# Assessment and feedback in training and teaching

## ELIXIR-GOBLET Train-the-Trainer - Session 4

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03 May 2024

https://elixir-europe.org/events/code-of-conduct

# Welcome to the Session 4 of Train-the-Trainer (Organised by ELIXIR Norway)

We follow ELIXIR code of conduct

Use the chat function for questions

Mute yourself while not speaking

Use the ‘hand up’ function if you want to contribute directly

# Recap from Session 3

Write in the shared notes:

From the list

- Which of the tips and ideas do you apply or have you applied in teaching?
- Which would you like to apply in the future and why?

# 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

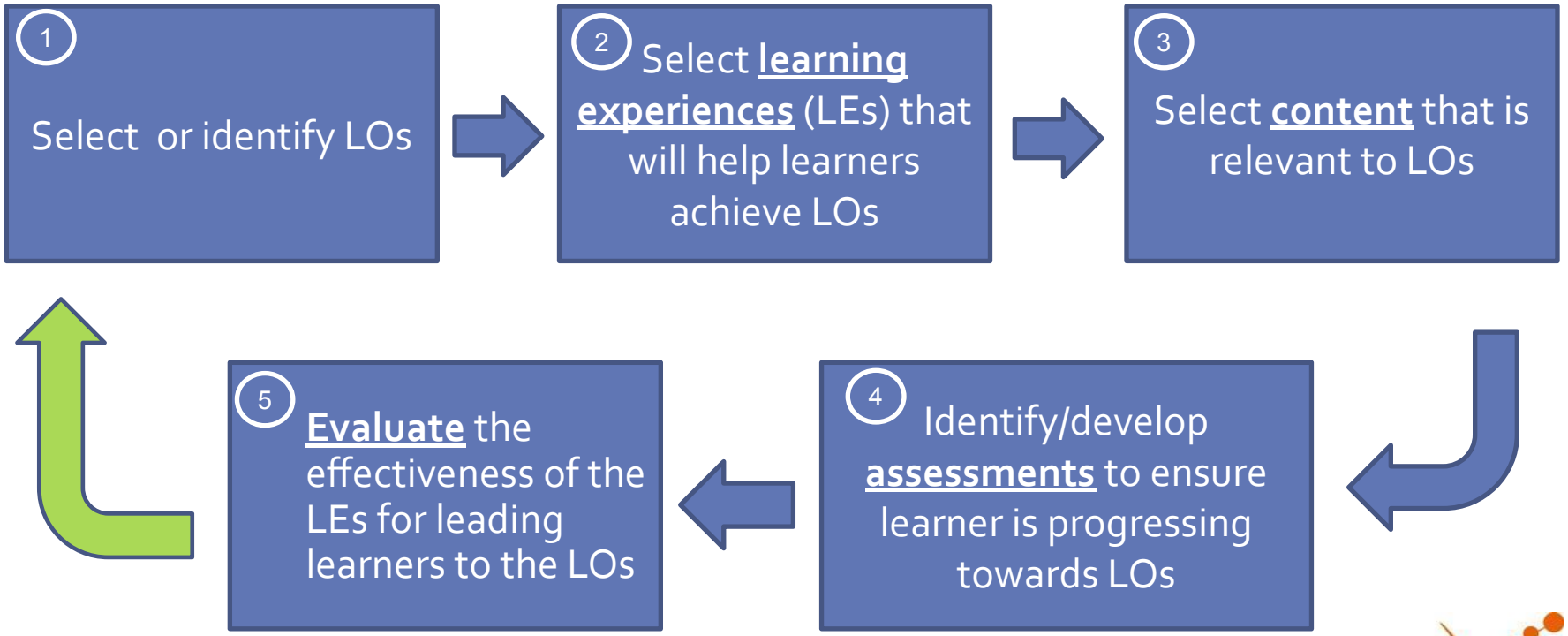
**Key:**

Shared notes

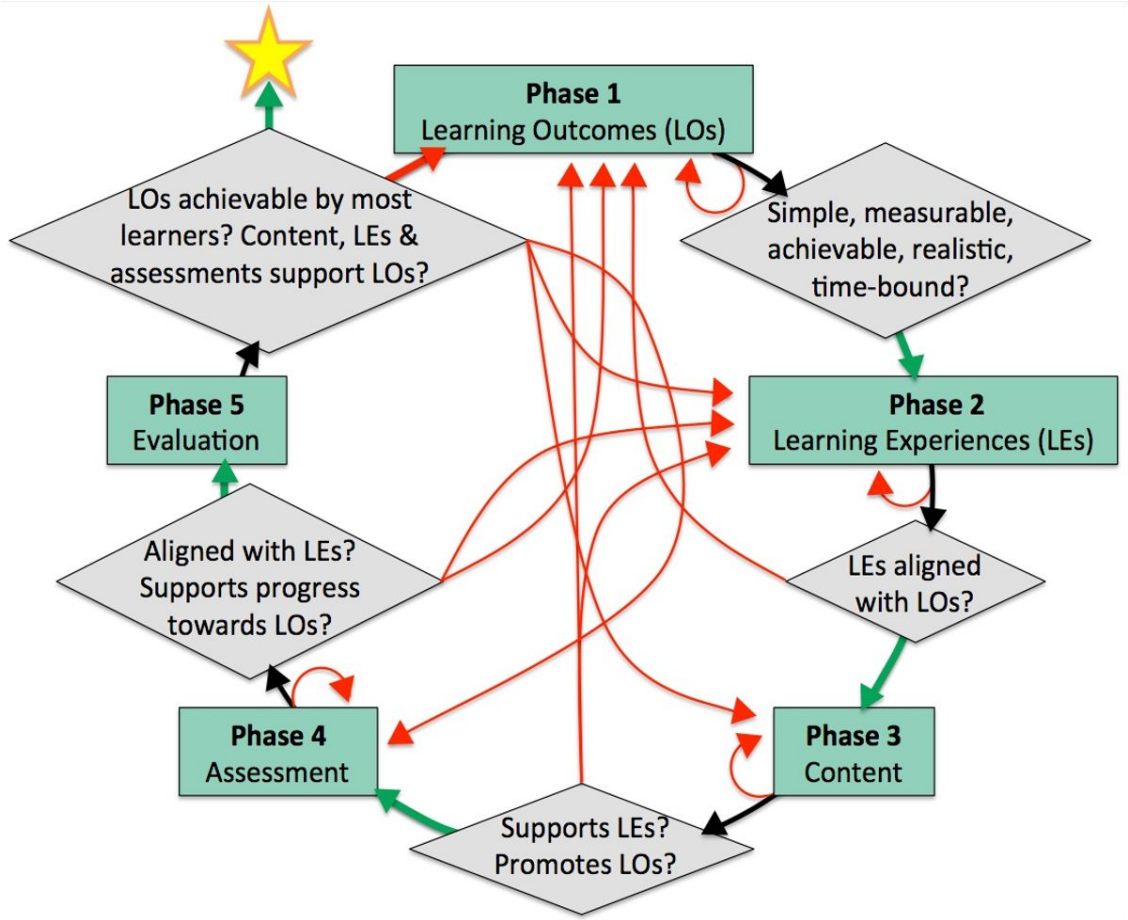
Break time

Group Activity
(Breakout room)

