

## Section 3

### Chapter 12 - Assessment in Videogames and Educational Apps Based Learning in Upper Secondary and Post Secondary Non-Tertiary Education

# Exemplary case 1

Title: **Labster application for biology classes**

#### Description:

Labster is an advanced virtual lab simulation, which is suitable for learning various complex science topics. The game is best suited for the high school students, who are engaged in high level science activities. It offers about 70 biotech simulations, where students can practice using lab instruments and machines and try experiments with dangerous substances or organisms without risking their health or equipment.

#### **Integration into learning plan**

Labster can be integrated into learning activities in two ways: as in class activities or homework activities. In both situations teacher should align the simulations with the learning content and emphasise that computer simulation will give core knowledge that is going to be expanded upon in the classroom after or prior the practice. The research on Labster integration into classroom showed that student performance increase 100 percent when simulation game is combined with teacher led analysis of the explored topic.

Each simulation has limited time for completion that usually last around 30 min. This rather short time frame allows game to be played in the classroom as well as an extra activity. It is important to



emphasize for students the flexibility of the tool, that allows them to practice as much as needed on their own pace outside the classroom.

For students engagement with the simulation the key strategy is to integrate the simulation scoring into learning process and make the cores meaningful. This will ensure that students complete the assigned tasks. As well recognition of achievements and rewards such as badges or extra points for using the simulation may increase student interest and engagement with the tool.

### **Learning assessment**

Labster has integrated student assessment within the simulation. Teacher can access students scores from teacher dashboard. Also integration with the learning management system (Moodle etc.) is possible and could be setup to translate students scores to the school grading scale. The recommended practice is to combine simulation quizzes with additional assessments. For example, invitation to present lab experiment to other students explaining the experiment goals, scientific methods used and results. Another option is to use the ingame questions for the final exam after learning quarter.

### **Game access for school**

Labster access for schools could be requested through their webpage. Custom prices may apply.

<https://www.labster.com/>