Playful Learning

Make space for curiosity

Today

- Intro
- Gamification
- Game mechanics / frameworks
- Examples
- Workshop

Lean back media

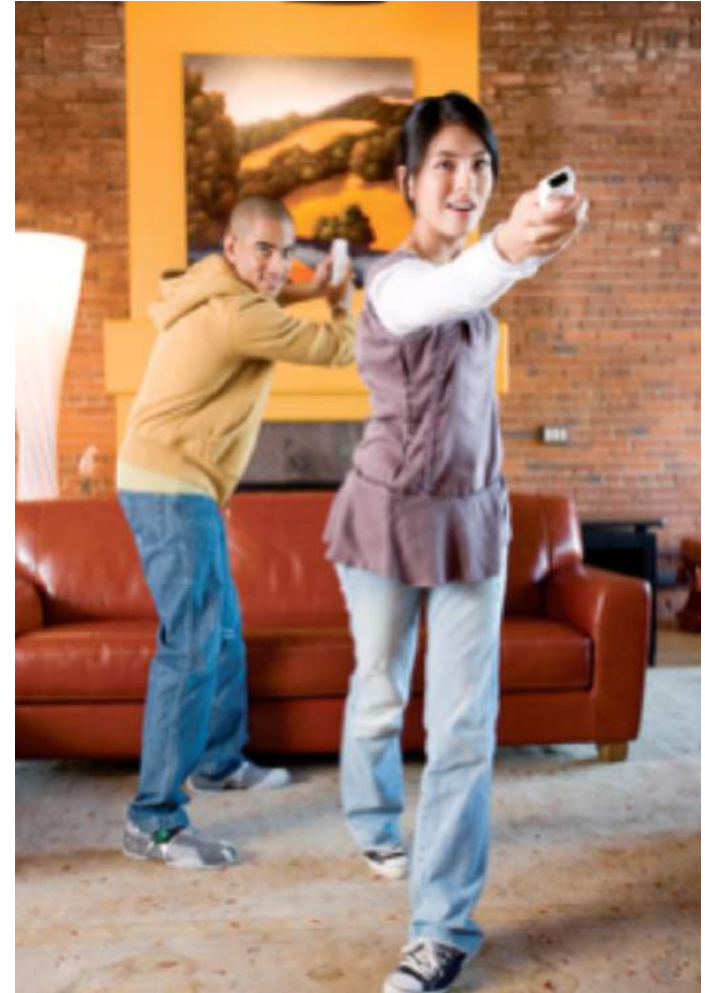Watching
Reading
Listening

Lean forward media

Interactive:

Doing

You're in control

designing

planning

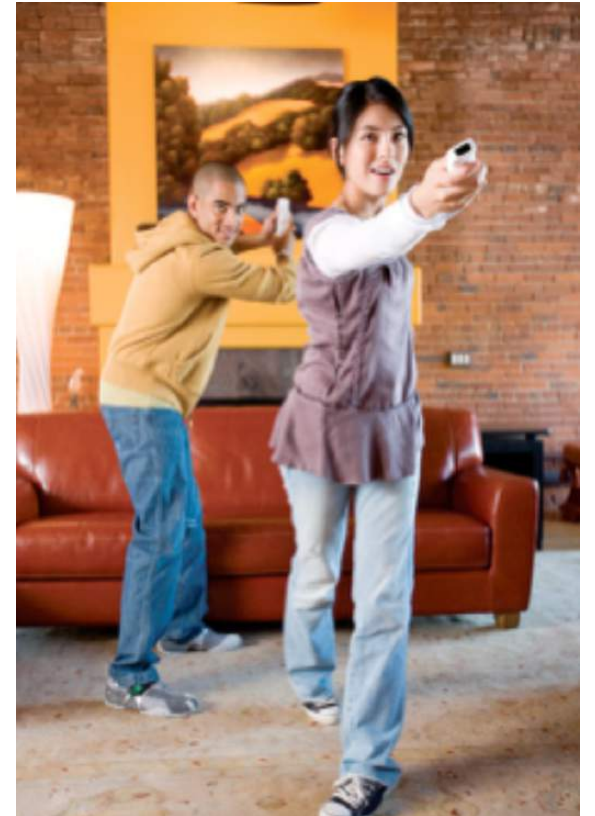choosing

colouring

shooting

trowing

riding

jumping

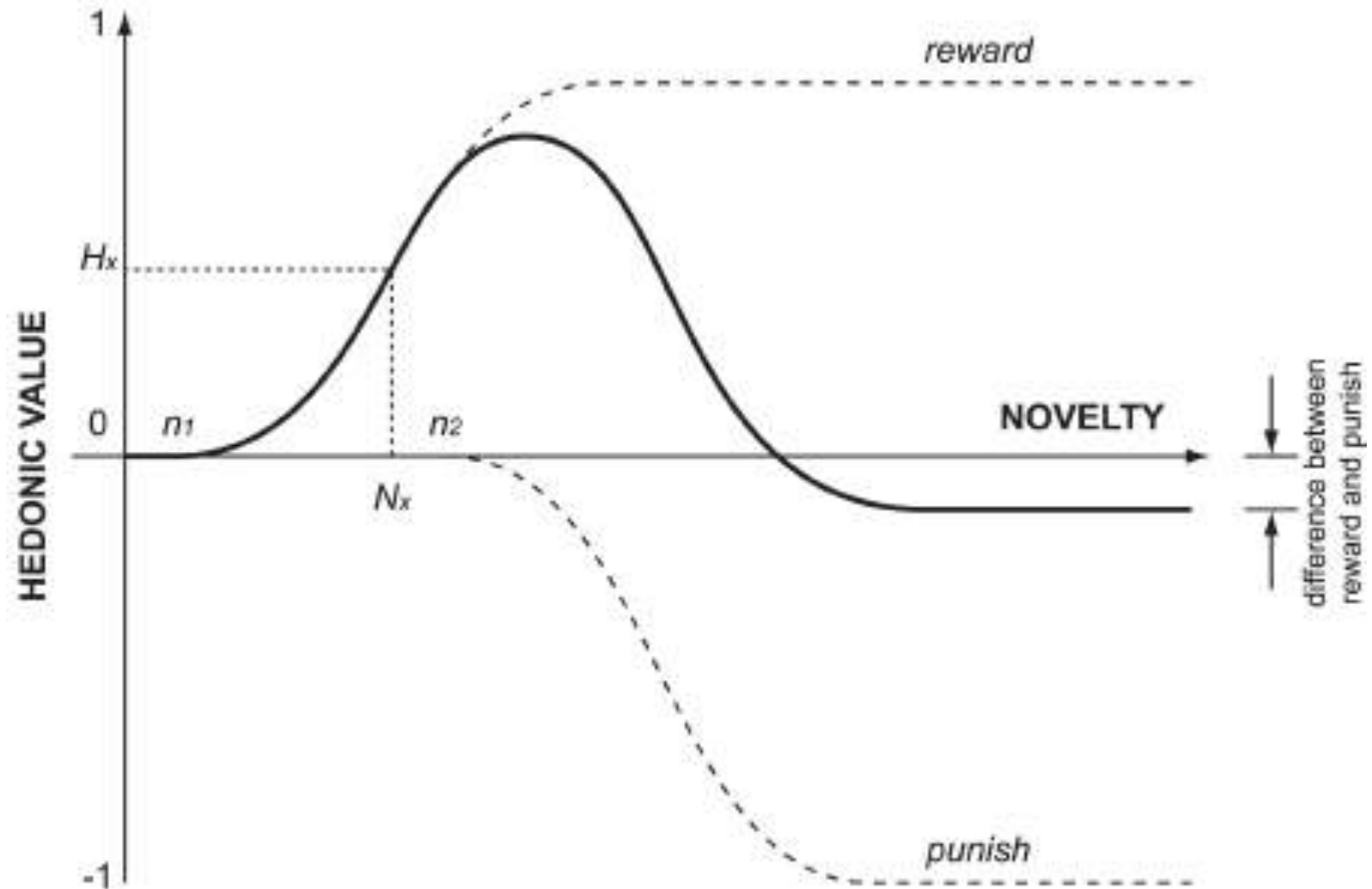# Lean back ~~media~~ education
Lean forward ~~media~~ education