# Instruction design in five steps



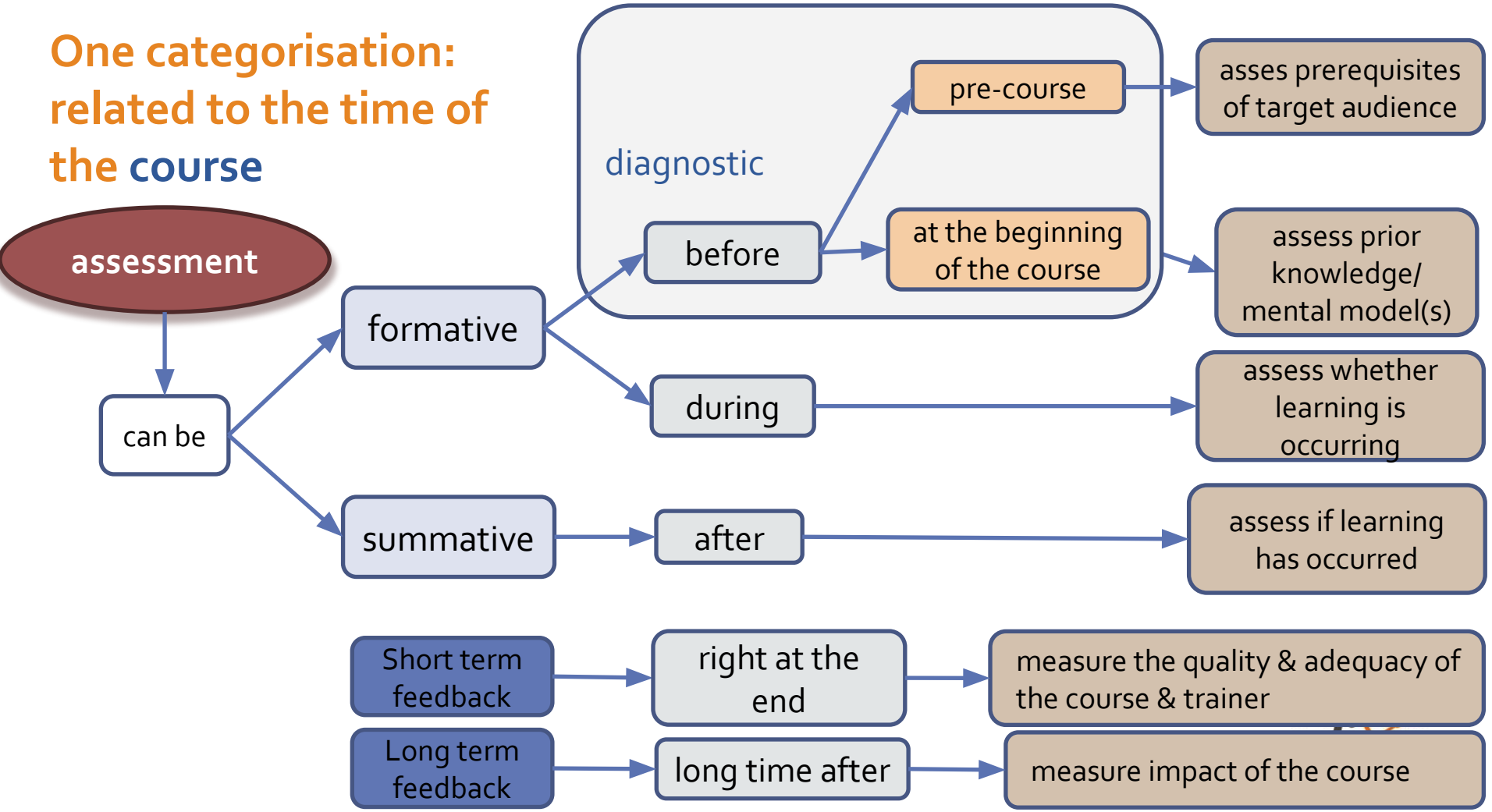

Nicholls G (2002). *Developing teaching and learning in higher education*. London, UK: Routledge. Pp 51-75




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

8 min

- 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.
- Write it in the Shared notes for session 4

# BREAK (5 min)

# Formative vs. Summative assessment

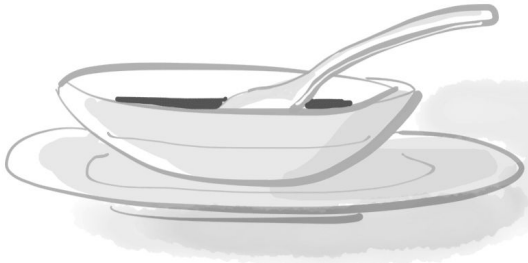
**Formative**:

