Welcome to Day 4!

Train the Trainer:
Assessment and Feedback in Training and Teaching

SciLifeLab Training Hub - Spring 2024

Course Leader - Jill Jaworski

Did we have any more questions?

From the list of tips to improve learners' experience (below)

- Think about and discuss which of these tips you apply or have already applied in your teaching
- Think about and discuss which tips you would like to apply in the future and why

- Introductions
- Set up environments
- Introduce blended multimedia materials
- Collect instant feedback
- Let learners do recaps
- Repeat the question

- Introduce physical exercises
- Introduce short, relaxing breaks
- Introduce challenges or games
- Teach together
- Assess prior knowledge
- Avoid homework in all-day formats

Assessment and feedback

Assessment

vs

Feedback

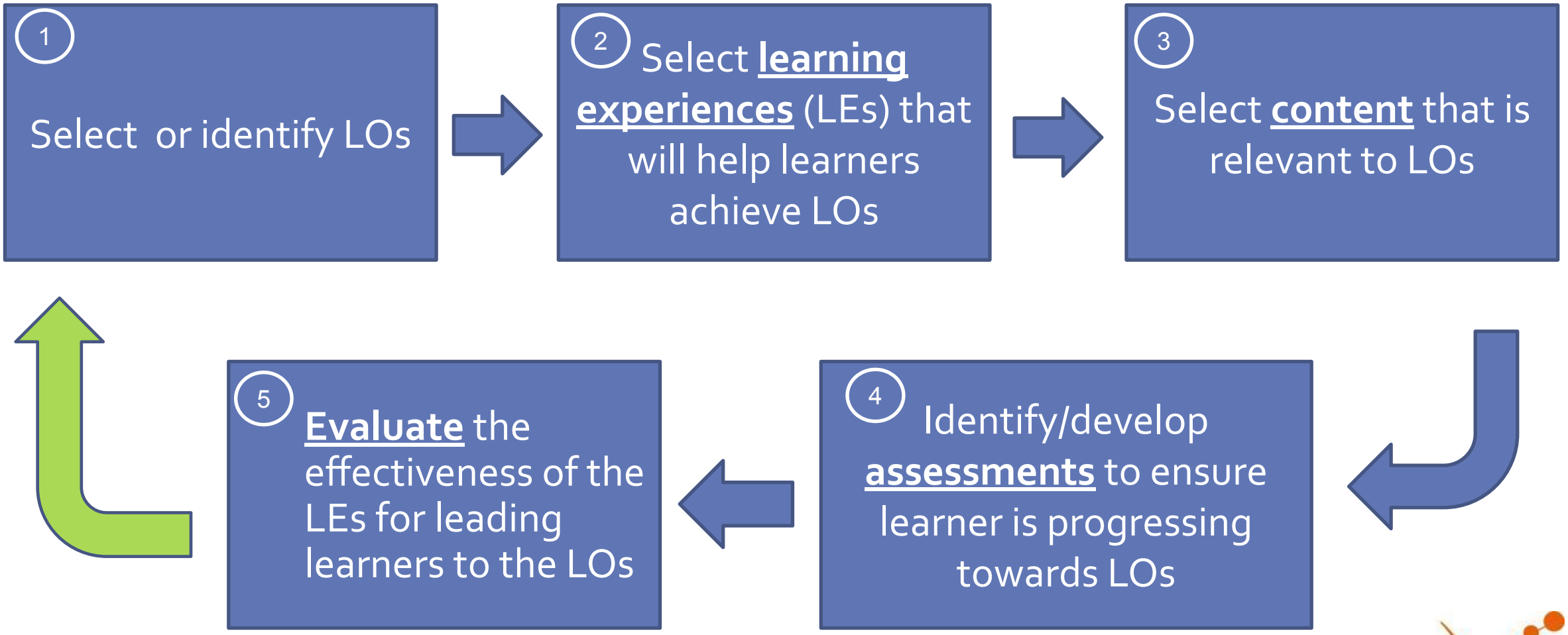
Teaching goal

Develop an understanding of **different types of assessment and feedback**, **when** to give and receive feedback, and for which **purpose**.

