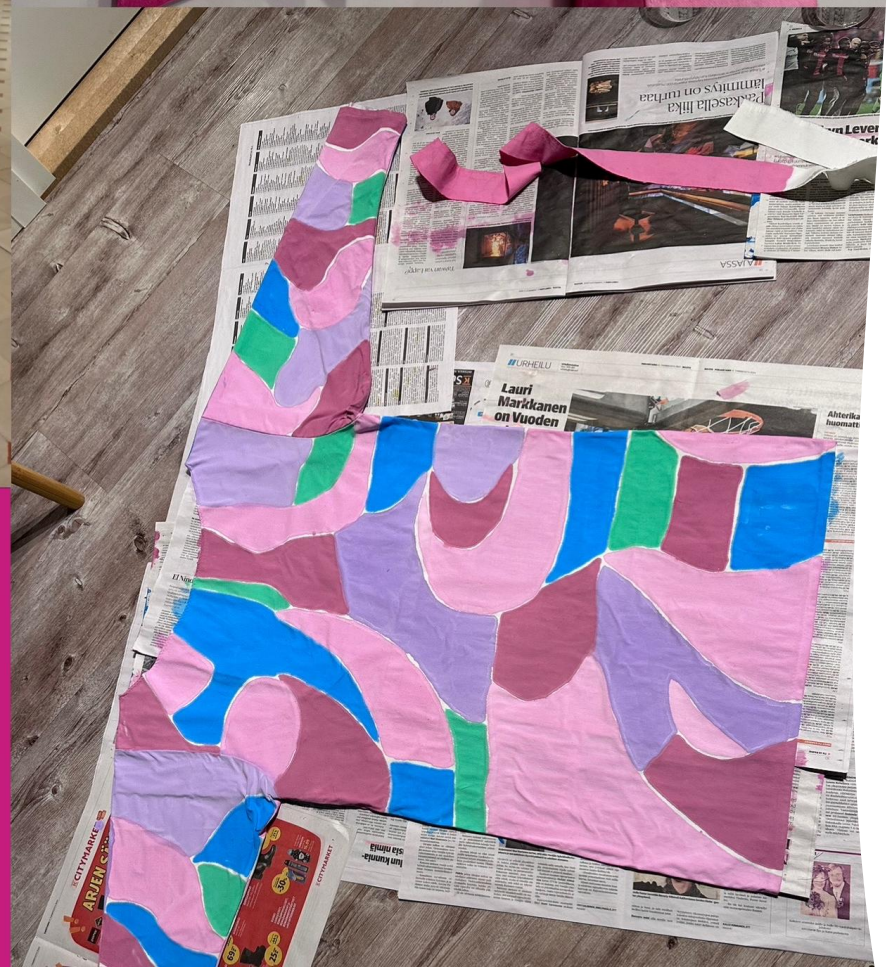
STEAM in OSYK



STEAM in High Schools

Why is it more challenging to implement STEAM pedagogy in high schools?

How to engage students (and teachers)?

- **Lack of interdisciplinary learning modules** (though we have **transversal competences** and thematic studies)
- Studies are course (or study unit) based, and many students have “utility-driven” approach regarding **matriculation exams**
- A lot of compulsory or specialization studies and strict graduation requirements – **TIME** is limited

STEAM in OSYK – pedagogy first!

- The most important question is not whether the school has VR equipment, robots, 3D printers or extensive imaging equipment. Versatile and enabling technology **helps but is not a necessity in adopting multidisciplinary thinking and practices**.
- It is meaningful to **note the possibilities of open-mindedness, research, creativity, inclusion, agency, problem-solving, peer learning, interdisciplinary collaboration, increased technical skills and understanding, and, above all, of innovative thinking**

