Lesson Plan

2023-1-SK01-KA220-SCH-00015112

Topic	**Health and Technology**	
Block Title	**Innovative Solutions: Health and Technology in the Digital World**	
Age category 7-16	**Duration (min)** 80 min	**Number of teaching hours** 3

Student-oriented educational goals (content and performance standards)

The main goal for attending students is Understanding the Intersection of Health and Technology. Students will explore how advancements in technology impact healthcare, medical research, and patient care.

Students will develop technical skills in the use of 3D virtual worlds and online games to model, simulate, and solve health-related challenges.

Students will learn to apply creative solutions using STEAM disciplines, especially through virtual world environments.

Didactic materials and didactic techniques

- PC with internet access,
- 3D World environment,
- Collaborative Tool

References/Sources (videos, methodologies

Motivational phase

Duration (min): 10 minutes

Objective: Motivate students and pique their interest in the lesson topic while introducing the connection between health and technology.

Activity Title: "Virtual Health Explorers"

This activity will use a 3D Virtual World platform, where students will need to sign in and different health scenarios will be available. These scenarios could include a virtual hospital, a fitness center, or a research lab where advanced technology is being used.

The task for the students will be provided as instruction messages in the Virtual World and they will be asked to observe how technology is helping solve health problems (e.g., virtual surgeries).

Following their experience in the Virtual World, a brief discussion will take place about what they noticed, encouraging them to think about how technology supports healthcare in ways they might not have considered before.

Exploratory phase

Duration (min): 30 min

Objective: Facilitate a hands-on, discovery-based activity that deepens understanding of how STEAM and IT can impact health.

Scenario: "Design Your Health-Tech Avatar"

Students will work in teams to design an avatar or a virtual assistant that specializes in a health issue (e.g., diabetes management, mental health support, fitness tracking). They will first use online resources or teacher-provided materials to research common health problems (e.g., heart disease, diabetes, mental health issues). Then they will use the 3D World Platform to create an avatar with a specific purpose (e.g., a virtual fitness coach or a diabetes monitoring assistant). They should think about how technology can improve health through their creation (e.g., AI integration, data tracking). After designing their avatar, students will discuss in their groups how their health-tech avatar can assist patients, highlighting the importance of IT in healthcare.

Fixation phase (consolidation and deepening)

Duration (min): 40min

Objective: Empower students to apply their knowledge by tackling a real-world health challenge, utilizing engineering design thinking.

Activity: "Health-Tech Innovators Challenge"

Tool: 3D Virtual World or Online Game and collaboration tools (e.g. Google Jamboard).

Objective: Students will be presented with a real-world health problem and will need to create a

virtual prototype that addresses this problem. It would be best if an implemented scenario is first presented to make it more clear of what is expected. An example scenario could be a virtual simulation or game that teaches users how to manage a pandemic, using technology to track infections, develop vaccines, or ensure community health.

Following the presentation, students will be split into groups of maximum 5 and each team should brainstorm to come up with their own scenario. Students should identify the health problem and consider how technology could help solve it. They'll need to research and gather relevant information about the issue.

Then they will design their solutions in the Virtual Environment. They might create simulations, virtual environments, or avatars that solve the problem.

Finally, each team presents their implementation and explains how it works to the teacher and the other students.

Student Assessment

20%: Participation in virtual exploration and discussions.

20%: Quality and creativity of the 3D avatar designs.

20%: Group collaboration and problem-solving during the health-tech challenge.

40%: Presentations and ability to articulate how their design solves a health-related problem using technology.

Annexes:

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