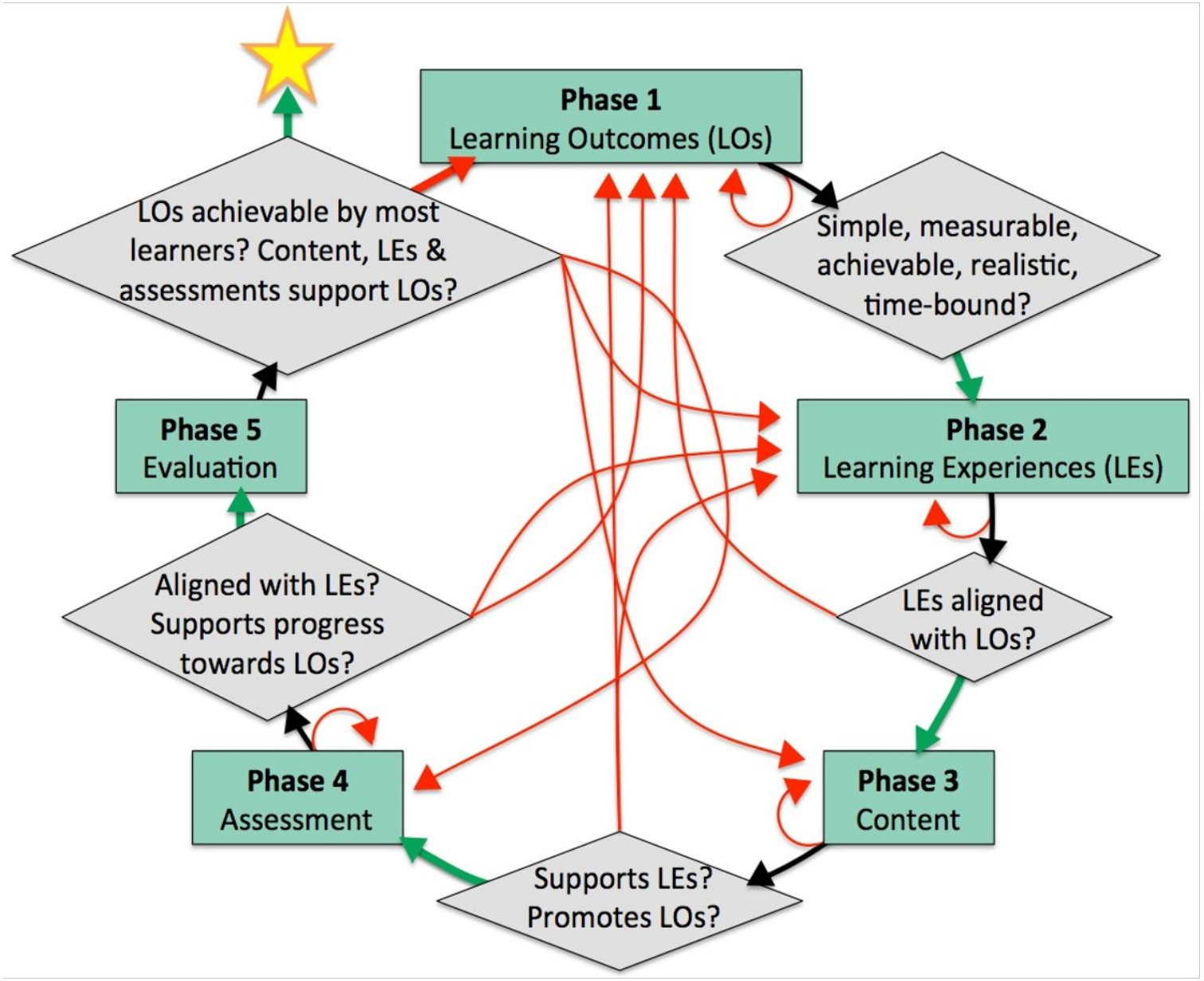
Learning outcomes

- Describe the differences between formative and summative assessment
- Explain why frequent feedback is important
- List and describe a few techniques for formative feedback

Instruction design in five steps



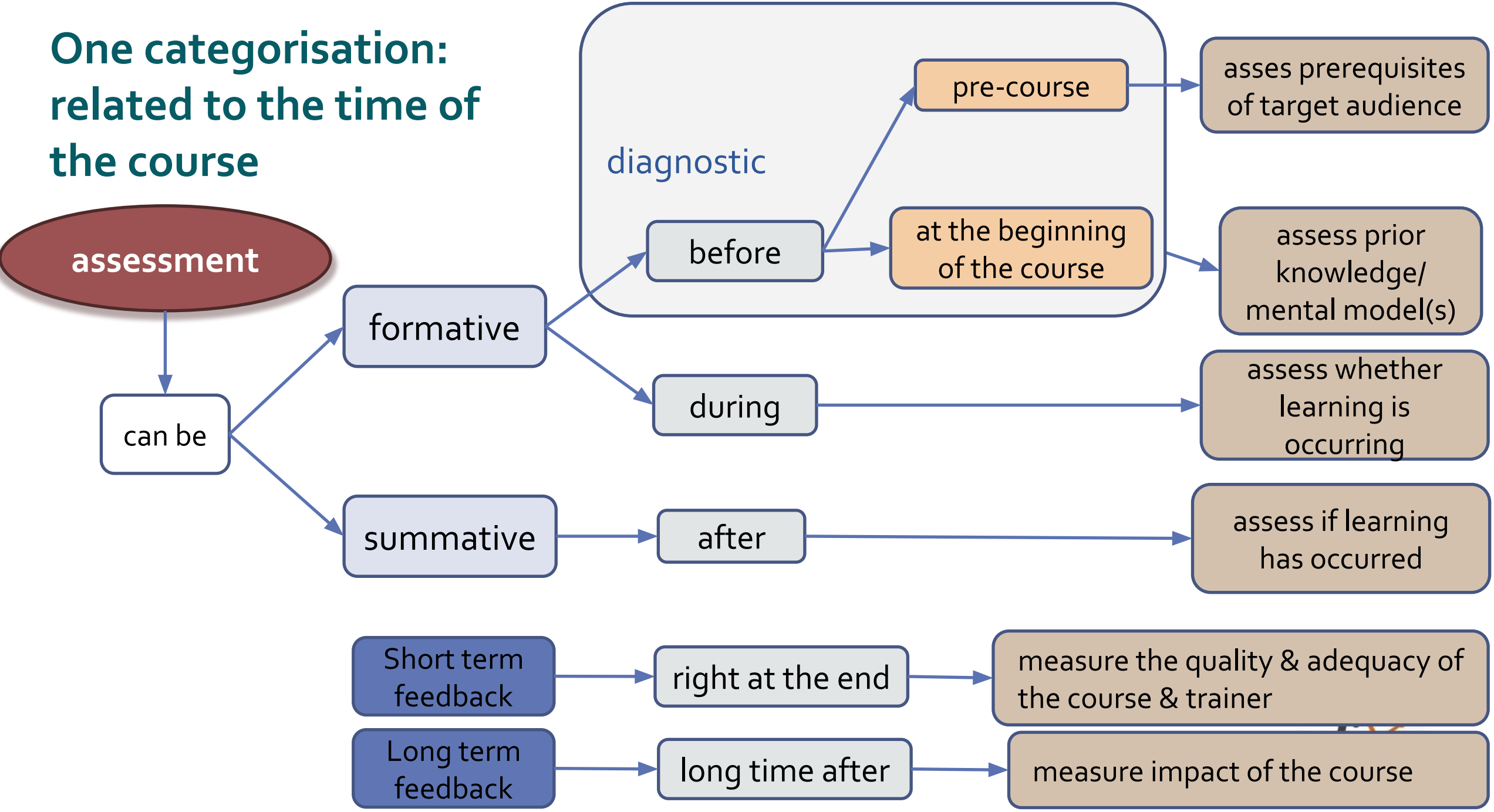
Nicholls G (2002). *Developing teaching and learning in higher education*. London, UK: Routledge. Pp 51-75



Via A, Palagi PM, Lindvall JM et al. Course design: Considerations for trainers – a Professional Guide. F1000Research 2020, 9:1377 doi: [10.7490/f1000research.1118395.1](https://doi.org/10.7490/f1000research.1118395.1)

There are different types of assessment and different ways that we can categorise them

One categorisation: related to the time of the course



Challenge 4.1 - Diagnostic Assessment

- In groups, discuss how you could collect information (prior experience) from learners before/at the beginning of a course or lesson and how you can use it.
- **Breakout groups of 3**

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Formative vs. Summative assessment

Formative:

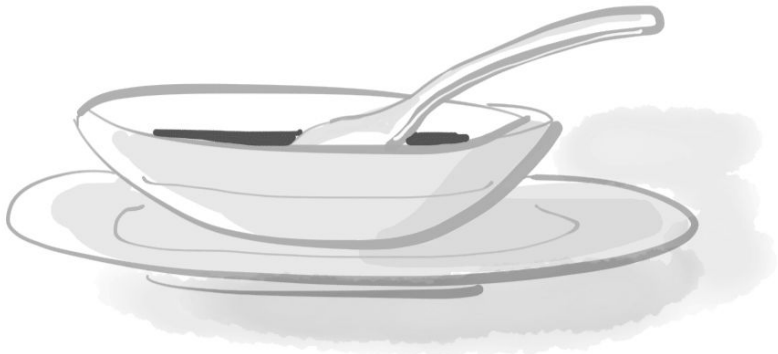
- **during** teaching and learning
- **improve the quality of students' learning**

Summative:

