GAME-BASED LEARNING SKILLS: GBL THEORY
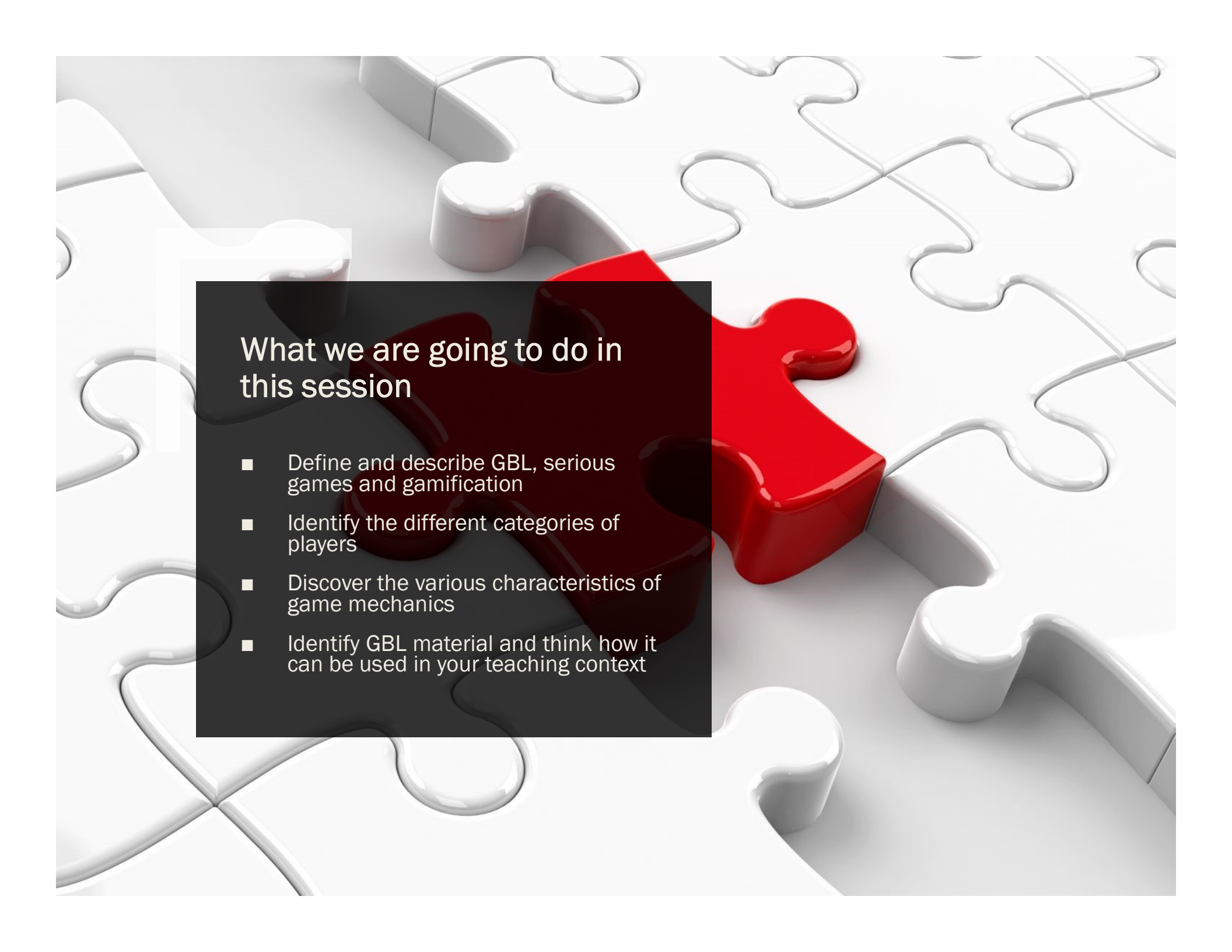## RHYTHM4INCLUSION ONLINE COURSE

Dr Petros Lameras

Coventry University

What we do..

What we are going to do in this session

- Define and describe GBL, serious games and gamification

- Identify the different categories of players

- Discover the various characteristics of game mechanics

- Identify GBL material and think how it can be used in your teaching context

Before we start this session do the following...