- Finnish National Agency for Education –

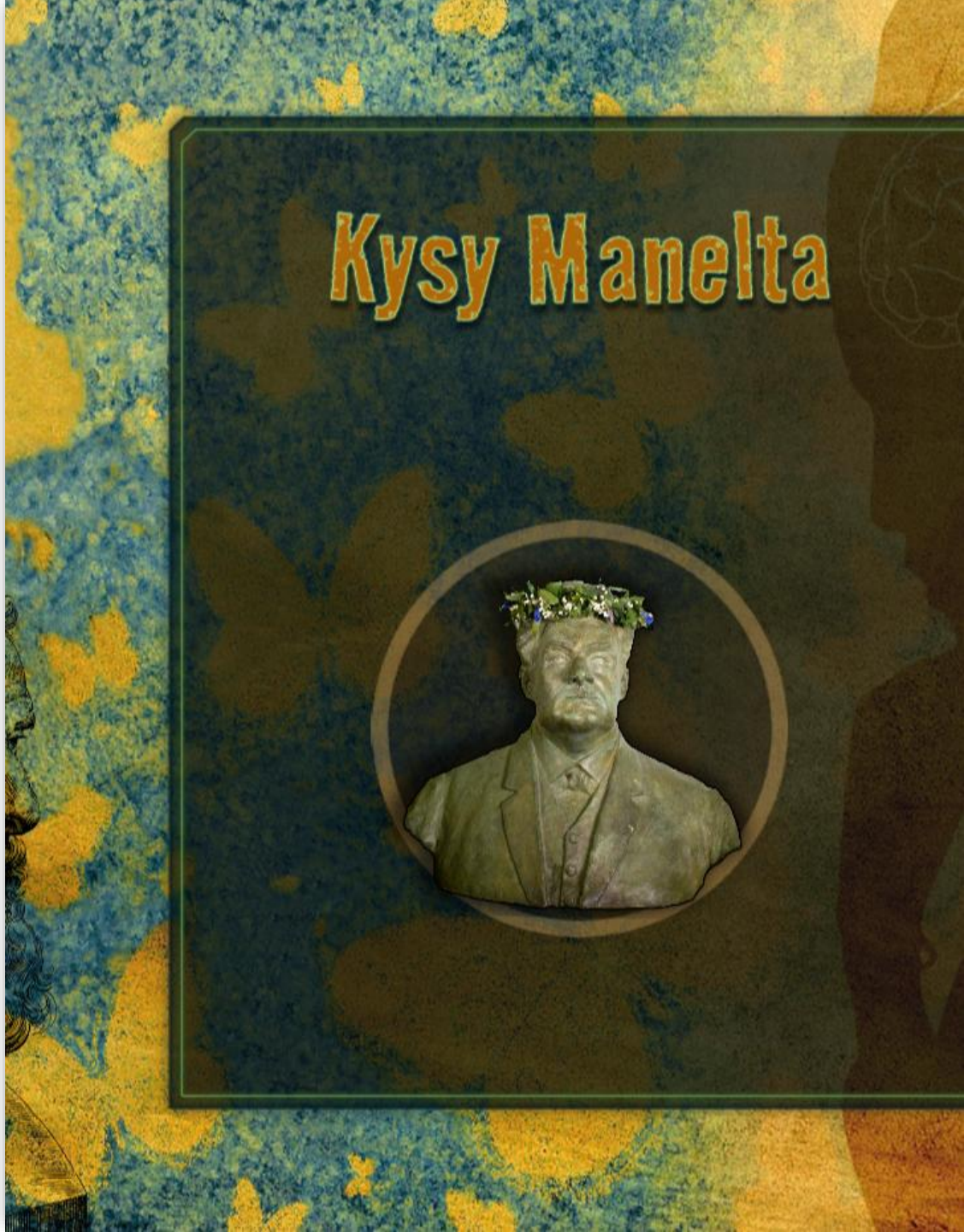
National core curriculum for general upper secondary education 2025 - eRequirements

STEAM in OSYK – examples

- In **different thematic studies**:
  - Basic course in production: students brainstorm and plan an event for the school (in collaboration with artistic and practical subjects)
  - Multidisciplinary **environmental art**: students create an environmental art piece after exploring a spesific theme (kinetic sculptures, videomapping)
  - Mother tongue and literature & History: students compile a book about our schools fallen soldiers' stories (collaboration with archives and library, layout program to desing the book)
  - **Christmas window** – hands on tinkering
- In **natural sciences and mathematics**:
  - Processing programming: students learn to create a visual artwork in the Processing programming environment
- In **mother tongue and literature**: producing podcasts, library's digital workshop
  - https://soundcloud.com/user-237667173

STEAM in OSYK – examples

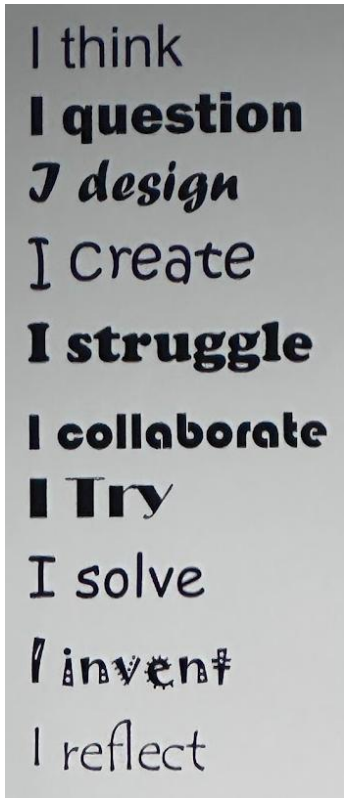
- In **Visual arts**:
  - High school musical: video projections, various functional costumes and set designs, digital image editing
  - Photography: the process of developing analog photographs, digital image editing, use of a DSLR camera
  - VA3: Animation techniques
  - Movie: Lighting for filming, video editing, video shooting, and film technique
- In **History**: city symphony video artwork, urban orienteering with the Goosechase-app
- In **Philosophy**: Kysy Manelta! Educational game
  - https://osyk.fi/Filosofia/
- In **Theater and Drama**: all stages in production (in collaboration with other artistic and practical subjects)



