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Module 2: Didactics in Mathematics – Day 3 Part II

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Flashback (day 3 – part I)



Balance between
Activy <-> 'sufficiently true and worthy'

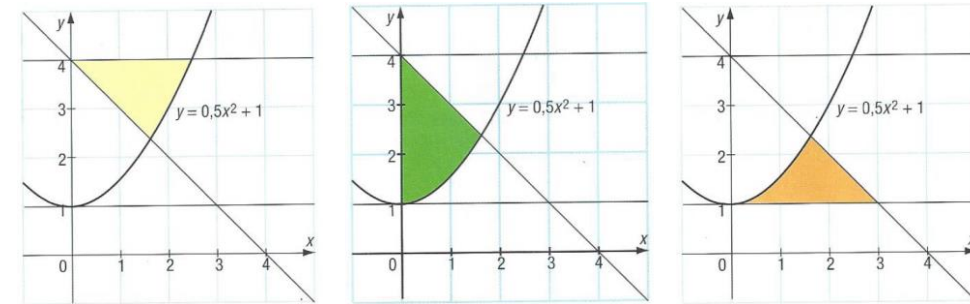
If learners only play without learning,
the activity is worth nothing.



The learning pyramid of Bales

Flashback: Complementary groupwork - example

- Filmpje (<https://msevp.uantwerpen.be/Mediasite/Play/b52262b56a194141ad71efae3675476d1d>)
- Context:
 - Learners got when entering the classroom a paper with a graph of an area from an exercise from the textbook (orange, yellow or green)
 - Learners with the same area form a group
- **Complementary groupwerk:** each group makes a **different** exercise
- After a given time:
 - Each group presents their solution to the exercise for the rest of the class (bv. On the blackboard as in the video), OR
 - New groups are formed and from each group of the first round one member is in the new group. Every member presents his own exercise in the new group.
- **Video-task: How active are the learners? Is deep learning taking place?**





