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# UPSKILLS and educational games



**L-Università  
ta' Malta**

Upskilling linguistics and languages HE students  
with the aid of educational games

4<sup>th</sup> UPSKILLS Multiplier event

Valletta, 30 May 2023

# Why games are the way to go...

(Tannahill N., Tissington P., & Senior C. (2012). Video games and higher education. Front. Psychology 3: 210)

Traditional lecturing:

Modular-based structure but is usually delivered “in big, ugly, rather unpleasant lumps” (Chatfield, 2010, p. 2) that present a relatively limited picture of student progress.

Educational games (and gamification):

- Constantly and automatically assess the learner’s ability.
- Provide unique cognitive stimulation and motivation.

# Why games are the way to go...

(Squire, K. Video Games and Learning: Teaching and Participatory Culture in the Digital Age; after Pleasant & Ritzhaupt's 2013 review)

- Games have a unique potential of teaching and learning unlike any other medium;
- Gameplay enables the intellectual and social growth of the participant over the long term and permeates into his or her learning repertoire;
- Game content, overlapping goals, continuous problem solving, social interactions and gaming cultures are critical aspects of learning through games.

=> students get to remain engaged, excited, interact, problem solve and learn at the same time.

# Why games are the way to go...

(Squire, K. Video Games and Learning: Teaching and Participatory Culture in the Digital Age; after Pleasant & Ritzhaupt's 2013 review)

Games have been shown to spark interest-driven learning among students and teachers alike:

- they establish new interests that the student further explores and investigates;
- they inspire students to pursue questions and answers to developing questions while playing;
- they create an environment that leads to intrinsically motivated engagement.

# Types of educational games

(Tannahill N., Tissington P., & Senior C. (2012). Video games and higher education. *Front. Psychology* 3: 210)

## A. Commercial off the shelf games

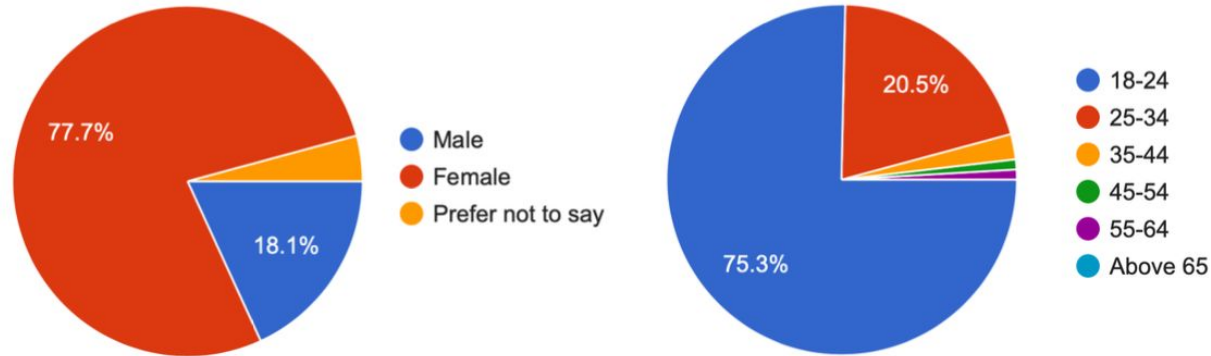
- replete with effective constructivist teaching structures
- teachers need to understand all aspects of the game and overtly tie it to specific learning objectives.

## B. Custom-made educational games

- allow for specialised learning through adapted contents to match specific learning objectives
- teachers and game designers collaborate to tie the game to specific learning content and connect students with resources

