

# Gimnazija

## The eLearning and Flipped Classroom Teachers' Report

The eLearning and flipped classroom activities of the students of classes 2b and 2e in V. gimnazija Zagreb Croatia took place in Spring 2021. The students had access to the LOOP Learn platform where they watched the videos prepared for them by expert partners and also read materials in the eLibrary. The students enjoyed learning about the 4Rs: Redesign (Ecodesign and the Internet of things), Reduction (Lean manufacturing and Carbon capture and storage), Recycling (Indicators for a circular economy and Circular electronics) and Reuse (Textile industry and Reuse and recycling in the clothing market). This was all a relatively new experience for the students in terms of content and methodology, and they were enthusiastic and motivated. Some students reported problems with the expert English language in the presentations and had to take more time to look up terms and concepts and asked for additional explanation.

Before the students embarked on their e-studies they were given guidelines by the teachers. They prepared a study plan and we discussed and went through the sources, then checked their progress regularly and helped them with the problems they encountered (as mentioned above).

The students' feedback was very positive as they enjoyed their own pace of learning (especially since many of our classes had to be online due to the Covid 19 crisis). They said that the materials were interesting and of good quality, that they learned a lot but would have liked even more visual materials. They liked doing the extra research that was necessary to understand the material better and we also gave them extra practical tasks to keep their motivation going such as little projects e.g. to produce their own creatively reused objects etc. (see photos below).

Prior to the flipped classroom activities they had to prepare back-to-back questions for discussion in class (the classes were online) and some students did TED Talks, which they especially enjoyed. The students gave feedback to each other and peer reviews and evaluations. They said they enjoyed giving their opinions and comments in class, having regular conversations about environmental issues and circular economy. The teachers were available for consultations online (via the Teams platform, email etc.). The students also collaborated amongst themselves while preparing for the classes. Most students felt they understood the content better after self-study, mentoring and later in presentations and discussion in the flipped classroom. They were more involved and liked the increased interaction they had with their teachers and peers. They said the learning process was more flexible, accessible to all the students including those who were ill and some even remarked that eLearning and online flipped classroom (distance learning) had positive effects on the environment (e.g. less travel and energy savings and smaller carbon footprint). But we still think that regular social contact in school is essential for teenage students' development and learning. In addition, some students said it was stressful to talk and present in an online class while the classes were recorded. We can conclude that the methodology of eLearning and flipped classroom is student-centred and effective, provided there is access to the internet for all students.

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Students' Reuse Project Examples



Repainted old furniture  
(photo by Jana Šimunić)



Bench made of painted wooden planks  
(photo by Jana Šimunić)



Old barrel reused as table  
(photo by Hana Čukelj)



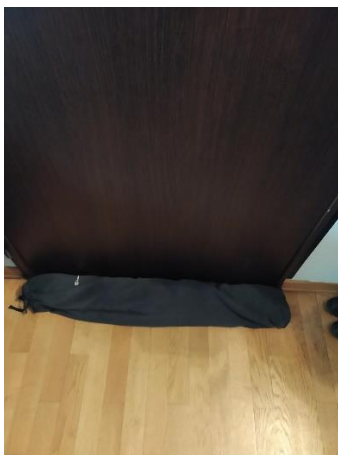
Plastic tray used for nature display  
(photo by Petar Kerešimir Kes)



Old watchbox used as a money bank  
(photo by Ana Sablič Hadžalić)



Laptop stand  
(photo by Korina Piščetek)



Doorholder made out of old pants and socks  
(photo by Mihovil Štimac)



Easter decorations made out of an old book  
(photo by Karmen Prelogović)





Flowers for a vase from old fabric and a pencil cup from a bottle  
(photo by Kristina Kokolić)



Plastic bucket reused to pot a plant  
(photo by Marko Pešić)



Bench made of leftover planks  
(photo by Jana Jelen)



Footrest made of old books and a pillow  
(photo by Petar Stojanović)



Reused decoupaged boxes  
(photo by Tia Milašinić-Iveković)



Teacher's example of footstool stuffed with old towels etc. instead of plastic filling  
(photos by Sanja Vrhovec Vučemilović)