Watching

Reading

Listening
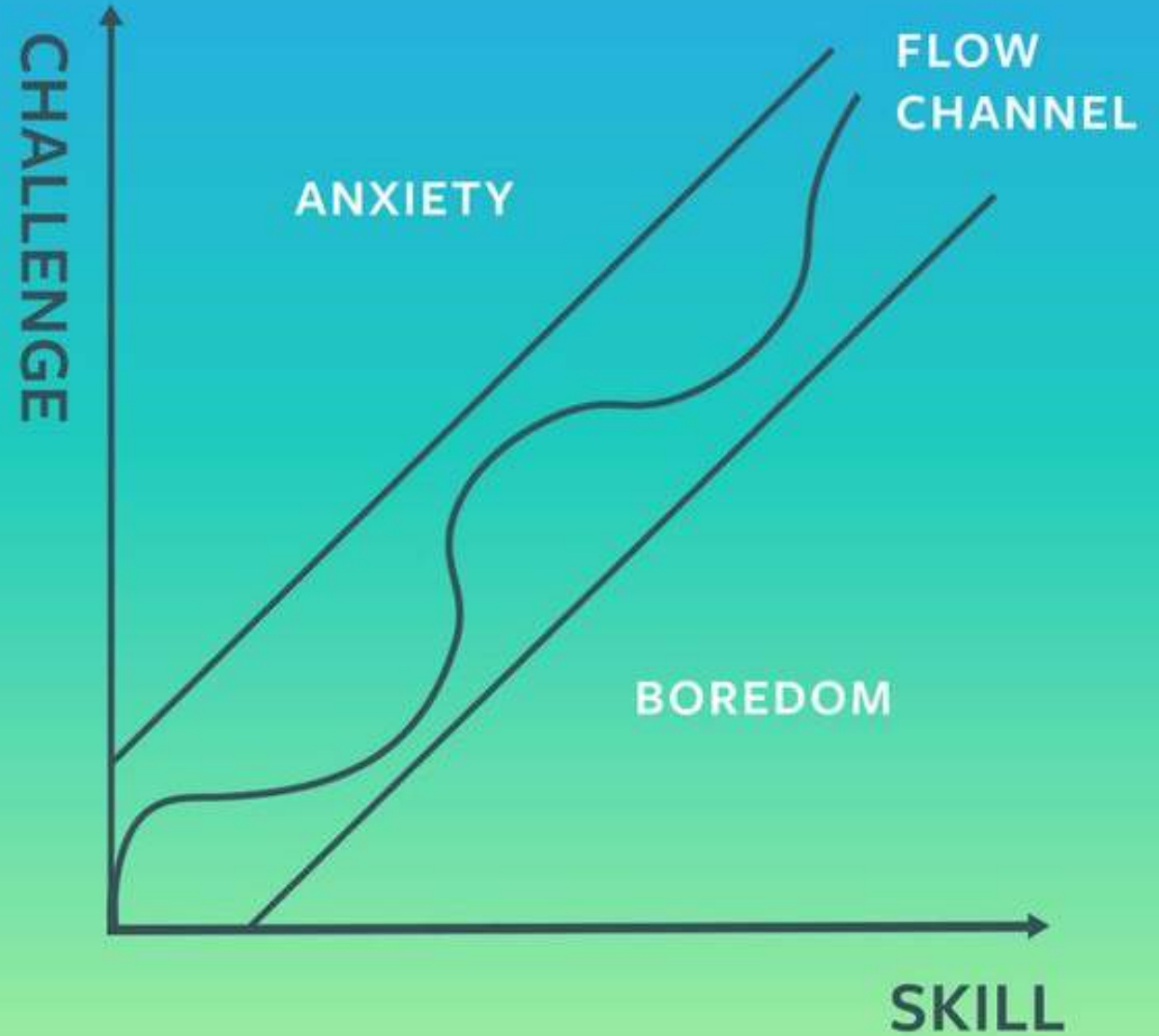

Interactive:

Doing

You're in control

Bored?

The Wundt Curve

Bored?

Flow concept by Mihaly Csikszentmihalyi
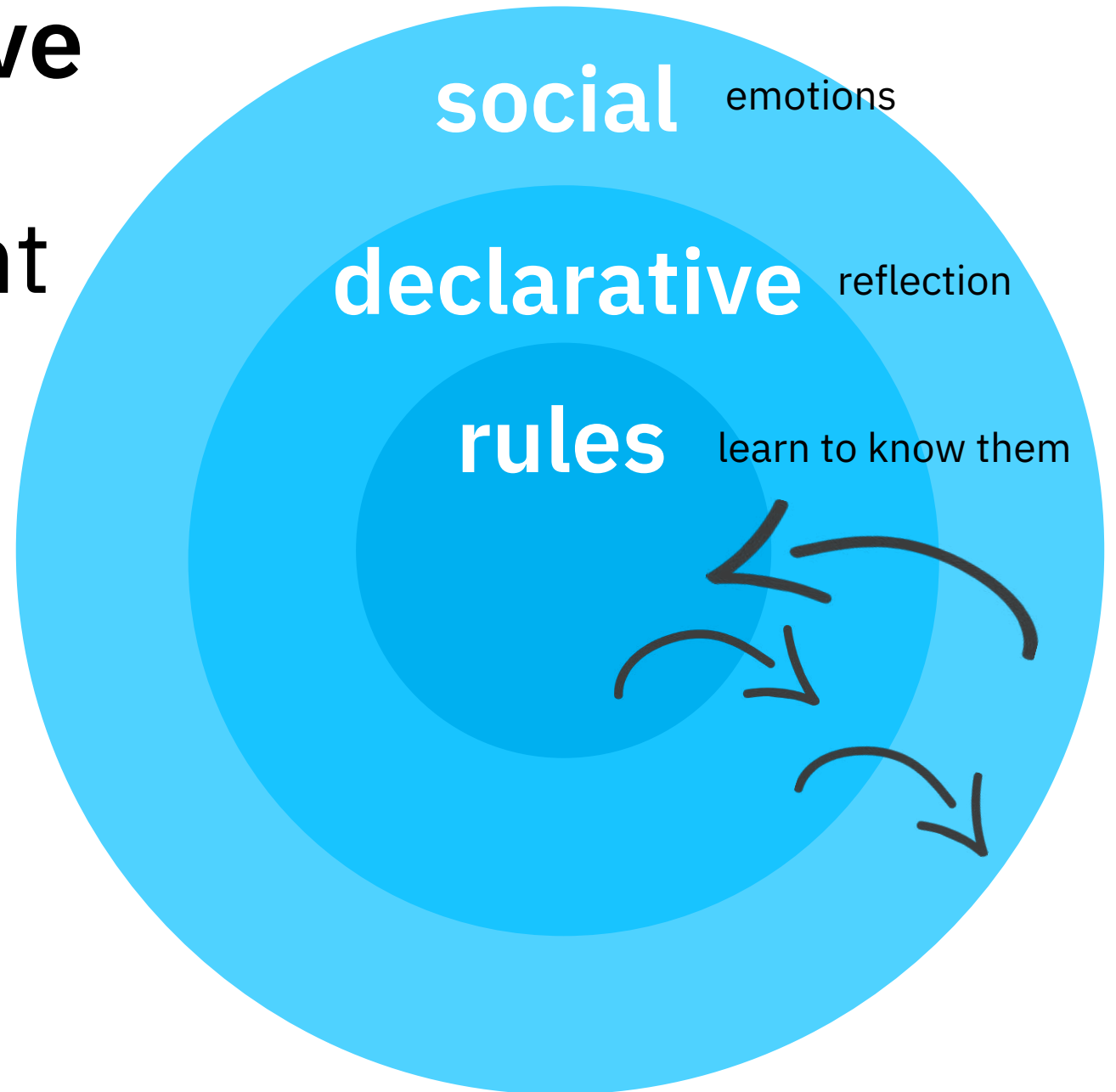
~~Bored?~~ **Designing curiosity is:**

- creating gaps of information

- with just enough reference

- just enough open space

to make the player feel confident to fill that gap.

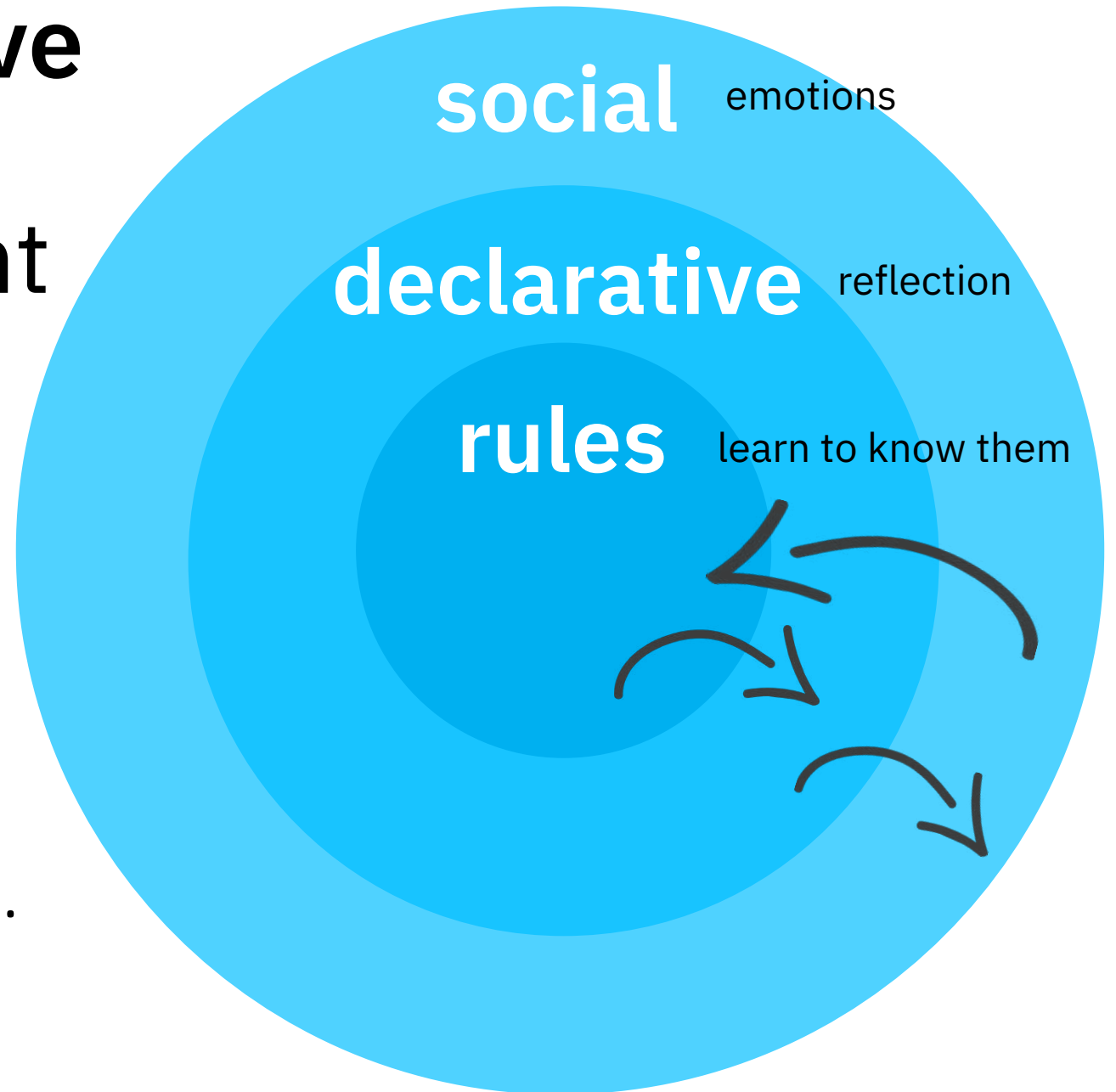# Learner perspective
how the learner looks at the content

