Game, Gamification, or Simulation: which, when and why?

Questions to answer

- When is a game the most appropriate tool for conveying a learning message?
- What type of content is appropriate for what type of game?
- How is Bloom's Taxonomy related to different types of learning games?
- When is Gamification the most appropriate tool?
- What are the two different types of gamification for learning?
- When is simulation the most appropriate tool?

Game, Gamification or Simulation

Is the definition enough or we need more to break down.

- *"A game is a **system** in which **player(s)** involve in an **abstract challenge**, defined by **rules**, **interactivity**, and **feedback**, that results in a **quantifiable outcome** often causing an emotional reaction."*
- Games are varied and nuanced.
- Superhero role could be doing many things solve puzzles, fight with bad guys and search for a missing thing.
- Divided based on content or maybe interface.
- What are consider here activities + content delivered + game testing vs game teaching.

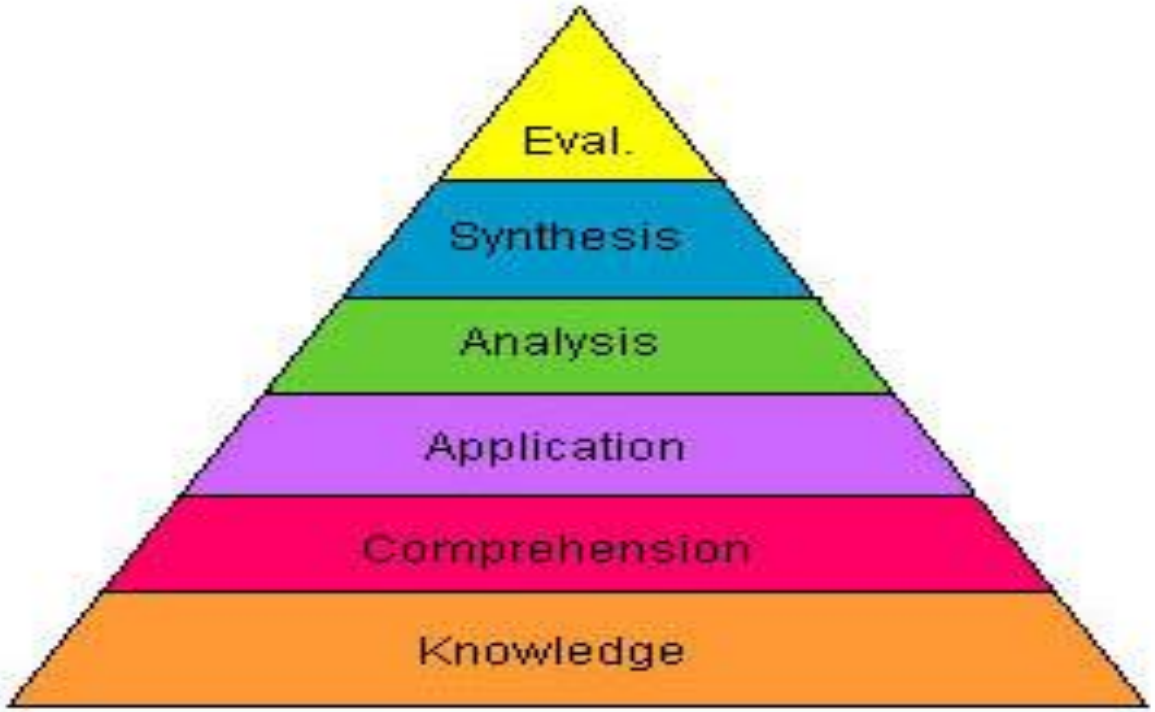
Types of game Activities

- Matching (card memory, Hangman, Trivia)
- Collecting/capturing(Pac-Man, Go-Fish)
- Allocating resources(Sim-City)
- Strategizing (chess)
- Building(Jenga, Minecraft)
- Puzzle solving(clue)
- Exploring(Myst, Riven)
- Helping(lemmings ,City Crisis)
- Role playing(Assassin's Creed, Halo)