- **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

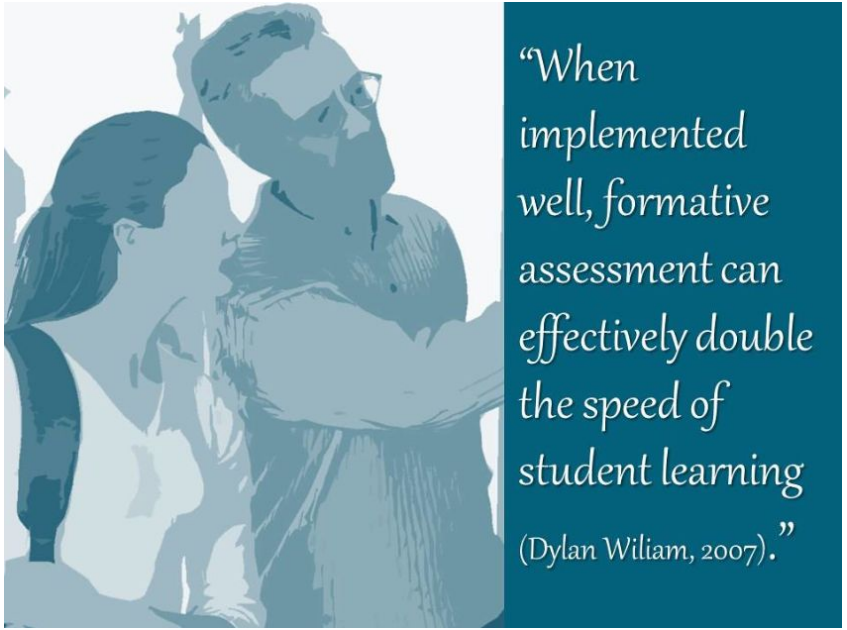



Image from: Ken Whytock, Flickr

# 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

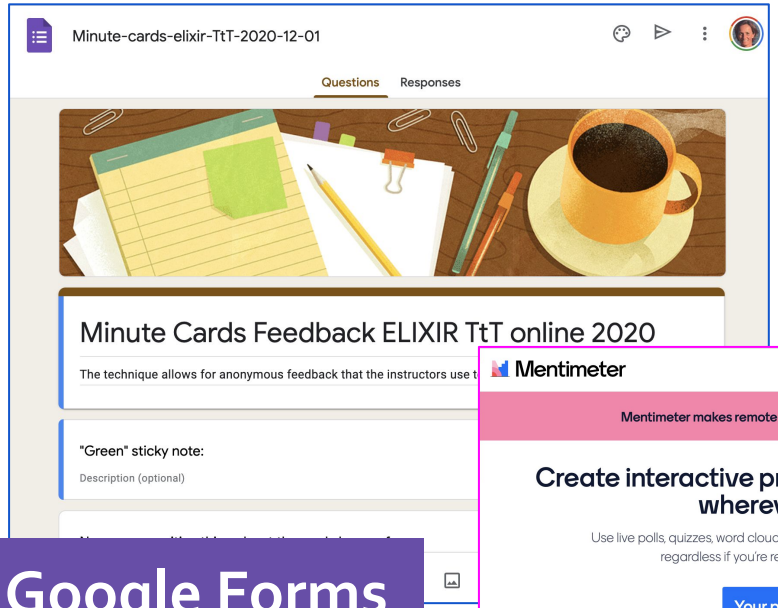
Write an example for each item in the GDoc

# Best teachers …

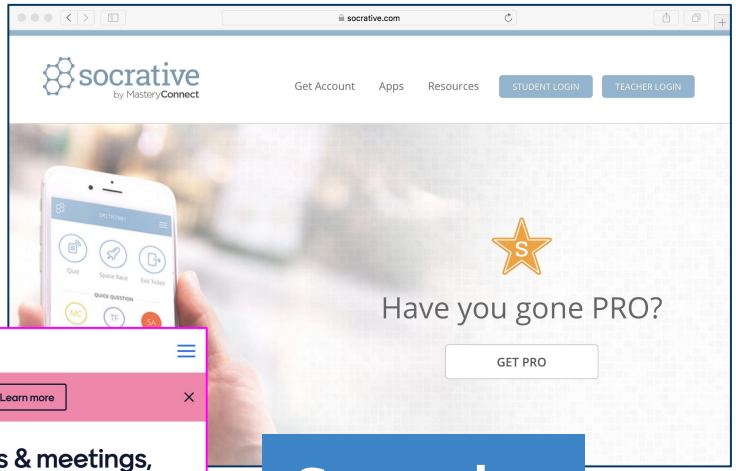