01

Think about your favourite game, write it down

02

Now list 4 reasons why you play games

- Be prepared to discuss

Why do you play games?

1. Mastery

2. Relaxation – de-stress

3. Enjoyment – have fun

4. Sociable – connect with other players

What is Game-based learning (GBL)?

- GBL is perceived as an umbrella term to denote a student-centred and creativity-orientated strategy, collaborative and social in its foundation, that amalgamates constructivist learning theory and game elements embracing spaces for practicing creative thinking, inquiry and resilience (Lameras et al., 2020).

- Serious games as tangible digital products, may constitute a specific activity designed or re-used/repurposed encompassing a broader GBL strategy. In ditto, as part of a wider GBL activity, gamification may be proliferated as a route to transform specific learning design elements (e.g. assessment, feedback, progression) to game-like instances via scores, badges, and leaderboards at its simplest instantiation. More sophisticated gamification designs may include escape rooms) or gamifying the process of making, building and crafting using playful technologies such as robotic kits, sensors and 3D printers

Why do you play games?

1. So what is gamification?

Definition of **gamification** in English

noun
[mass noun] the application of typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as an online marketing technique to encourage engagement with a product or service: *gamification is exciting because it promises to make the hard stuff in life fun*
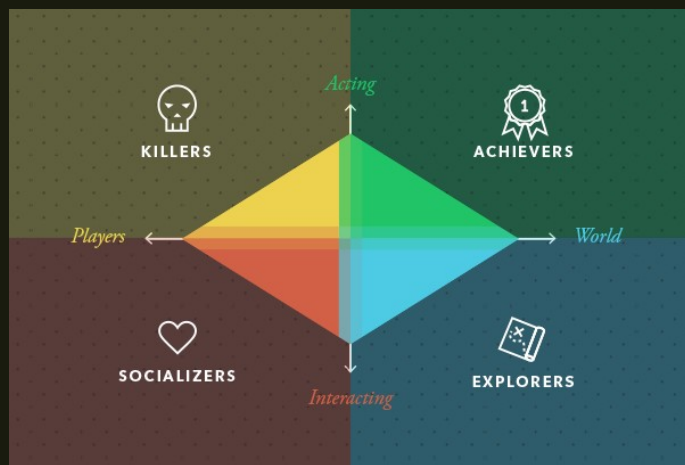
Derivatives
gamify
verb (**gamifies**, **gamifying**, **gamified**) (Oxford Dictionaries 2013)

The 4 keys to fun

XEODesign (2012)

WHAT TYPE OF GAMER ARE YOU?

