

BACKGROUND

Financial Literacy (FL) is basic knowledge best to be acquired early in life to make individual financial decisions better informed and more effective. However, most of the population is excluded from its potential benefits, as the levels of FL are still unsatisfactory even in developed countries. According to OECD PISA 2018 results, one in four students in the 20 countries that took part in the latest test of financial literacy, and one in seven in the 13 OECD countries, are unable to make even simple decisions on everyday spending. Only one in ten students performs at the highest level of financial literacy, on average across OECD countries.

The Erasmus + project **ANGLE "A Network Game for Life-cycle Education"** focuses on ways in which financial knowledge can be acquired by young generations by using innovative technologies of education, such as games and on-line tools, which allow learning through active involvement and participation. Thanks to the ANGLE **life-cycle approach**, youths will also gain awareness of the time consequences of their financial choices and learn a notion of time consistency. The core of the project is the **production of a tabletop game** designed to allow players to face situations replicating real life-cycle experiences. The focus is on important economic and financial decisions with long-term implications for different stages of the life course.

Why games?

- Games represent an **active way for the young to learn** by facing stylized situations and having to take decisions and bear their consequences. The underlying concept of our project is that games are the best way of simulating experience and that one learns better through experience, from those who enter as "financially illiterates" to those who are convinced to be already financially sophisticated.
- Serious Games used in training and education have great impact because they provide excellent means to **develop skills such as problem solving, decision making, multitasking and teamwork**.
- Using games in a training environment can help **raise the level of learners' engagement** and retain their attention for a longer time.

Learning form existing games

In the field of serious games for teaching FL to youths, there are already products, both digital and physical, aimed at teaching them how to face critical economic and financial situations they will likely encounter in their life-cycle.

For the preparation of our project, we have reviewed a series of tabletop/online games that helped us to frame the mechanics and features of the ANGLE game:

Selected board games | Starting with the iconic "Monopoly", there are several popular board games that can be of inspiration for our FL game. Popular tabletop games such as 'The game of life', though particularly targeted to younger players, are



based on mechanics that can be replicated in a FL game. However, even if these board games simulate a person's travel through life, they only offer basic concepts of money management and investing, and earning points is more a matter of chance than the consequence of making relevant decisions in a life-cycle perspective.

Online games | There are several online resources, too, which are addressed to students, mostly available for free. Here is a selection of online tools we found most interesting for the purpose of our project:

- **HowTheMarketWorks**. A free stock market game for middle/high school students, where teachers create a customized stock market game to fit their class. <https://www.howthemarketworks.com/>
- **Payback**. This game nudges students to think about how to succeed in college without taking on excessive student debt. Students learn the importance of having a healthy balance between academics, work, and social activities, while continuing to manage their debt. <https://www.timeforpayback.com/>
- **Spent**. Spent challenges players to survive the struggle of low-income living. Developed to raise money for Urban Ministries of Durham, it helps understanding the effects of financial choices during hard times. <http://playspent.org/>

- **Money Magic.** A game designed to teach basic budgeting principles. Students can practice their balancing skills to balance immediate desires with long-term plans. The game is managed by Next Gen Personal Finance, a US non-profit organization that supports the teaching of personal finance in schools. <https://playmoneymagic.com/>
- **The Payoff.** In this game, developed by VISA, young students play the role of a video blogger preparing for a life-changing competition while managing money and unexpected events. Users must help their character making smart financial decisions. https://www.practicalmoneyskills.com/play/the_payoff.
- **The Uber Game.** In this game, students play the role of a full-time Uber driver who is trying to pay the mortgage. The interactive game, created by the Financial Times and based on reported real-life experiences, challenges students to face life circumstances of those in the gig economy. <https://ig.ft.com/uber-game/>

Erasmus + educational games | Erasmus+ partnerships have provided a platform for the development of educational methodologies. It is worth mentioning two recent Erasmus+ initiatives:

- **Borderline Boardgames**, coordinated by Narviksenteret, is a successful Erasmus+ project in which 8 different partners from 7 countries developed interactive board games and online resources to be used in educational programs, aimed to increase awareness of societal values and social inclusion among the youth. The project targeted young people at the local and international level, schools, NEETs. The “Real Ideal” game, in particular, challenges player with issues like financial planning, loans, interest rates, and maintenance costs: <https://bb-games.eu/games/real-ideal/>
- **PiggyBank Project.** This ongoing project, coordinated by Reintegra, started in 2019 and supports financial education through diversified learning materials designed for the different age groups of the household - particularly in disadvantaged communities; young adults will be targeted through educational resources that encourage learners to develop financial management plans. <https://piggybankproject.eu/>

First steps toward the ANGLE game

In January 2020, the ANGLE partners assessed the feasibility of the game proposal through a **simplified and partial version of the ANGLE tabletop game**, which was tested with 14 university students of the University of Turin, different in gender, nationality and social background,

guided by tutors. The students, divided into smaller teams, had to answer quizzes, face chances and make stylized life decisions. Players had the opportunity to access “learning modules” explaining FL concepts.

The game was **played with a co-creation approach**: participants provided feedback on different aspects of the game (e.g. structure, content, effectiveness). The students recognized that the lack of financial education prevented them from making informed decisions for their future and evaluating the trade-offs of important choices. Their feedback highlighted that **playing with other teammates was appreciated as an engaging and helpful way of learning**. Most appreciated was also the choice of the concept of life-cycle which is rarely handled in academic curricula. Praise was given to the “role-game” component, which implies impersonating individuals with different backgrounds and family history, thus requiring to look at crucial decisions from different angles.

Original features of the ANGLE game

Games are still marginally used in universities and higher education institutions, often being employed only for younger students. Also, not all existing FL games are designed for a systematic formal educational use; some of them lack an inclusiveness focus or a well-grounded scientific basis; they are not specifically designed at providing a life-cycle approach.

In the ANGLE tabletop game players will have different initial endowments, reflecting the diverse paths and the variety of possible family backgrounds, and will be able to earn points by making wiser choices in a life-cycle perspective, answering to quizzes and giving correct advice to other players.

Our game will carry **several innovative features**:

- it follows a **life-cycle approach**, typically not adopted in FL, which provides a notion of time (in)consistency of choices, since the present time is often favored at the expense of the future (according to a “carpe diem” attitude), not fully understanding the risk of myopia.
- it employs a **pedagogy based on the creation of a “serious role game”** rooted in a sound scientific background.
- it **promotes cooperation between participants** through collaborative mechanics among people with different social backgrounds, fostering social inclusion in a positive-sum interaction scenario where more literate participants help less sophisticated ones.
- unlike many existing games, it is **specifically addressed to university students**, with the ambition of being useful also to young unemployed and NEETs.