Learning Scenario title

"Understanding Technology"

Educational level / Age group	**3. class** **9-10 age**
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Learning objectives / aspirations

- *To understand that robots are programmed by human beings.*
- *To become aware that people are in charge of robots and technology is controlled by humans.*

Narrative overview

Students talk in class about where they encounter technology in their everyday life. This initial discussion in meant to foster awareness that technology is all around us and we must use it responsibly.

Students start learning about programming by first giving directions to their teachers such as:

- *2 forward,*
- *3 left,*
- *stop and so on.*

They then work in groups and give directions to program each other's movements.

Next step is when the Matatalab coding sets are introduced. Students must try the same programming sequence on the robot that they tried on each other.

Approach to teaching and learning

Approach to teaching and learning	Our teaching philosophy is that students shall have a lot of hands-on practice. Students should understand that it is okay to make mistakes, because from mistakes we have the opportunity to learn new things.
Approach to assessment	Lesson plans and effectiveness of learning activities are discussed during our weekly staff meeting.

Roles

Teachers	*Main teacher and teaching assistant guide and monitor class discussions at the beginning and at the end of the lesson. They support students if help is needed but try not to interfere and remain in the background.*
Learners	*Students must first program each other's movements and then program the robots.*

Learning environment

In our schools we have a FabLab and apply active learning methodologies and playful learning. We therefore organise lessons so that students often work in groups. Sometimes instruction is provided by teachers through a briefing session to the whole class at the beginning of the lesson.

Learning activities

The lesson starts with an initial discussion that involves the whole class.
Students then work in groups. They first have to program each other's movements by providing exact directions and then try out their programming sequence on the robots.

Possible challenges

If you have a limited number of Matatalab kits, there can be sometimes waiting time for the kids to try out their coding sequence on the bots. Students can help each other with programming the robot, but they may lose concentration if they must share one kit every 4 pupils. Maybe it is better to have 2-3 pupils per group.

Resources

Only the Matatalab kits.

Literature to support

[Danish website](#) *site offering advice on how to use technology in schools:*

YouTube videos about Matatalab

Danish government's technology strategy.

Danish book "En designtilgang til teknologiforståelse". Ole Sejer Iversen mlf