

PBL and IT - Improving Moodle for flipped classrooms to decrease drop-outs

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The goal of this project is to extend Moodle to help teachers better support their flipped classrooms and providing them with student learning data.

PROJECT OUTCOMES

HOW TO START FLIPPING A LESSON WITH MOODLE

- ☆ Integrated and evaluated new tools on AAU Moodle for flipped learning (e.g. Active Quiz).
- ☆ Communicated Moodle extensions in a project report¹ and on a course page on Moodle².

1. Find out what your students struggle with and plan how to flip that.
2. Plan study activities before, during and after class.
3. Use one Moodle activity to aid your flipped learning plan and test run it.
4. Collect student learning data and modify the activity content accordingly.

GROUP-ORIENTED / PROJECT-BASED ACTIVITIES

GAME SHOW NEW! ANALYSE - APPLY

What body part takes up the most graymatter in the brain?

Select one:

- a. yes ✓
- b. no

1. Face
2. Toes
3. Hand
4. Lips

Students answer questions alone or in groups

Summary of class responses can utilize class discussion

Answer	Count
Answer 1	1
Answer 2	1
Answer 3	1
Answer 4	1

STUDENT GENERATED QUIZ NEW! CREATE - EVALUATE

The sky is blue?

Select one:

- a. yes ✓
- b. no

Your answer is correct.
The correct answer is: yes

Rate: ★★★★★

Add comment:

