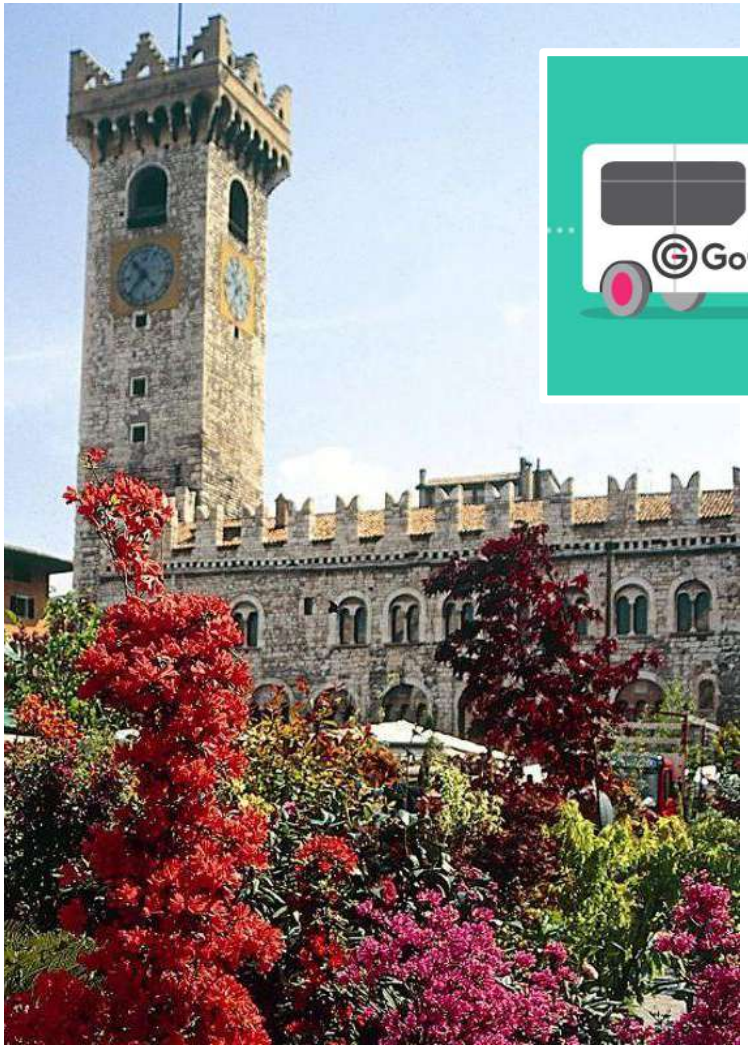
DesignSTEM

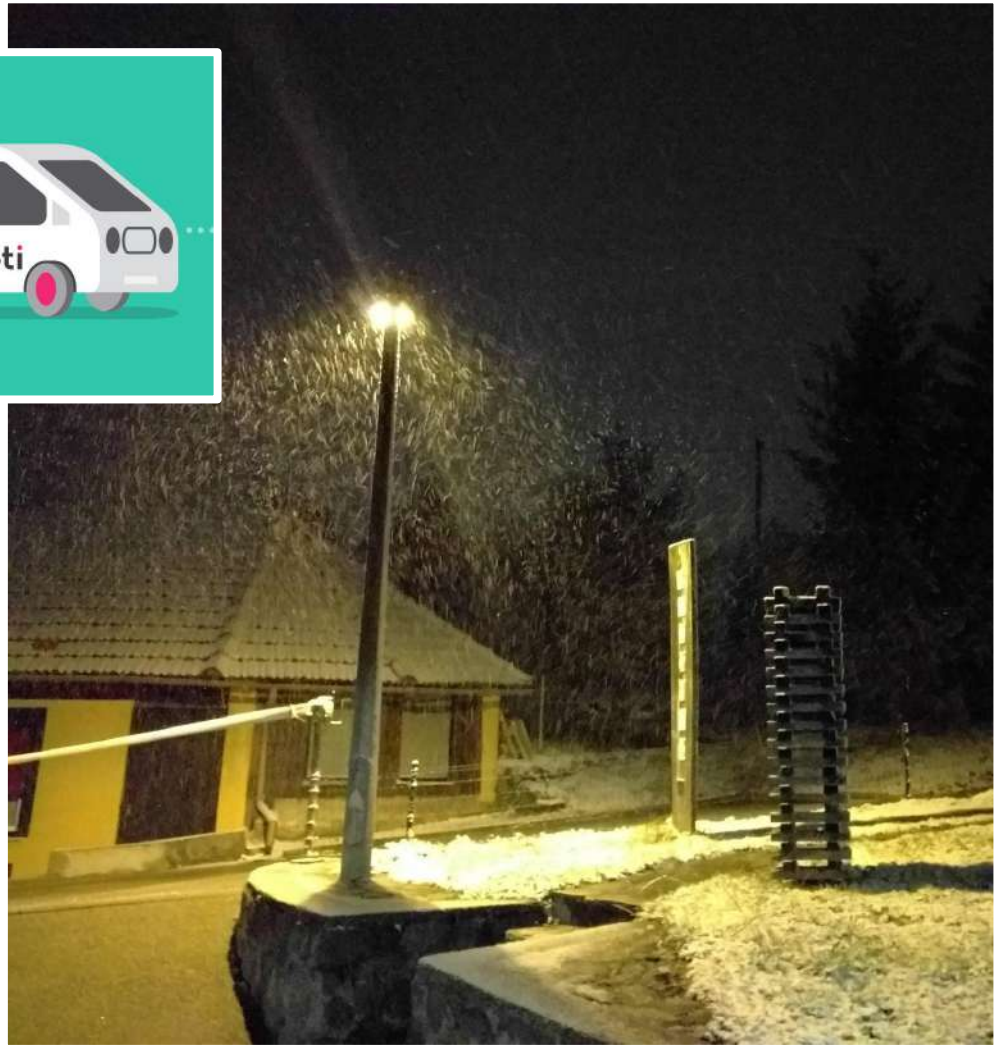
NOVO MESTO Workshop

Designstem is:

