

Section 3

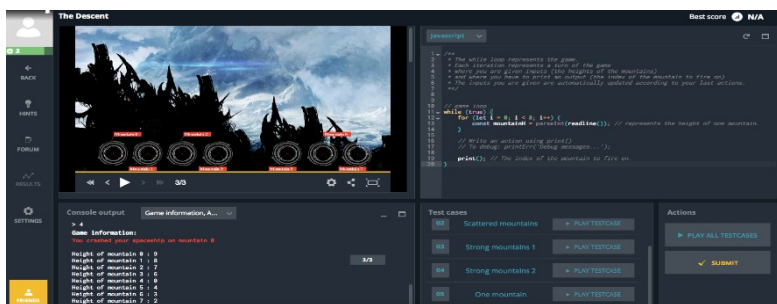
Chapter 13 - Assessment in Videogames and Educational Apps Based Learning In Tertiary Education

Exemplary case 2

Title: **CodinGame application for programming course**

Description:

Codingame is a challenge-based online platform for practicing programming skills. The platform is free to use and allows to practice in 25 programming languages. Each programming challenge is designed as a minigame. Player task is to write or improve the game code to make it work and reach the game goal.



Integration into learning plan

Every challenge has a difficulty level, ranging from fundamental concepts to complex algorithms. Also each game is focusing on teaching specific programming concepts, that are introduced in the description of the challenge. The platform can become a practicing environment for the classroom activities to be used instead of usual code editor. It provides automatic code checking, error logging and hints for the player. A generic lesson using the CodinGame platform could start with

teacher introducing programming concepts to the class, showing and trying a few basic examples in code editor. Then students would be assigned to complete a challenge applying the new concepts to solve the puzzle. Later the different solutions should be discussed and best practices highlighted. Student's can follow each other within the platform and compare their solutions.

Learning assessment

Coding challenges have a built in testing mechanism, that run's the student code with test cases and respond with the feedback. Once the code passes all the tests it is considered to be correct. However, many variations of the code are possible, so additional ranking of the solutions could be applied to select the code that is the most optimised or the reflects the learning topic the most. Students can complete the challenge as an assessment and submit the solution link to teacher for further evaluation of the code. Players receive points and badges for their performance and progress within the platform and can see where they stand in leaderboard compared to all players and to their peers.

Access for school

[Codingame](#) is open to use online and does not require any additional software installation. Additional testing environment used by recruiters to test developers for the job skills is available for purchase but is not necessary to access all the challenges.