- Action
- Reflection
- Hypothesis
- Testing
- (Kolb)

van Mastrigt, Renger & Hoogendoorn

social emotions

declarative reflection
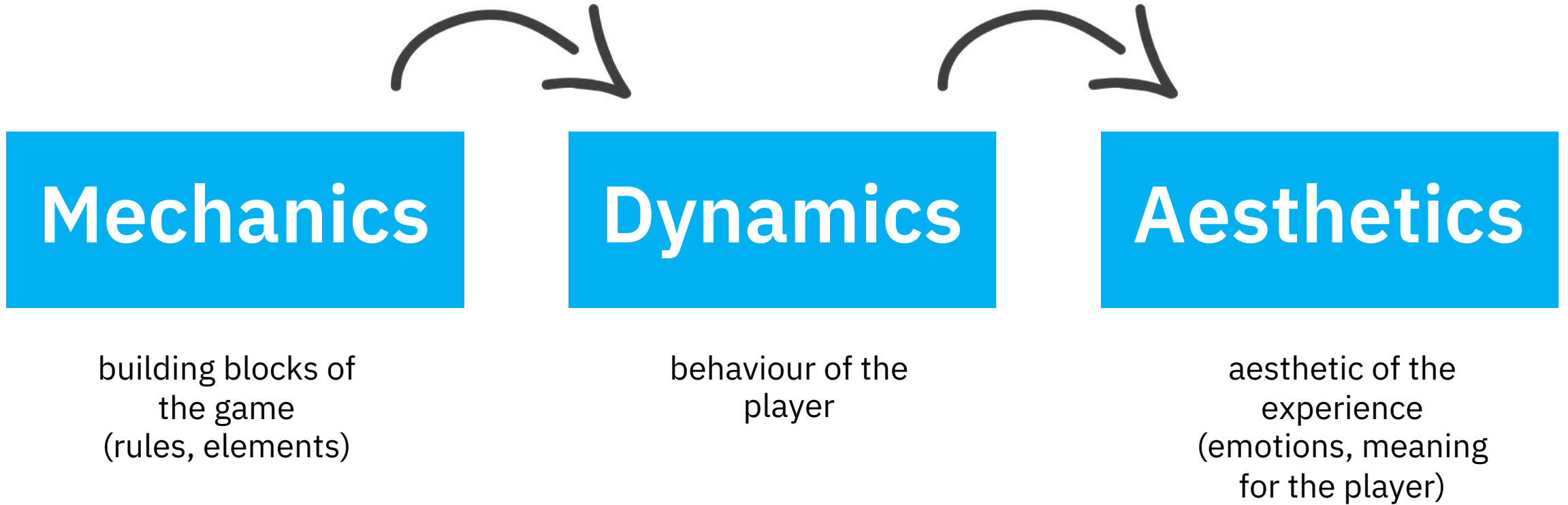
rules learn to know them

Learner perspective
how the learner looks at the content

- **Input**: User hits fire
- **Process / rules**: Bullet speed, bullet vector, position of enemy
- **Output**: Miss, nothing.
- Hit: explosion, score increase.

van Mastrigt, Renger & Hoogendoorn

social   emotions

declarative   reflection

rules   learn to know them

How?

Mechanics → Dynamics → Aesthetics

Mechanics

building blocks of
the game
(rules, elements)

Dynamics

behaviour of the
player

Aesthetics

aesthetic of the
experience
(emotions, meaning
for the player)

MDA-model Zubek e.a

Game mechanics

For example:

- Challenge
  - 🏓 What is the goal of the game?
- Choises – autonomy
  - 🏓 Go left of right.
  - 🏓 Can I skip elements, can I practice first or shall I go directly to the endboss!
  - 🏓 Do we work together of we are competitors?
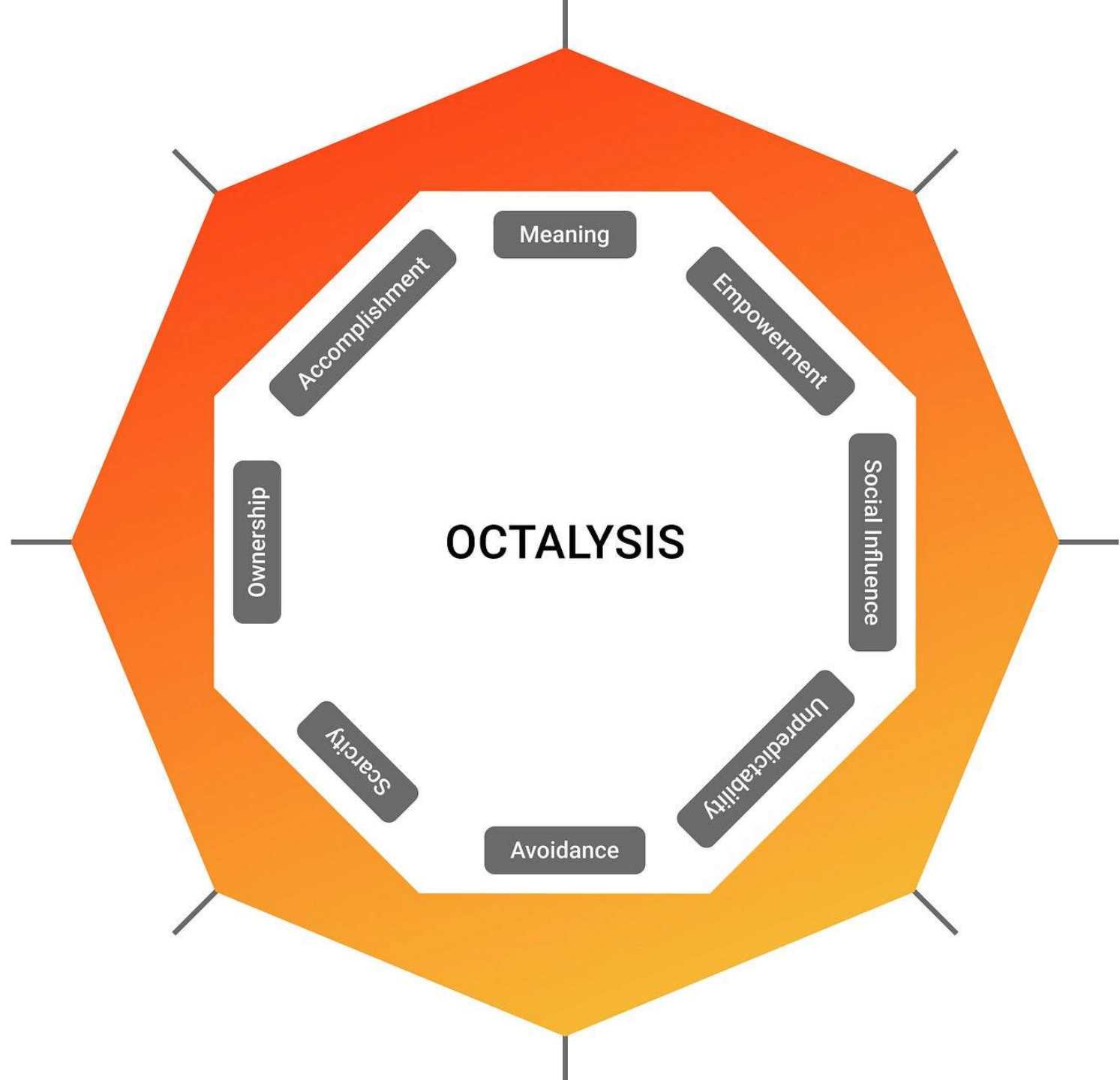 - 🏓 Can I choose for disrupting and sabotage?

- Play
  - 🏓 Space for experiment and making mistakes without consequences in real live.
- Rewards
  - 🏓 Access to a next level.
  - 🏓 Points (XP)

Gamification Framework
Octalysis

Yu-kai Chou,
Pionier Gamification, designer
of 'The Complete Gamification
Framework: Octalysis'.

