



# Applying Gamification in Training Courses: Insights from the ATC-INICTEL-UNI Experience

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## Context

- ATC-INICTEL-UNI adopts an andragogical approach:
  - places the adult learner at the centre,
  - values prior experience
  - promotes the immediate practical application of learning in workplace and technological contexts.

## Delivery mode :

- **Blended / Face-to-face**





## Purpose

Share INICTEL-UNI's experience in incorporating gamification (board games and escape rooms) into face-to-face and blended courses.

Inspire other ATCs and DTCs to replicate or adapt this approach in their own training programmes





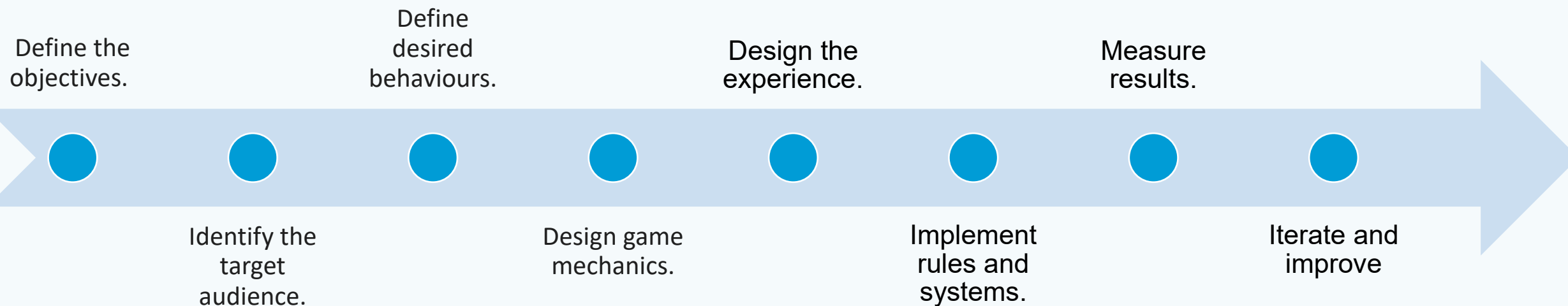
## Methodological Approach

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Gamification and escape rooms are framed within an active, constructivist and learner-centred methodological approach, promoting meaningful learning through experience, problem-solving and playful motivation.



## Gamification Steps:



**Duration: 4-5 months**



# Methodological Approach

The proposed use of gamification combines complementary playful methodologies such as:

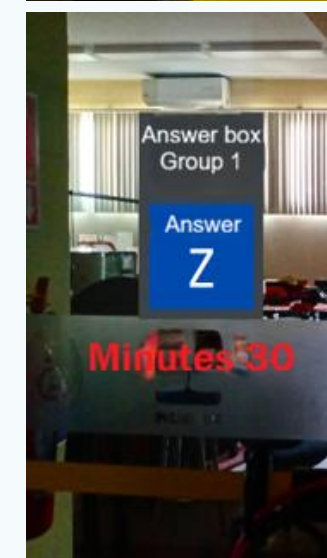
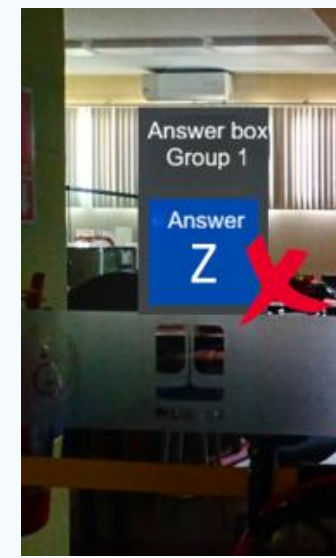
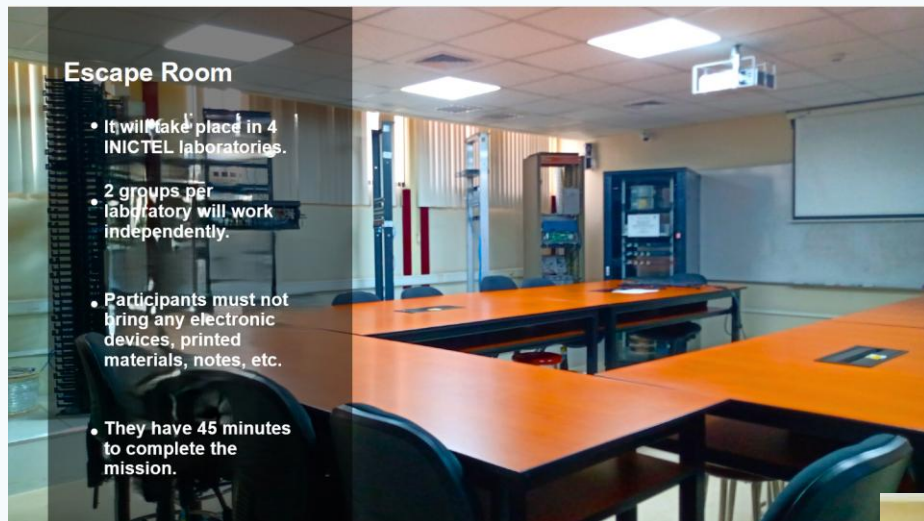
**Board games:** structure, narrative and progression.

