Úvod

- Kurz přináší informace ohraní (gaming):
  - Definice hry
  - Psychologie her
  - Alchymie her
  - Myšlenkové hry
  - Hra jako sociální fenomén
  - Proč si děti hrají
  - Historie her
  - Klasifikace her
    - Deskové hry
    - Hra s úlohami (Role playing games /RPG)
    - **Video hry – MMOG, MMORPG and eSports**
  - Gamifikace
  - Hraní pro zdraví

Klíčová slova:

Hra, psychologie, alchymie, kompulzní smyčka, myšlenková hra, sociální fenomén, klasifikace, desková hra, RPG, video hra, MMOG, MMORPG, eSporty, gamifikace, výuka, zdraví

Co je to hra?

Definice:

1. Forma sportu nebo soutěžní aktivity vykonávané podle pravidel.
   synonyma: zábava, zábavu, volný čas, ...
2. Činnost, kterou člověk dělá pro zábavu - "počítačová hra"
   synonyma: zápas, soutěž, turnaj, sportovní utkání.
2. Manipulativní činnost nebo situace spojená s neférovým jednáním
   příklad: „je snadné pro velké firmy obehrát systém“

Zdroj: Google dictionary

Hra je **strukturovaná činnost**, která se obvykle provádí pro zábavu a někdy se používá jako vzdělávací nástroj. Klíčovými součástmi her jsou **cíle, pravidla, výzvy a interakce**.
Hry obecně zahrnují duševní nebo fyzickou stimulaci a často i obojí. Mnoho her pomáhá rozvíjet praktické dovednosti, slouží jako forma cvičení nebo jinak hraje vzdělávací, simulační nebo psychologickou roli.

Zdroj: Wikipedia

Psychologie her

"Posadíte se připraveni na pár minut hraní. Hodiny ubíhají a najednou si uvědomíte, že se směšně tváříte a pohybujte se jako hadí muž, když se snažíte dosáhnout dalšího vysokého skóre. Ptáte se sami sebe: Kam to došlo? Kdy jsem si zasekl?"

Zdroj: Gamasutra

Tvůrci her sní o tom, aby vás dostali do klece ("Skinner Box"), kde budete hrát chyceni ve smyčce nutkání („compulsion loop“).

Klec se zvířátkem („Skinner Box“), které tlačí na páčku, aby získalo potravní pelety. Při hraní jste odměňováni ve smyčkách nutkání.

Smyčka nutkání (kompulzivní smyčka - compulsion loop) je řetězec činností navržený tak, aby se chování opakovalo k získání neurochemické odměny, jako je uvolňování dopaminu. Hráči provedou akci, jsou odměněni, otevře se další možnost a cyklus se opakuje.

Smyčka nutkání se skládá ze tří kroků:

Očekávání → **Aktivita** → **Odměna**

Zdroj: Gamasutra

Kvíz

Smyčka nutkání je:

- Metod letecké kontroly
- Řetězec aktivit, které jsou v chování opakovány s cílem získat neuro-chemickou odměnu
- Metoda řízení lidských zdrojů

3 součásti smyčky nutkání jsou (zaškrtněte):

- Plánování
- Očekávání
- Tréning
- Aktivita/výzva
- Odměna
- Odpočinek

Psychology of games

Co se rozumí pod pojmem Výzva?

Výzva = Dovednosti / Obtížnost

Zdroj: Gamasutra

Podívejme se na příklad:
Dovednosti k zastřelení nehodného chlapce

Řekněme, že hraju střílečku a musím zabít nehodného chlapce. To je **Výzva**.

K zabití nehodného chlapce musím mít řadu dovedností. Potřebuji **Zručnost** při používání ovladače, potřebuji **Přesnost** k zacílení, mít **Odhad vzdálenosti** k vyhodnocení jeho rychlosti a určení, kde ho zastřelím. Možná má možnost skrývat se a znovu se objevovat, proto potřebuji **Odhad času,** pokud ne, potřebuji dobré **Reflexy**. Zřejmě potřebuji také **Manažerské schopnosti,** abych věděl, kolik mám munice, znal zdravotní stav a nevypadl ze hry. Zřejmě potřebuji **Taktiku**, abych ho dostal. Pokud jsme se již s podobným nepřítelem setkal, použiju svoji **Paměť**, abych ho efektivně oddělal.
Je vidět, že jsem využil hodně dovedností k překonání téhle výzvy, není-liž pravda?

