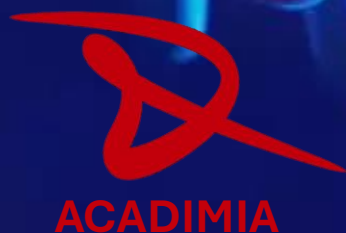


# Gamification for fun, engagement and learning!



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Acadimia Online Workshop  
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Erasmus+

A large, dense collection of board game boxes is shown, piled together. The boxes are of various colors and sizes, featuring different artwork and titles. Some visible titles include 'Taboo', 'Exploding Kittens', 'Spyfall', 'Kill Doctor Lucky', 'Munchkin', 'Uno', 'Dolores', 'The Resistance', 'Guts of Glory', 'Codenames Pictures', 'Sherlock Holmes Consulting Detective', 'Settlers of Catan', 'Topple', 'Mafia', 'The Resistance', 'Dolores', 'Munchkin', and 'Uno'. The boxes are arranged in a way that creates a sense of depth and abundance. The text 'What is a game?' is overlaid on the left side of the image in a large, white, sans-serif font. Below it, a quote is overlaid in a smaller, white, italicized font. The background is a plain, light-colored surface.

# What is a game?

*“A game is a rule-based formal system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable.” (Juul, 2011)*

# Gamified vs. game-based learning

- Gamified learning
  - Uses elements of game design to construct engaging and playful learning activities.
  - Learning is made game-like.
- Game-based learning
  - Uses games to teach certain knowledge and skills.
  - Learning is expected to occur as a game is played.

*There is a lot of ambiguity in definitions of these two terms and what distinguishes them.*

*See for ex. Landers (2014) & Krath et al. (2021)*



# Gamifying learning

- Use game design elements to transform any learning activities into engaging and playful games.
- Key points covered in the lesson:
  - Range of examples of effective gamified learning.
  - Developing engaging storylines for gamified learning.
  - Develop appropriate assessment strategies.
- Methodology in a nutshell:

Learning outcomes/  
competences



Game design  
elements



# Potential learning outcomes

Engaged  
learners

Active  
learning

Student  
agency

Enhanced  
motivation

Relatable  
outcomes

MORE  
FUN!



Questions? Comments?

# Gamification handbooks / learners-trainers



**GAMIFICATION FOR FUN,  
ENGAGEMENT AND LEARNING!**

Handbook for Gamifying Lesson Plans:  
A Practical Guide for Teachers

Compiled by Trygvi Thayer, Ph.D. and Skúlfína Hlíf Kjartansdóttir  
September, 2024



## Learners' Handbook:

- Details about gamification processes
- How to use gamification worksheets to gamify lessons

Link: <https://actionlearning.eu/wp-content/uploads/2024/09/Gamification-Handbook-for-learners.pdf>



**GAMIFICATION FOR FUN,  
ENGAGEMENT AND LEARNING!**

Trainer's Handbook  
for Leading Gamification Training Sessions

Compiled by Trygvi Thayer, Ph.D. and Skúlfína Hlíf Kjartansdóttir  
September, 2024



## Trainers' Handbook:

- Key learning points related to gamification processes
- Teaching others to use gamification worksheets to gamify lessons

Link: <https://actionlearning.eu/wp-content/uploads/2024/09/Gamification-Trainers-handbook-fin.pdf>

# Collaborative online tool for gamification

**miro** | Original of Gamifying learning | [Menu] [Share] [Search]

> [Clock] [Screenshot] [Zoom] [List] [Dropdown] [Play] [Erase] [Comment] [Text] [Bell] Present [Share]

## Gamifying learning: Aligning learning outcomes and game design

**Framing**

### Framing the gamified learning activity

Learning	Game design elements
Learning outcome/competences	Assessment

Game design elements can include, but are not limited to:

- control & interaction (inc. rules)
- challenge(s) & progression
- strategy
- payoff / rewards

**Metaphorical playground**

### Developing the game concept

Use metaphors to spark new ideas that can inform game design. For example: tectonics may suggest concepts such as movement, shaking, friction, etc.

### Defining the game

Storyline

Challenges

Payoff (motivation)

Storyline, challenges and objective must align with anticipated learning outcomes

### Define game design elements

Element 1 | Element 2 | Element 3 | Element ... (add as needed)

### Basic game concept and rules

Points that describe what is expected of learners

What are the basic rules governing gameplay?