Complementair groepswerk

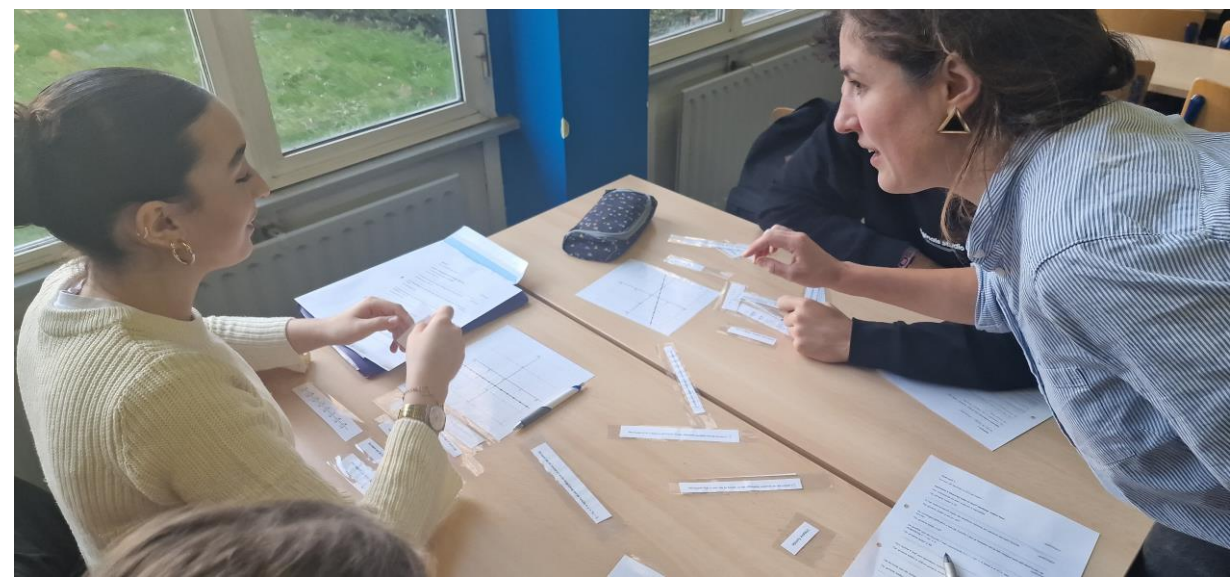
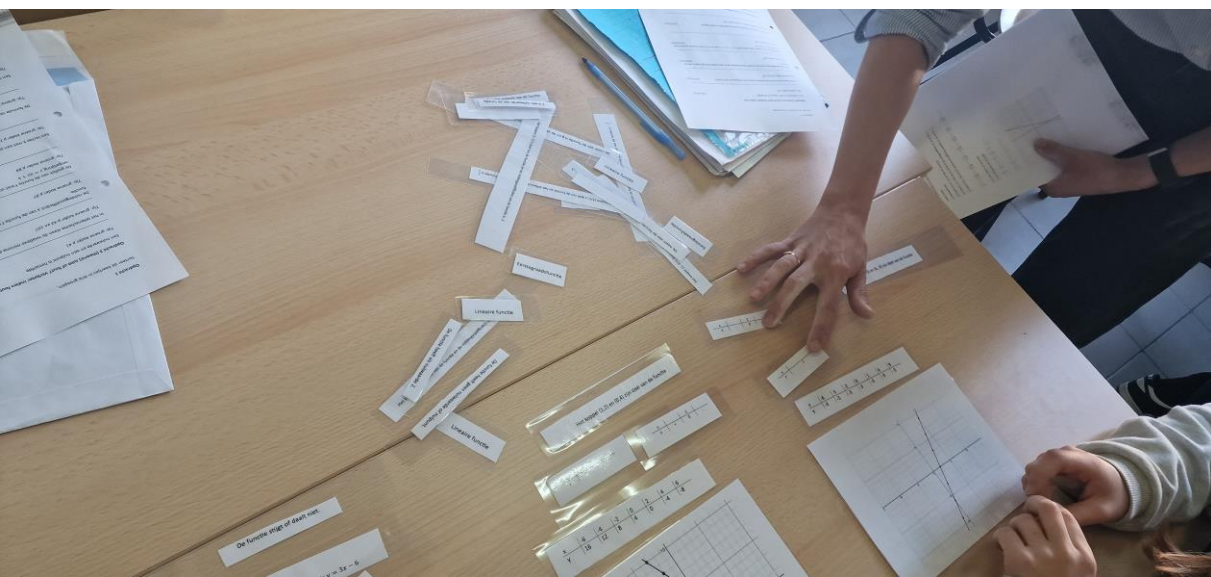
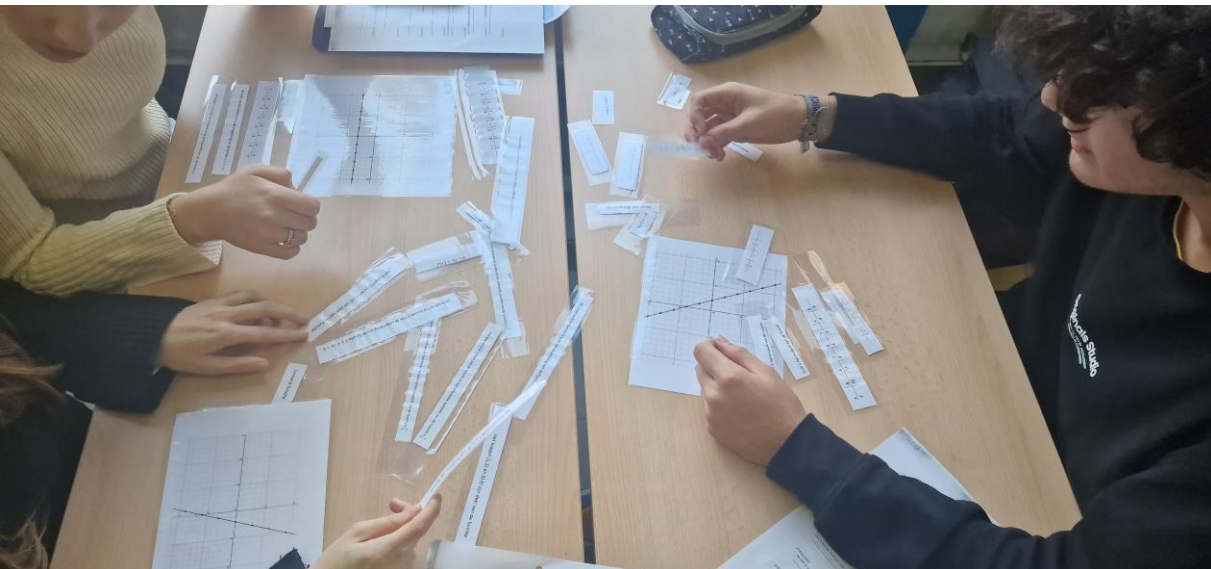
Complementary groupwork

- Learners are active with the content and exercise:
 - Discussions going on
 - Explanations to each other
 - Success when solution was found(hands in the air)
 - Some learners work individual within their group
- Use of the blackboard:
 - To put different solutions next to each other
- Use of smartphone:
 - Taking pictures of the blackboard
- Seating arrangement:
 - Banks in L-form and in the middle an U-form
 - Good to move fast from classwork to groupwork

Deep learning



Educatieve spelen



5 Educational games

■ Complementary duo-work

- 5': find your partner via the card you get (matching cards)
- 20': discover 1 game and present it to the other duo
 - quartet - Associations
 - Domino
 - Four in a row
 - Puzzles

■ In plenum:

- Each duo presents its game
- Escaperoom: a game to let learners make exercises and check solution

Educational games - use

Quartet - associations

- Work towards a good cognitive scheme
- Game quartet itself is not good for deep learning => adjust rules

Domino – Four in a row

- Formula, concepts - Repeating
- Links and properties (four on a row)

Educational games - use

Puzzles

- Learn to make a proof
- Checking solutions for exercises
- Differentiation in tempo: make puzzel, give explanations for the steps, help others, proof with or without puzzel

Escape Room

- Other form of a parallel groupwork
- Competition - motivation
- Important to give a good instruction, can be used for both theory and exercises

Alternative to divide learners in groups:

www.schoolbordportaal.nl/schoolborden/programma-839.html

Vragen?



Task

- **Design 1 educational game for your own context**