- **at the end of** teaching and learning
- evaluate learners' learning

FORMATIVE SUMMATIVE

WHEN THE CHEF
TASTES THE SOUP



WHEN THE GUESTS
TASTE THE SOUP

@bryanMMathers

FROM STEVE WHEELER'S BLOG "THE AFL TRUTH ABOUT ASSESSMENT"

elixir

Summative assessment - Methods

1. Questionnaires
2. Interviews
3. Observations
4. Testing
5. Projects

Exam by Nick Youngson CC BY-SA 3.0 Alpha Stock Images

but in training the focus is on formative assessment

Formative assessment

- Goals and objectives
- Prior knowledge
- Mental models
- Frequent mistakes
- Ability to perform a task

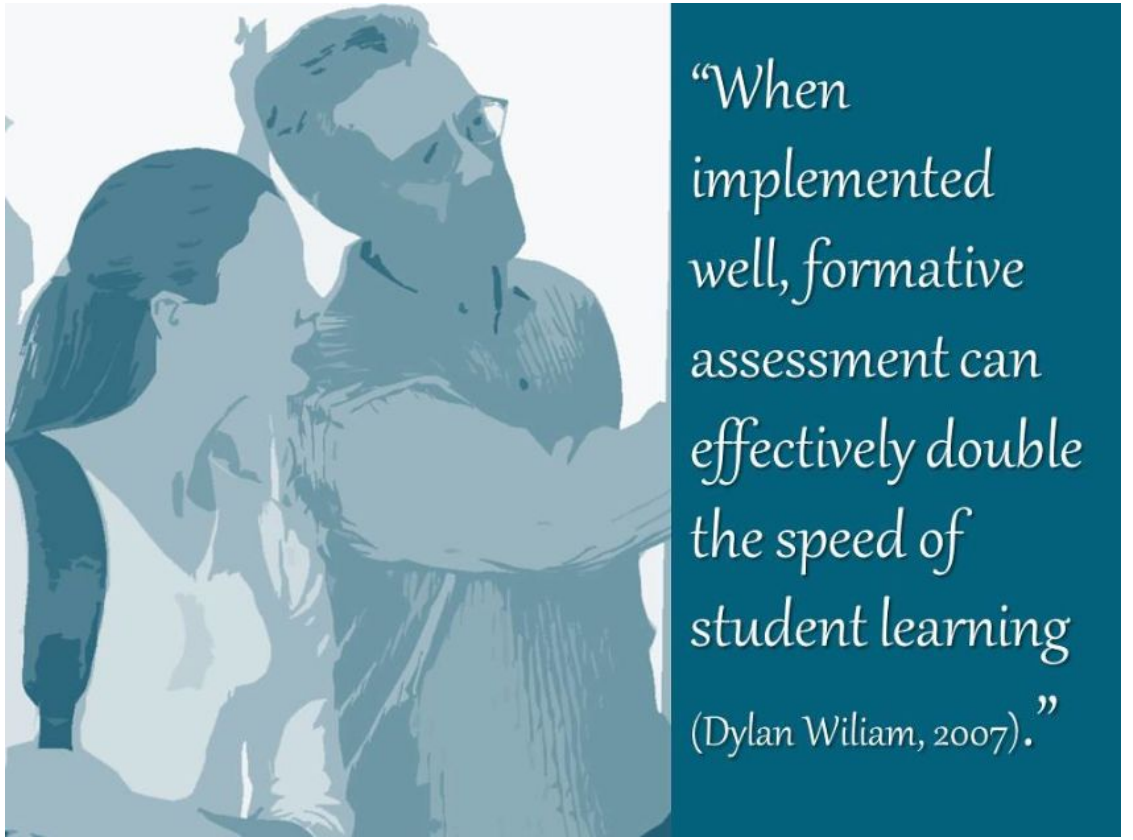


Image from: Ken Whytock, Flickr

Challenge 4.2 - Formative Assessment (8 min)

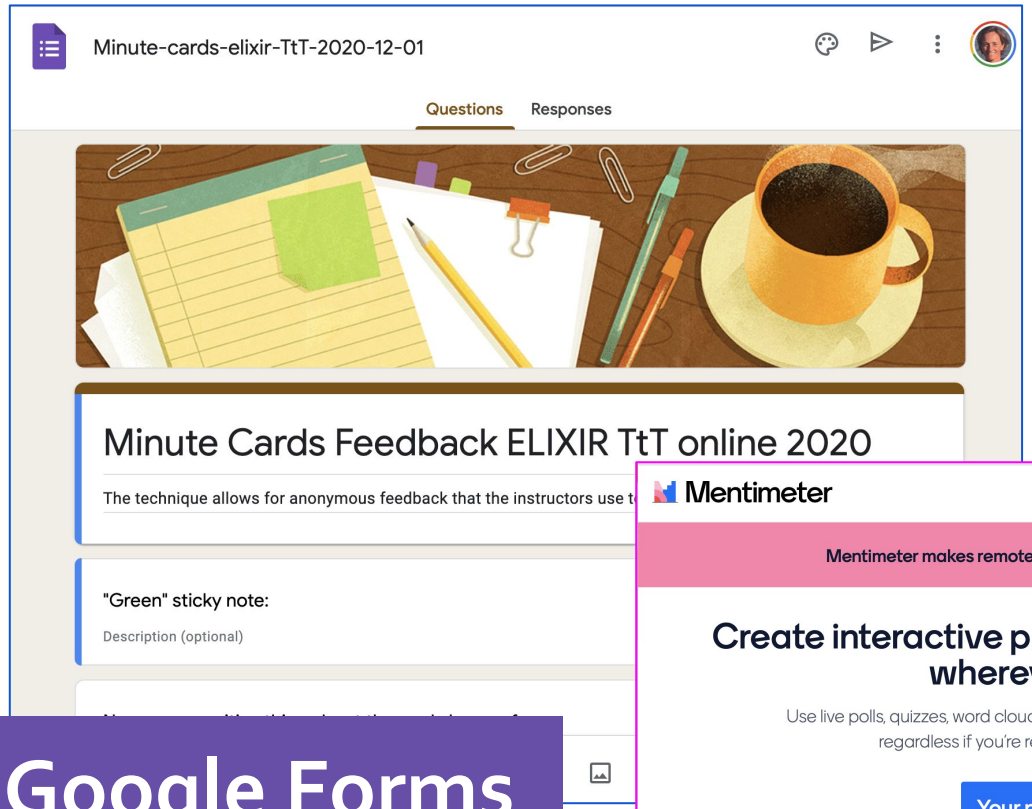
- In Challenge 4.1, we discussed how to collect information on learners' prior knowledge.
- Now, in groups, discuss how you could collect information on learners'
  - mental models
  - goals and objectives
  - frequent mistakes

