

GAME DESIGN WORKSHOP DESCRIPTION

Working load: 8 hours

Period: October-December (Fall session) and February-April (Spring session)

Purpose: The main objective of the "Game Based Learning. From design to the learner experience" course, is to develop competencies for the analysis, design, pedagogical integration and evaluation of serious games and digital game based learning activities in an educational setting. Five transversal competences are developed through this course: critical thinking, collaboration, problem solving, creativity and computational thinking

Game Design Methodology :



Fig 1. Steps for the game design process during this workshop.

Facilitator : Prof Dr Margarida Romero is research director of the Laboratoire d'Innovation et Numérique pour l'Éducation (LINE), a research lab in the field of Technology Enhanced Learning (TEL). Her research is oriented towards the inclusive, humanistic and creative uses of technologies (co-design, game design and robotics) for the development of creativity, problem solving, collaboration and computational thinking.

Twitter : <https://twitter.com/margaridaromero>; blog: <https://margaridaromero.wordpress.com/>

Learning Objectives:

Topics :

- Introduction to Game Based Learning (GBL), serious games and gamification.

- Can we learn through Game Based Learning ?

- Game design and the Game mechanics and Learning Mechanics (LMGM model).

- Introduction to prototyping and digital game development.

- Game modalities, game universe and Narratives.

- Assessment in Game-Based Learning.

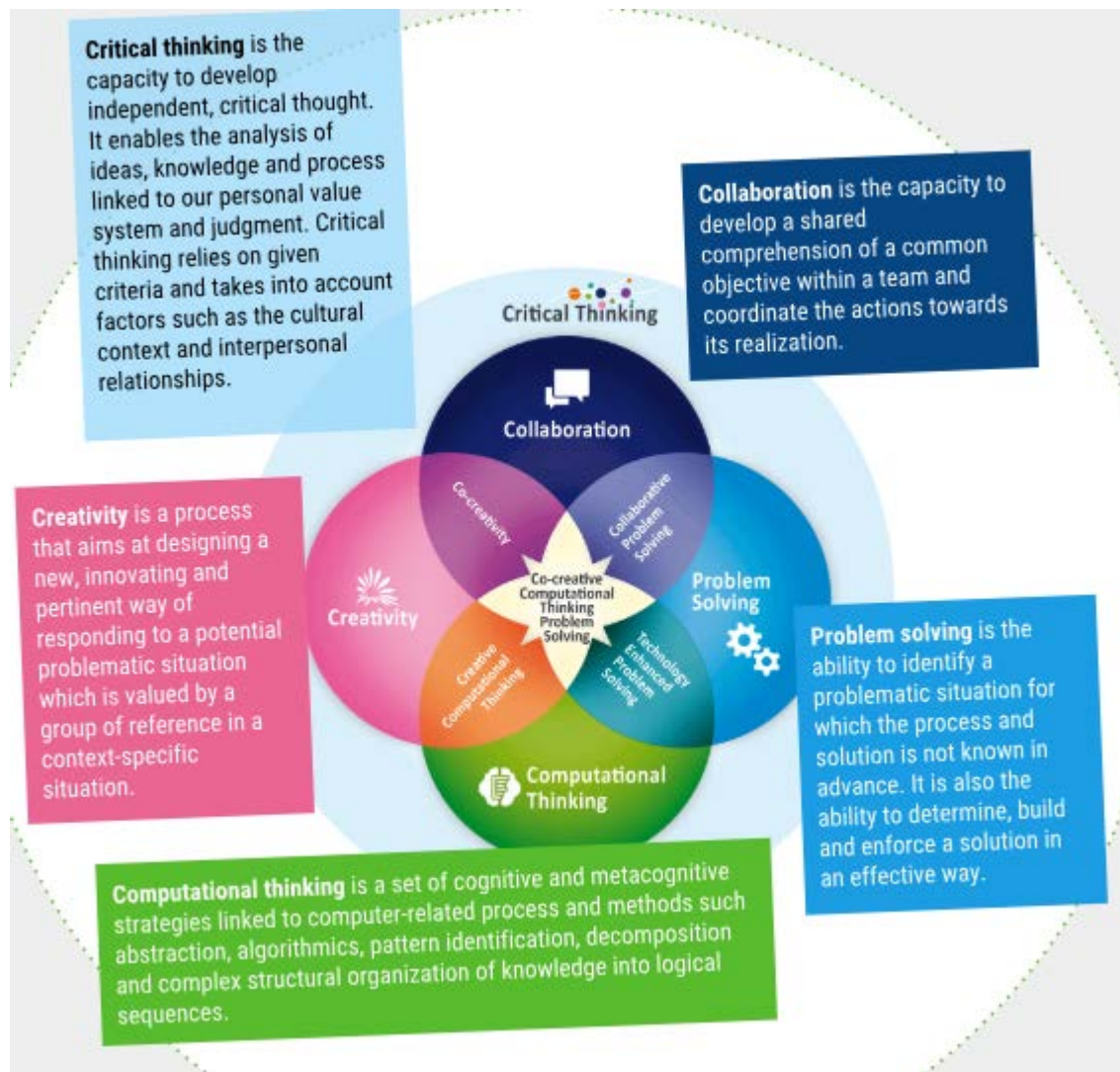
- Game Creation Platforms.