# UPSKILLS and games: Preferences

Sample of 215 students



*Figure 1. Gender demographics and age of respondents*

# UPSKILLS and games: Preferences

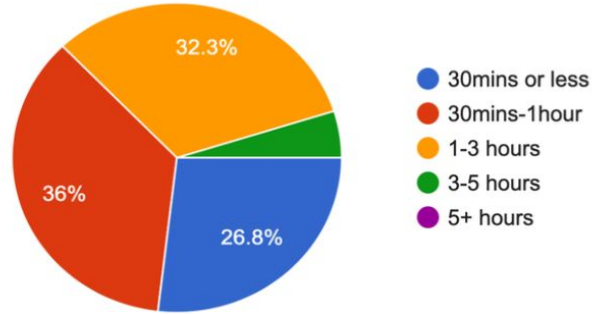


Figure 2. Length of time spent playing per session

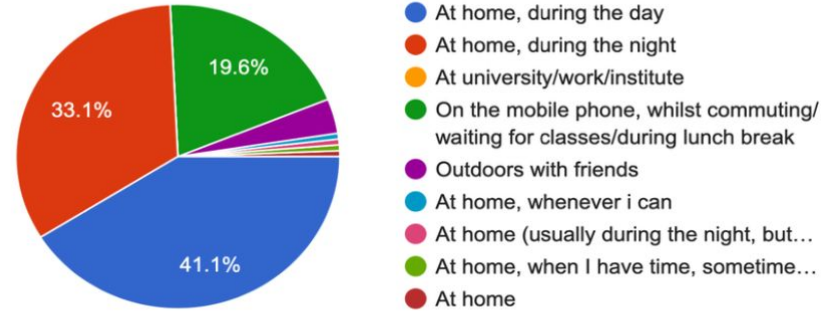
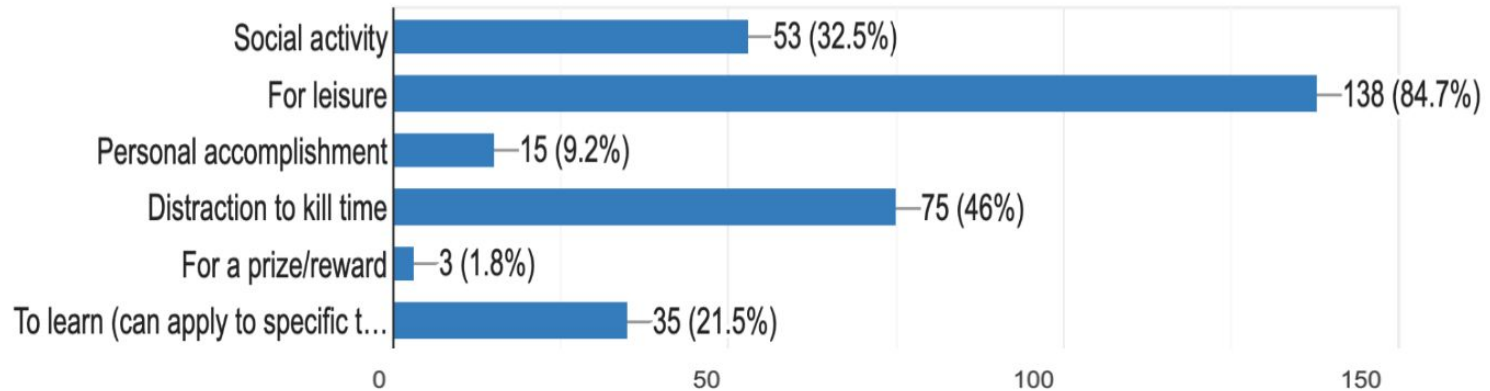


Figure 3. Location of play

# UPSKILLS and games: Preferences



*Figure 8. Reason for playing games*



# What to teach through games...

Anything really...

but perhaps more pertinently:

- Transversal skills: most games focus, among others, on problem solving and critical thinking, while some can also help create a sense of community.
- Games can be used to introduce a problem, by drawing a parallel from the real world to the game world. What is important here is that the parallelism is made explicit.
- Immersion-based games can be used to create the illusion of a simulated environment (e.g. workplace)
- Games can make assessment more engaging...

