School LABoratory anticipating FUTURE needs of European Youth

Results in Brief

Learning about lake pollution via virtual reality

A lake pollution experiment to enhance environmental awareness through the use of a computer game has been designed.

DIGITAL ECONOMY

The constructivist theory of learning essentially views the notion of knowledge as being an active process that is built up by the learner. This means that learning is more than just a process of simply transferring knowledge from one person to the other. Thus learners build their own knowledge through testing ideas and approaches from their previous knowledge and experience and apply it to new situations. Relevant, engaging learning activities, consisting of problem-solving and critical thinking support this process.

Stemming from this, the European research project Lab@Future is taking this notion to a new realm with a lake pollution experiment to enhance environmental awareness. Students can learn about this through the use of a computer game known as lake pollution play where the processes occurring in a freshwater lake can be explored. Included in the processes is the regulation of oxygen levels as well as the potentially harmful substances in water.

The game exists in virtual reality and may be played in single user as well as in multi-

user mode. The user navigates as a pilot of a spaceship. The spaceship is presented as an animal to represent the living system. The object of the game is for the user to survive in the virtual world. The user needs energy which is available from the factory but which also results in polluting the lake. The user is able to understand the chain reaction since polluting the lake too much causes health problems for the user. This is shown by the altered degree of transparency in the sprites and is also indicated on the monitor screen.

Therefore, the underlying message of the game is that one simply cannot live without caring about the environment since the result is getting ill due to the rise in pollution. Hence the user must find a way to clean the lake in order to survive. Active collaboration with several schools in Slovenia is already underway and this network could be used to disseminate value applications and services.

Project Information

LAB@FUTURE

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