### What does the end of the game look like?

Is there a clear winner?

What needs to be accomplished for the game to end?

How do new skills and knowledge transfer from the game-related context?

Other ...

33% [Help]

# Game design elements

- See about game design elements here:
  - [https://en.wikipedia.org/wiki/Game\\_design#Design\\_elements](https://en.wikipedia.org/wiki/Game_design#Design_elements)
- Key game design elements in gamified learning:
  - **Storyline:** Narratives and plot. The storyline suggests how players are to understand their role in the game and their purpose.
  - **Control & interaction:** Rules, what players do in the game, how they interact with other players, how they interact with physical elements of the game.
  - **Challenges & progression:** Elements that drive players through various game stages.
  - **Strategy:** Opportunities for players to pursue various ways to progress through the game.
  - **Payoff:** Motivational elements, rewards, points, badges etc.



# Game Taxonomy Categories & Attributes



Adapted by Zsolt Olah based on Bedwell WL, Pavlas D, Heyne K, Lazzara EH, Salas E. *Toward a Taxonomy Linking Game Attributes to Learning: An Empirical Study*

Zsolt Olah (2021): <https://elearningindustry.com/playful-entry-in-storyline--rabbitorreg>

# Storyline

- The storyline describes the plot of the game:
  - What roles are players in?
  - Why are they playing?
  - What are they trying to achieve in the game?
- Types of storylines:
  - Pre-determined storyline
    - Teacher as "game master" who decides on essential features of the game.
  - Player-generated storyline
    - Role of "game master" is shared between teacher and players. Teacher may decide on overall plot but leaves flexibility for players to have a say on specifics.



**Fig. 1** Steps to prepare the storylines

Arevalo, etal. 2020:

[https://www.researchgate.net/publication/339999477\\_Storylines\\_for\\_practice\\_a\\_visual\\_storytelling\\_approach\\_to\\_strengthen\\_the\\_science-practice\\_interface](https://www.researchgate.net/publication/339999477_Storylines_for_practice_a_visual_storytelling_approach_to_strengthen_the_science-practice_interface)

# Control & interaction

- This element applies to the rules and tools that define what players can do, what they cannot do, and how they do things:
  - Basic game rules
  - Objects used to facilitate gameplay (e.g. dice, hands, controllers (computer games))
  - Other players



A close-up photograph of a wooden board game. In the foreground, a black marble sits on a wooden surface. A wooden peg is visible behind it. The background shows a wooden board with a blue line and several holes. The image is partially obscured by a white torn-edge border on the right side.

# Challenges & progression

- This element includes the tasks that players need to complete for the game to move on towards its completion.
- Specific challenges will typically require players to gain and/or use newly acquired skills and knowledge.
- Depending on the scope of the game, challenges may appear in sequences where they become progressively more difficult, continuously requiring updated or newer knowledge and skills.

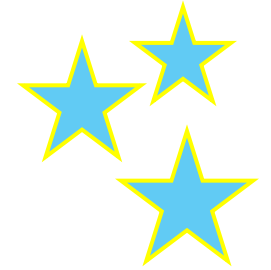
# Strategy

- This element addresses how gamers apply their newly acquired knowledge and skills, with an element of foresight, to advance through stages of gameplay.
- The key factor here is that gamers have opportunities to plan ahead about how they can influence the progress of the game in their favour.





# Payoff (goals & objectives)



- Payoffs are an important motivating element in games. We assume that players want to get some sort of benefit or reward for the hard work that they put into their gameplay.
- Payoffs generally work with challenges and progression in that each challenge carries a reward leading to an ultimate payoff, i.e. winning or successfully completing the game.
- Examples of payoffs: Points, badges, rewards, "winning", etc.