# Off the shelf games and UPSKILLS

The UPSKILLS consortium (Camilleri 2022) compiled a list of (open access) off the shelf games that correspond to the domain clusters identified in the UPSKILLS needs analysis (Miličević Petrović et al. 2021):

- Establishes links to different learning outcomes in terms of knowledge, skills and competences.  
=> enables the academic/educator to choose games to integrate into their curricular practice.
- Focuses on brevity of game play (30mins - 3 hours), the narrative and the game plot, as well as the targeted skills (such as problem solving, creativity, data management, etc. ).

# Off the shelf games and UPSKILLS

A searchable version of this list will be released through our website...



*Educational games and UPSKILLS*

Name	Description	Publisher	Cost	Accessibility	Players	Language Support	Gameplay Time	Skills	Game Features	UPSKILLS Domain Clusters
<b><u>Storybook Brawl</u></b>	This game is targeted towards those people who show a preference to card games. It is a strategy game which is played through deck creation. The card game which features a number of creatures and treasures is an auto battler game, and each of the characters has a well defined role which makes game play slightly easier to grasp especially for beginners. Reviews indicate a game that is fun to play, with a good storyline and therefore quite appealing to the UPSKILLS target audience.	Good Luck Games LLC	Free to play	Windows	1	1	2-3 hours	Strategy	Easy to use Card game Fun Strategy	Research-oriented Transversal
<b><u>If on a Winter's Night, Four Travellers</u></b>	This game is focused around a narrative, and uses the point-and-click type of adventure game. It contains an element of horror, whilst exploring the stories of 4 different characters as they travel on a train. The story unfolds in the 1920's. The game also explores certain themes such as homophobia, racism, mental illness, etc so can be used to stimulate a degree of discussion amongst themes.	Dead Idle Games	Free to play (certain content is released at a price)	Windows	1	1	2-3 hours	Creativity	Adventure, Point & Click game (easy to use) Narrative Can provoke discussion	Intercultural Research-oriented Transversal
<b><u>Loading Story</u></b>	A very short game revolving around the narrative of a young software developer who is trying to keep her job. It's another point and click game, that is built mostly along dialogue.	Potatodog	Free	Windows	1	1	20-30 mins	Communication	Narrative Fun Short	Research-oriented Organisational Transversal
<b><u>Rising Spire: Prelude</u></b>	A fantasy game set around mystery and adventure, as a young character sets out on a journey across the world of Malus. This game is a prelude and an introduction to the actual game Rising Spire which is not free.	LFB Studios	Free	Windows	1	1	2-3 hours	Communication Interaction	Narrative Role-playing	Research-oriented Transversal

... alongside guides for including games in your curricula!

**Game Example #3:**

**Tales of Escape:** [https://store.steampowered.com/app/587860/Tales\\_of\\_Escape/](https://store.steampowered.com/app/587860/Tales_of_Escape/)

**UPSKILLS Domain Cluster:**

- Research-oriented
- Transversal

**Target Audience:**

Undergraduate

**Requirements:**

No specific requirements

**Gaming Experience:**

Intermediate-Advanced

**Skills Targeted:**

- Analytical skills
- Ability to review a problem, identify a solution and foresee opportunities
- Teamwork
- Working under pressure
- Communication skills
- Attention to Detail

**Learning Outcomes:**

Upon completion of game play, the students are expected to:

- Demonstrate skills related to analytical and logical reasoning to solve a series of puzzles
- Identify the problem related to the task at hand, and think of a possible solutions
- Work in a team, leading or taking a follower's role where and when necessary
- Demonstrate abilities to work under pressure to be able to solve the game's puzzles and escape from the room

**Introduction (for academics & lecturers):**

This is a VR-based game that simulates an escape room. The strength of this game is that it can support multi-playing up to 6 persons. This means that it is ideal to support transversal skills such as communication and interpersonal skills. This game also uses the time element to introduce an extra challenge and have players work under pressure. Players are expected to solve puzzles to be able to escape from the game environment. This means that through this game, the educator can engage users in employing logic and reasoning to solve the challenges whilst attempting to unlock the game's escape point. This game has a number of additional scenarios which can be added. The additional scenarios are at a fee. However the basic game is free and can be played in 30mins-1hour which makes it ideal as an in-class activity (especially if no VR sets are used, and users play using the PC).