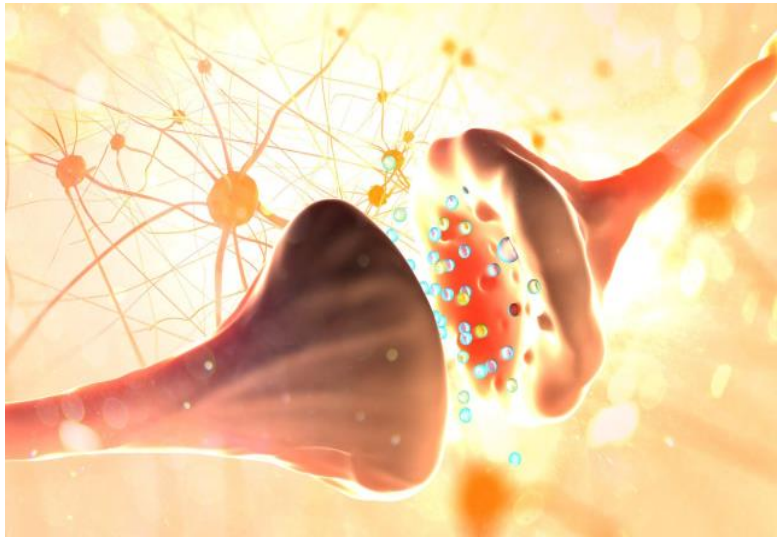
Zdroj: Gamasutra

Alchemy of games

“When you talk about Gamification to people, one word that comes back a lot is "Rewards". Well that's not what Gamification (or Games for that matter) is about! Whaaaat? don't get me wrong here, Rewards ARE important, but that's not what it's about. It's really all about Dopamine!”

Dopamine is a drug produced by the brain. Simply put, it makes people do stuff seeking rewarding outcomes. Its responsible for addiction but also for things like seeking food or shelter.

Source: Gamasutra



Dopamine is one of the range of **Neurotransmitters** used in games. Neurotransmitters are naturally occurring chemicals in our brain that transmit communications from one nerve cell to another across neural synapses. Each neurotransmitter has it's own role and characteristics. The 4 major neurotransmitters used in games:

Dopamine = motivation, confidence, mental drive
Serotonin = mood, fear, and anxiety
GABA = calm, relaxation, and sleep
Acetylcholine = mental processing speed, connecting ideas, creativity

Source: Naturalstacks

“Each time the child is rewarded, his brain secretes such neurotransmitters as dopamine and acetylcholine which helps consolidate the map changes he has just made. (Dopamine reinforces the reward, and acetylcholine helps the brain „tune in” and sharpen memories”).

Source: N.Doidge, The brain that changes itself

“Immediate feedback and rewards allow video game players to remain engaged in the game while still invested instead of receiving feedback after losing internet or becoming discouraged after receiving negative feedback, unfortunately what happens all too often in school”.

Source: J.Jacskon, A Guide to Designing Curricular Games: How to "Game" the System

Quiz

Neurotransmitter is:

- an electronic device which produces radio waves
- a a person or thing that transmits
- a naturally occurring chemicals in our brain that transmit communications from one nerve cell to another

Dopamine is a drug produced by the brain with a specific role during playing games being responsible for :

- motivation, confidence, mental drive and addiction
- mood, fear, and anxiety
- calm, relaxation, and sleep
- mental processing speed, connecting ideas, creativity

Mind games

Everybody plays his mind game

Games are **social rituals** that we repeatedly play out, often with dysfunctional ends.

Source: Dispatchist

Mind games is used to define three forms of competitive human behaviors:

1. The Conscious struggle for psychological one-upmanship, often employing passive–aggressive behavior to specifically demoralize or dis-empower the thinking subject, making the aggressor look superior; also referred to as **power games**, **head games**, **mind fuckery** or **head fuckery**. Often used to undermine one partner's belief in the validity of their own perceptions
2. The unconscious games played by people engaged in ulterior transactions of which they are not fully aware, and which transactional analysis considers to form a central element of social life all over the world. Typically - sex play, flirtation.
3. The mental exercises designed to improve the functioning of mind and/or personality