design stems from STEM

Novo Mesto





Design-STEM

1. workshop - Helsinki, Finland

- Introducing 100/30 STEM concepts
- Learning about 5E model
- Learning about relevance: personal, vocational, societal
- Learning about integrated teaching/learning
- Learning about LORI-scale for evaluating e-learning objects

2. workshop - Piraeus, Greece

- Unleashing Creativity in Classroom
- Padlet brainstorming to match design objects and STEM concepts
- Defining problems to be solved with concepts
- Defining designer perspective, scientist perspective, craftsman perspective
- Adding designer activity and STEM activity

3. workshop - Middlesbrough, England

Introducing and improving 5E-scenarios according to a check-list of:

- target group - design students aged 15-25 in applied/vocational/college-level design schools & their teachers; secondary and vocational school students aged 15-18 studying STEM subjects, and their teachers
- real-life design phenomena, tangible or intangible object, accessible & engaging for the target groups
- real-life problem, accessible & engaging for the target group, in human experience, to be solved
- STEM field: science, technology, engineering, math
- Integration in the scenario between a design phenomenon and STEM concepts

Design-STEM

DesignSTEM workshop in Novo Mesto, Slovenia
March 19 - 23rd, 2018

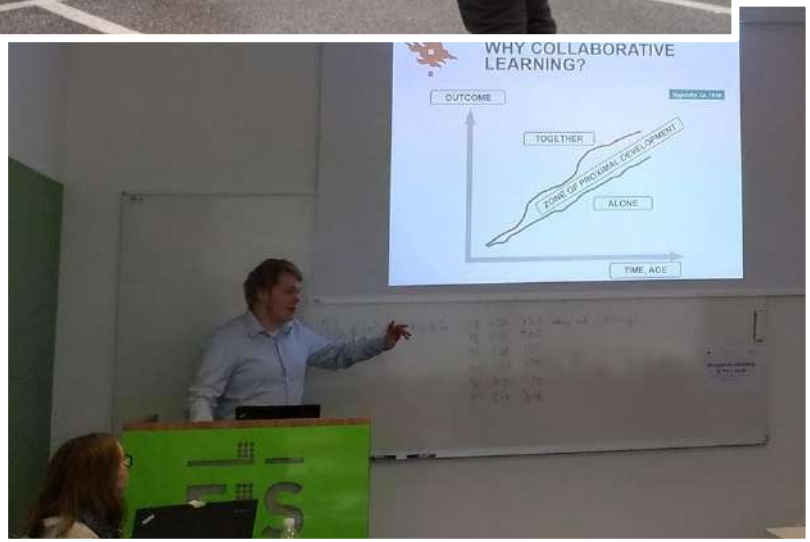
Goals of the workshop:

1) all scenarios finished and ready (content as verbal text according to DO-model and project criteria; NB! not yet content for e-learning object, i.e text addressed to student/teacher, photo, animation, typography, colour palette etc) for production phase
2) integration value defined for all scenarios
3) e-learning media and platform decided for all scenarios