**Pre-Game Briefing:**

The game you are playing today is a simulation of an escape room. This game can be played either via PC or on VR headsets. The concept is for you to team up in groups of up to 6 players to solve challenges and puzzles and manage to escape in the time set. You will need to use all your analytical and logical powers to be able to solve the puzzles. However this is not a 1-man show. You are expected to work with your team mates and assume leader or follower roles depending on the context and nature of the puzzle that needs to be solved. It is important that before taking decisions, a consensus is reached and the solution is reached avoiding in-group conflicts. You will be working under pressure and your attention to detail and sharp observation powers will be called in action. Work together to help make your escape out of this tale.

**Game de-Briefing (post-play):**

- Did you manage to escape?
- How long did it take you to escape?
- What did you think of the way your team worked to be able to escape (or not) ?
- Do you think that if you were to play this again you would assume different strategies to solve the puzzles?
- Which puzzle was most challenging and why?
- Which puzzle proved to be least challenging and why?

**Possible discussion questions to raise to highlight transversal skills:**

- How did you, as a team decide on the solutions to the puzzles?
- Was there just one leader in the team or did the team members assume leadership roles at various stages of game play?
- Were there any communication challenges you came across? What were they? Can you describe why it was a challenge?

# Custom-made games in UPSKILLS

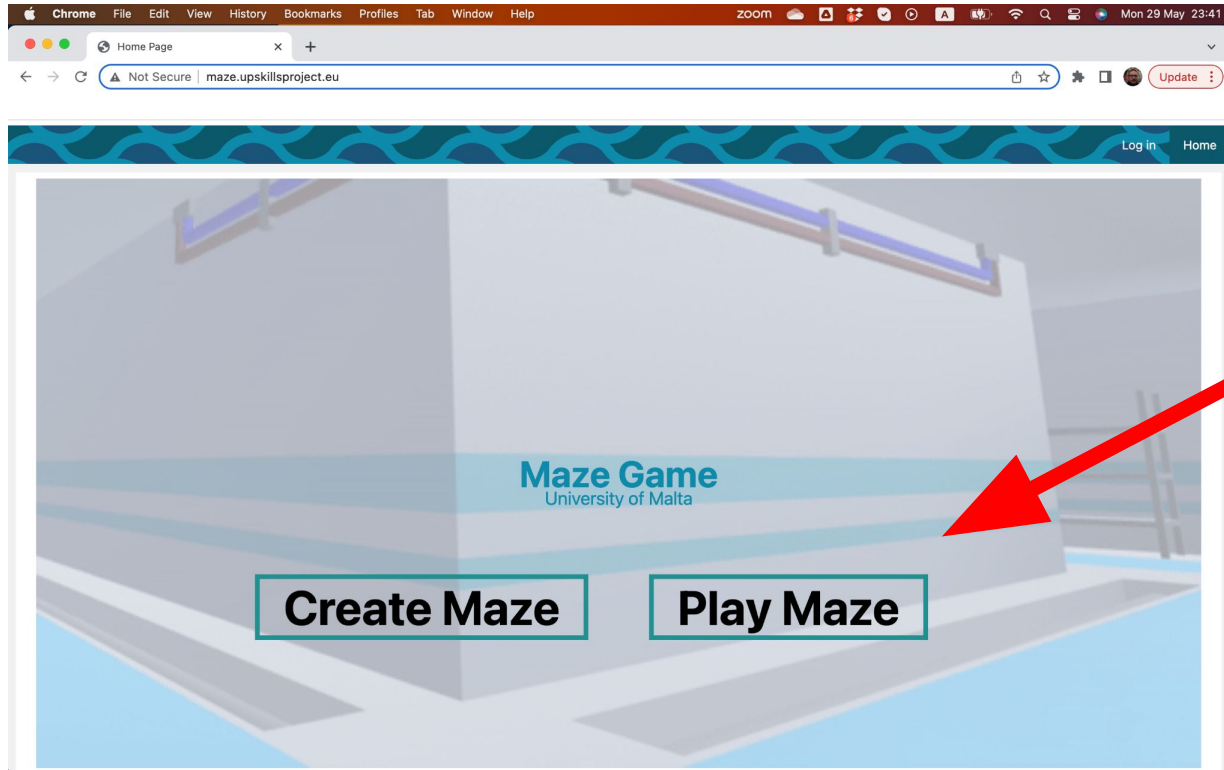
We also created educational games!