Octalysis

1 — Epic Meaning
- Narrative
- Elitism
- Humanity Hero
- Revealed Heart

2 — Accomplishment
- Status Points
- Badges (Achievement Symbols)
- Fixed Action Rewards (Earned Lunch)
- Leaderboard
- Progress Bar
- Quest Lists
- Dessert Oasis
- High Five
- Crowning
- Anticipation Parade
- Aura Effect
- Step-by-Step Overlay Tutorial
- Boss Fights

3 — Empowerment
- Beginners Luck
- Free Lunch
- Cap Switcher
- Co-creationist
- Milestone Unlocks
- Real-Time Control
- Chain Combos
- Dynamic Feedback
- Boosters
- Blank Fills
- Plant Pickers
- Poison Pickers
- Attribute Web Chart
- Double Edged Sword

4 — Ownership
- Exchangeable Points
- Virtual Goods
- Build from Scratch
- Alfred Effect
- Collection Sets
- Avatar
- Protector Quest
- Pet Companion
- Observer Attachment

5 — Social Influence
- Friending
- Social Treasure/Gifting
- SeeSaw Bump
- Group Quests
- Trophy Shelf
- Brag Button
- Water Cooler
- Conformity Anchors
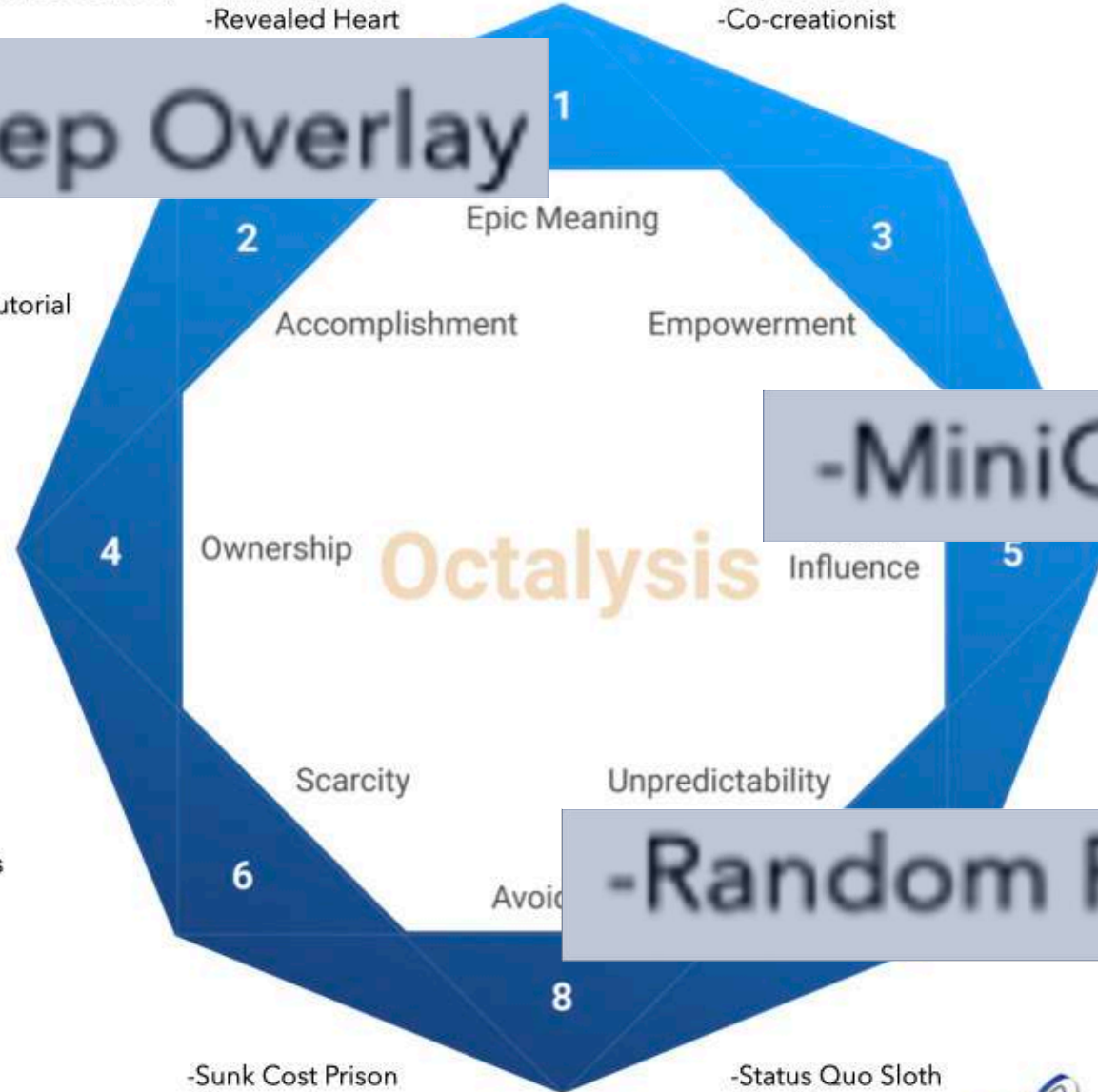- Mentorship
- Social Prod

6 — Scarcity
- Appointment Dynamics
- Magnetic Caps
- Dangling
- Prize Pacing
- Bootleg Quest
- Last Mile Drive
- Count Down Timer
- Torture Breaks
- Moats
- The Big Burn

7 — Unpredictability
- Glowing Choice
- MiniQuests
- Visual Storytelling
- Easter Eggs
- Random Rewards
- Obvious Wonder
- Rolling Rewards
- Evolved UI
- Sudden Rewards
- Oracle Effect

8 — Avoidance
- Sunk Cost Prison
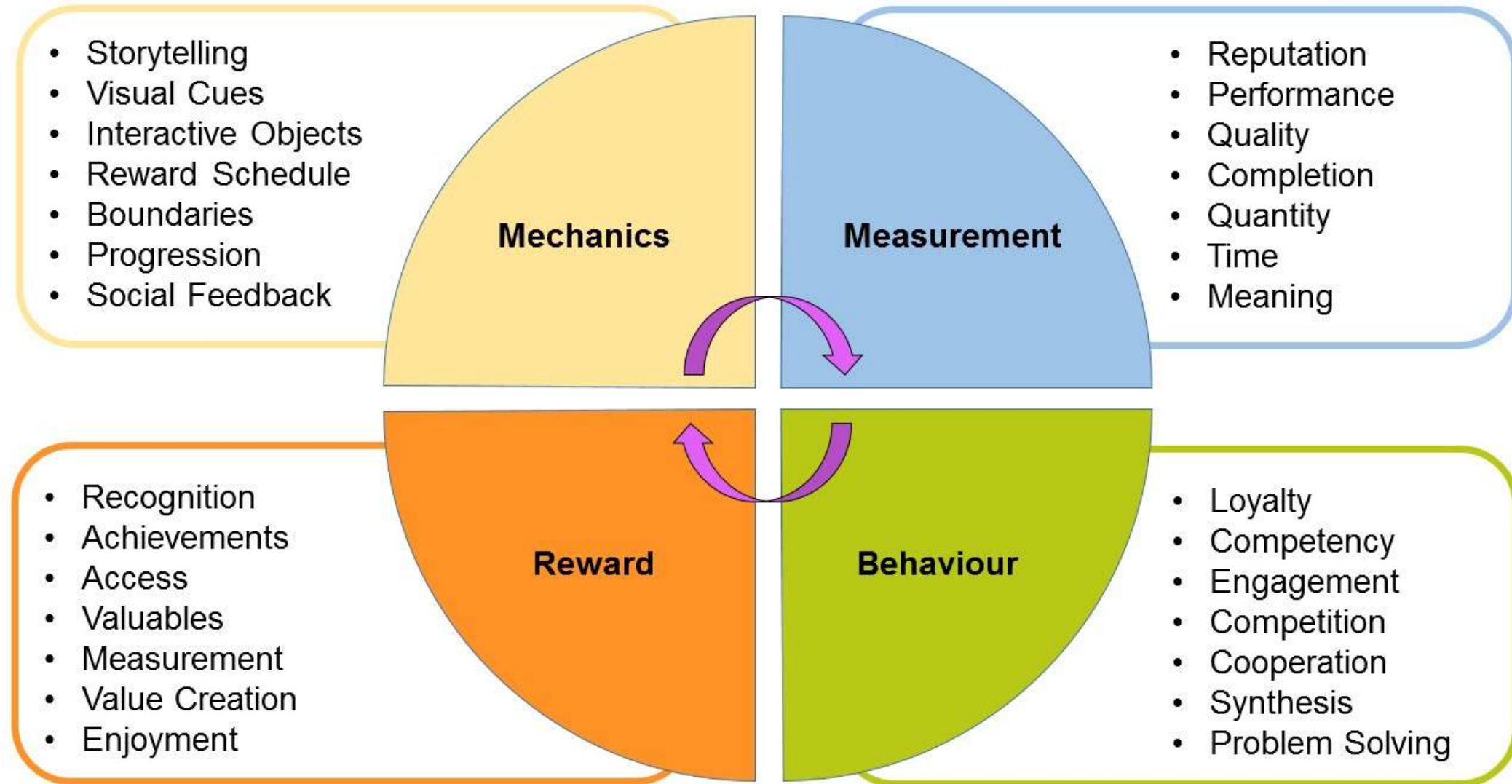- Progress Loss
- Rightful Heritage
- Evanescence Opportunity
- Status Quo Sloth
- Streaking
- Evil Egg
- FOMO Punch

YU-KAI-CHOU

Octalysis

1 - Epic Meaning
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-Step-by-Step Overlay

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- Oracle Effect

-Random Rewards

YU-KAI-CHOU

Gamification Model

Designed by Ivan Teh RunningMan, April 2015

Mechanics
- Storytelling
- Visual Cues
- Interactive Objects
- Reward Schedule
- Boundaries
- Progression
- Social Feedback

Measurement
- Reputation
- Performance
- Quality
- Completion
- Quantity
- Time
- Meaning

Reward
- Recognition
- Achievements
- Access
- Valuables
- Measurement
- Value Creation
- Enjoyment

Behaviour
- Loyalty
- Competency
- Engagement
- Competition
- Cooperation
- Synthesis
- Problem Solving

Ivan Teh

Why do we have to learn this?