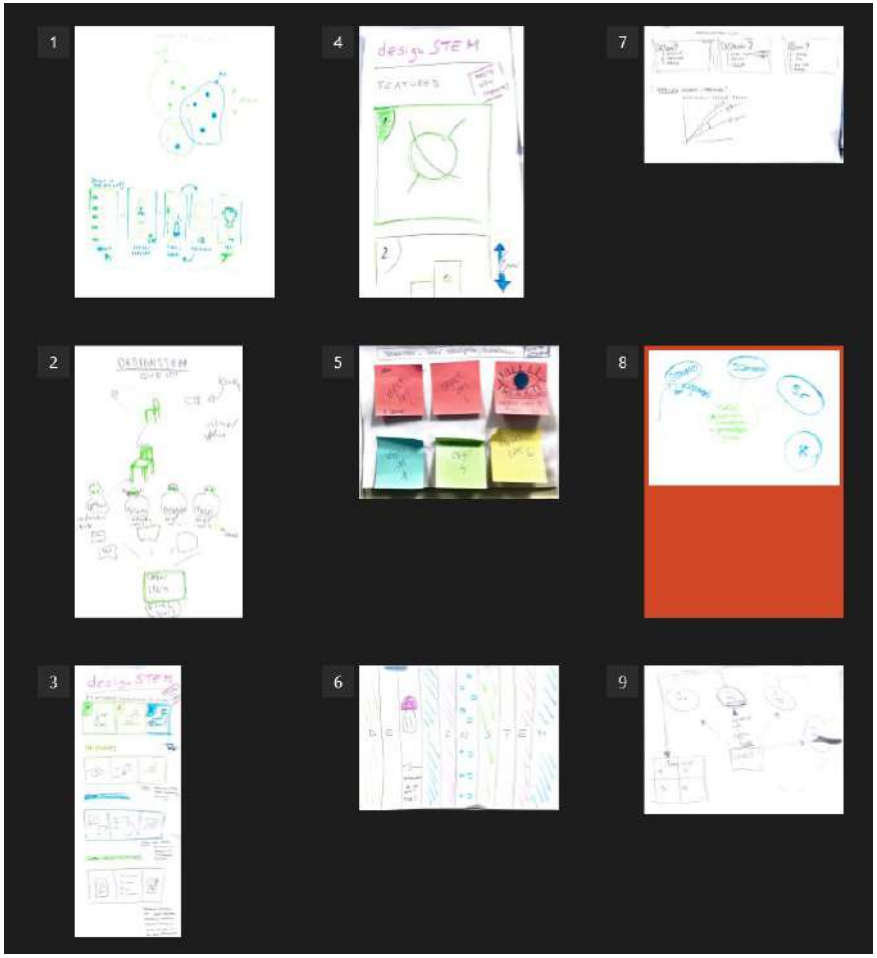
FIS


FIS
FIS


PLANKTON


WHY COLLABORATIVE LEARNING?
OUTCOME
TOGETHER
ZONE OF PROXIMAL DEVELOPMENT
ALONE
TIME, AGE

DESIGN Stem Landing Page



4. workshop - Novo Mesto, Slovenia

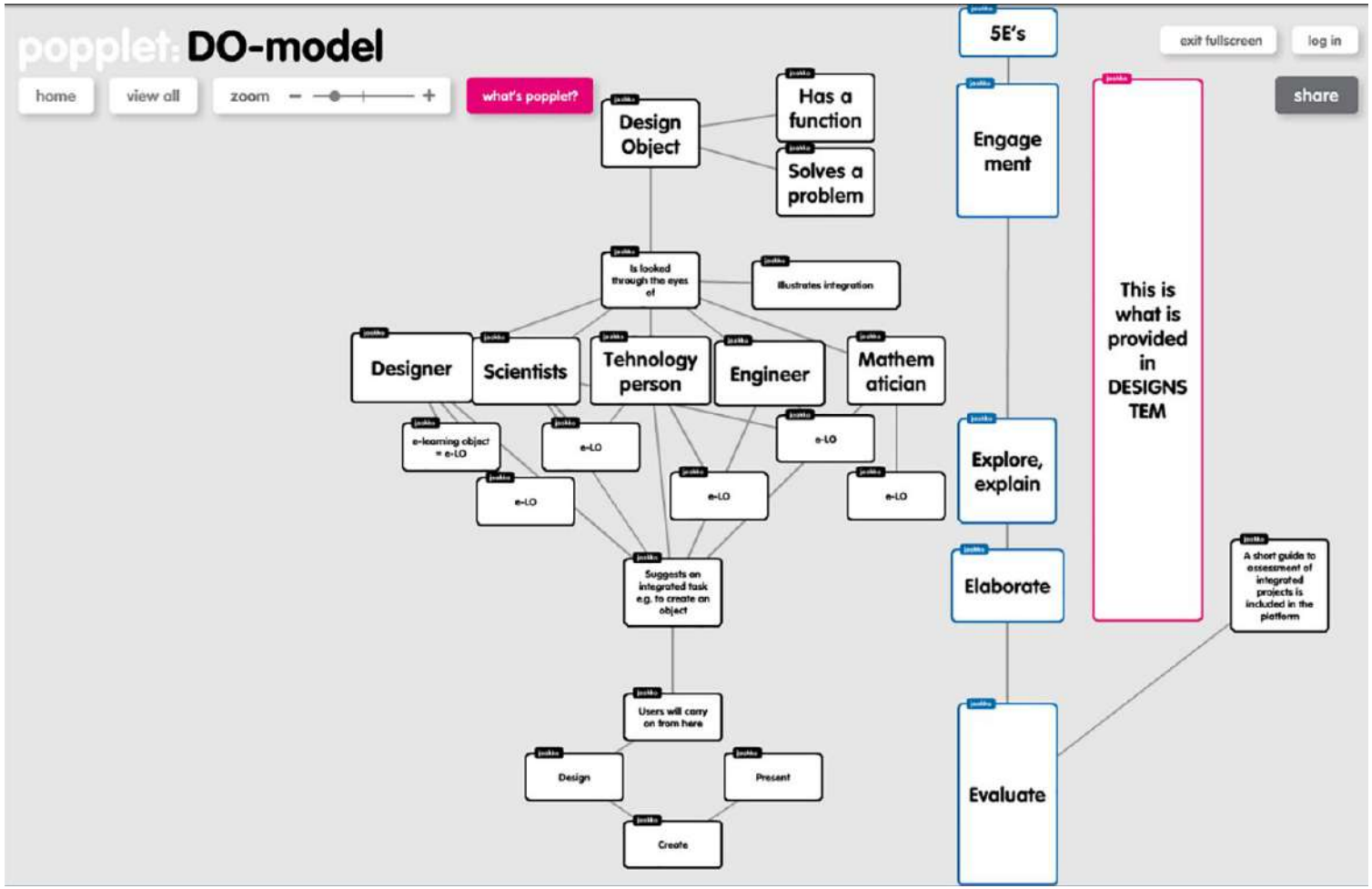
DO-model: is our project's **content model** focusing on a design object (DO) with STEM perspectives derived from it (i.e how does a designer, scientist, technologist, engineer, mathematician see, approach the same design object - what questions to be asked, what concepts and principles to be used - knowledge, what activities to be performed - skills)