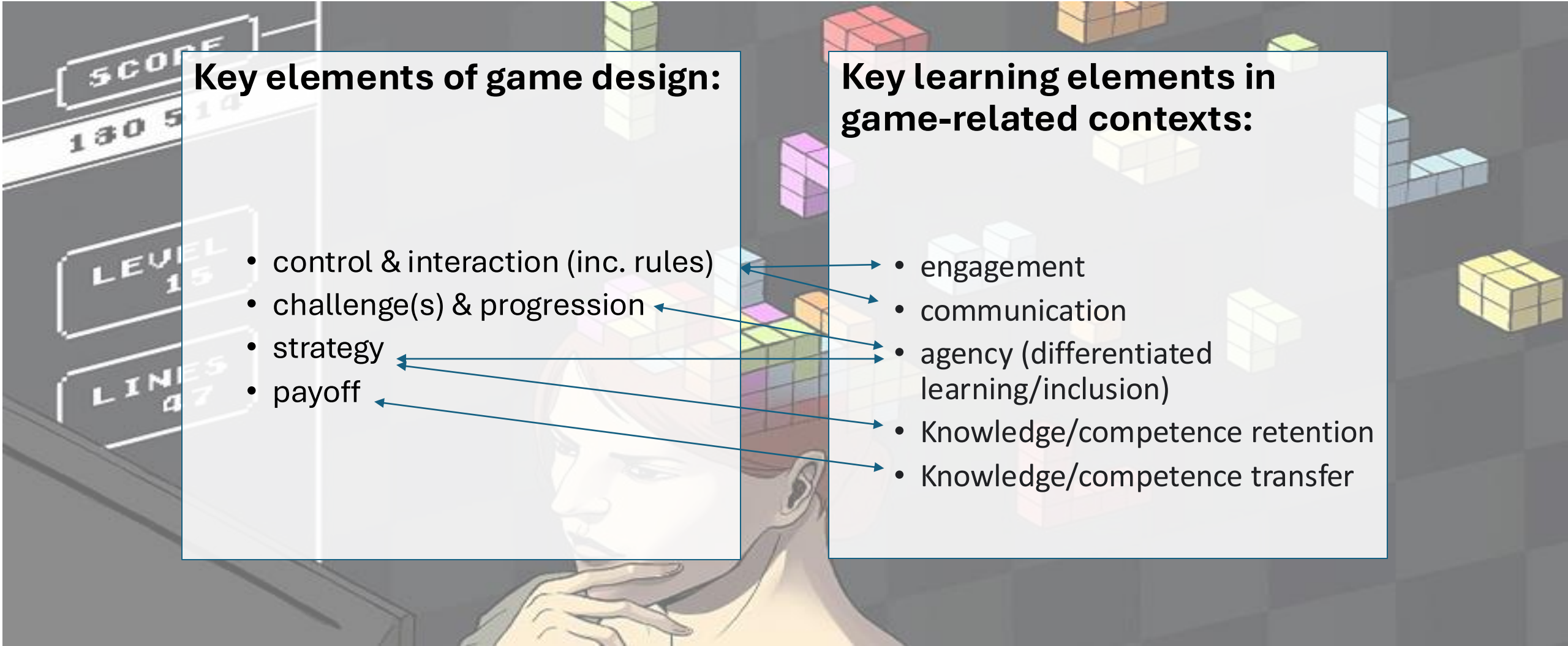
# Linking game elements and learning elements

## Key elements of game design:

- control & interaction (inc. rules)
- challenge(s) & progression
- strategy
- payoff

## Key learning elements in game-related contexts:

- engagement
- communication
- agency (differentiated learning/inclusion)
- Knowledge/competence retention
- Knowledge/competence transfer