Examples of gamification with learning code

Codecademy
Direct feedback

Codecademy
Badges

FIFTY EXERCISES 50	**PYTHON ACHIEVEMENT**	**CODE ACHIEVEMENT**
50 Exercises	Strings & Console Output	25 points earned in one day
Jan 15, 2014	Jan 12, 2014	Jan 12, 2014
TWENTYFIVE EXERCISES 25	**PYTHON ACHIEVEMENT**	**PYTHON ACHIEVEMENT**
25 Exercises	Tip Calculator	Python Syntax
Jan 12, 2014	Jan 12, 2014	Jan 12, 2014

Assassin's Creed Origins
Skilltree
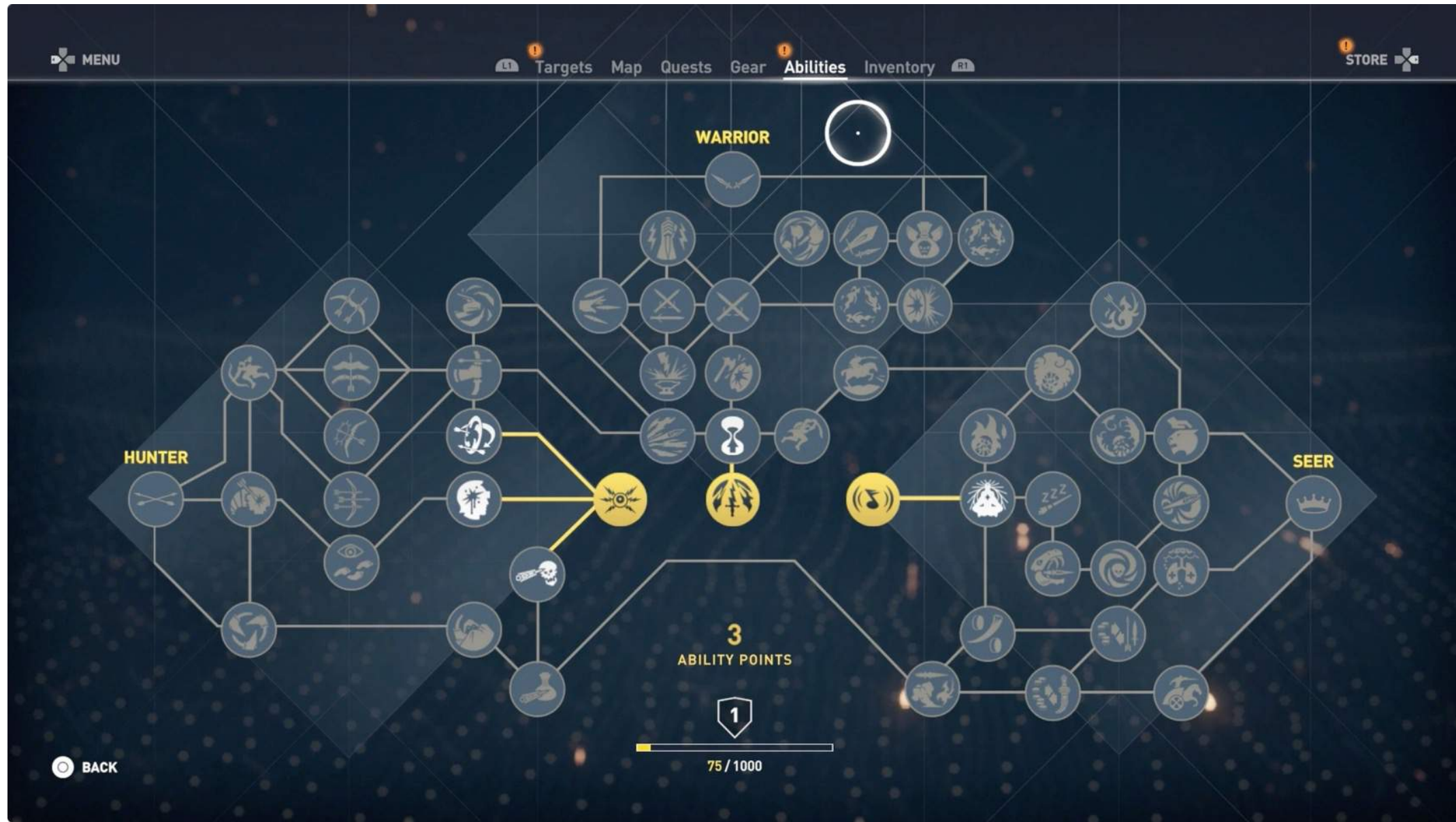
Duo lingo
Skilltree

Khan academy
Direct feedback & helper mascotte

Duo lingo
Direct feedback & helper mascotte
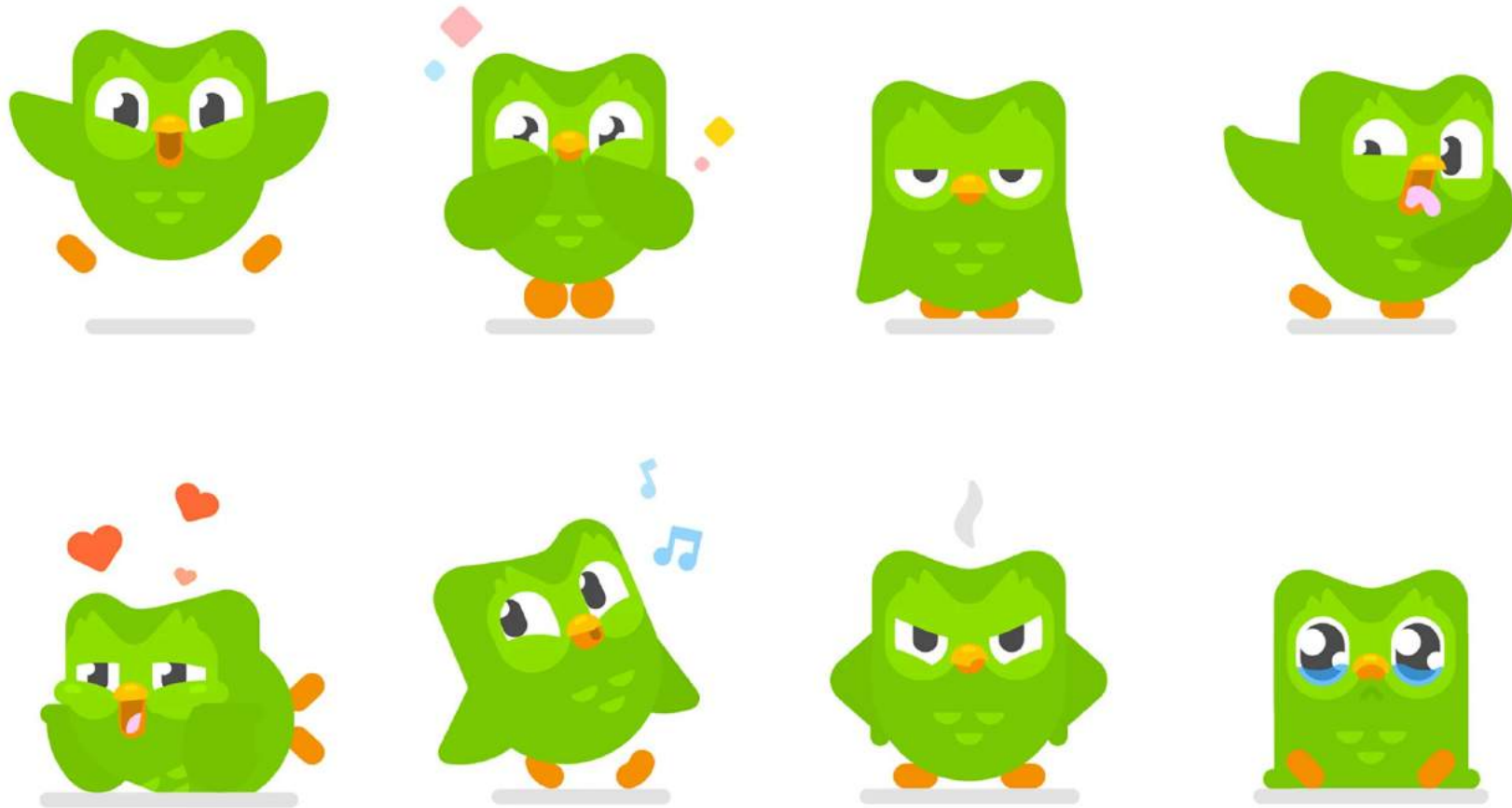
Code combat
Game experience (levels, quests, enviroment, design)

Programming
game

app spel

Purple Lemon

Programming game
teams

Blue Kiwi

Purple Lemon

Red Pear

Black Orange

Green Strawberry

Programming game
- missions
- points
- game master
- collab
- against
- timebased
- thumbs up
- leaderboard

missie 1   ⚷ 500   ‡ 100

Bel met twee verschillende webburo's die apps maken en vraag hun naar hun voorkeur voor een framework en waarom. Een ander van je team neemt het op en denkt mee.

bewijsmateriaal
opname gesprek
waar in Google Drive

Zorg dat twee mensen de gesprekken afluisteren en laat ze er een recensie van een alinea over schrijven.

bewijsmateriaal
alinea recensie
waar in Whatsapp

missie 2   ⚷ 200

Haal koffie/thee voor minimaal 5 mensen. Vraag of je de docentenkaart mag gebruiken.

bewijsmateriaal foto van mensen en hun koffie/thee
waar in Whatsapp

missie 3   ⚷ 200   ‡ 100

Vergelijk de verschillen tussen Angular JS, Angular 2 en Angular 4. Gebruik internet (blogs/fora/video's).