Very soon you'll hear more about:

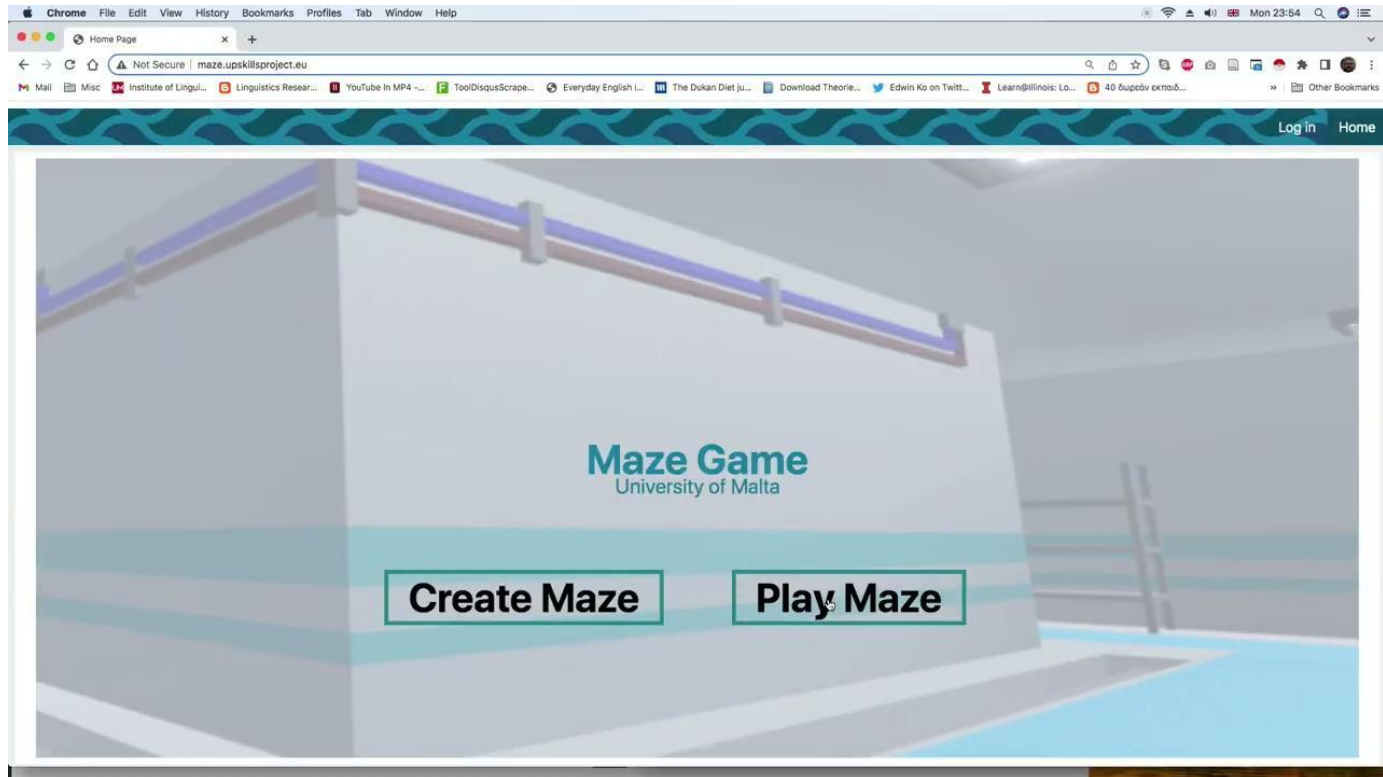
- Guess the Language!:
  - => Using a familiar game design to teach how language works
- TopLang
  - => Learning and/or assessment through simulating a work environment

As well as a more 'widely' applicable quiz game: The Maze Game.