Rank Your Top 5 Player Actions

Poke

Share

Show Off

Harass

Advocate

Rate

Comment

Help

Greet

Express

Taunt

Flirt

Argue

Compete

Like

Join

Give

Read

Compare

Curate

Recommend

Explore

Vote

View

5%

10%

ACTING

Killers

Quake

Achievers

PEOPLE

ENVIRONMENT
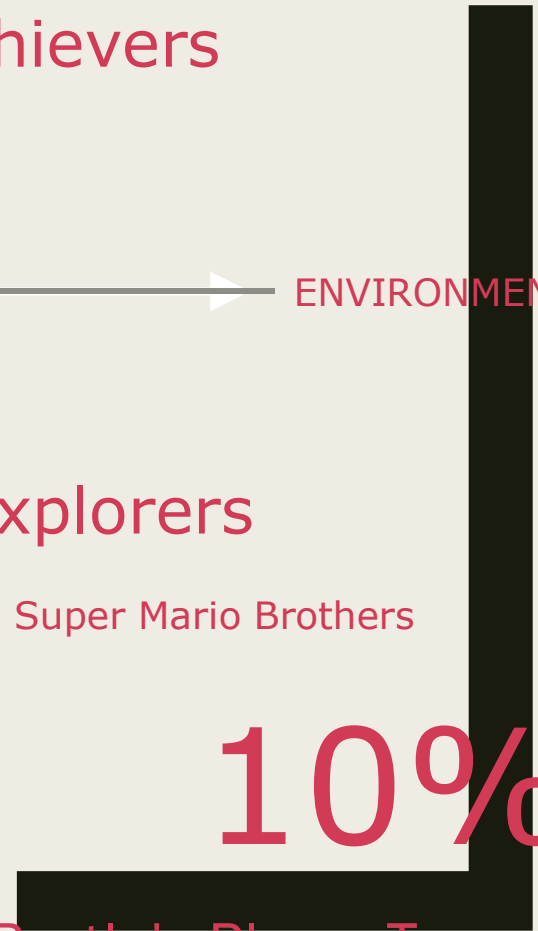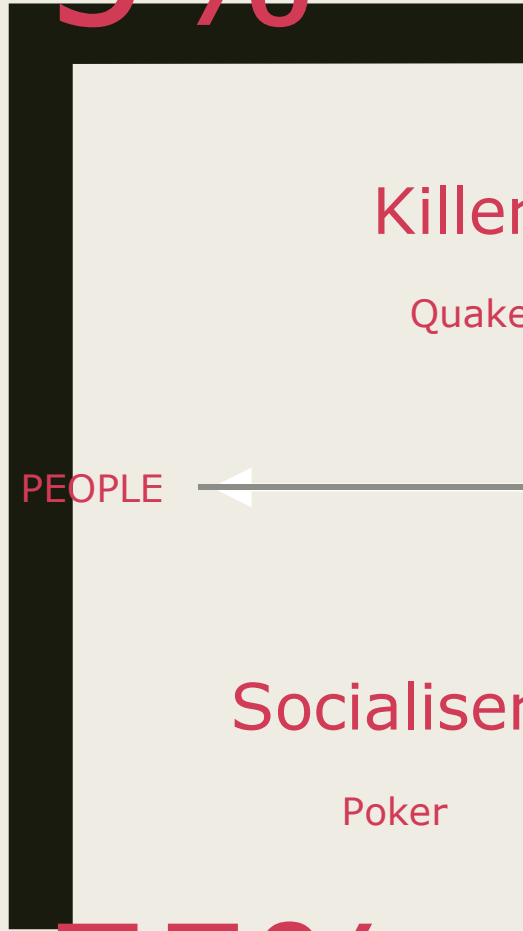
Socialisers

