

Title of Scenario "Logical games" Math club							
Type of school and school system		Middle School in general education					
Class	1 st , 2 nd and 3 rd Grade.	Age of the students	12-15	Total Duration	1 year	Number of hours	40
Short Description		<p>The program Educational games in Maths ' will be implemented in the after school program "Mathematical Thinking Club". The primary aims of the program are:</p> <p>a) to learn mathematics through real life situations, such as by creating an educational game</p> <p>b) to creatively use the history of mathematics, mathematics itself and computer programming in designing and creating video games.</p> <p>The students who will participate in the "Mathematical Thinking Club" will:</p> <ul style="list-style-type: none"> > visit and attend the "Art & Mathematics" program at the local Math Museum (Heracleidon Museum), > visit local escape rooms , > visit the local museum of Ancient Greek Technology, <p>in order to collect ideas for their video games.</p>					
Outputs		<p>Students will:</p> <ul style="list-style-type: none"> > Produce an educational video game. > Wright the scenario for the video game exploiting history of mathematics. > Create math puzzles for the different game tracks. > Promote their video game by presenting it to relevant competitions. 					
Stakeholders involved		<p>Producers: Students of the after school club « Mathematical Thinking Club».</p> <p>Advisors: Companies or people that produce games.</p> <p>End users: Students of the 1st Experimental Gymnasium of Athens-Students of the nearby schools, peers from their neighbourhood.</p>					
Environment		<p><i>Internal Coherence with the school environment:</i></p> <p>They will make use of their mathematical Knowledge that they gain in school.</p> <p>They will learn to evaluate and improve other students' work.</p> <p>They will develop communication skills and skills that are required in the commercial sector, in order to promote the games.</p> <p>They will learn about computer programming.</p> <p><i>External coherence with the school environment:</i></p> <p>The students, with the production of the games, will try to cover the need of the community for qualitative entertainment.</p>					
Objectives		<p>The expected knowledge for students is summarized as follows:</p> <ul style="list-style-type: none"> > To put school mathematics in practice, in real life situations. > To denaturize theoretical knowledge (mathematics, history of mathematics) to a product for commercial exploitation (video games). > To create video games. <p>The expected technical skills for students are summarized as follows:</p> <ul style="list-style-type: none"> > To learn how to make an educational video game. > To process graphics and sounds in order to use them in their video game. > To implement their video game using a programming language. To produce the documentation for their game (the user manual). <p>The expected soft skills for students are summarized as follows:</p> <ul style="list-style-type: none"> > Ownership: Students take responsibility for their own learning. > Experiential learning: Students' learning is based on hands - on experience. > Cooperation: Students learn with and from others and understand the dynamics of working as part of a team. > Reflection: Students experience the consequences of their decisions and apply that learning to future challenges. 					

Key words

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