



Teaching Scenario, Demo Lesson and Lesson Plan

Project: Robo STEAM – Inclusive Technologies

Platform: StreamIT – Robotic Tele-Visiting Platform

Work Package: WP4 – Methodology and Teachers' Toolkit

Document Type: Teaching Scenario / Demo Lesson / Lesson Plan

Language: English

Location: Blagoevgrad, Bulgaria

Institution: High School of Mathematics and Natural Studies (PMG), Blagoevgrad

Museum / Exhibition: School Museum – “History of Our School and Achievements of Our Graduates”

1. Teaching Scenario Overview

This teaching scenario describes a demo lesson conducted at the School Museum of the High School of Mathematics and Natural Studies (PMG), Blagoevgrad. The lesson integrates the StreamIT telepresence robot platform to enable virtual observation, exploration, and discussion of the school's historical exhibition. The activity is designed as a teacher-led, classroom-based learning experience.

2. Educational Context

Target Group: Secondary school students (upper grades)

Learning Setting: Classroom-based, whole-class activity

Display: Projector / Smart screen

Visit Type: Non-guided (teacher-led)

Duration: 45 minutes

3. Learning Objectives

By the end of the lesson, students will be able to:

- Understand the historical development of their school.
- Identify notable achievements of PMG graduates.
- Reflect on the role of education in personal and societal development.
- Experience the use of telepresence robotics for remote observation and learning.

4. STEAM and Curriculum Links

- History and Social Studies – institutional history and cultural heritage.
- Technology – telepresence robotics and digital platforms.
- Science and Mathematics – reflection on scientific achievements of alumni.
- Arts and Humanities – presentation and interpretation of historical materials.



5. Classroom Materials

- StreamIT platform with telepresence robot access
- Projector or smart screen
- Preloaded exhibition materials (photos, text, archival documents)
- Prepared guiding questions

6. Lesson Plan Structure

6.1 Introduction (10 minutes)

The teacher introduces the topic of the lesson, briefly presenting the history of PMG Blagoevgrad and explaining the purpose of the virtual museum visit. Students are informed that they will explore the exhibition using a telepresence robot.

6.2 Live Telepresence Exploration (25 minutes)

Using the StreamIT platform, the teacher navigates the robot through the school museum exhibition. The robot stops at predefined viewing positions highlighting key moments in the school's history and achievements of distinguished graduates. Live video is displayed on the classroom screen, and the teacher provides explanations and invites student questions.

6.3 Discussion and Reflection (10 minutes)

After the exploration, the teacher moderates a discussion focused on students' impressions, the importance of educational heritage, and how technology enables new forms of learning and access.

7. Assessment and Feedback

Assessment is formative and based on student participation in discussion and reflection. Feedback is collected verbally through classroom discussion.

8. Inclusivity and Accessibility

The telepresence-based approach ensures equal access to the exhibition for all students, including those unable to physically visit the museum space. The whole-class format supports inclusive participation.

9. Demo Lesson Evidence

The following image documents the demo lesson conducted at PMG Blagoevgrad, illustrating the classroom setup and use of the StreamIT platform.



Figure 1: Demo lesson at the School Museum of PMG Blagoevgrad using the StreamIT platform.



Figure 2: Demo of a non-guided tour/lesson – Student in the role of a teacher, explaining to the audience about the exhibit in front of a smart screen, showing the robots camera feed from the at the PMG Blagoevgrad School Museum.



Figure 2: The robot at the PMG Blagoevgrad School Museum. Students got a demo of the autonomous navigation of the robot in small groups, with a lot of interest and questions from each group.

10. Transferability

This teaching scenario can be easily adapted for other school museums, cultural institutions, and exhibitions, supporting reuse across partner institutions within the Robo STEAM project.