DO-scenario: a content scenario involving the strategic pedagogical 5Es with learning goals. the student works towards in order to understand (knowledge) and construct (skill) a design object (DO) as the embodiment of integration through the perspectives of STEM (i.e how does a designer, scientist, technologist, engineer, mathematician approach the same design object)

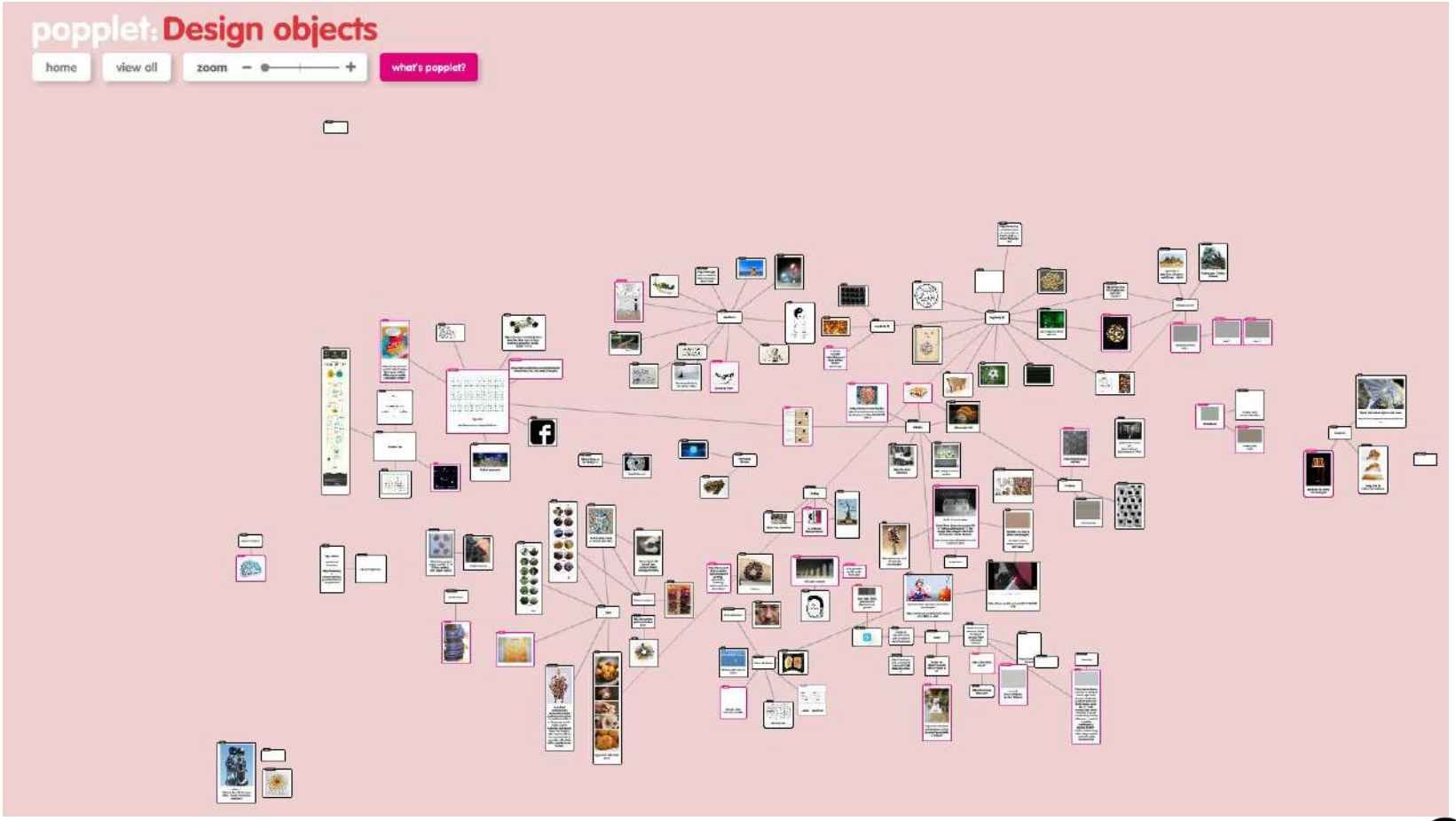
Medium and platform to be added with Johannes