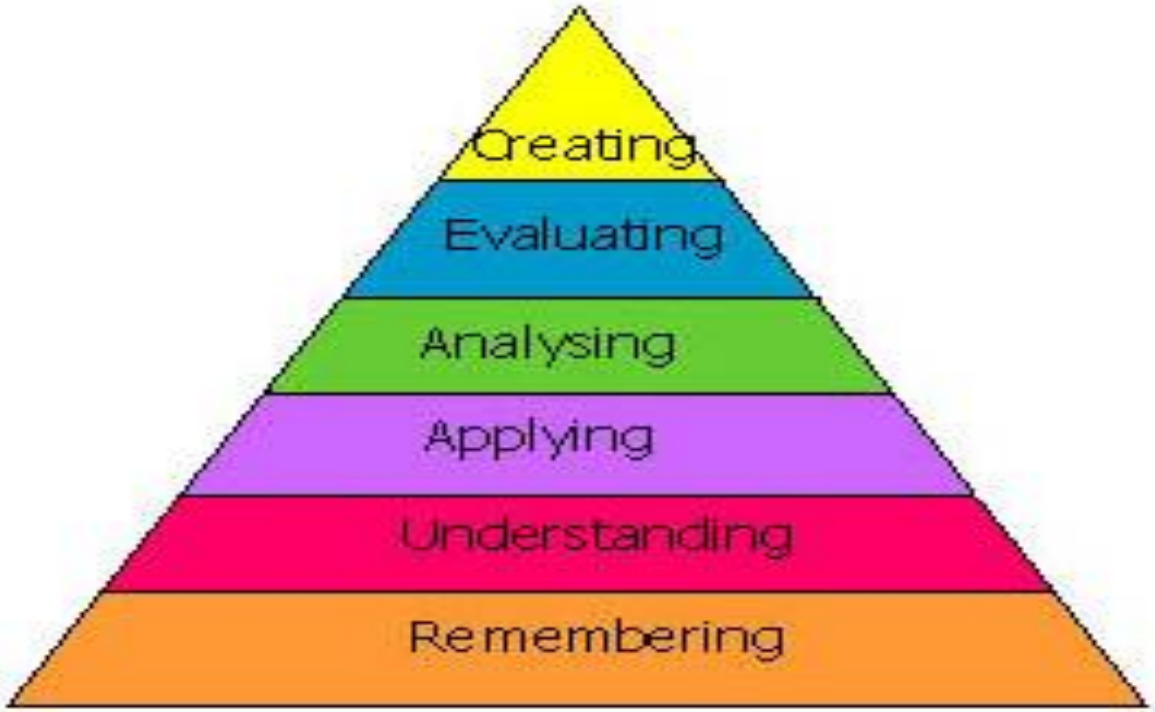
Matching activity with ILO'S

- Cognitive
- Affective
- Psychomotor

Bloom's Taxonomy(1956-2001)



Old Version



New Version

Matching Bloom's Taxonomy with Activities

Revised Bloom's taxonomy	Activity	Example Game
Creating	Building	Minecraft
Evaluating	Strategy	chess
Analyzing	Allocating Resources	Age of Empires
Applying	Role Playing	Sport Games
Understanding	Puzzle solving, Exploring	Clue, Myst
Remembering	Matching, Collecting	Hangman, Trivia

Type of knowledge

Type of knowledge	Definition	Activity Game or simulation
Declarative	Facts, jargon and acronyms. Content that must be memorized	Matching, collecting
Conceptual	Similar or related ideas, events or objects.	Matching games
Rules-Based	Rules indicate a preferred behavior with predictable results.	Board games, Simulated work task
Procedural	Step by step instruction	Equipment simulations
Soft skills	Negation, leadership and selling	Leadership simulation
Affective	Attitudes, interest, values, beliefs	Helping games

Testing game vs Teaching game

- There is a big difference. (One of the student should explain)
- You should determine which situation is appropriate to use what.

Gamification

- **Gamification**: is using **game-based mechanics**, **aesthetics** and **game thinking** to **engage people**, **motivate action**, **promote learning**, and **solve problems**.
- Two types
  - Structural : NO alteration of content
  - Content: Content become game-like.

Gamification vs Game

- What do you think is the intent behind Gamification.

- Gamification is to Game as:
  - Part is to whole
  - Piece is to puzzle
  - Slice is to pie
  - Steering wheel is to car

When to use Gamification

- Encourage Learners
- Motivate Action
- Influence Behavior
- Drive Innovation
- Skill Building
- Knowledge Acquisition

Simulations

- Realistic , controlled risk environment where learners can practice behaviors and experience the impact of decision.

  Realistic: Simulations simulate Reality.

  Controlled Risk: The risk of flying a flight simulator is very low.

  practice behavior: key element of simulation is the ability to practice and apply what you have learned elsewhere.

  Experience the impact of decision: I do it right or I do it wrong what does "good" look like… etc.

Types of simulation

- Branching story line
- System Dynamic Simulation
- Equipment/software simulation

Simulation vs Game

- Realistic versus Fanciful this can be the Major difference
- Intended more towards practicing and behaviors than games in general.
- Some of the literature refer to the simulations as a serious game part.

When to use simulation

- Behavioral
- Observable
- Has defined consequence and outcomes
- Process or system Driven.

Learning Challenges

- Future state
- Leadership
- Skill Building
- Capstone

Summary for Matching ILOs with ILE

- You can see a lot of schemas

If you want to . . .	Then select a . . .
Build lead leadership skills	Simulation
Realistically prepare learners for a future state	Simulation
Provide a realistic capstone experience for learners at the end of a curriculum	Simulation
Test the learners' performance of specific procedures in a realistic format	Simulation
Train learners in the performance of specific procedures in a realistic format	Simulation
Provide a safe and realistic environment for learners to practice skills and to make mistakes	Simulation
Teach a learner psychomotor skills	Game, Simulation
Impact a learner's attitudes, beliefs, or values	Game (Fantasy, Strategizing, Helping, Role Playing, Matching, Exploring)