Best teachers …

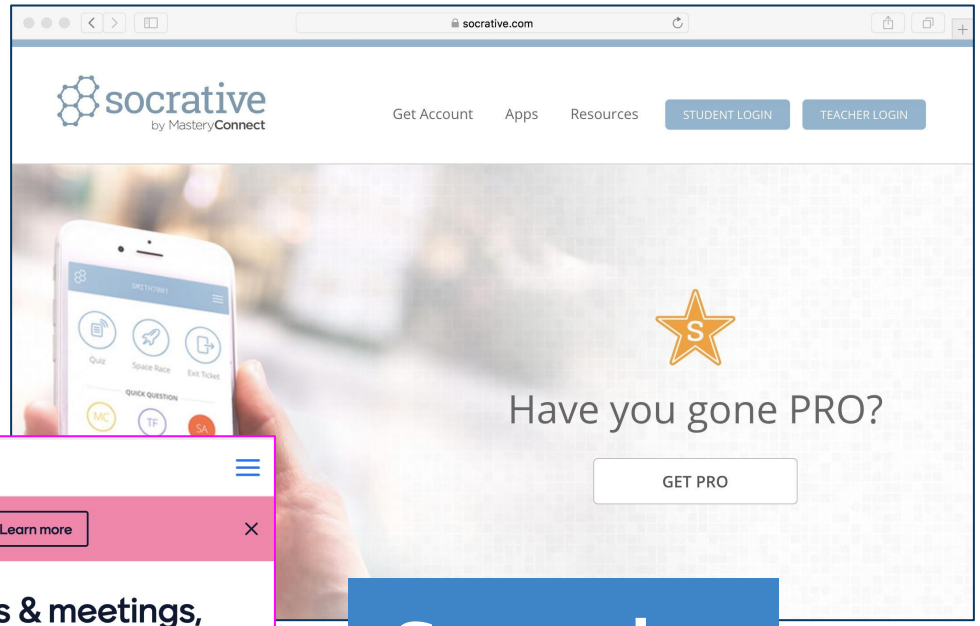
Constantly monitor what is happening to students as they set about learning and investigate when things do not proceed as planned or expected

Formative assessment & feedback to learners can be done in many different ways

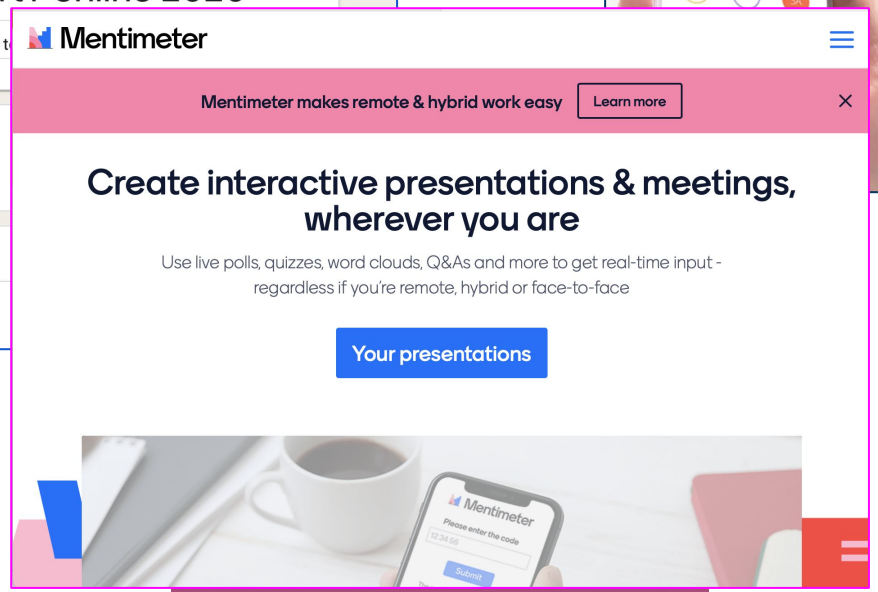
Questionnaires / minute cards / Multiple Choice Questions



Google Forms



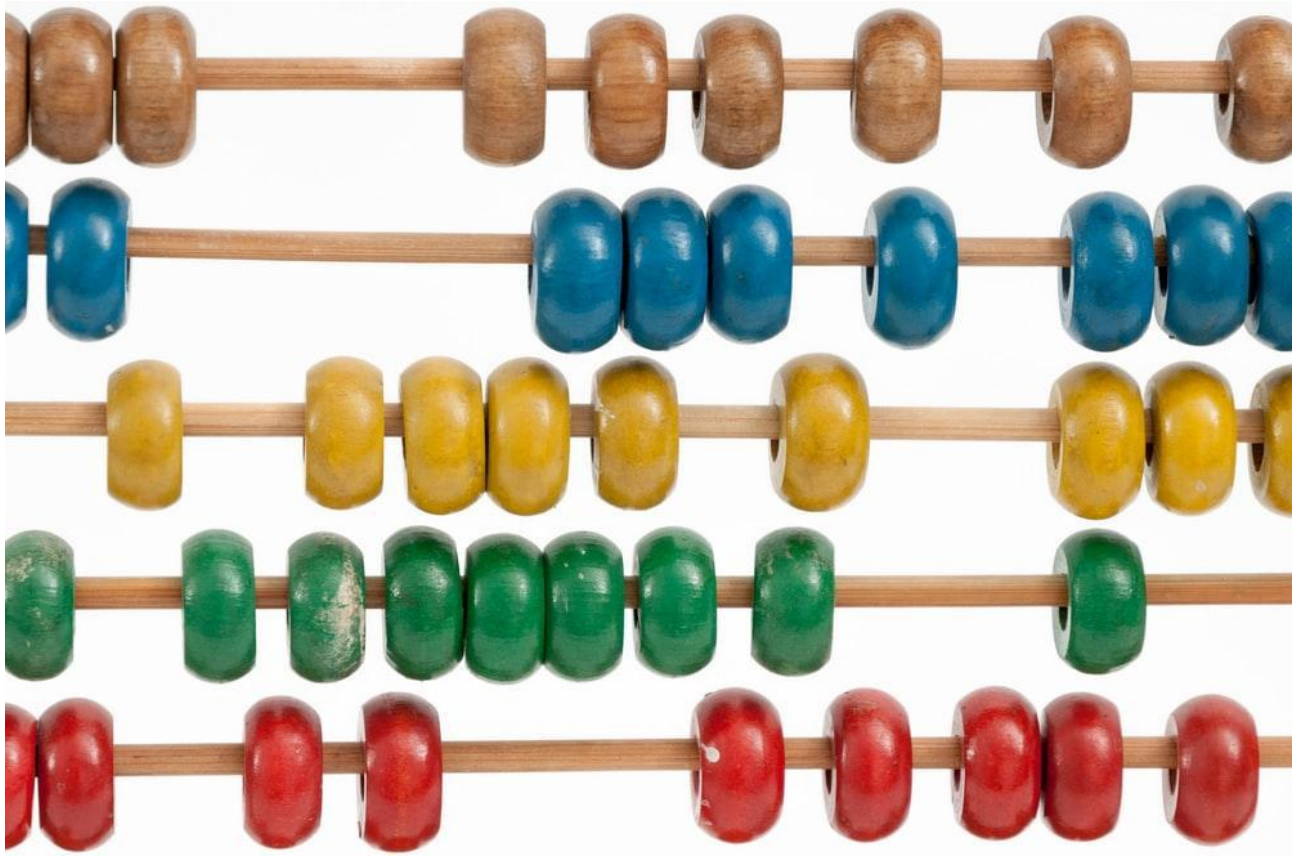
Socrative



Mentimeter

Multiple Choice Questions and mental models

```
Q: what is 27 + 15 ?
a) 42
b) 32
c) 312
d) 33
```



The correct answer is 42, but each of the other answers provides valuable insight.

