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LEARNING BY PLAYING IS STIMULATING

ERASMUS+ | COOPERATION FOR INNOVATION

WHAT IS A SERIOUS GAME ?

Games that do not have entertainment, enjoyment or fun as their primary purpose.
Chen & Michael 2005

A game is a cycle among challenges, feedbacks and objectives. A serious game combines gameplay, narration, learning.

A serious game has the intent to combine coherently both useful aspects, such as teaching, learning, communicating, publicising, and playful outcomes from the game, video game or not.

The player must master several skills to win. By succeeding the player develops a sense of control over his environment and thus strengthens and awakens his attention resources.

A serious game claims to achieve 6 educational objectives:

- memorization
- dexterity, sensory-motor skills
- the application of concepts, methods, theories to new situations
- problem solving (decision making, prediction, conclusion projection, argumentation)
- understanding of the social environment, the ability to interact with others
- the ability to learn independently, to self-evaluate

LET'S PLAY GREENER

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Expertise : Anne Lautrou.

Traduction : Francesca Giordano

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ADVANTAGES OF SERIOUS GAMES

A game that gives the learner regular feedbacks on his actions supports his motivation.

The DANT project in Italy has created a collection of educational video games aimed at learning mathematics and Italian. These games were evaluated on the field for 4 years with 10,000 students and 1,000 primary and secondary school teachers. Each school had a test group and a control group. Students who used



the games during the school year have about 2 more points on average for mathematics and 3.5 more points in Italian.

The learner is invited to exercise his thinking skills on a learning mode by trial and error. He mentally builds a hypothesis before testing it in the game. Learners can make mistakes to understand the consequences but also to adapt their strategy to different situations.

Learning by playing makes it possible to adapt the routes and rhythms to each learner. The difference in pace does not have a negative impact on learning, as long as learners manage to reach the final objective, without worrying about the people's eyes on them.

The game encourages communication and collaboration between students, both online and in person. Students explain concepts to each other, praise each other when they succeed or fail, and support each other when they take risks.

Serious games give concrete and animated representations of sometimes abstract notions. This medium allows some learners to better assimilate these notions.

CHOOSE RELEVANT SERIOUS GAMES

The teacher evaluates the relevance of a serious game with regard to its pedagogical objectives.

The teacher chooses a game related to the knowledge, skills and abilities to be developed according to the program. It can, with the help of a game, introduce a new sequence, propose training aimed at reinforcing the acquisition of the targeted skills, encourage a reinvestment of the acquired skills, evaluate learners.

The teacher anticipates the game experience: by appropriating the support tool, he takes a critical look at the knowledge validation actions and processes. This analysis facilitates subsequent communication with the student.

The teacher evaluates the game design, i.e. the game mechanics and playability. Game design is the player's main source of motivation to play, act and think. It offers the most experienced players the opportunity to become mediators with other players. The teacher analyses the quality of the game play, the mechanisms and interfaces to play and interact.