bewijsmateriaal tabel met verschillen. Maak het in het Word bestand en link naar je bronnen.
waar in Google Drive

Vraag twee mensen de tabel door te nemen en beantwoord hun vragen.

bewijsmateriaal 5 vragen met antwoorden per persoon in het Word bestand.
waar in Google Drive

missie 4   ⚷ 200   ‡ 100

Maak een overzicht van programmeertalen en frameworks die je kan gebruiken voor web-based, hybrid en native apps.

bewijsmateriaal overzicht in tabel in het Word bestand.
waar in Google Drive

Zorg dat iedereen ervan weet door bij ieder team een printje onder hun neus op hun tafel te leggen.

bewijsmateriaal foto van printjes bij elk team
waar in Whatsapp

Programming game
mission

missie 3   🔑 200   ⚑ 100

Vergelijk de verschillen tussen Angular JS, Angular 2 en Angular 4. Gebruik internet (blogs/ fora/video's).

bewijsmateriaal tabel met verschillen. Maak het in het Word bestand en link naar je bronnen.
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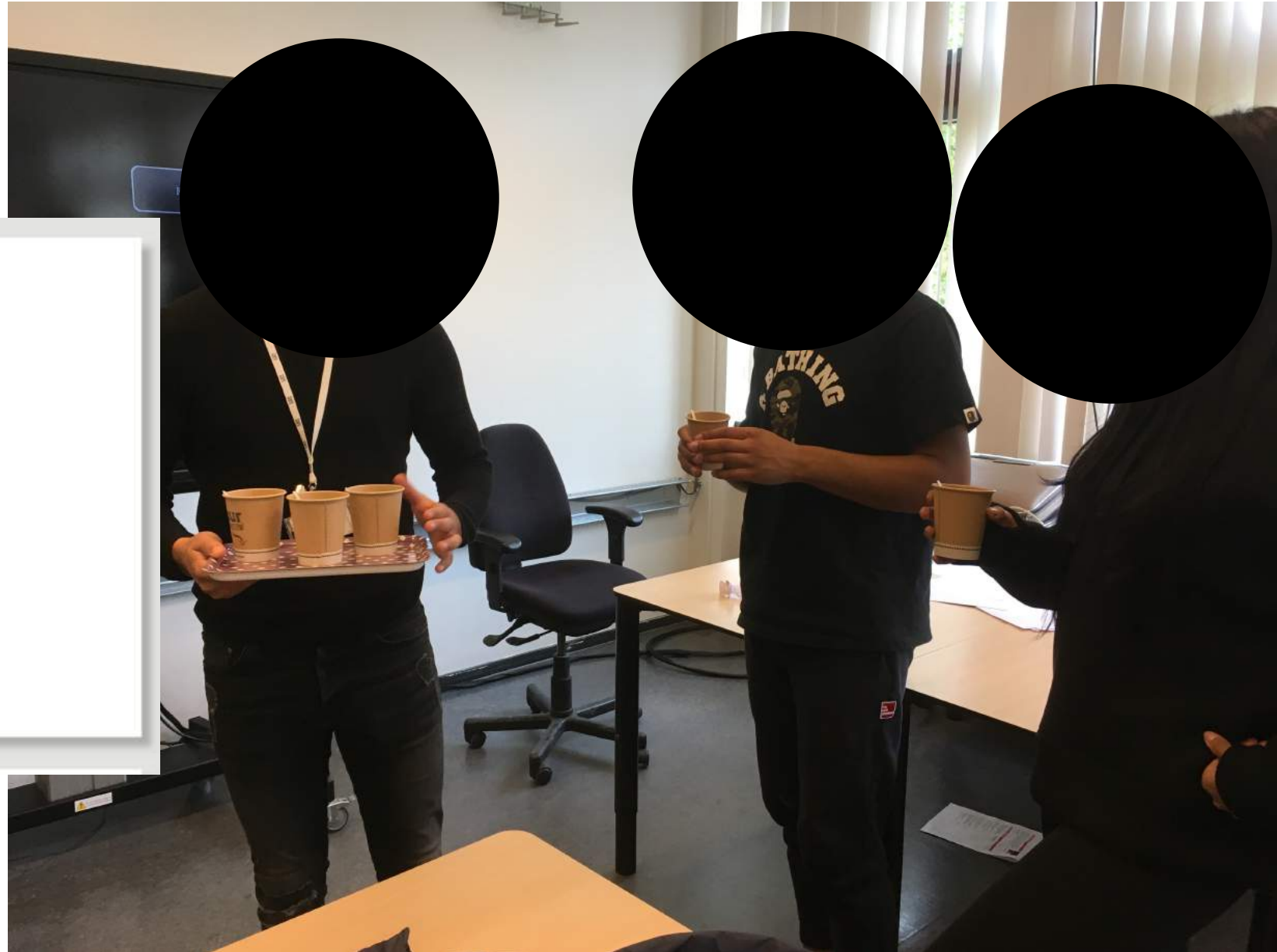waar in Google Drive

Programming game

missie 2   🔑 200

Haal koffie/thee voor minimaal 5
mensen. Vraag of je de docenten-
kaart mag gebruiken.

bewijsmateriaal foto van mensen
en hun koffie/thee
waar in Whatsapp

Programming game
thumbs up

Programming game
gamemaster
leaderboard

scoreboard

teampunten

schrijf op als:

missie 1 gehaald: 400

missie 5 geholpen: 100

totaal

+

Minor
Gamification
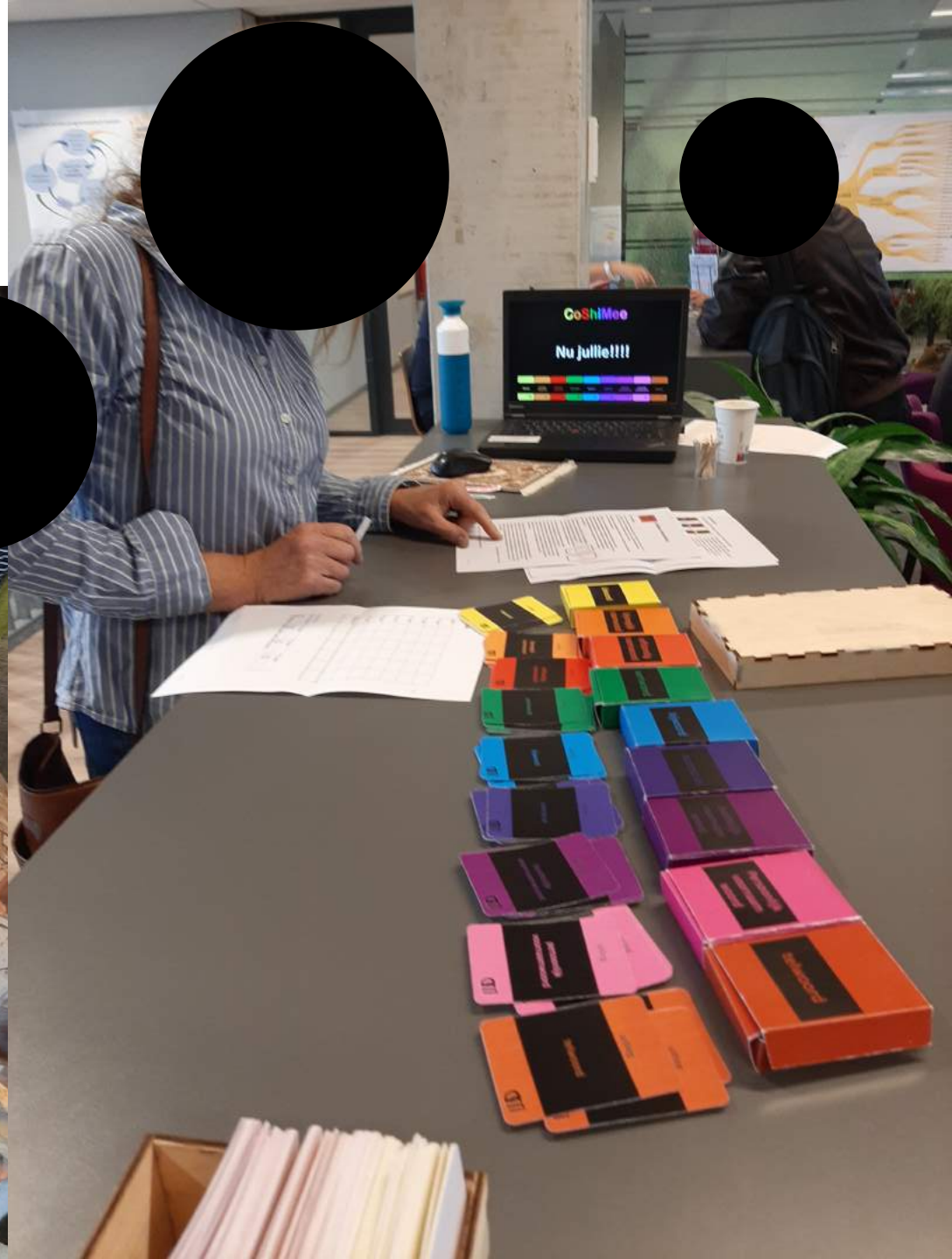
Minor Gamification History