Challenge 4.3 - Multiple Choice Questions (3 + 5 min)

```
Q: what is 27 + 15 ?
a) 42
b) 32
c) 312
d) 33
```

In groups, choose one **wrong** answer and discuss which **misconception** is associated with that wrong answer.

https://carpentries.github.io/instructor-training/02-practice-learning/index.html

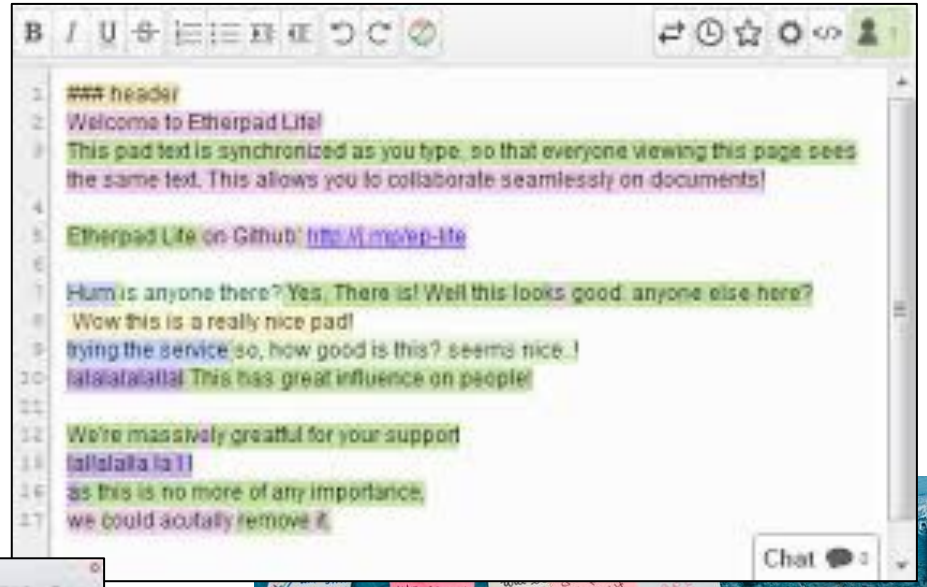
Group activities

- Solve problems in groups
- Do exercises in front of the class
- Asking to describe the strategy they would adopt to solve a problem

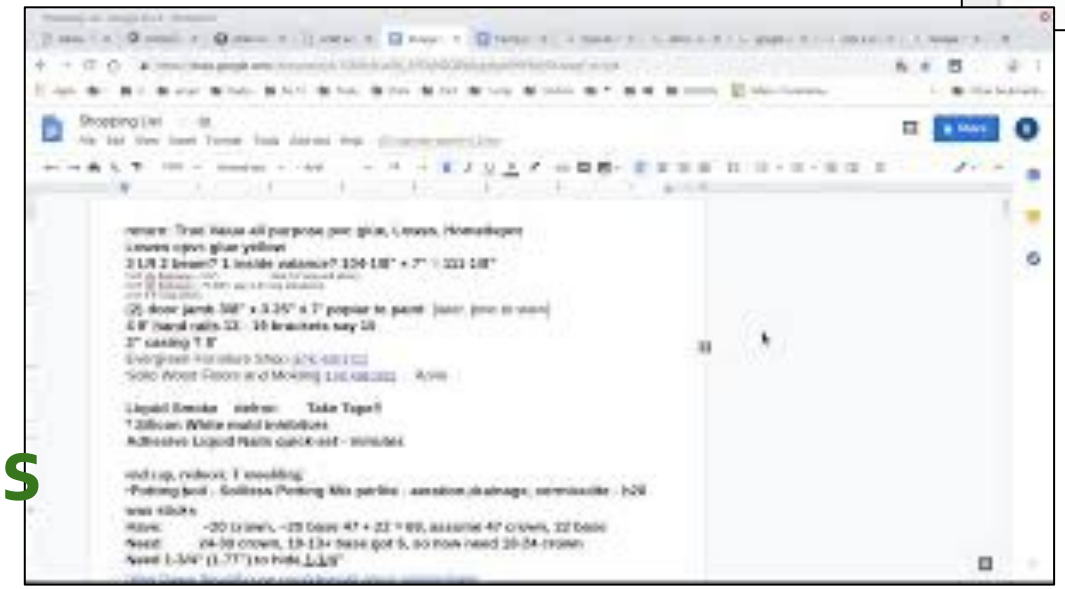
Shared notes

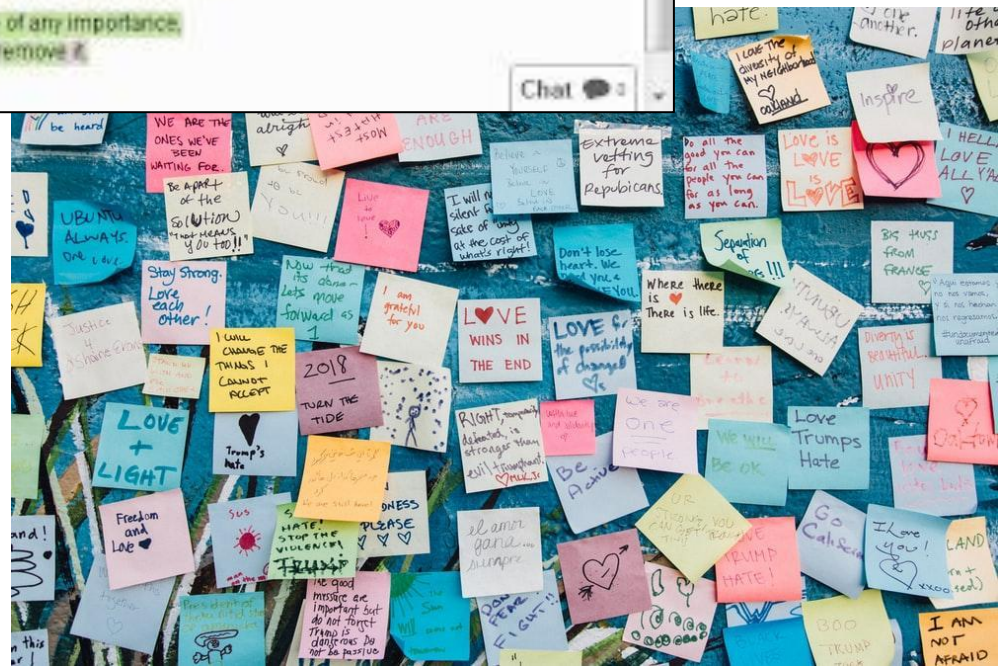
- Output of group activities
- Exercises
- Opinions & Ideas & Comments & Thoughts
- Questions & Answers