DesignSTEM_vocabulary

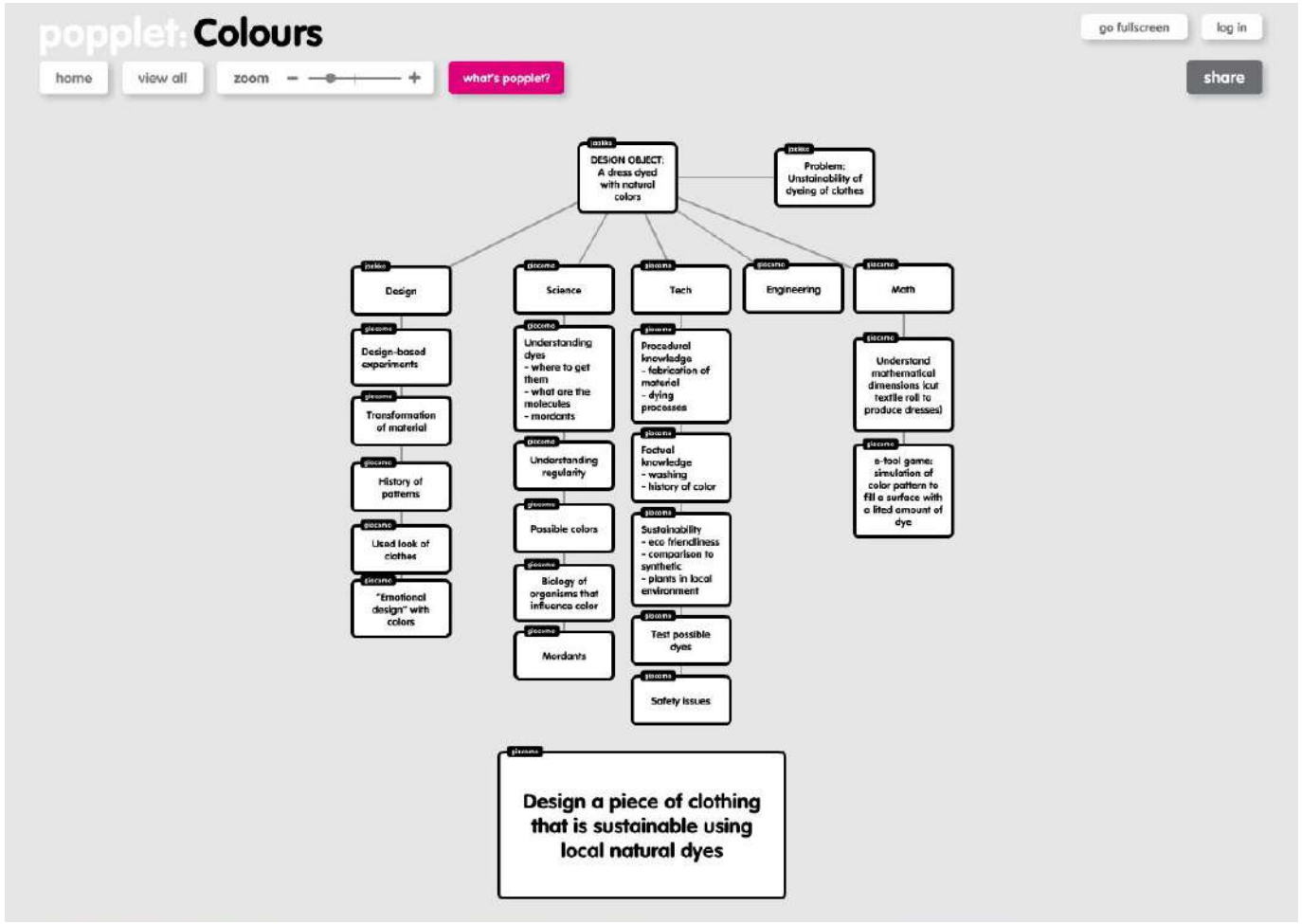
DO model vs. 5E model



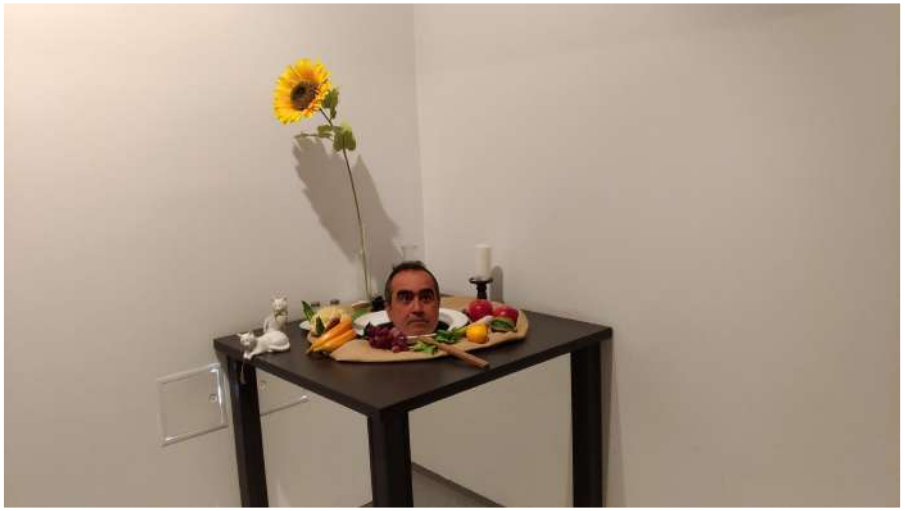
Ricerca del DO per ogni scenario



Come viene visto un DO dagli attori STEM



Un giorno a Ljubljana per prendere "aria"



Johannes Pernaa

Johannes's table (revised Bloom) of learning model to be filled with tactical learning tasks for the student - build, read, take a quizz, make a presentation

Name of the learning scenario:					
	Remember	Understand	Apply	Analyze	Evaluate
Facts					
Concepts					
Procedure					
Meta-cognitive					

Elenco attività per ogni scenario

Modello 5E è un modello per la didattica del docente

Individuare la sequenza di attività che lo studente deve affrontare

(l'elenco potrebbe essere diverso a seconda dello studente ?)

Per ogni attività:

- Collocare l'attività nella tabella johanssen (revised Bloom)
- Individuare il medium necessario (video, simulazione, documento,...)