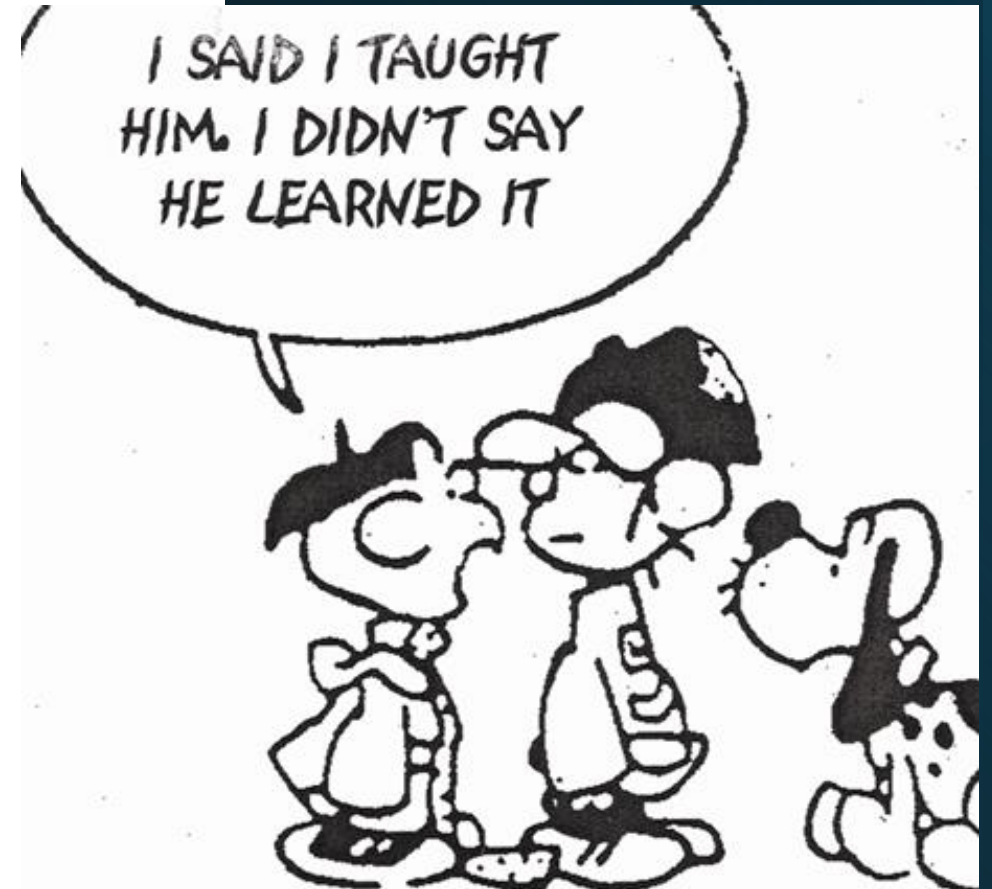
# Questions? Comments?

- Is it for any subject? Any topic? – Think about the learning outcomes...
- What sorts of games? Any...
- If we have a game that exists, through this method, can we gamify any subject? Making up new rules...
- What are we going to do in Florence? We are going to focus on gamification... come to the session with a lesson plan that you have prepared for your own teaching. You are going to gamify the lesson plan.
- Come with you tablets or computers to Florence...

# Assessment & transferability

- Assessing in-game learning
  - How can assessment be built into game elements?
    - fair assessments
    - meaningful assessments (summative or formative)
- Rewards & payoffs are not assessments.
  - Rewards & payoffs are incentives but do not necessarily provide insight into learning.
  - Rewards & payoffs can give a skewed picture of learning outcomes (no proof that “winners” learn more than others).

*See Caballero-Hernández (2017) for a more in-depth discussion of learning assessment in relation to games.*
- Learning is contextual!
  - What is learned in one context does not necessarily transfer directly to others.
  - How do we ensure that knowledge & skills acquired in game contexts prove useful in other contexts?
- Learning is the primary objective – games are just a way to make learning more interesting.
  - Needs to be understood by teachers and students alike.



# Preparation for workshop in Florence

## Resource list

ACADIMIA Project  
**Gamification for fun and engagement!**  
List of resources



### Definitions of gamification:

Kapp, K. (2024, 2 May). What is Gamification? A Few Ideas (Updated for 2024 Version), YouTube. <https://www.youtube.com/watch?v=TjNVd3Z0UI8&t=0s> [10:25 min]

Becker, K. (2021). What's the difference between gamification, serious games, educational games, and game-based learning? *Academia Letters* (2021), 1–4. <https://doi.org/10.20935/AL209> Links to an external site. [4 pages]

### Examples of gamification:

Gamify. (2020, 16 april). What is Gamification? expert opinion, YouTube. <https://www.youtube.com/watch?v=rWOK5NxmYUk&list=TLGG7VV3zeavFrEYmJA5MjAyNA&t=2s> [4:48 min]

Gamify. (2020, 18 april). 5 Key Examples Of Gamification, YouTube. <https://www.youtube.com/watch?v=Dcdco-tciDw> [4:20 min]