Poker

Explorers

Super Mario Brothers

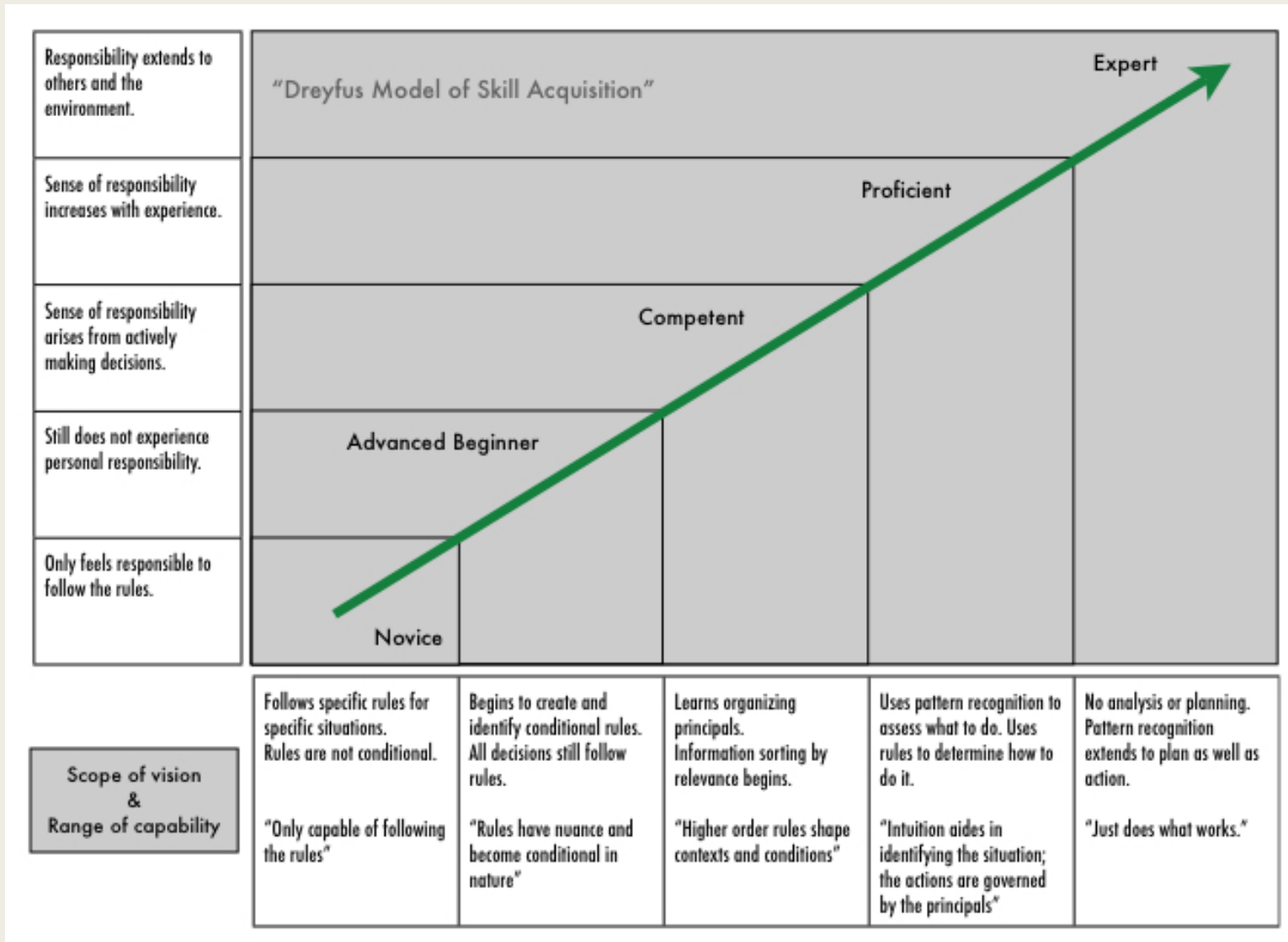75%

10%

INTERACTING

Bartle's Player Types

Stages of Mastery

Visionary

Master

Expert

Problem Solver

Novice

Progression to Mastery - Dreyfus model of skill acquisition

Dreyfus

Five Core Levels

| Scope of vision & Range of capability | Follows specific rules for specific situations. Rules are not conditional. "Only capable of following the rules" | Begins to create and identify conditional rules. All decisions still follow rules. "Rules have nuance and become conditional in nature" | Learns organizing principals. Information sorting by relevance begins. "Higher order rules shape contexts and conditions" | Uses pattern recognition to assess what to do. Uses rules to determine how to do it. "Intuition aides in identifying the situation; the actions are governed by the principals" | No analysis or planning. Pattern recognition extends to plan as well as action. "Just does what works." |

"Dreyfus Model of Skill Acquisition"

Responsibility extends to others and the environment.

Sense of responsibility increases with experience.

Sense of responsibility arises from actively making decisions.

Still does not experience personal responsibility.

Only feels responsible to follow the rules.

Novice — Advanced Beginner — Competent — Proficient — Expert

Five Core Levels...