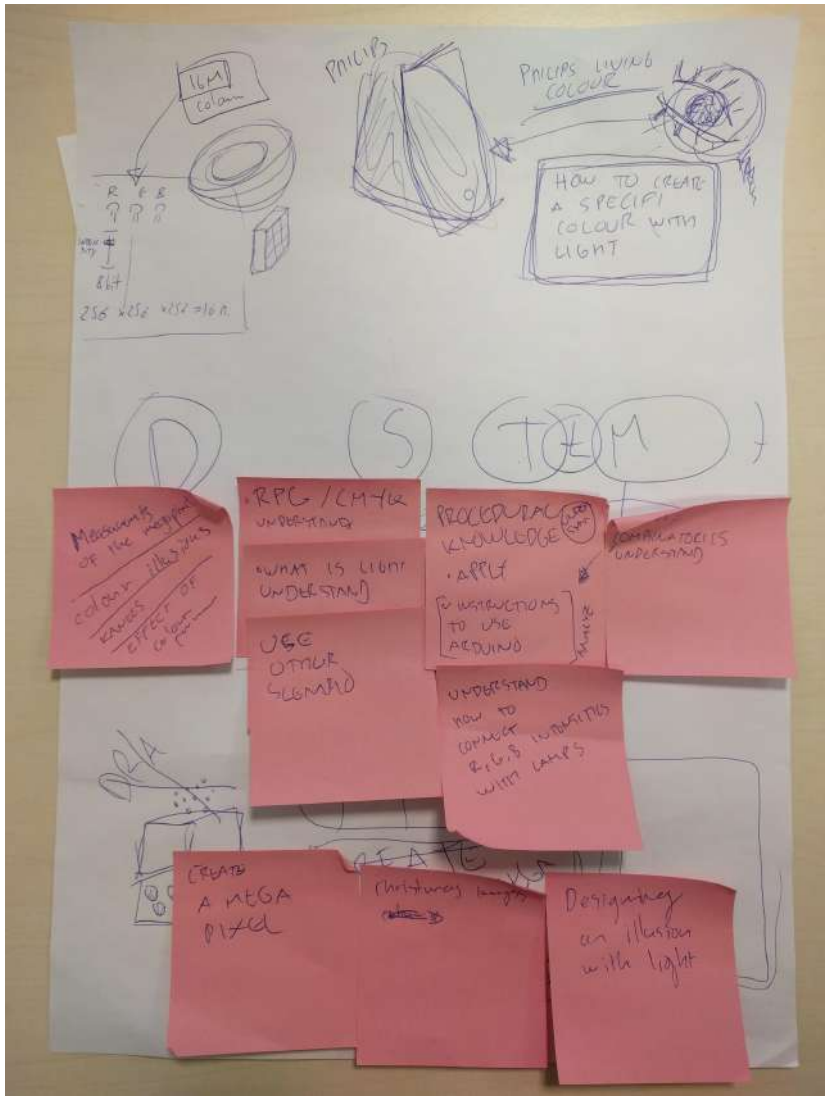
#	Design Object	Scenario working title	Partners/authors	Media needed (simulation, animation etc) 	For example (make as concreet as possible, give names, urls of sources and instruments)	What are you, the authoring partner, able to do yourself for your e-learning object - in high quality?	What kind of assistance do you, the authoring partner, need?

DO Bone chair e dictionary STEM definition

DO Bone chair e dictionary STEM definition

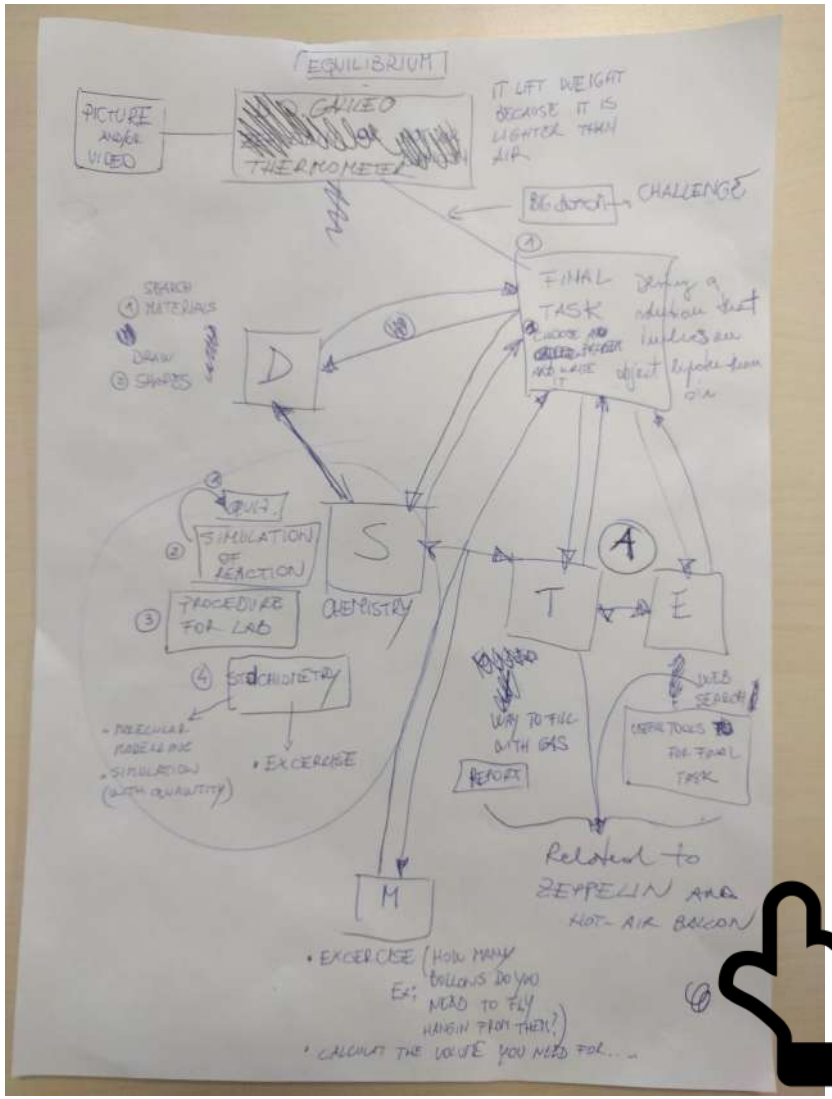
	Design	Science	Technology/IT	Craft/Engineering	Math	Integration	E-learning/teaching	Art (excluded)
DesignSTEM definitions: how we define these for our target group - teachers and students	Madis, Carlos	Richard, Filippo	Giacomo, Arlindo, Victor, Jan	Stephen, Mila	Sandra, Ferdinando	Jaakko, Merit	Janika, Anne	Torsten, Oliver
Definition								
Examples of the same object (with photos and videos) as approached in different disciplines								
Questions to be asked about a bone chair								