STEAM in OSYK – examples

- In General:
  - Christmas Calendar (Unesco)
  - OSYK wool sock project (knit-a-long)
  - Night school activities

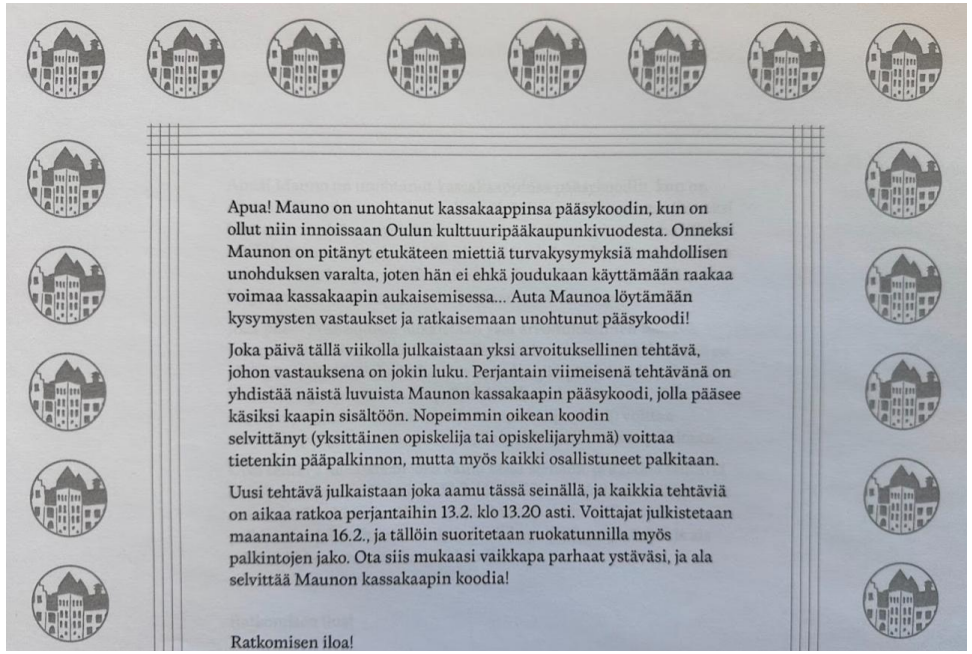
  - STEAM weeks
    - cooperation with Super Fab Lab Oulu
    - Escape game/Treasure hunt



STEAM in OSYK – future plans

- Establishing different STEAM activities in our high school and making STEAM even more visible
- Engaging teachers and students in activities and implementing the activities in OSYK
  - For example, group-bonding activities
- Utilizing new collaboration partners in STEAM activities (e.g. Business-Oulu, Library, LuMa Center)
- Continuation of studies: connection to higher education (e.g. Architecture at our school)

STEAM week's Escape game: The Mystery of Mauno's Safe



Apua! Mauno on unohtanut kassakaappinsa pääsykoodin, kun on ollut niin innoissaan Oulun kulttuuripääkaupunkivuodesta. Onneksi Maunon on pitänyt etukäteen miettiä turvakysymyksiä mahdollisen unohduksen varalta, joten hän ei ehkä joudukaan käyttämään raakaa voimaa kassakaapin aukaisemisessa... Auta Maunoa löytämään kysymysten vastaukset ja ratkaisemaan unohtunut pääsykoodi!

Joka päivä tällä viikolla julkaistaan yksi arvoituksellinen tehtävä, johon vastauksena on jokin luku. Perjantain viimeisenä tehtävänä on yhdistää näistä luvuista Maunon kassakaapin pääsykoodi, jolla pääsee käsiksi kaapin sisältöön. Nopeimmin oikean koodin selvittänyt (yksittäinen opiskelija tai opiskelijaryhmä) voittaa tietenkin pääpalkinnon, mutta myös kaikki osallistuneet palkitaan.

Uusi tehtävä julkaistaan joka aamu tässä seinällä, ja kaikkia tehtäviä on aikaa ratkoa perjantaihin 13.2. klo 13.20 asti. Voittajat julkistetaan maanantaina 16.2., ja tällöin suoritetaan ruokatunnilla myös palkintojen jako. Ota siis mukaasi vaikkapa parhaat ystäväsi, ja ala selvittää Maunon kassakaapin koodia!

Ratkomisen iloa!

- Each day this week, one mysterious task will be published, and the answer to each task is a number.
- On Friday, the final task is to combine these numbers to form Mauno's safe access code, which unlocks the contents of the safe.
- The fastest solver (either an individual student or a student group) will of course win the grand prize, but everyone who participates will be rewarded.

Now we will divide into three groups and get to know the riddles and our school. ☺