**Escape rooms:** challenge-solving, time pressure and intensive collaboration.





# Escape Room Implementation



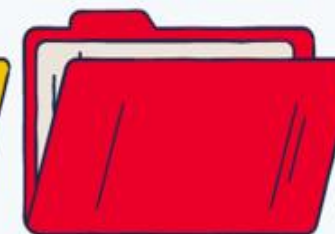
## Phases



Phase 1



Phase 2

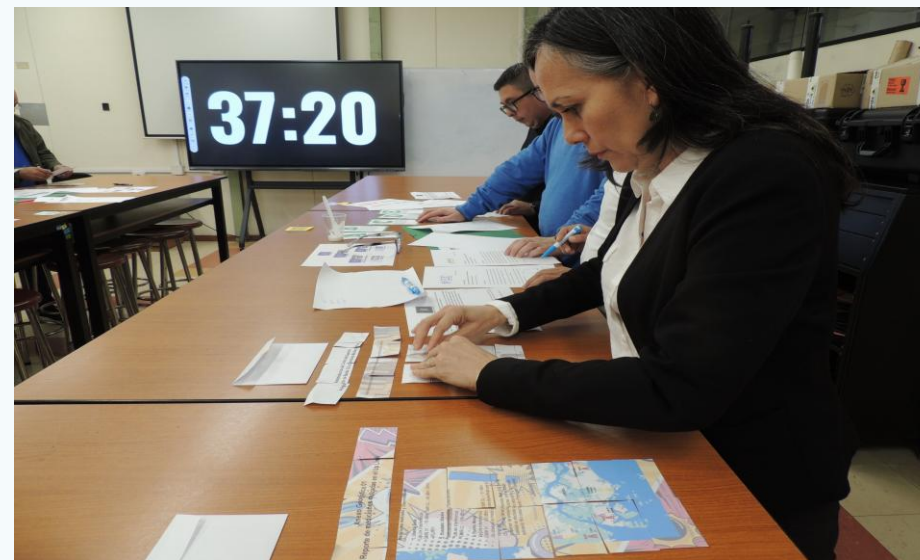
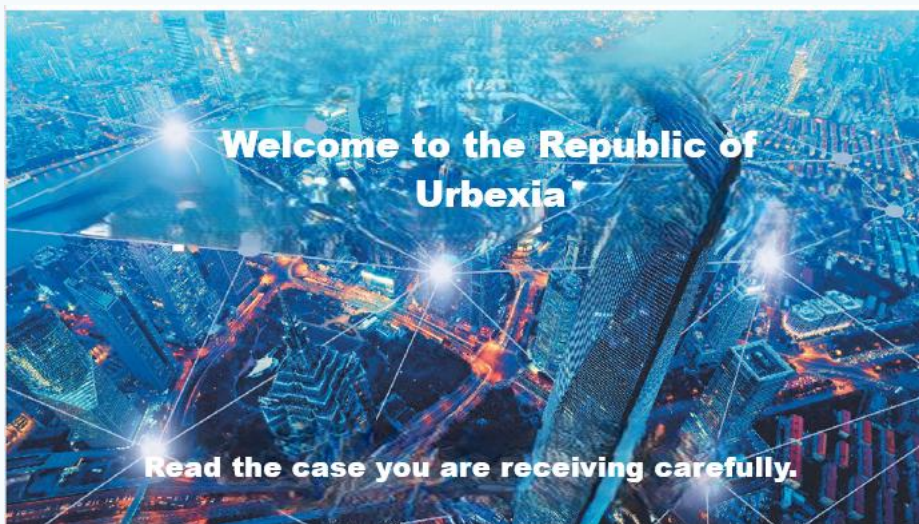