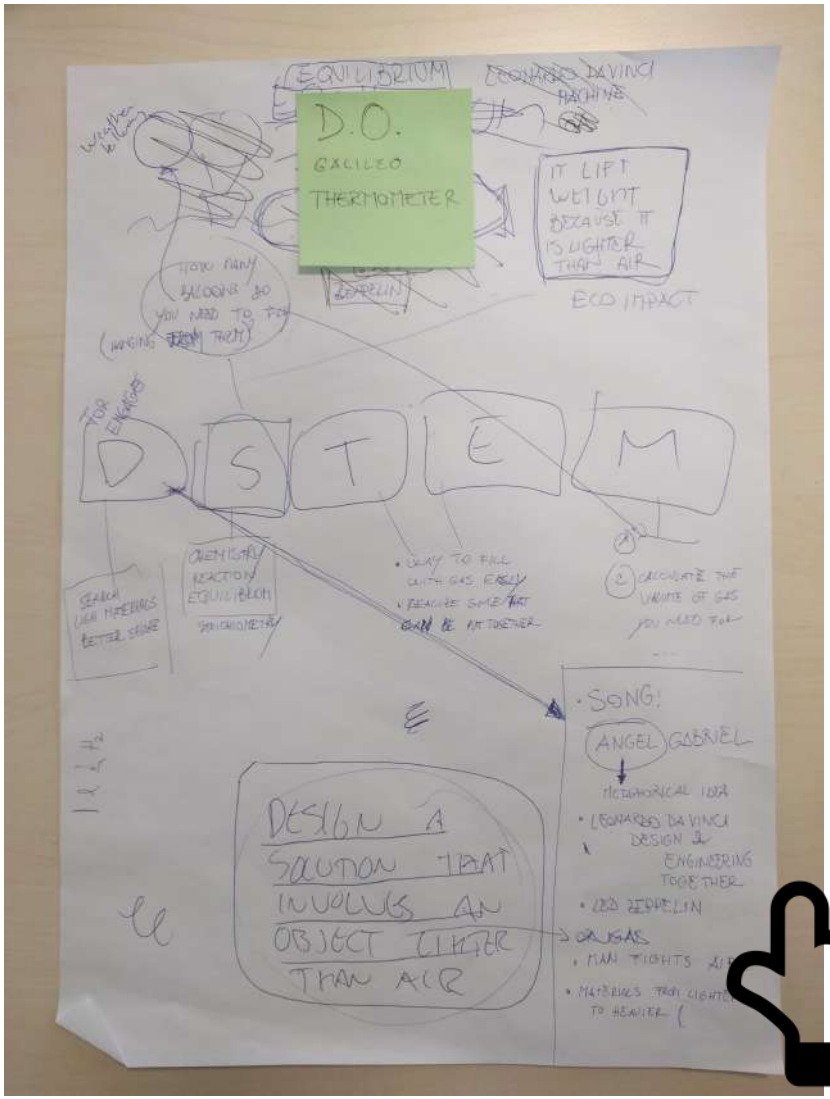
Combinatorics Colors Scenario



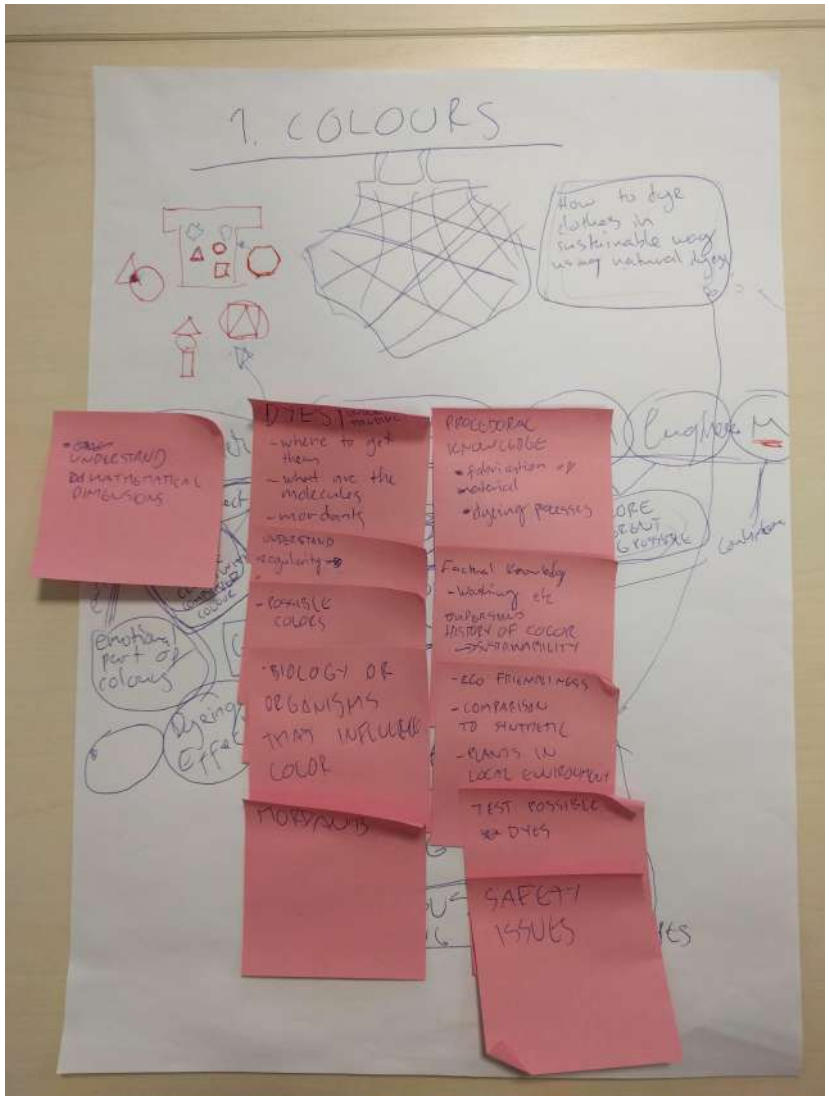
DO Digital color lamp

Equilibrium Scenario