China

Japan

India

Batavia

Indonesië
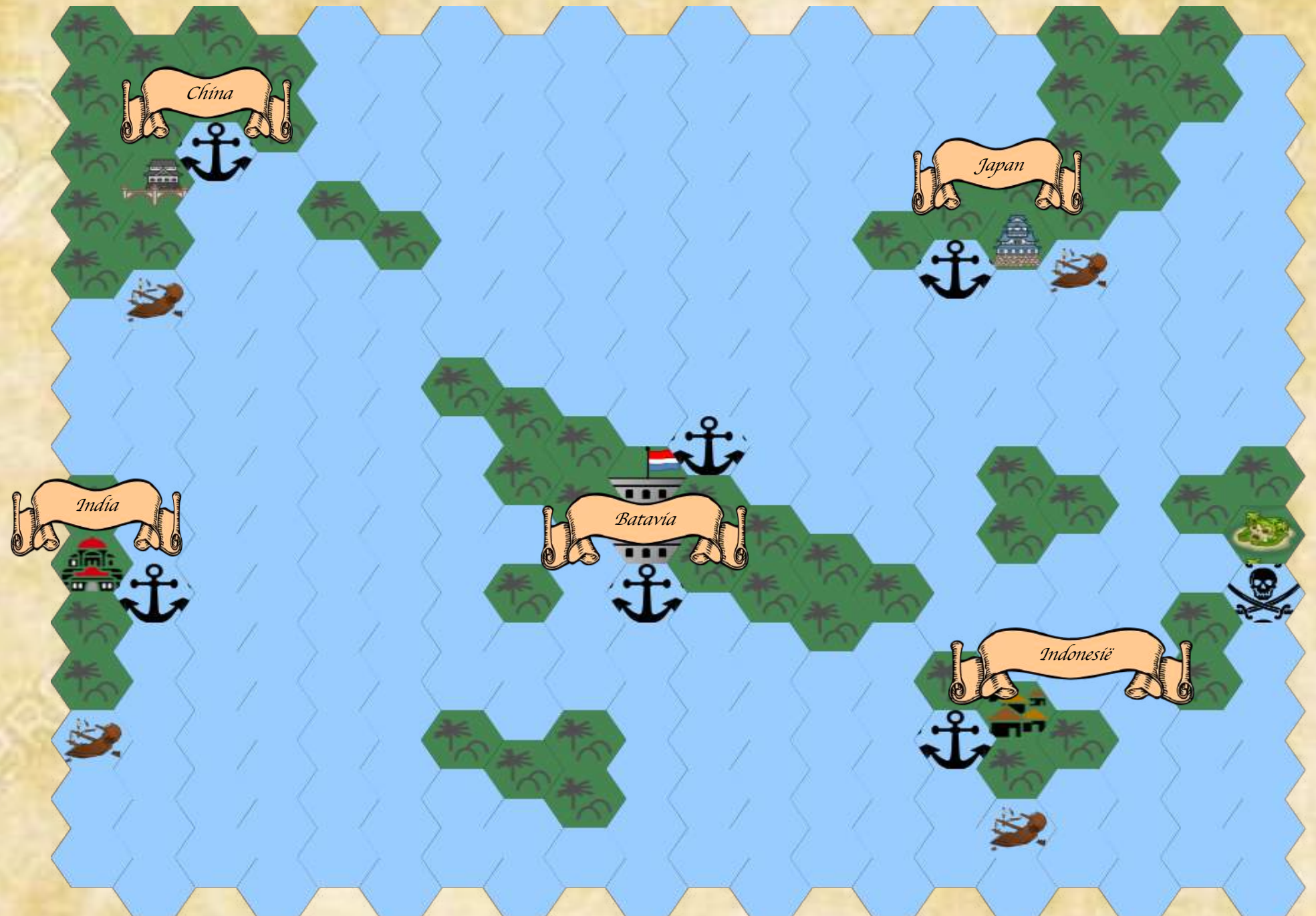
Gamification: how?

Online
(at home, in the class)
versus
offline
(in the classroom)

Online versus offline

CS50 sorting algoritm
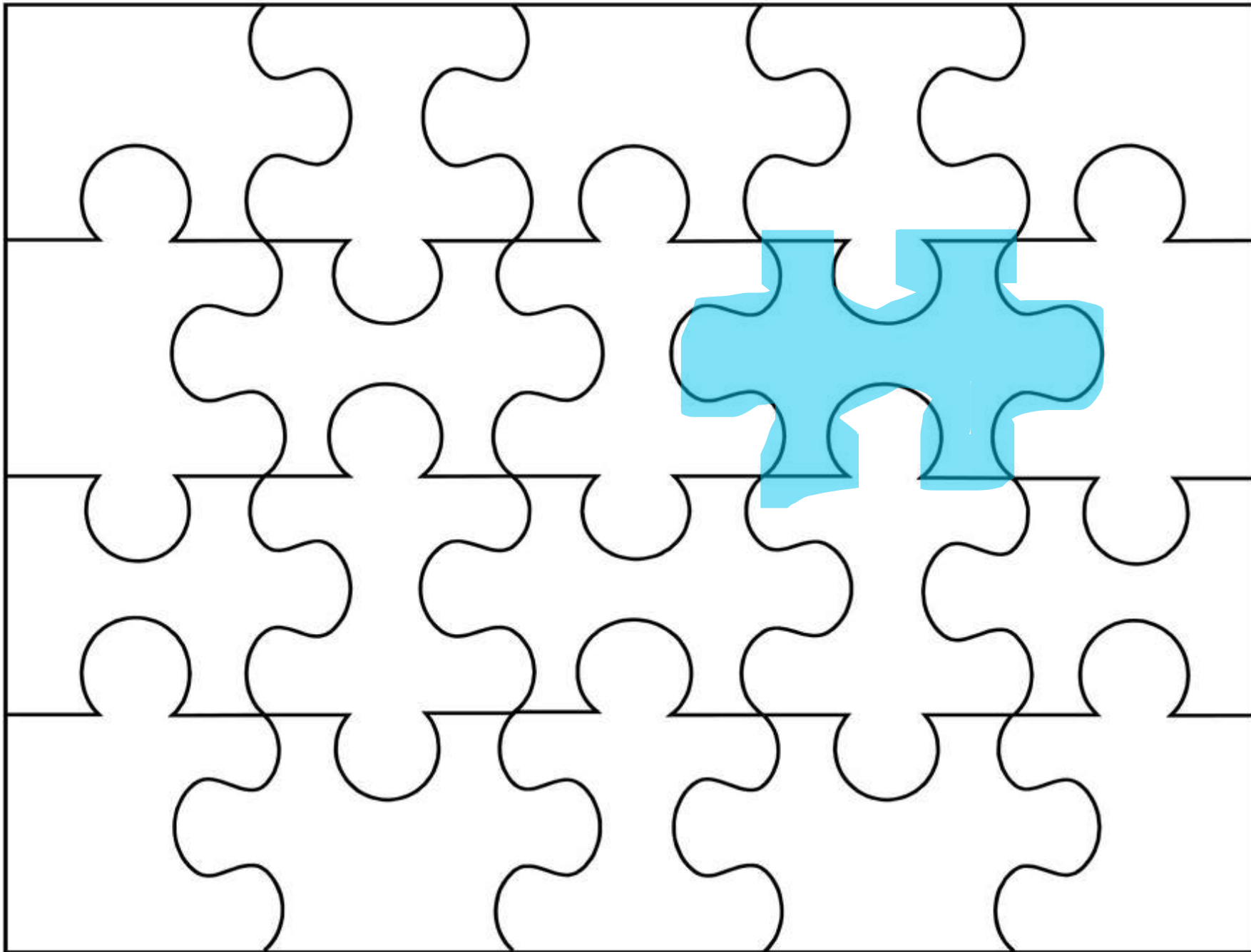
Big versus small

Creating competition within the classroom

Teacher vs. Class

Students must follow a **rule** that the teacher sets. Anytime a student follows the rule, the **class gets a point**. Anytime a student does not follow a rule, the teacher gets a point.

This is great for introducing procedures and behavioral expectations. If the class wins, use a sustainable reward, such as a 1-minute dance party or fewer homework.

Big versus small

Within the classroom

Role-play

Helping students assume specific perspectives in learning—as a **judge**, **designer**, **father**, etc. This element of fantasy role-play is a big draw of video games.