The question is irrelevant for the course

Student creation of quiz questions

Peer assessment

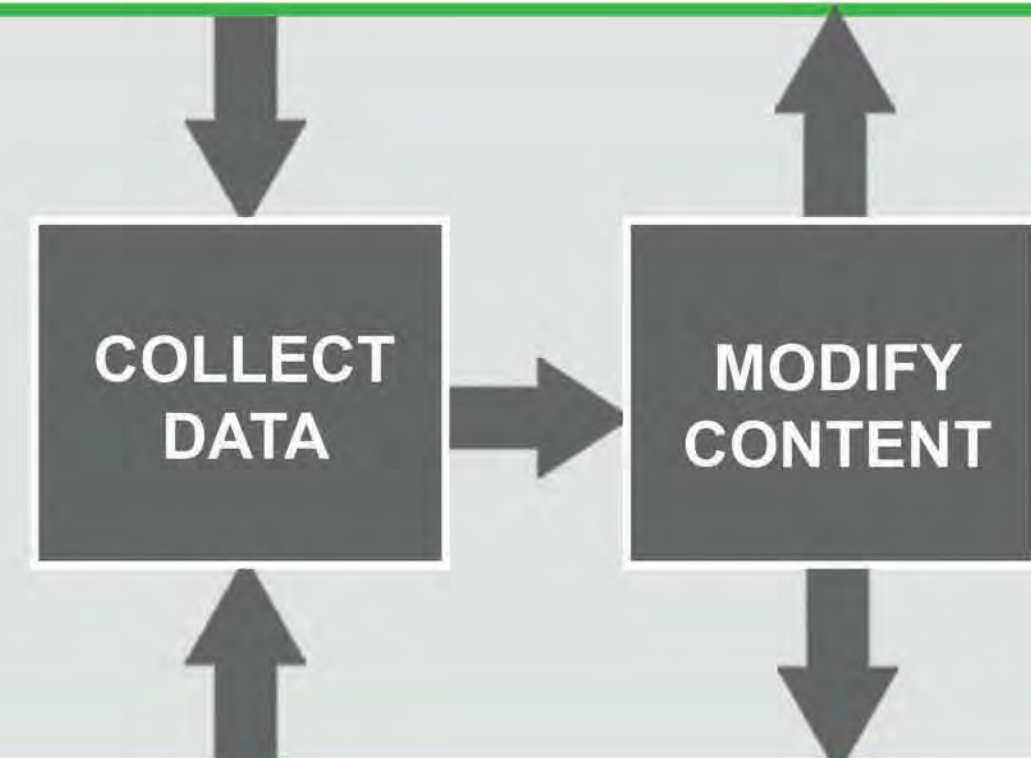
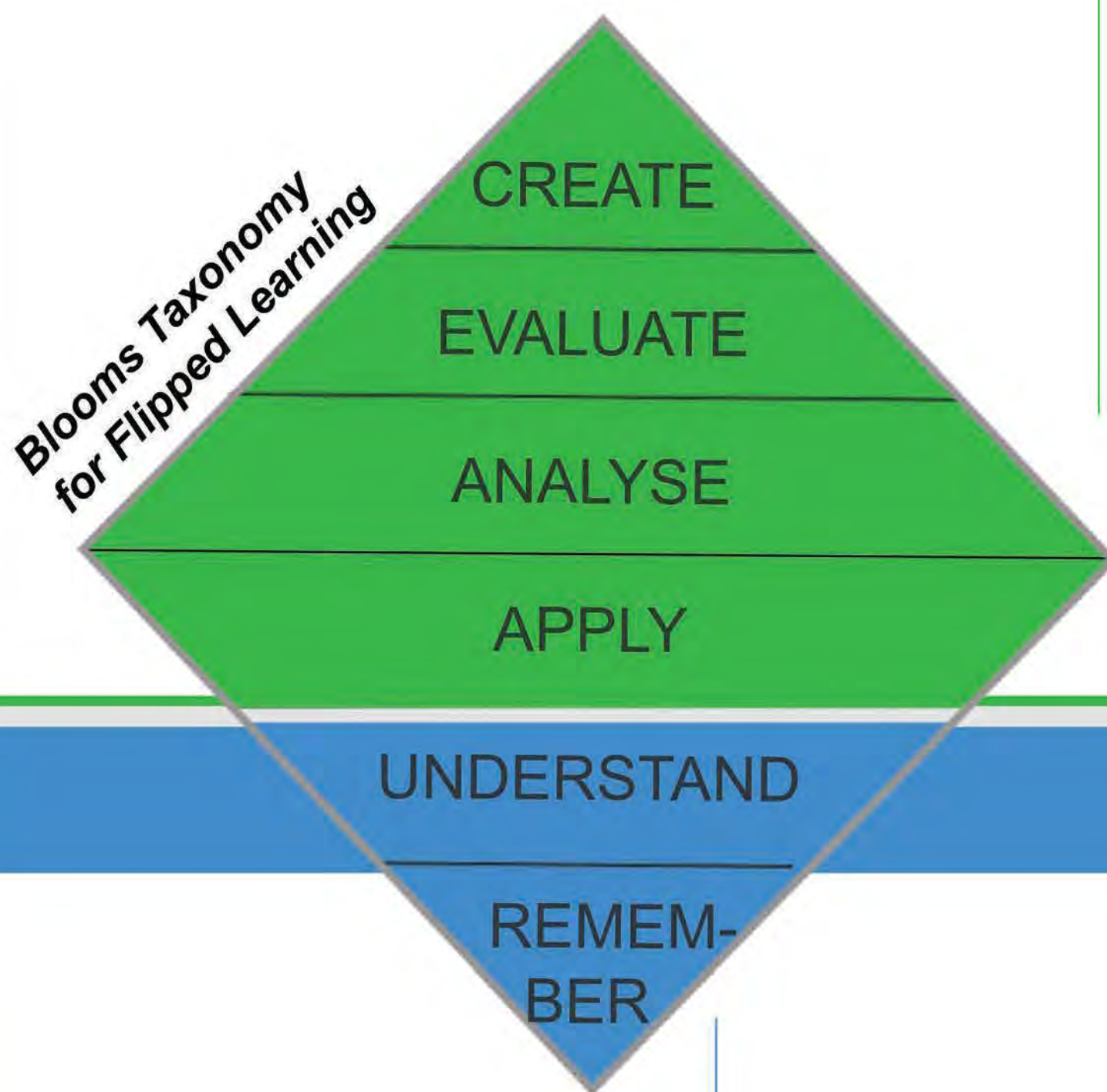
In class: The teacher facilitates class discussions about misunderstandings from the self-assessment quizzes and then helps with hands-on exercises or mini-projects.

After class: The students submit their mini-project and assess assignment with peers. The teacher use student scores on Moodle to identify struggling students³.

PEER REVIEW NEW! CREATE - EVALUATE

Facilitating student hand-ins and peer assessments

Student	Grade
Andreas	60
Niklas	60
Niklas	42
Lara	54
Lara	59
Niklas	40
Niklas	52
Niklas	60
Niklas	42
Lara	47



INDIVIDUAL ACTIVITIES

NON-INTERACTIVE RESOURCES

- Readings (e.g. books and articles)
- Slides
- Exercise sheet

INTERACTIVE VIDEO NEW! REMEMBER - UNDERSTAND

Fitts' law - explain

Thumbnail of teacher

Why do we have a logarithm in Fitts law equation? Due to:

- the exponential increase in size
- Fechners law indicates exponential sensitivity
- the exponential decrease in the error

Interactive content

or $1/I_M = 13 \text{ bits/sec}$

SELF-ASSESSMENT QUIZZES NEW! REMEMBER - UNDERSTAND

Given the declaration : char [] letters = {'V', 'T', 'O', 'R', 'P'}; What is the value of items[3]?

Select one:

- O
- P
- T
- V
- R ✓ Correct, the array starts at index zero, so we are actually looking for the fourth element.

Individual feedback on the submitted answer

Course statistics of quiz scores

Before class: Students prepare for class watching videos and taking quizzes for self-assessment.