Constantly monitor what is happening to students as they set about learning and investigate when things do not proceed as planned or expected

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

# Questionnaires / minute cards / Multiple Choice Questions




Google Forms

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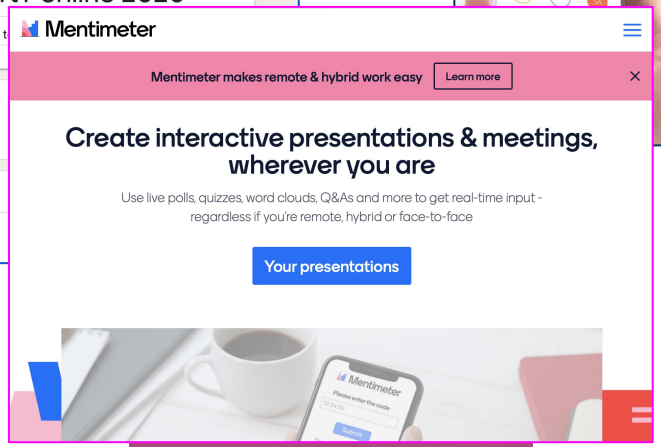
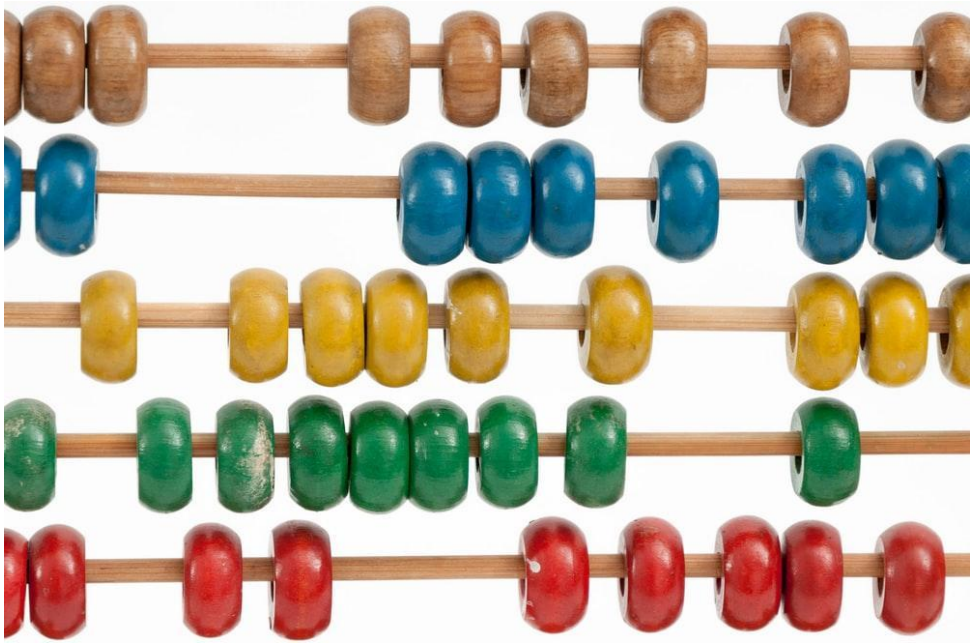



