STE(A)M IT STORIES OF IMPLEMENTATION

Title of your Story

Together we can make a difference

Name of the Author(s)

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The Learning Scenario Implemented

Add below the link to the learning scenario you implemented in your class. The link must directly point to the resources on Scientix Repository and STE(A)M IT Website.

A drop of water makes a difference

http://steamit.eun.org/a-drop-of-water-makes-a-difference-environment/

http://www.scientix.eu/resources/details?resourceId=28397

The Implementation Context

*Briefly describe the context of your implementation, specifying what subject(s) you chose to implement the learning scenario in, how those subjects relate to STEM careers, what was the students' age(s), the size of the group, previous familiarity with real life scenarios, what real-life questions did you choose to address, etc. We aim to gather stories of **classroom implementation**, so the context must appropriately reflect this. (maximum 300 words).*

As a team, we decided to implement the scenario "A drop of water makes a difference". The scenario is addressed for students aged 10-11 year old (3rd grade elementary school).In total, 18 students were involved in 9 lessons in total. The script was easy to follow, we did not make major changes to the script because we wanted to examine the interest of different materials and activities in our group.

The implementation of the scenario went well, as some contents about water were implemented in the contents of our school curricula from the Science subject, and the scenario added extra activities with additional research.

In the script, it was easy to connect subjects like Mathematics, Science, Croatian Language, Physical and Health Culture with the subjects like Art and Music.

The Narrative

What did you do? Describe how you used the selected learning scenario in your teaching. For example, what was the structure of the lesson activities; did you make any adaptations to the resources? Did you include any online activities in the implementation? (maximum 200 words).

In the implementation of the scenario, we were guided by the steps described in the scenario (1st Lesson). Each activity was either a motivation for the contents that we carried out as mandatory as part of the classes or additional activities in the classes of Art, Music, Physical and Health Culture or Croatian Language and Mathematics.

We have adapted and changed the ways of making purifiers and monitoring data in order to improve the design, primarily because we do not have the equipment for it, but we used recycled materials instead such as plastic bottles for water dispensers, filter bags etc. We did not go to institutions or scheduled a visit at the local museum due to the Covid-19 pandemic. However, we did go to our lake Bundek and Sava river, and studied water investigating how water affects plants and animals. Also, we were not able to conduct content analysis on maintaining statistics regarding water abuse and research on various websites, as well as conducting a survey (using QR codes, Mentimeter or Quizizza) because students are not quite known with these kinds of informatics. However, we replaced these activities with well-known digital tools (Wordwall).

The videos that followed the script were very interesting to us and complemented our knowledge and insights. Overall, we greatly learned at school and had no need for networking activities. But we shared online links on MS Teams from the script so students could watch videos or play games at home in their free time.

The Collaboration Process

How did the collaboration with other teachers go? Please, describe how was working together with the other teachers and what was the approach to carry out the lesson(s). (maximum 150 words).

As a team, we very quickly agreed on how to implement the second team scenario. Given the special working conditions caused by the Covid-19 pandemic, the decision was fast and unanimous. We decided to implement the scenario with the students of the 3rd grade, considering that some contents about Water were implemented in the contents of our school curricula from the subject Science.

Learning Outcomes

What did you achieve? *Describe the main learning outcomes you achieved with the implementation of the Learning Scenario. Tell your reader about anything that supports your case for achieving these learning outcomes. For example, students' view, or any other evidence[1] that illustrates the benefits and impact of using this Learning Scenario? (maximum 300 words)*

In addition to raising awareness about water and the amount of drinking water in the world, students also became aware of the importance of water in the lives of plants and

animals and human life. They linked knowledge to the importance of acknowledging the need for environmental preservation and how it further links to physical and mental health. In addition, they discussed water abuse and assessed the impact of water pollution on health and the biosystem. Recycling water in space prompted them to discuss and take an interest in new technologies.

The learning scenario encouraged us to organize additional activities, for example exercise with the sounds of water, musical creation of the sound of rain with the help of fists, enhanced additional interest in space and opportunities to act outside of school.

Through additional activities, students strengthened their knowledge and attitudes that water is an integral and indispensable part of our lives, and in addition to our daily impact on the environment and water in it, they realized the impact of technology on modern life.

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[1] Remember to refer to the point 6 of the guidelines.

Teaching Outcomes

__What did you, as a teacher, get out of teaching with a STE(A)M IT Learning Scenario and resources?__ How did the usage of the STE(A)M IT Learning Scenario go? What should teachers and students watch out for to make effective use of a Learning Scenario created to support the integrated STEM approach? Please also describe your experience in collaborating with teachers of other subjects. What was different from traditional teaching? What advice would you give to another teacher planning to implement the same Learning Scenario about the achievement of the desired learning outcomes? (maximum 300 words).

In the script, we liked all the activities that stimulated our research work. As teachers, we focused on the importance of the activities' implementation that have encouraged students to develop collaborative learning and acquire new knowledge through research, and by actively participating in the learning process to develop new skills and abilities. Visual presentation of content through videos increases the dimension of world perception in ten-year-olds.

The teaching scenario enriched the teaching process with ideas, content, instructions and recommendations. In the implementation of the scenario, we were able to adjust the implementation time, the course of the teaching process and the breadth of access to our conditions. I think we would have arranged some parts of the scenario and done it differently had it not been for the Covid-19 pandemic. That is why we have adapted the materials and the proposed digital tools to match our students' level and needs. There were no communication problems within the team and the cooperation with other teachers was excellent. Due to the pandemic, we focused on one class, but in non-pandemic times we would encourage collaborative learning through a reverse classroom in which we would work in parallel with different age groups.

The beauty of this form of teaching is in representing a series of ideas for modernizing the teaching process from different parts of the world and in some way you get to know the culture and ways of teaching other nations. Through examples of good practice we compare the education system.

Challenges

__Did you face many challenges?__ If yes, how did you address them? Tell us more about your implementation issues, obstacles (practical or in relation to your school's organization/resources/environment), communication and planning issues, lack of knowledge, attitude towards STEM, etc. What did you do to overcome these challenges? (max. 200 words)

Through the lessons within the script, we did not encounter any major challenges.

Everything was very well structured, written and explained. It was easy to implement because it was a great addition to our curriculum. The problem was limited movement (impossibility to go to museums, factories, plants, the arrival of a guest lecturer at the school) due to the pandemic.

Thank you!