Phase 3



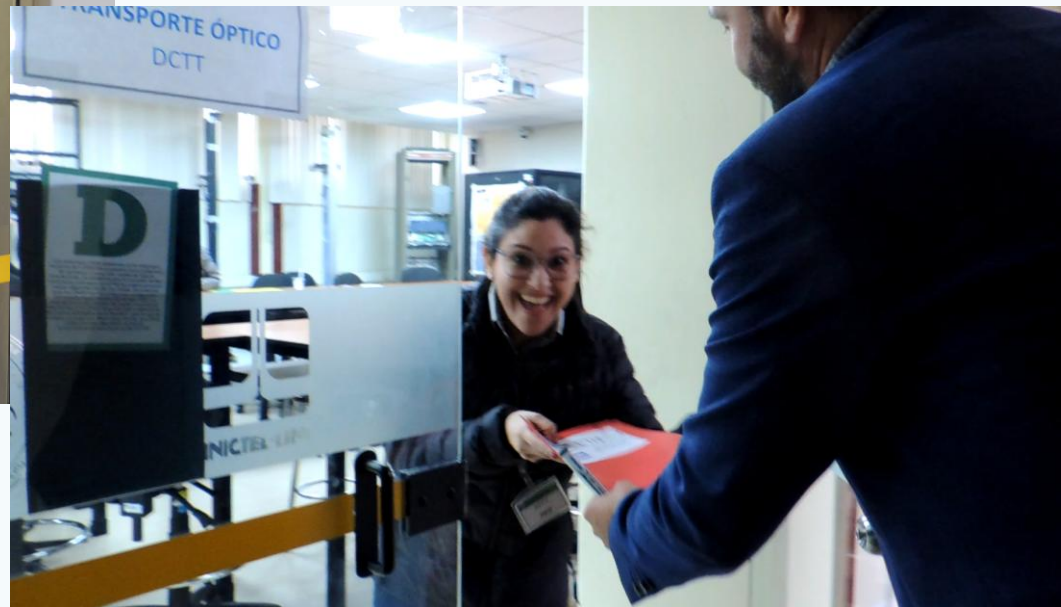


# Escape Room operation



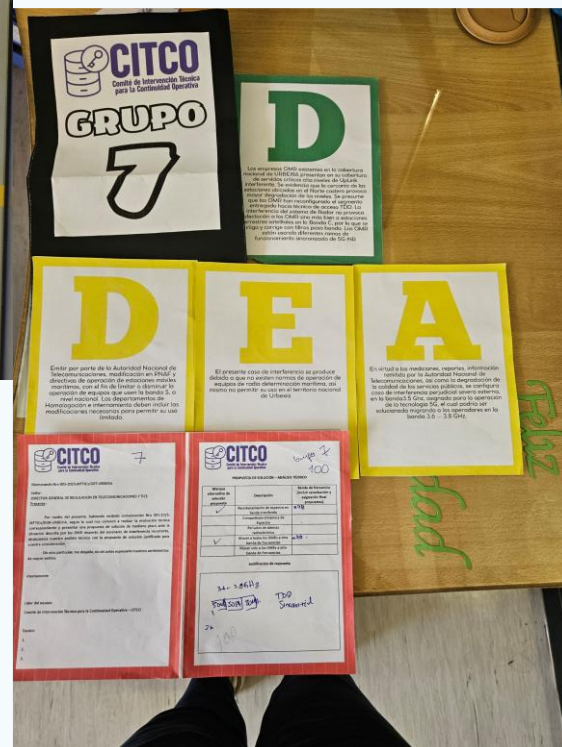


# Escape Room operation





# Escape Room finish





## Board Game Experience

**Game objective:** Provide effective coverage before the satisfaction scale reaches zero.

**Step-by-step setup:** From placing the frequency band tiles to setting up the 5-star satisfaction scale.

**Player roles:** Spectrum Negotiator, Investment Manager, Coverage Promoter, and Social Manager.

**Turn dynamics:** Steps to identify demand, establish conditions, manage investments, and install aerals.





# Board game



1. Place the frequency band tiles on the table.



2. Place the condition generation tokens as follows: 2 on the green ones, 1 on the yellow ones, and none next to the red ones.



3. Place the social demand cards grouped by colour and showing their resource.



Each player chooses a role and takes the three corresponding cards.



4. Place the satisfaction scale to one side, with the marker set at 5 stars.



6. Place the box with the tokens of:

Population  
Condition generation  
Antennas



Interacción 100% colaborativa. Todos ganan o todos pierden.  
El recurso público (espectro) debe desarrollarse para el bienestar social.

Victoria (GANAN)



Lograr brindar cobertura efectiva (instalar ANTENNAS) en TODAS las locetas de banda de frecuencia.

Derrota (PIERDEN)



La escala de satisfacción ciudadana llega a 0 estrellas antes de lograr la cobertura total.



# Looking for a name for the board game 2026

For the course *“Fibre Optics in Emerging Markets: Deployment, Regulation and Sharing”*, we are planning to implement a gamification strategy (board game).

“**Name**” is a strategy game in which players take on the role of directors of technology corporations. Their objective is to develop the most ambitious communications network in the country, connecting different regions: coast, highlands and jungle. The game combines resource management, route planning, negotiation and strategic decision-making.