etherpad



GDocs

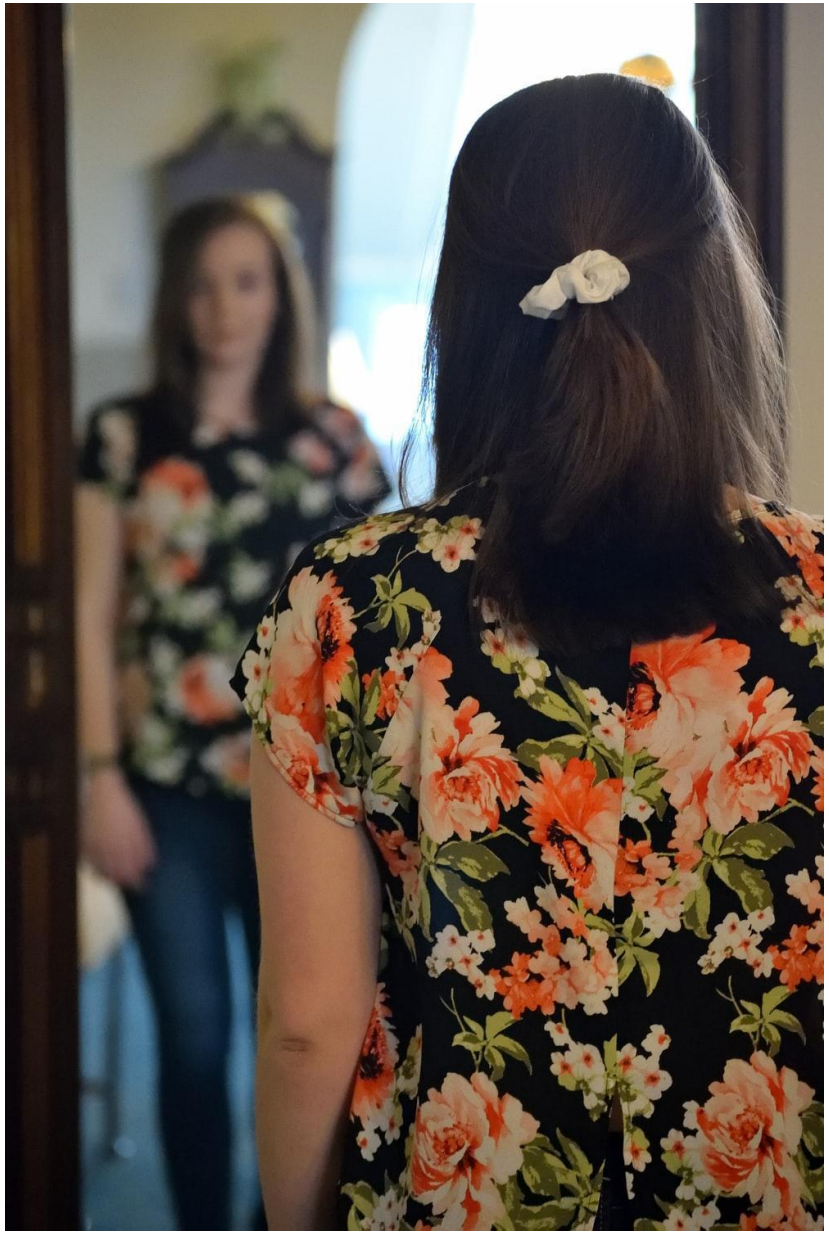




Asking questions & discussions

Brainstorming & concept maps

Self evaluation & peer evaluation



Challenge 4.4 - How to integrate the result of formative assessment / feedback in your course (5 min)

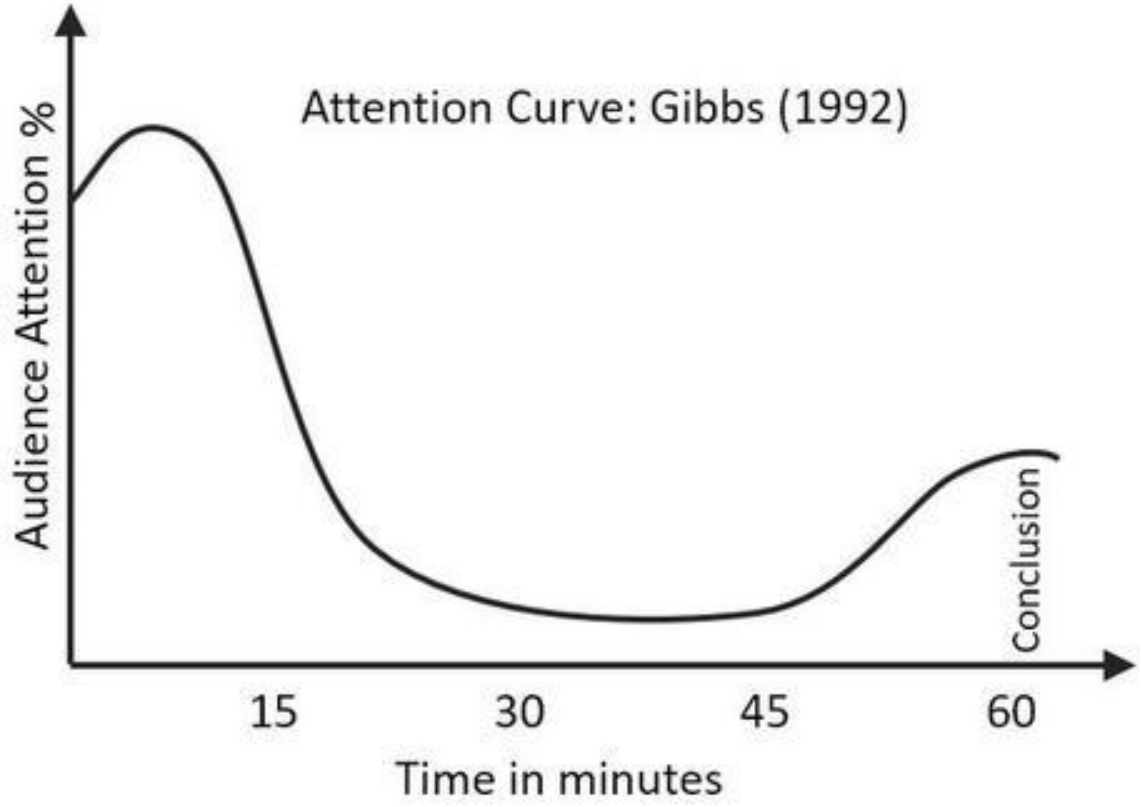
- **In breakout groups of 3,** think about this course:
  - how we (instructors) assessed your learning - write some examples down
- Choose one of the techniques to collect feedback given in the previous slides, and describe to the rest of the group how you can integrate the result in your lesson, on the fly

Challenge 4.5 - How frequent should formative feedback be? (3 min)

- Individually: Think about this course: how many feedback opportunities have you had so far?
- How frequent do you think formative feedback should be?