- Customization and adaptation of serious games.

- The economic sector of digital gaming.

Competences:

Five transversal competences are developed through this course: critical thinking, collaboration, problem solving, creativity and computational thinking.



Criteria for admission:

The student must demonstrate motivation for participating in this specific workshop (as most are optional).

Course activities :

- Analysis of serious games (individual)
- Development of a prototype (team-based activity)

Examination (total 100%):

- Individual (50 %): general behaviour (engagement throughout the session, diligence, punctuality, ...), quiz and test during the session, peer-to-peer evaluation based on 21st century skills (creativity, complex problem solving, critical mindset, communication, ...).
- Collective (50 %): group project (incl. presentation).

Mandatory references :

Arnab, S., Lim, T., Carvalho, M. B., Bellotti, F., De Freitas, S., Louchart, S., ... & De Gloria, A. (2015). Mapping learning and game mechanics for serious games analysis. *British Journal of Educational Technology*, 46(2), 391-411.
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Romero, M., Usart, M., Ott, M., Earp, J., & de Freitas, S. (2012). Learning through playing for or against each other? Promoting collaborative learning in digital game based learning. *Learning*, 5(2012), 15-2012.
https://www.researchgate.net/profile/Jeffrey_Earp/publication/235969273_Learning_through_playing_for_or_against_each_other_Promoting_collaborative_learning_in_digital_game_based_learning/links/0deec514fff7b46c64000000.pdf

Optional references :

Bellotti, F., Berta, R., De Gloria, A., Lavagnino, E., Dagnino, F., Ott, M., ... & Mayer, I. S. (2012). Designing a course for stimulating entrepreneurship in higher education through serious games. *Procedia Computer Science*, 15, 174-186.
https://ac.els-cdn.com/S1877050912008319/1-s2.0-S1877050912008319-main.pdf?_tid=91d63f25-7074-40d4-9293-0fbb091ce4ea&acdnat=1547741115_72ca9cedf09fa4e6563ebb715c55e5d0

Padrós, A., Romero, M., & Usart, M. (2011). Developing serious games: From face-to-face to a computer-based modality. *Elearning Papers*, 25, 1-12.
https://www.researchgate.net/profile/Margarida_ROMERO/publication/237012165_Developing_serious_Games_From_Face-to-Face_to_a_Computer-based_Modality/links/54dd35580cf28a3d93f896b2.pdf

Proulx, J. N., Romero, M., & Arnab, S. (2017). Learning mechanics and game mechanics under the perspective of self-determination theory to foster motivation in digital game based learning. *Simulation & Gaming, 48*(1), 81-97.

Romero, M., Usart, M., & Ott, M. (2015). Can serious games contribute to developing and sustaining 21st century skills?. *Games and Culture, 10*(2), 148-177.