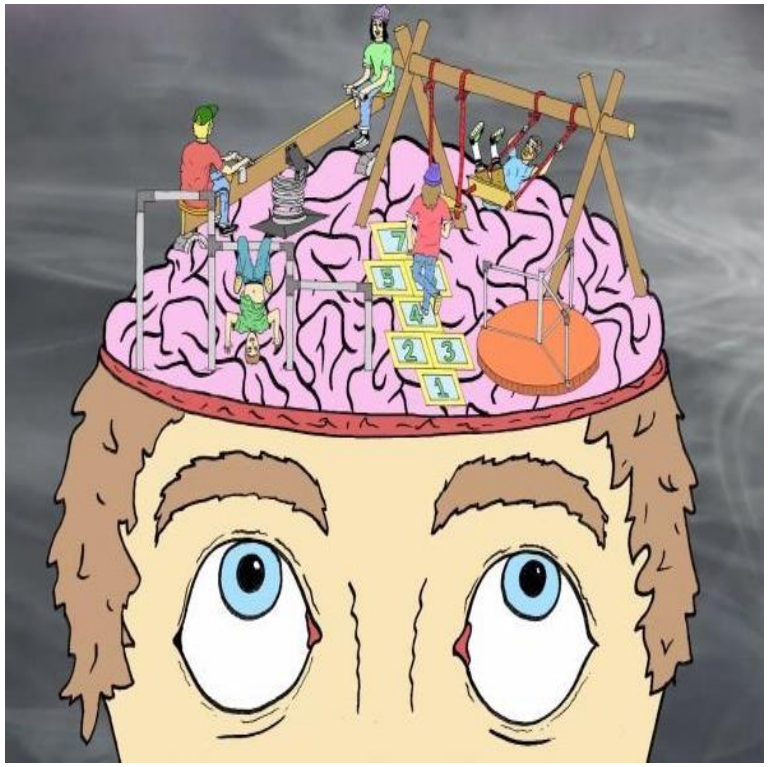
Source: Wikipedia

Game as social phenomena

People live in society interacting with others. Every person has its personality including three interacting ego states:

Ego states are a set of feelings, thinking, and behavior that we live and function with. The Transactional Analysis theory suggests that in spontaneous social settings we operate from one of the three **ego states**:

- ✓ **Parent ego state**: When we act like our parents
- ✓ **Child ego state**: When we behave like we did in our childhood. This ego state was developed in our early childhood.
- ✓ **Adult ego state**: Self-created ego state according to our definition of objective reality and the world around us – this ego state is developed in direct response to the here and now.



Our "**complete personality**" includes all three ego states. In social settings, we demonstrate any of these ego states, and often shift unknowingly from one to the other. For instance, in front of our supervisor, we may exhibit a Child ego-state, whereas towards our subordinates, we will exhibit Parent ego-state. Another example: people who operate with Adult ego state at work may activate Child ego state when they are with their friends or spouse. All three ego states add value to our lives; however, when one of them disturbs the equilibrium, an analysis and reconfiguration are desired.

When we refer to someone as immature, we are essentially implying that Child ego state dominates over other ego states in that person.

Source: Dispatchist

Why kids play a game

See why kids are playing!

- Kittens
  - study martial arts,
  - learn how to run,
  - climb,
  - stalk,
  - attack!
- Under supervision of cat-mother