Mentimeter

# 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)

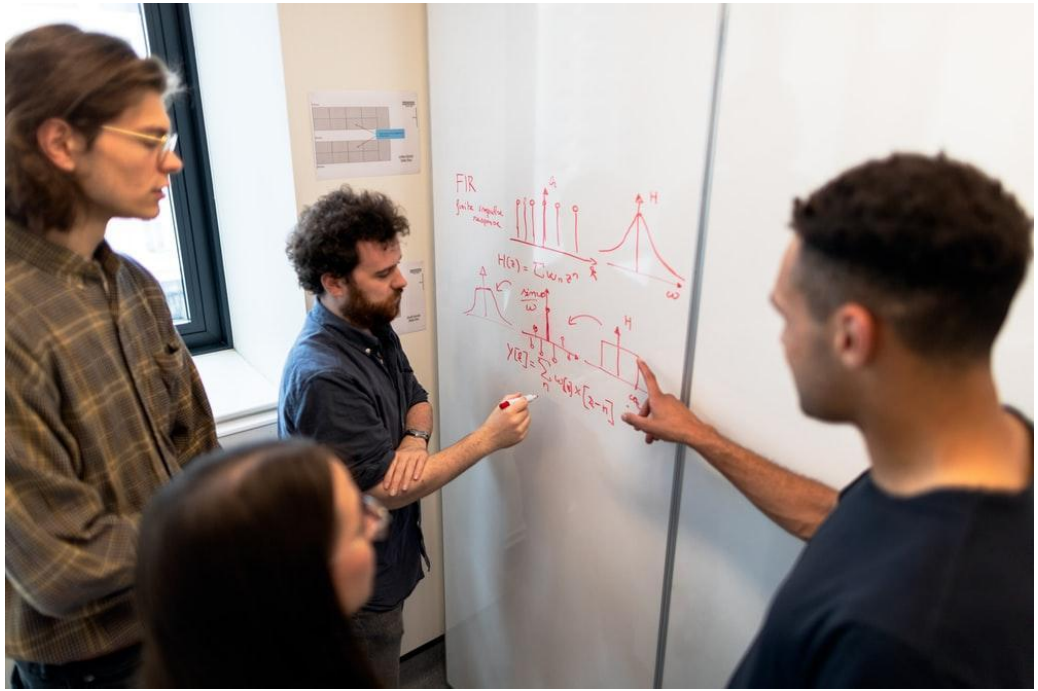
```
Q: what is 27 + 15 ?
a) 42
b) 32
c) 312
d) 33
```

In groups, choose one **wrong** answer and write in the GDoc which **misconception** is associated with that wrong answer.

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

# Group activities

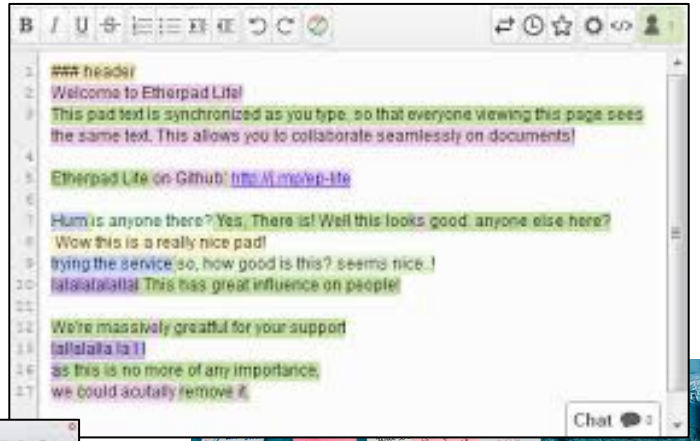
- Solve problems in groups
- Do exercises in front of the class
- Asking to describe the strategy they would adopt to solve a problem