Formative assessment should be frequent

- Ideally every 5 min
- At least every 10-15 min
- Attention span: 10-15 min
- Refocus attention



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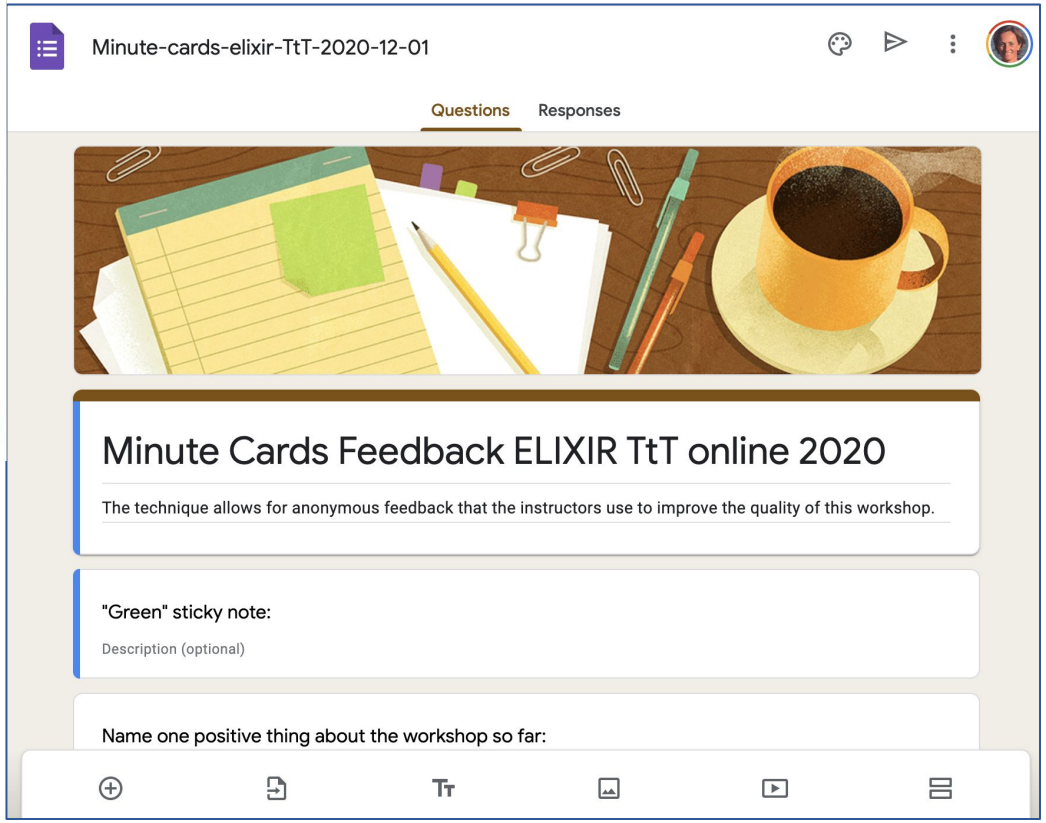
Receiving feedback from learners about our teaching efforts

Minute cards

[Online minute cards]



Feedback is hard

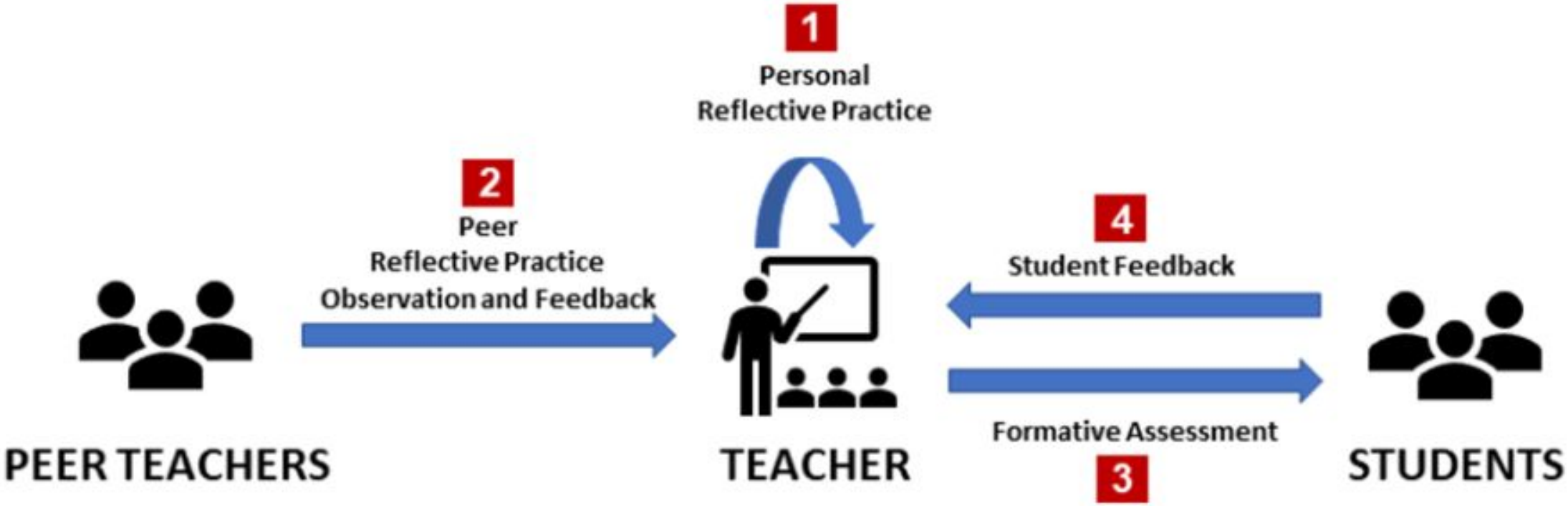
Dealing with (bad) feedback

- Humans focus more on negative feedback than on positive (you are not alone)
- **Breathe deeply**
- Try to see the point in the criticism, **learn from it**
- **Don’t take it personally**