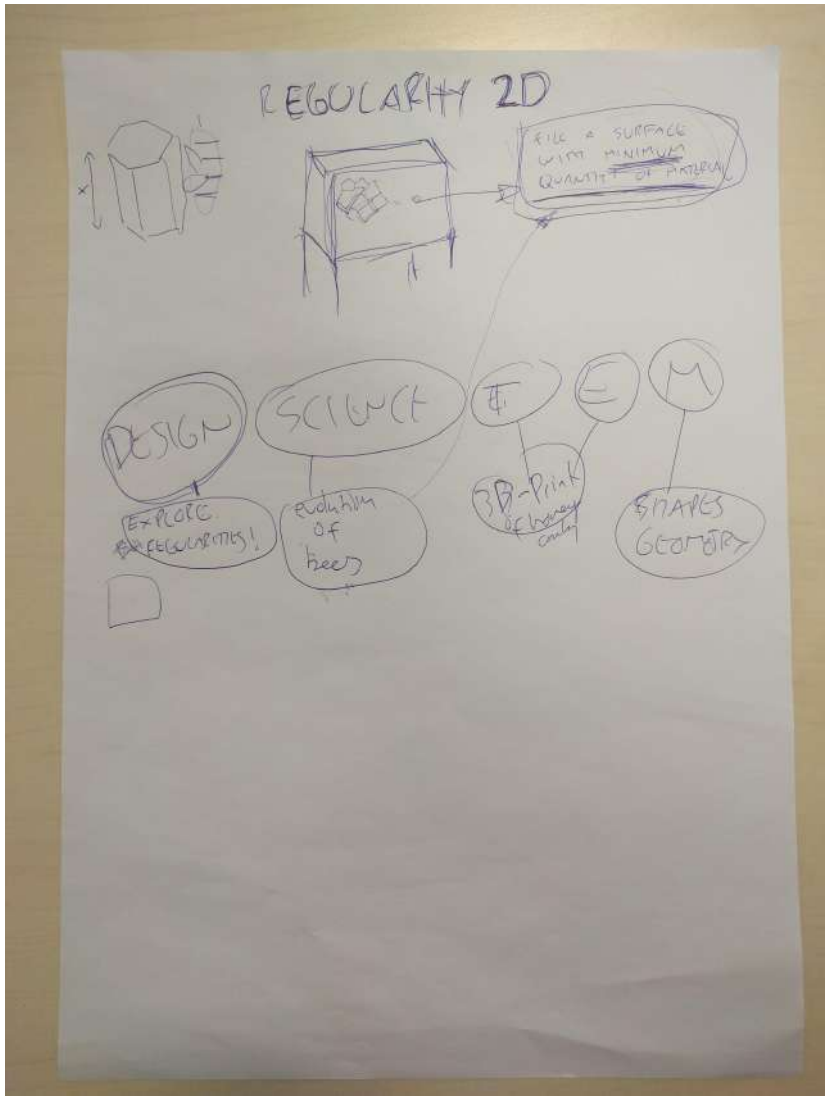


Natural Colors Scenario



DO Vestito

Natural Colors Scenario



DO Arnia

See You Boring, Icy, Regular Novo Mesto