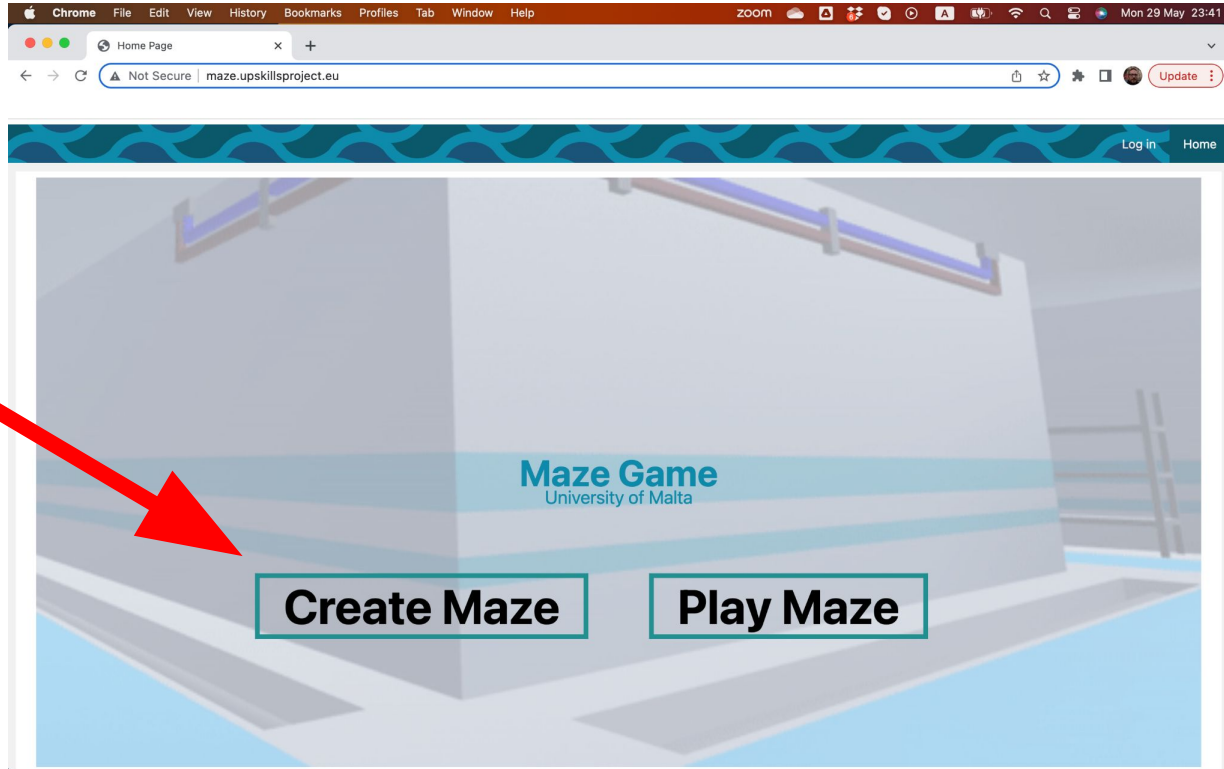
# The Maze Game



# The Maze Game

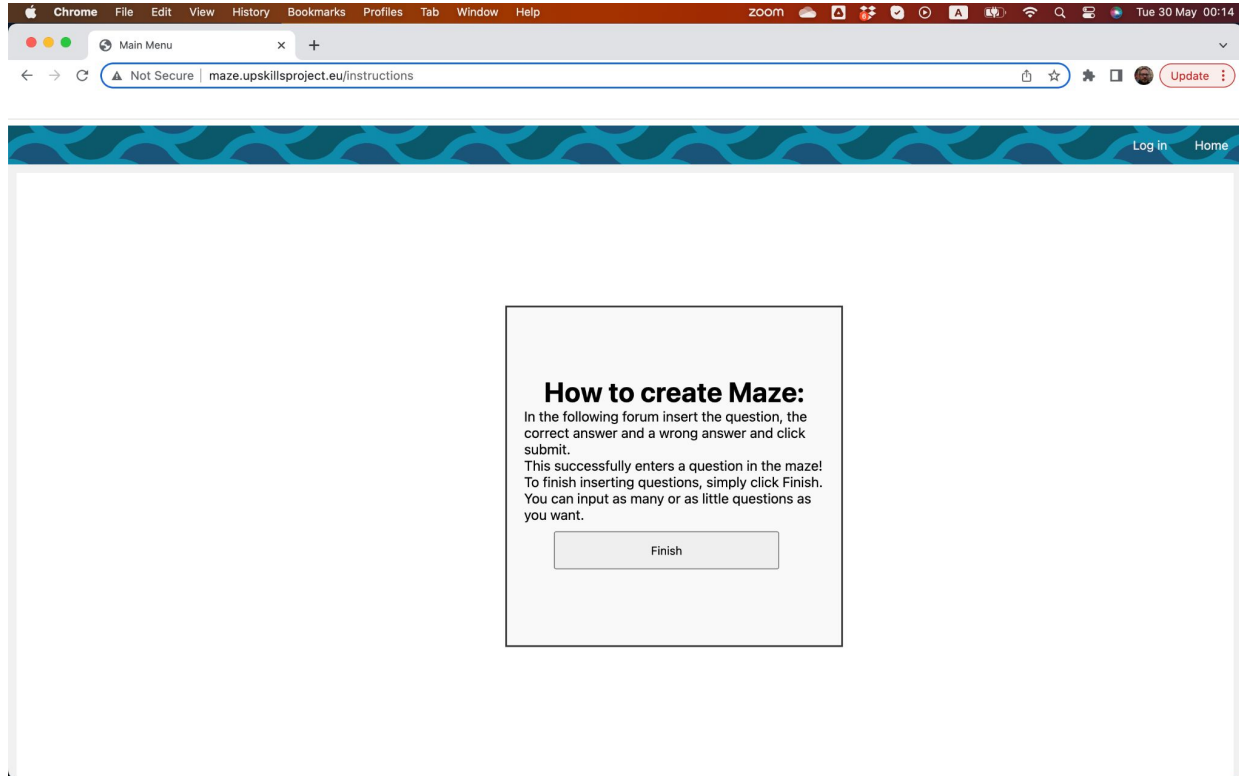


# The Maze Game





# The Maze Game



The screenshot shows a Chrome browser window with the address bar displaying "maze.upskillsproject.eu/instructions". The page has a blue and teal wavy header with "Log in" and "Home" links. The main content is a light gray box with the following text:

**How to create Maze:**  
In the following forum insert the question, the correct answer and a wrong answer and click submit.  
This successfully enters a question in the maze!  
To finish inserting questions, simply click Finish.  
You can input as many or as little questions as you want.

Below the text is a "Finish" button.

# Finally, a note on gamification...

Gamification = the creation of (educational) games

# Finally, a note on gamification...

Gamification ~~= the creation of (educational) games~~

→ incorporating dynamics associated with game design in the educational environment

Reasons to prefer gamification techniques over full-blown games:

- Learning exclusively through gameplay is very tricky (*'I came here to learn, not to play a game'*)
- UPSKILLS gameplay preference survey: 28.8% of respondents do not play games, and the majority only plays games casually.

# Finally, a note on gamification...

How?

By incorporating features of game design into a curriculum

e.g. In digital learning environments:

- The ability to upload pictures / create avatars.
- A point system to mark achievements, coupled with completion badges.
- Clearly signposted progression stages with progress bars.
- If applicable, a storyline for a class or leaderboards for competitive tasks.



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# Thank you!

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