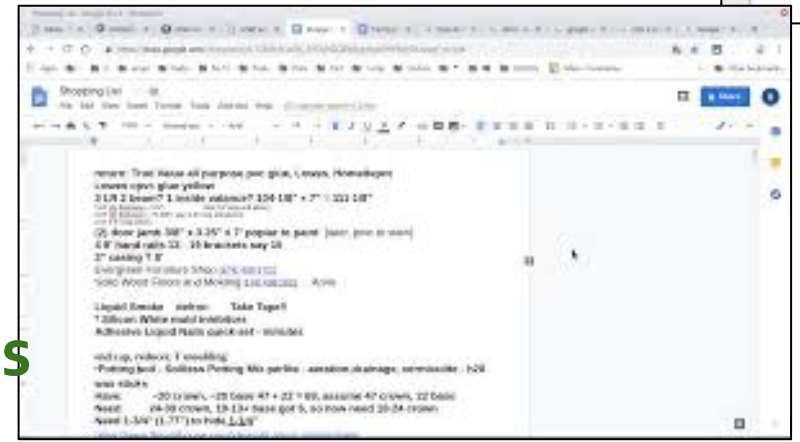
# Shared notes

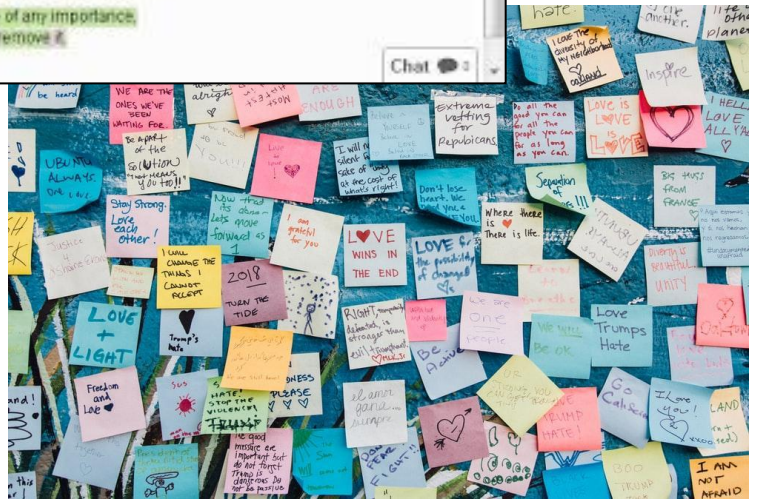
- Output of group activities
- Exercises
- Opinions & Ideas & Comments & Thoughts
- Questions & Answers

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)

- Individually think about this course:
  - how we (instructors) assessed your learning - write some examples in the Gdoc
- Choose one of the techniques to collect feedback given in the previous slides, and describe in the Gdoc how you can integrate the result in your lesson, on the fly

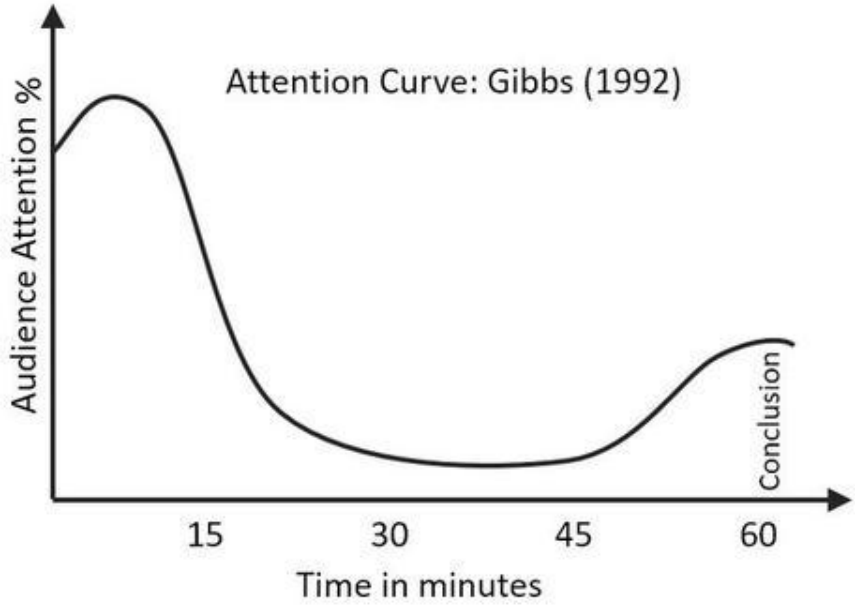
# BREAK (5 min)

## 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? Write in the Gdoc

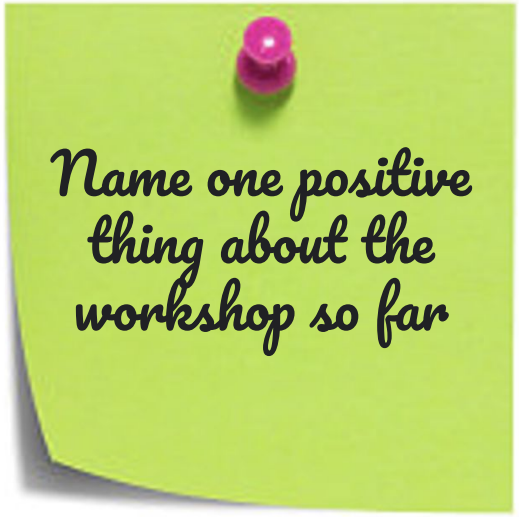
# Formative assessment should be frequent

