Space Explorers

Relevant Trend/s

Popularization of science and scientific literacy with the aid of technology. Providing various learning activities and a wider set of technology to ensure a flexible learning environment and learning experiences which are built upon learner's interests and personal learning paths.

What level of maturity is the scenario intended to achieve.

FROM: Current Future Classroom Maturity level	TO: Desired Future Classroom Maturity level
Enhance	Extend

Learning Objectives and Assessment

- The learners will develop and demonstrate critical thinking skills such as reasoning and analysis regarding scientific phenomenon and ideas.

- Related to the flexible learning environment and various learning activities they will be encouraged to focus and reflect on their learning methods with the aim of achieving an effective self-management of learning.

- Related to the wide set of offered technology (tablets, PCs, laptops, smartphones, educational and augmented realty apps, web tools, etc.) and resources they will learn how to access, evaluate and use information in a proper way.

- The learners will demonstrate their ability to work effectively with others on common tasks and to take actions which respect the needs and contributions of others.

- The learners will develop and demonstrate their presentation and communication skills by presenting information, ideas and conclusions clearly and effectively. They will learn to present complex scientific topics in a simple and understandable way.

Assessment will be based on self- and peer assessment. Learners will be encouraged to assess their own work and progress to get a very good understanding of their own learning needs and how well they are progressing towards learning goals. They will be encouraged to assess the work of peers while working in groups.

Teachers will provide feedback in dialogue with learners about the strengths of their work, the steps they can take to improve it, their individual ways of learning and other approaches they might use.

Learner's Role

Learners will be involved in various collaborative online, face to face and outdoor activities regarding topics they have chosen according to their own interest. Mostly they will be working in groups. They will research, collect, evaluate, transform and discuss data with peers. Learners will create own learning resources and dynamic presentations of scientific topics of their choice. They will have the opportunity to talk to an expert (scientist), to ask questions and to take part in outdoor activities related to a specific topic.

Teacher's Role

Teachers will provide various learning activities that engage and empower the learners and build their confidence. They will provide guidelines during the whole project, lead and support learners independently of time and place. Teachers will provide feedback regarding self- and peer assessment.

Schools Capacity to Support Innovation

The scenario will be delivered to a mixed group of learners (7th and 8th grade) in collaboration of two teachers.

The teachers are digitally competent and connected to others. The school ensures technical and pedagogical support if needed.

Tools and Resources

Learners will be able to use various technologies depending of the types of activities, their learning styles and interests, e.g. tablets, smartphones, PCs, laptops, videoconferencing system etc.

They will use social media e.g. YouTube, other resources, services and web sites related to a specific topic (e.g. National Geographic, Khans Academy, NASA, etc.)

They will use online simulations and augmented reality apps such as Space Journey, Spacecraft 3D and Star Chart to get a deeper understanding of complex natural phenomena which can't be observed in everyday life.

They will use a social network (a secret Facebook group) and Google Drive for online collaboration and communication with peers and teachers.

Videoconferencing system, Skype or Adobe Connect Pro will be used to bring an expert into the classroom.

Various web tools will be used to create presentations (e.g. PowToon, Glogster, Nearpod, Piktochart and other tools learners choose by themselves).

Learners will create a Google Site under the guidance of teachers to present their findings, to include docs they have created, videos, links, etc. related to the project.

Learners will use a telescope for an outdoor activity.

Google forms will be used for self- and peer assessment.

People and places

The scenario involves two teachers who will lead the project and an outside expert who will discuss with learners and provide answers.

The learning will last forty-five minutes per week and take place in the classroom and the rest of the time in an online space. One day learning will take place outdoors.

Future Classroom Scenario Narrative

Title: Space Explorers

The Scenario narrative should be written to describe the vision for learning and teaching from either the teacher's or students' point of view. Consider this as a story that describes the learning experience. It should be about 500 words long and can describe a learning experience as long or as short as desirable, sometimes in a single lesson, but normally over more than one lesson e.g. a project that may take several lessons to complete.

The scenario narrative should include the ideas previously included under the 6 headings above, and meet the requirements of the desired level of maturity as agreed. (Make the necessary changes to the scenario narrative if you are adapting an existing scenario.) Try to avoid making the scenario too subject specific. This can be quite difficult but it helps if the scenario can be used across a number of subjects. Remember, this is not a lesson plan so need not include information about curriculum learning objectives or detailed timing.

In an initial brainstorming session learners share their knowledge, ideas and thoughts about topics related to a school subject (e.g. physics) and choose scientific topics they would like to learn more about, which aren't part of the regular curriculum. Based on their responses and wishes teachers devise various learning activities designed to ensure the acquisition of knowledge and development of the 21st skills. Learners collaborate in groups on different tasks mostly online. The online collaboration takes place on a social network and other social media. Ongoing support, feedback and guidance is provided by teachers online and face to face as well. Learners research, collect data and create learning materials and presentations which are used in face to face collaboration in the classroom. They make their own choices on how and when (with a deadline set by teachers) they work on certain activities and how they present their work. Learners get a deeper understanding of complex phenomena using augmented realty apps, online simulations, outdoor observations and discussing with an expert. Learners assess their own and their peers work and progress.