Big versus small

Chocolate Covered Broccoli versus Framing

copyright: Milena Spaan

Framing

Robots & programming

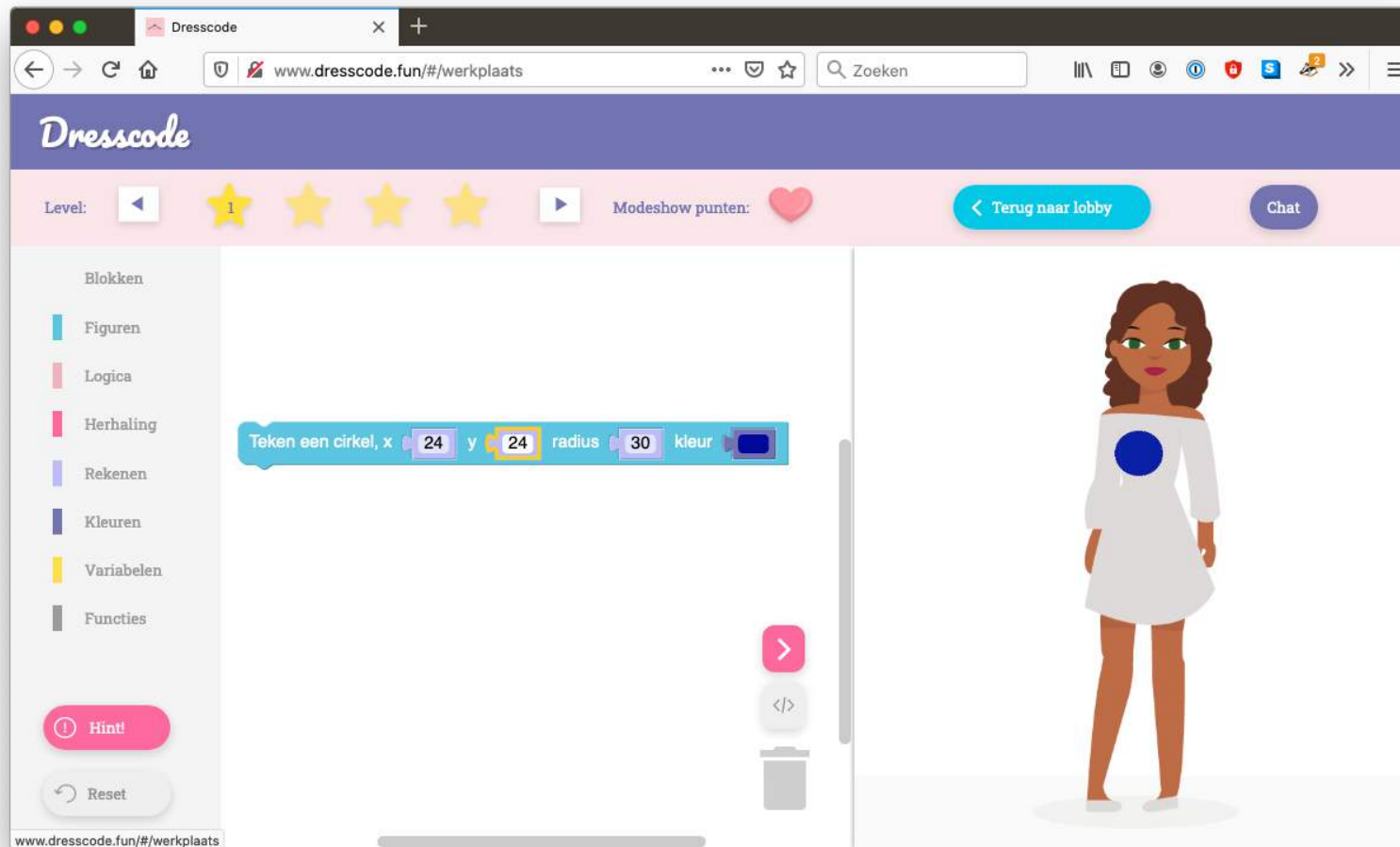**or**

Fashion & Programming
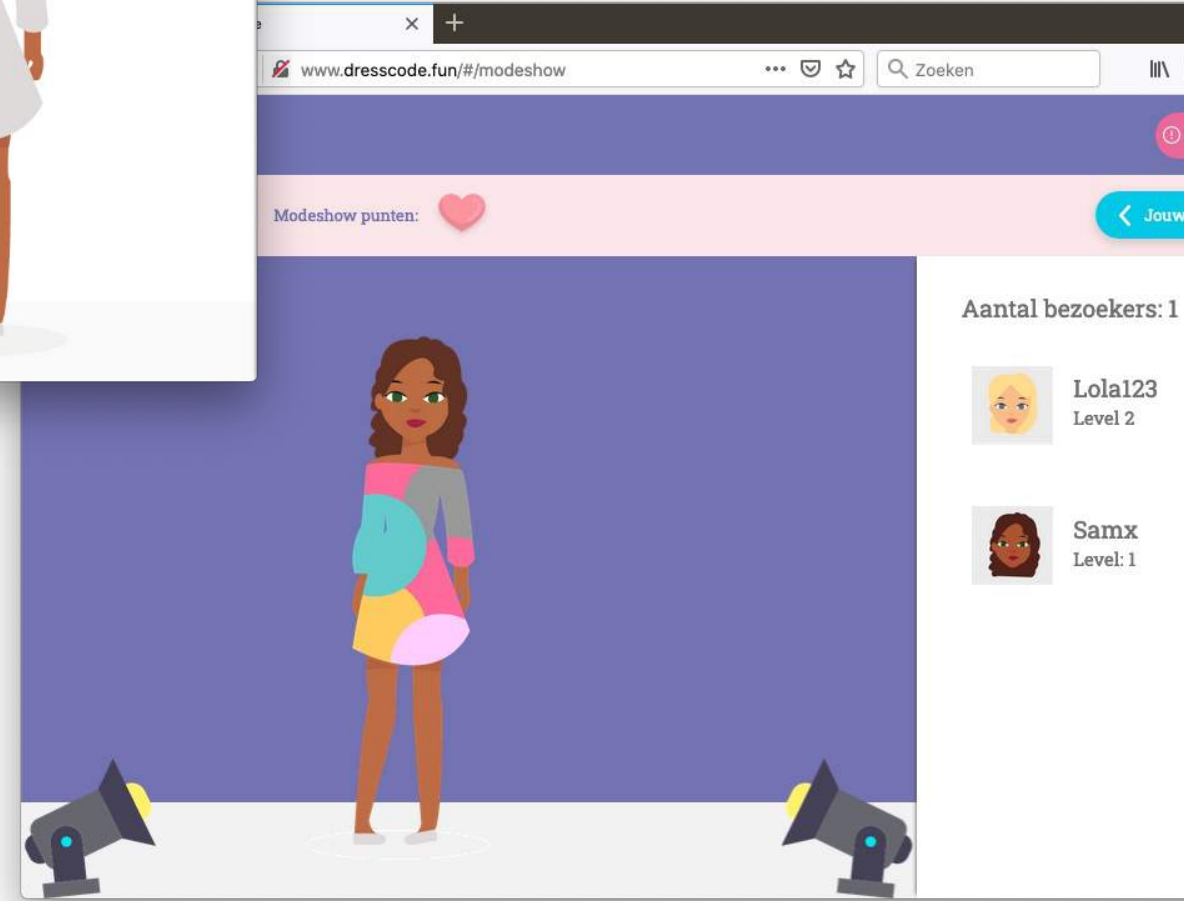
Framing

Fashion & Programming
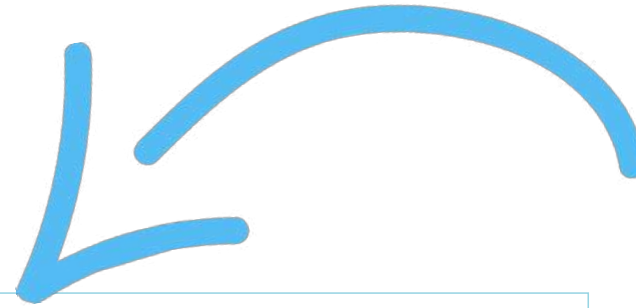Programming
Wearables
copyright: Milena Spaan

Framing

Dresscode
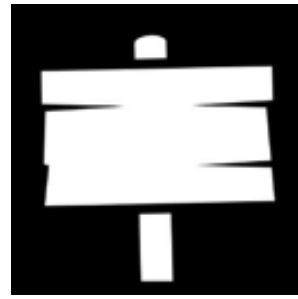Fashion & Programming
copyright: Milena Spaan

Doing!

On boarding / Tutorials

No one uses manuals anymore! Help people get used to your system with a nice tutorial or a gentle introduction on how everything works.
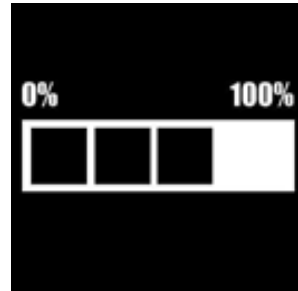
General

Signposting

Sometimes, even the best people need to be pointed in the right direction. Signpost next actions to help smooth the early stages of a journey. Use "just in time" cues to help users who are stuck.

General

Loss Aversion

No one likes to lose things. Fear of losing status, friends, points, achievements, possessions, progress etc can be a powerful reason for people to do things.

General

Progress / Feedback

0%   100%

All users need some sort of measure of progress or feedback, but some types work better than others. Progress and feedback come in many forms.

General

Theme

Narrative /

Doing!

Gamification
Inspiration Cards -
Andrzej Marczewski

Theme

General

Give your gamification a theme, often linked with narrative. Can be anything from company values to werewolves. Add a little fantasy, just make sure users can make sense of it.

Narrative / Story

General

Tell your story and let people tell theirs. Use gamification to strengthen understanding of your story by involving people. Think like a writer!

Curiosity / Mystery Box

General

Curiosity is a strong force. Not everything has to be fully explained, a little mystery may encourage people in new directions.

Time Pressure

General

Reducing the amount of time people have to do things can focus them on the problem. It can also lead to different decisions.

Scarcity

General

Making something rare can make it all the more desirable.

Strategy

General

Make people think about what they are doing, why they are doing it and how it might affect the outcomes of the game.

Doing!

1. Use the game mechanic cards
2. Take a subject from your course
3. Try to find a gamification solution for the content
4. Share (2 persons), brainstorm and rewrite yours
5. Share (2 persons), brainstorm and rewrite your neighbours solution
6. *At school: test with real students*
7. *Rewrite again*

Doing!

Course	Subject	Mechanics
Biology	Plant stem	Sharing Knowledge (Philanthropists)
France	Articles	Narrative / Story (General)
History	Timeline Napoleon	Lottery / Game of Chance (Player)
Geography	Infrastructure	Anarcy (Disrupt)
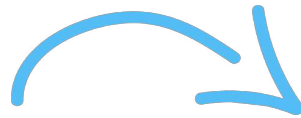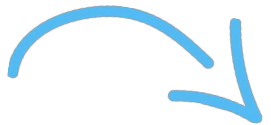
Doing!

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Questions?