### Gamification in education & gamification tools:

Latest Trends in Education. (2024, 20 January). What is Gamification? How to use Game Based Learning Approach?, YouTube. [https://www.youtube.com/watch?v=cyor\\_MTtb2k](https://www.youtube.com/watch?v=cyor_MTtb2k) [5:51 min]

Freeman, K. (2024). 29 Gamification Tools to Jazz Up Your Learners in 2024! Xperienify. <https://xperienify.com/gamification-tools/>

### Articles:

Deterding, S., Dixon, D., Kahled, R. og Nacke, L. (2011). From Game Design Elements to Gamefulness: Defining "Gamification" *MindTrek '11: Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, September 2011. <https://dl.acm.org/doi/abs/10.1145/2181037.2181040> [7 pages]

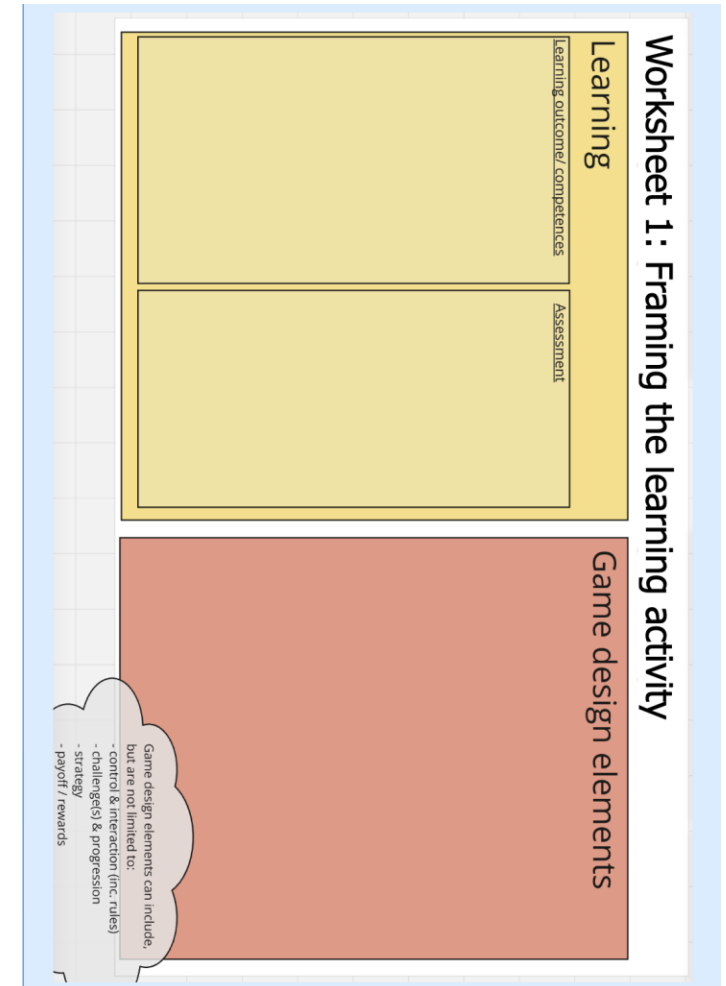
Ermi, L., & Mäyrä, F. (2011). Fundamental Components of the Gameplay Experience. In S. Günzel, M. Liebe, & D. Mersch (Eds.), *DIGAREC Keynote-Lectures 2009/10* (pp. 088–115). Potsdam: University Press. [https://publishup.uni-potsdam.de/opus4-ubp/frontdoor/deliver/index/docId/5046/file/digarec06\\_S088\\_115.pdf](https://publishup.uni-potsdam.de/opus4-ubp/frontdoor/deliver/index/docId/5046/file/digarec06_S088_115.pdf) [28 pages]

Riar, M., Morschheuser, B., Zarnekow, R. d., & Hamari, J. (2022). Gamification of cooperation: A framework, literature review and future research agenda. *International Journal of Information Management*, 67(2022). <https://doi.org/10.1016/j.ijinfomgt.2022.102549> [24 pages]

Menezes, C. C. N., & Bortolli, R. D. (2016). Potential of Gamification as Assessment Tool. *Creative Education*, 2016(7), 561–566. <https://doi.org/10.4236/ce.2016.74058> [6 pages]



## Gamification worksheets (see handbook)



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