## Game Objective

You act as a **Telecommunications Project Director**. Your goal is to be the most efficient in deploying infrastructure (hubs and routes) from the coast to the jungle in order to accumulate the highest number of **Victory Points (VPs)** through:

- Completing missions (connecting specific cities)
- Building hubs (nodes)
- Expanding networks (connection cubes)

**The player with the network of the highest strategic value wins the game.**

*...here are some prototype screenshot*



# Board game - 2026 In making





## 1. Components

### Resource Deck (60 cards):

- 7 **Servers** (Coast), 6 **Radios** (Highlands), 5 **Dishes** (Jungle)
- 12 **Batteries** and 12 **Copper Cables** (Generic)
- 14 **Fibre Coils** (Logistics)
- 4 **Government Permits** (Wild cards)

### Route Deck (Missions):

Face-down cards with specific routes and their corresponding points (e.g. Arkania-Lithium Mine: 7 VPs).

### Event Deck (10 cards - Optional):

Advanced market challenges.

### Player Inventory:

- 12 **Connection Cubes** (maximum)
- 9 **Physical Hubs** (distributed as: 3 Coast, 3 Highlands and 3 Jungle)

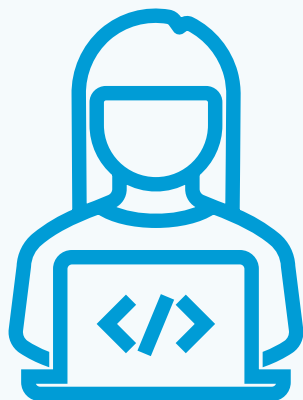


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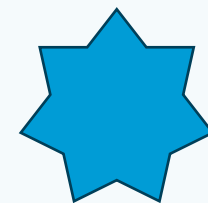




## Summary



- Design and implementation of gamification in training is **not complex, but it does require planning and commitment** from conception through to delivery.
- The process begins with **defining the course structure and analysing which content can be gamified**, particularly in technical courses where this can be more challenging.
- This is followed by the **development of the gamified design**, which may take around three months, including narrative, game mechanics, prototyping and testing. The latter is crucial for validating both the learning experience and its effectiveness.
- The **results have been highly positive, achieving greater participation**, engagement and improved learning retention.





**Thank you!**