Novice
   just started using the system

Problem Solver
   starting to figure out what is going on

Expert
   started to learn how the system works

Master
   understands the system and is in control

Visionary
   puts himself in the designer's shoes

MDA Framework
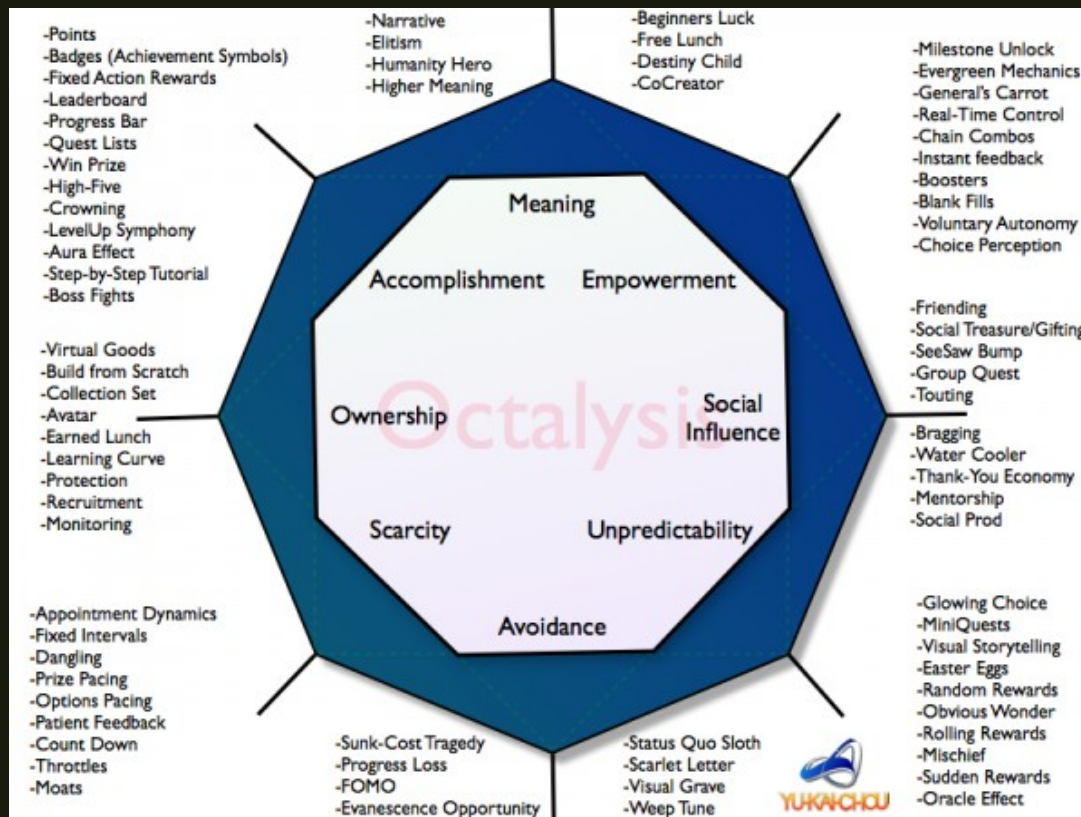
Mechanics + Dynamics = Aesthetics

Mechanics

The functioning components of the game

Dynamics

The players' interactions with the mechanics

Aesthetics

How the game makes the players feel during interaction

OCTALYSIS FRAMEWORK - YU-KAI CHU

Activity – Your game – 30 minutes

1. Choose a game List everything that features in the game, brainstorm this write down as many things as you can.
2. Now categorise what you have written into the MDA Framework
   Mechanics – Functioning components of the game.
   Dynamics – The players' interactions with the mechanics.
   Aesthetics – How the game makes the players feel during interaction.

Summary Activity

Experience	earned for everything a player does. Never goes down. In some systems can expire
Redeemable	Used within the system in exchange for things, earned and cashed. "Earn and Burn". Foundation for a virtual economy
Skill	A skill point system.Assigned to specific activities within a game. Can boost abilities.
Karma	Karma points are to be given away to create an altruism behaviour path.
Reputation	Acts as a proxy for trust within a system. Incorporates a wide variety of activities to be meaningful.

Summary Activity

- Levels
- Progression
- Progress bar
- Colour scheme
- Metaphor
- Leaderboard
- Badges

Social Engagement Loops

- Know who's playing – design for their social style
- Build positive emotions (PERMA) into your core activity loop
- Build a system that's easy to learn and hard to master
- Design for Onboarding (tutorial), Habit-Building (grind) and mastery (elder game)
- Use progress mechanics to "light the way" towards learning and mastery
- As players progress, unlock greater challenges and complexity
- Deliver intrinsic motivations like Power, Autonomy and Belonging

Finding, accessing and sharing GBL resources

- Name: GateVet

- Duration: 2 years (ends 31 August 2021)

- Core output: A connected and collaborative platform for accessing GBL content and learning on GBL and its application in teaching and learning

- Partners: Coordination AFBB, Germany, Wiki and mobile app Manzavision, France, Coventry University GBL content, user requirements and evaluation UK, The Dresden University of Applied Sciences, curriculum, Germany, VUC Storstrom, Denmark and National College Nicu Gane, Romania, Pilot sites

Summary

- The **Erasmus+ Strategic Partnership project GATE:VET** was born out of a need that, teachers although they are aware of **game-based learning as a concept**, it seems that there is uncertainty on how they can use, share or repurpose GBL content, methods and processes to help them to adopt GBL in the classroom.