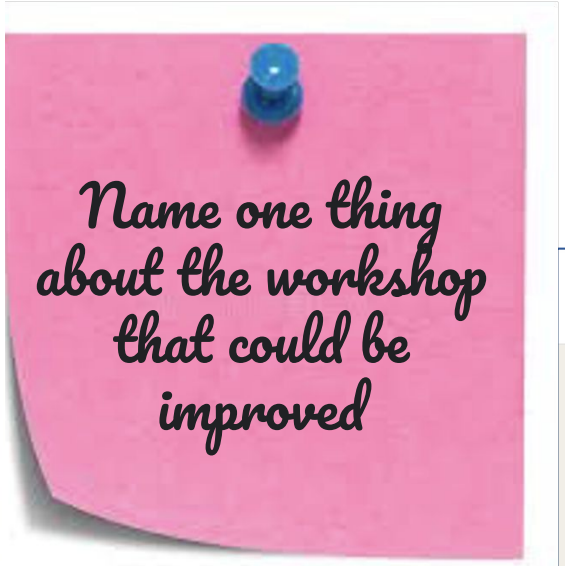
- Ideally every 5 min
- At least every 10-15 min
- Attention span: 10-15 min
- Refocus attention



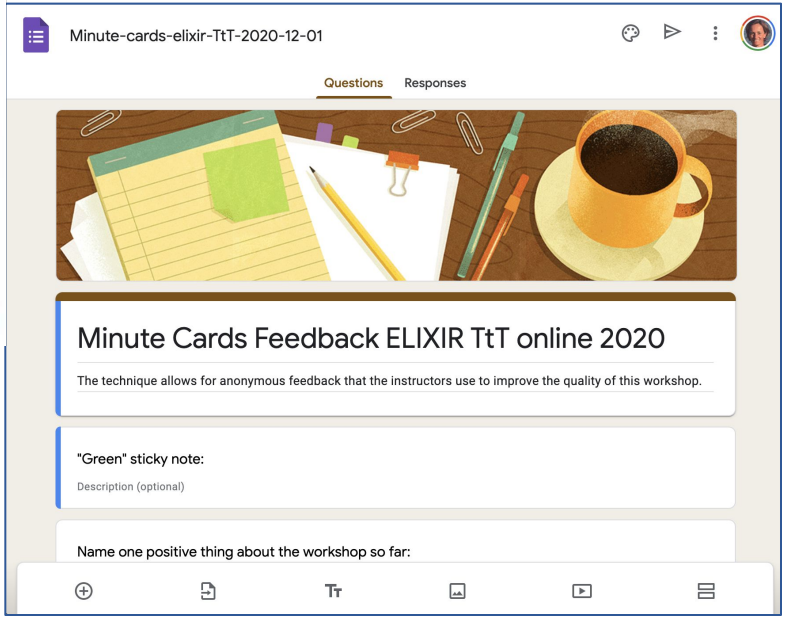
# Receiving feedback from learners about our teaching efforts

