EAIE
Esports as Accelerator for Social Inclusive Education

LESSON
FACTORIO

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FACTORIO

Students work together in Factorio to design and optimize a small automated factory. The exercise focuses on collaboration, systems thinking, resource management, and problem-solving under pressure.

Subject and level
Mathematics - Upper secondary / adult learners

Connection to curriculum
- Logical thinking and process understanding
- Collaboration and communication
- Optimization and resource management

Didactic and pedagogic considerations
The game encourages experimentation and learning through failure. Students naturally develop strategies and divide roles. The teacher should support reflection on workflow, optimization, and communication rather than focusing only on “winning.” Reflection questions after gameplay are essential.

Time estimate
120 minutes

Group size
1-5

Overall introduction to exercise
Students are introduced to the basic mechanics of mining, automation, and conveyor systems. The class discusses how factories and automation work in real life before transitioning into the game environment.

FACTORIO

Exercise as presented to the students

- Gather raw materials
- Build automated mining systems
- Transport materials using conveyor belts
- Produce 100 automated science packs
- Optimize your production chain

At the end of the session, your group must explain:

- How your production chain works
- What problems you encountered
- How you solved them
- What could be improved

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