- GATE:VET attempts to mitigate the effects of this problem by developing a hub for teachers to search, find, use and share GBL content.

- The GBL platform enunciates that teachers will have a point of departure for designing and delivering open and free GBL activities to students
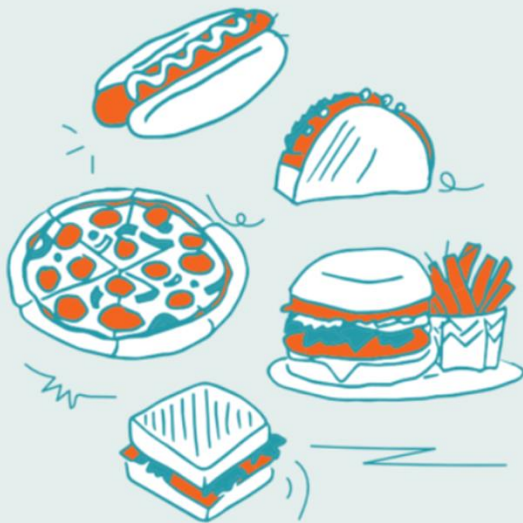
Activity 2

- Visit the GateVet GBL repository: https://wiki.gate-vet.eu/tiki-index.php

- Create an account and Log-in

- Search and find the Kerbal Edu Game

- Think and comment on how you will use the Kerbal Edu Game in your teaching context.

- [45 minutes]

SHUFFLE

TOPIC

FOOD

GAME

BATU SEREMBAN

Activity 3

- Visit The Remix Play website https://remixplay.gchangers.org

- Try to create a playful learning experience by combining a learning topic with a game tool of your choice

- You can try different combination by clicking on the shuffle button

- For example, try to create a lesson plan encompassing

  - *A topic*

  - *A game*

  - *A learning outcome*

  - *An activity*

  - *A feedback mechanism*

  - *How the game will represent the learning*

GBL for STEM: The Beaconing Project

What we did in this session

- Defined and described gamification in terms of mobile phone applications

- Identified the different categories of players

- Discovered the various characteristics of game mechanics

- Combined games with learning

- Assignment support

References

- Gamasutra (2013) Why people play games - Happiness, Motivation & Fun [online] available from <http://www.gamasutra.com/blogs/VictorManrique/20130518/192533/Why_people_play_games__Happiness_Motivation__Fun.php> [22 August 2013]

- Teach Thought (2012) Why People Play Video Games [online] available from http://www.teachthought.com/featured/why-people-play-video-games/ [22 August 2013]

- XEODesign (2004) Why We Play Games: Four Keys to More Emotion Without Story [online] available from http://xeodesign.com/xeodesign_whyweplaygames.pdf [22 August 2013]

- Gamedev tuts+ (2013) Bartle's Taxonomy of Player Types (And Why It Doesn't Apply to Everything) [online] available from < http://gamedev.tutsplus.com/articles/game-design-articles/bartles-taxonomy-of-player-types-and-why-it-doesnt-apply-to-everything/> [22 August 2013]

- gamerDNA (2013) Bartle Test of Gamer Psychology [online] available from http://www.gamerdna.com/quizzes/bartle-test-of-gamer-psychology [22 August 2013]

- Wikipedia (2013) Dreyfus model of skill acquisition [online] available from < http://en.wikipedia.org/wiki/Dreyfus_model_of_skill_acquisition> [23 August 2013]

References

■ Scrumorakel.ce (2012) Knowledge as impediment [Online] available from <http://scrumorakel.de/blog/index.php?/archives/31-Knowledge-as-impediment.html> [23 August 2013]

■ Oxford Dictionaries (2013) Definition of **gamification** in English [Online] available from http://oxforddictionaries.com/definition/english/gamification [29 August 2013]