# Example of Receiving Feedback: Minute cards




*Online minute cards*



# Feedback is hard

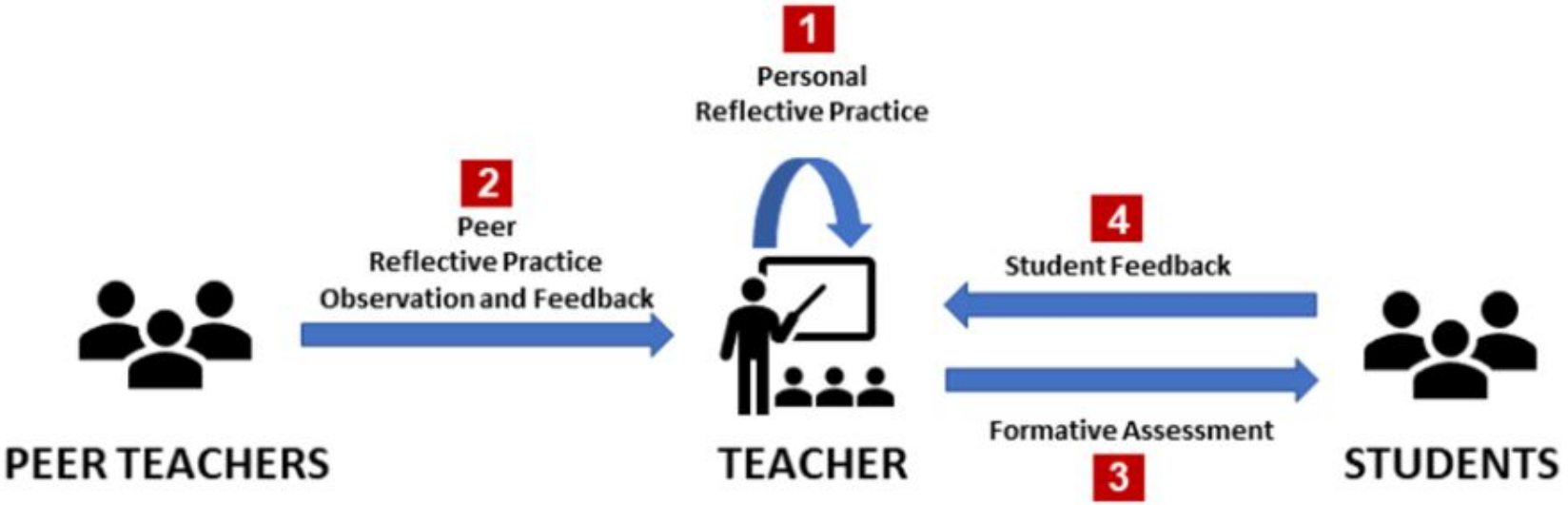
# Dealing with (bad) feedback

- 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

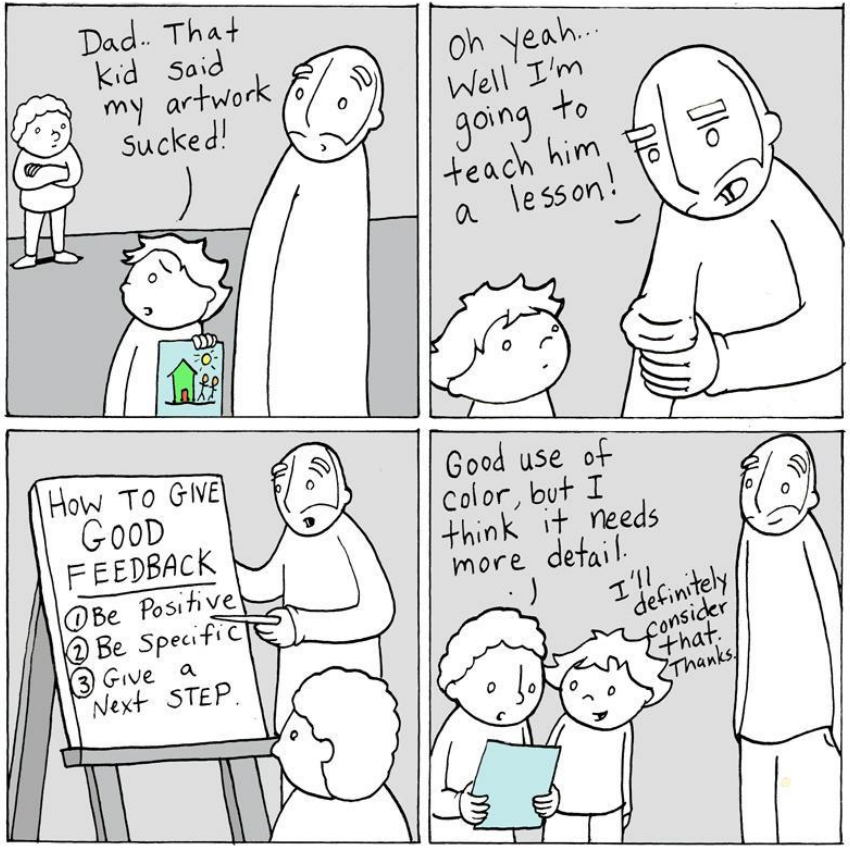
- Review what they have effectively learned (in exams)
- Consider your own experience of teaching
- Discuss with colleagues and friends
- Look at the feedback from past sessions of the same course
- Look at the response rates
- Look at the counter examples (contradictions)
- Look at the repetitive patterns (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

# 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?

# 8 Evidence Based Learning Principles

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

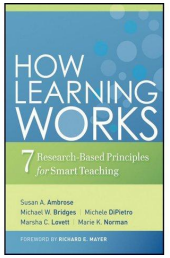
P2: **Prior knowledge** can help or hinder learning.

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:

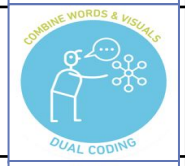
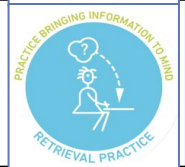
- acquire **component skills**
- practice **integrating** them
- know when to **apply** what they've learned




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 |

# Thank you for your participation

Kindly fill out evaluation form

# Thank you!

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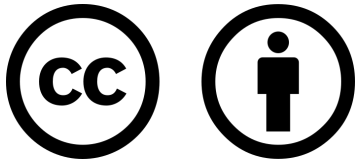

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