Dealing with (bad) feedback

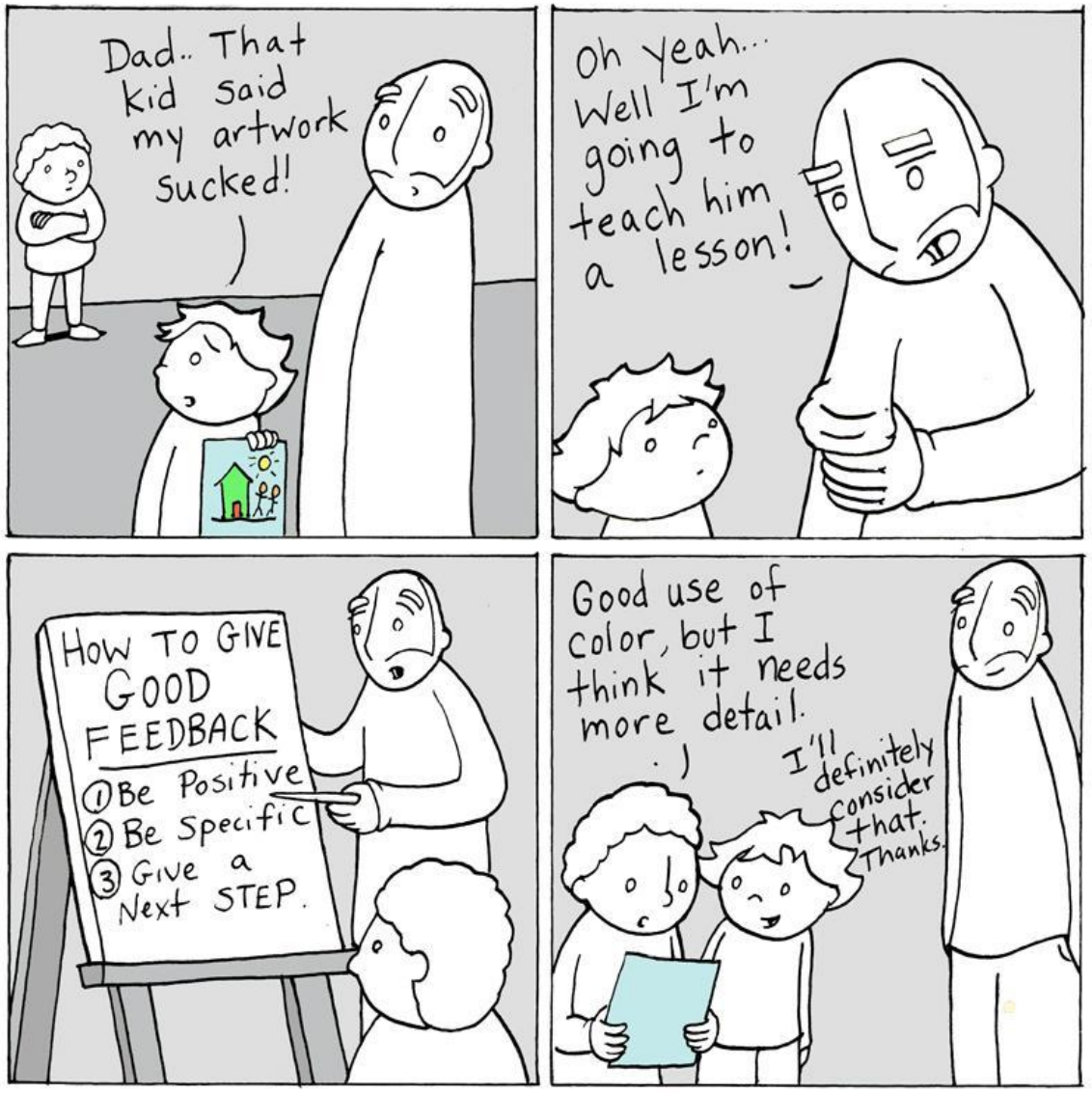
- Review what they have effectively learned (in exams)
- Consider your own experience of teaching
- Discuss with colleagues and friends
- Look at the feedback from past sessions of the same course
- Look at the response rates
- Look at the counter examples (contradictions)
- Look at the repetitive patterns (not at only one single answer)

Triangle - feedback about teacher's efforts



Model developed by Alexia Cardona (2021)

Learn and teach others how to give good feedback



Combining the 4 sessions

8 Evidence Based Learning Principles

P1: Students' **differences** influence their world view, their learning, and their performance.

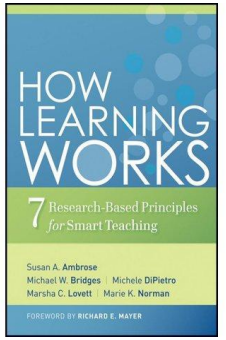
P2: **Prior knowledge** can help or hinder learning.

P3: The **organization of knowledge** influences how students learn and apply what they know.

P4: **Motivation** determines, directs, and sustains what students do to learn.

P5: To develop **mastery**, students must:

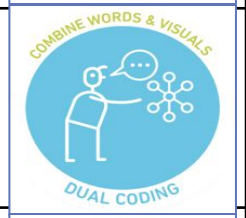
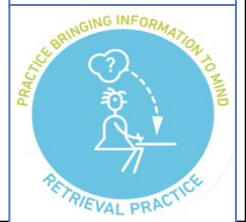
- acquire **component skills**
- practice **integrating** them
- know when to **apply** what they've learned



P6: **Goal-directed practice** with **targeted feedback** enhances the quality of learning.

P7: The **classroom environment** we create profoundly affects learning, positively or negatively.

P8: To become self-directed learners, students must learn to **monitor and adjust** their approaches.

Learning strategy	Description
Spaced practice	Creating a study schedule that spreads study activities out over time
Interleaving	Switching between topics while studying
Elaboration	Asking and explaining why and how things work
Concrete examples	When studying abstract concepts, illustrating them with specific examples
Dual coding 	Combining words with visuals
Retrieval practice 	Bringing learned information to mind from long term memory

Challenge 4.6 - Pick a learning experience and discuss how the 8 principles and the 6 strategies apply

- Work in groups
- Carefully read the 8 principles and 6 strategies as a group
- Each group will pick one learning experience of your choice
- Discuss
  - What principles are involved here?
  - What strategies? and how do they facilitate learning?

Conclusion

The first step to become a better trainer is to attend this type of courses, most of all because it means you are asking yourself how to.

So thank you all for your participation!

The Elixir-Goblet TtT community

How to join it

How can you contribute

Meet the Training Hub Team - Find us on LinkedIn

Head of Training

Jessica Lindvall

Training Manager

Nina Norgren

Scientific Training Officers

Cat Halthur

Kristen Schroeder

Jill Jaworski

Systems Developer

Harshita Gupta

Thank you for your participation!

Before you go: Please fill our short term feedback form (in the chat)

SciLifeLab