehearse how to explain
  - Make sure you **know** the pronunciation of the key terms
    - **Know your jargon**

Know your Jargon - My Awkward Moment

Dictionary

Definitions from Oxford Languages · Learn more

lep·to·kur·tic

/ˌleptəˈkərdik/

adjective **STATISTICS**

(of a frequency distribution or its graphical representation) having greater kurtosis than the normal distribution; more concentrated about the mean.

Dictionary

Definitions from Oxford Languages · Learn more

plat·y·kur·tic

/ˌpladēˈkərdik/

adjective **STATISTICS**

(of a frequency distribution or its graphical representation) having less kurtosis than the normal distribution.

ributions.

Presentation Tools

- Choose the most appropriate tools and software, not the most convenient
  - PPT Slides
  - Whiteboard
  - Visualizer
  - EdTech Tools (Kahoot/Mentimeter/Rain classroom, etc)
- Avoid Death by PPT
- Design from the viewers perspectives

Design Tips for Presentation

- Message: 1 message per slide
- Visual: Your slide is a visual aid
- Size: Most important part should be the biggest
- Contrast: Control your audience

Tips for Using Whiteboard

- Don’t talk to the board, students are your audience
- Write first, then explain it
- Pick a dark colored marker
- Write in bigger font size
- Show contents bit by bit

Using Whiteboard for Collaborative Work

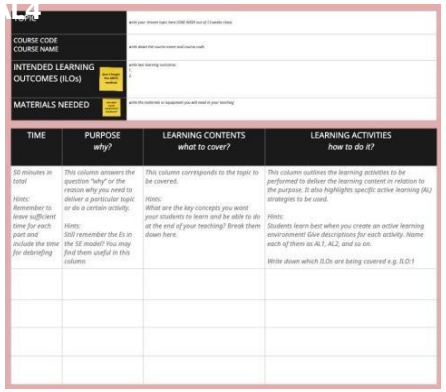
What Have We Covered So Far

- The key elements of a good presentation and facilitation.
- What is 5E and Bookend model of instructional design.
- How to structure a student-centered tutorial using the 5E and Bookend model.
- Tips for using different tools for effective teaching and learning.

What is Micro-teaching?

- Collegial constructive learning exercise for you to demonstrate your **teaching** and **facilitation** skills

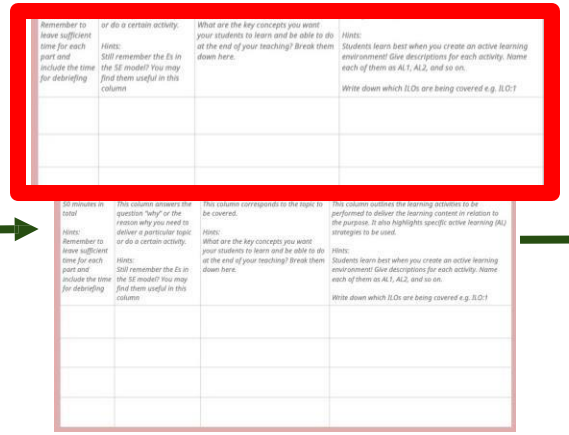
Create a 50-min Lesson Plan



Group

Module 3

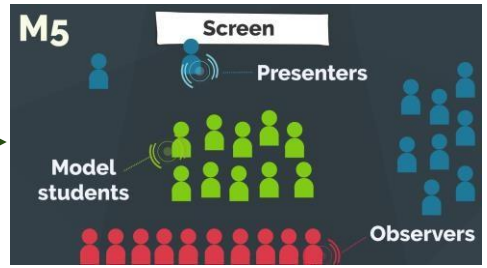
Select & Prepare a 10-min Teaching Demo



Group

Before Module 5

Present a 10-min Teaching Demo



Group Representatives

During Module 5

What Do You Need To Do?

- Lesson plan:

1. **Pick** a course from HKUST(GZ) or HKUST or other university that you can find, and **write two** Intended Learning Outcomes (ILOs)
2. **Create** a **50-min tutorial lesson plan** that mimic one week's tutorial
3. Should follow the **5E** and **Bookend models** to structure the lesson
4. Must **incorporate two active learning strategies** to achieve the ILOs
5. Have a **draft lesson plan** ready for **peer feedback next week**