Look at: YouTube

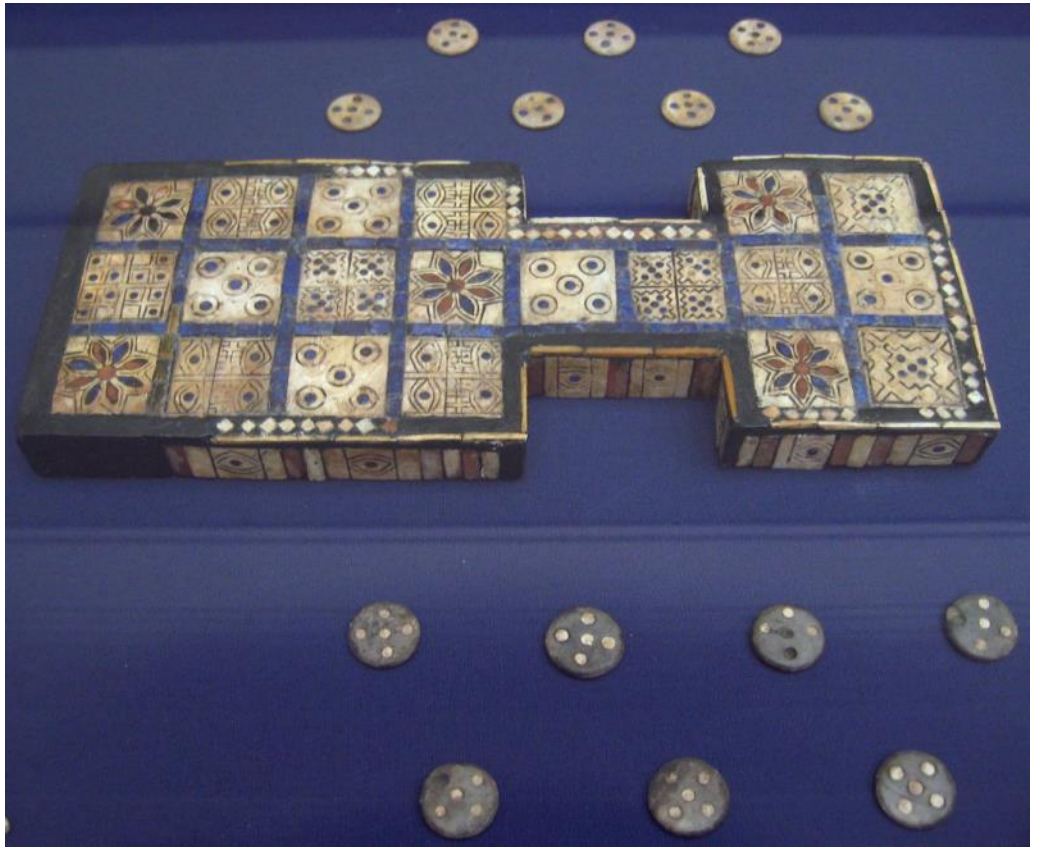
History of games

“Games are starting point for complex human activities such as language, law, war, philosophy and art.”
(Johan Huizinga)

The history of games dates to the ancient human past.

- Games are an integral part of all cultures and are one of the oldest forms of human social interaction. Games are formalized expressions of play which allow people to go beyond immediate imagination and direct physical activity.
- Common features of games include uncertainty of outcome, agreed upon rules, competition, separate place and time, elements of fiction, elements of chance, prescribed goals and personal enjoyment.

Source: Wikipedia



Royal Game of Ur, southern Iraq, about 2600-2400 BCE
Source: Wikipedia

Classification of games

- According to the **form or equipment** utilized:

Game category	Game examples
Adventure games	Adventure board games, Adventure gamebooks
Board games	Backgammon, Can't Stop, Chess, German-style board games, Go, Reversi
Card games	Card Solitaire, Collectible card games, Hanafuda, Tarot card games
Dice games	Bunco, Craps, Farkle, Generala, Poker dice, Sic bo, Yahtzee, Zombie Dice
Paper and pencil games	Battleships, Connect 5, Dots and Boxes, Hangman, Sprouts, Sudoku
Role-playing games	Call of Cthulhu, Dungeons & Dragons, Warhammer Fantasy Roleplay
Strategy games	Board wargames, Government simulation games, Miniature wargames
Tile-based games	15 puzzle, Anagrams, Dominoes, Mahjong, Mahjong solitaire, Tangrams

- According to **elements of chance**:

As an alternative to classifying games by equipment, they can also be classified according to the elements of chance involved. In **game theory**, two fundamentally different elements of chance can play a role:

- Chance due to outcome uncertainty, e.g. due to dice rolls or due to unknown cards being dealt during the game. Games in which outcome uncertainty plays a role are referred to as **stochastic games** as opposed to **deterministic games**.
- Chance due to state uncertainty, e.g. due to the opponent's position or cards not being visible, or due to the simultaneous move character of the game. Games in which state uncertainty plays a role are referred to as partial or imperfect information games as opposed to full or perfect information games.

Source: Wikipedia

Tabletop games

Digital Skills for You[th]

Tabletop is any game played on a flat surface. **Classification of tabletop games:**

	Full/perfect information	Partial/imperfect information
Deterministic	• Chess • Shogi • Xiangqi • Draughts • Go • Gomoku • Hex • Mancala • Reversi • Dots and Boxes • Phutball • Abalone • Lines of Action • Domineering • Nine Men's Morris	• Duplicate Bridge • Battleship • Stratego • Mastermind
Stochastic	• Backgammon • Monopoly • Craps • Roulette • Yahtzee • Pig • Scribbage • Parcheesi	• Poker • Blackjack • Gin rummy • Scrabble • Canasta • Risk • Mahjong

Source: Wikipedia

Role playing games

Role-playing game (RPG), in which players assume fictional roles.

Traditional children's games:

- Tag – a playground game that involves three or more players chasing other players in an attempt to "tag" or touch them with their hands
- Hide and seek
- Cowboys and Indians
- Playing doctor
- List of traditional children's games

Live action role-playing game (LARP) is a form of role-playing game where the participants physically portray their characters

- Carnivals -> Masquerade -> Costume balls -> Cosplay - fan costuming
- Medieval fantasy LARPs drawing inspiration from Warhammer Fantasy, Dungeons & Dragons, The Lord of the Rings,..
- Battle games: Airsoft, Paintball

Source: Wikipedia

Hide and seek in 18th Century

Airsoft battle

Cosplay in Gamescom 2015, Cologne

Video game – MMOG, MMORPG and eSports

Video game

A video game is an electronic game that involves interaction with a user interface to generate visual feedback on a video device such as a TV screen or computer monitor.

Multiplayer video game

A multiplayer video game is a video game in which more than one person can play in the same game environment at the same time. Video games are often single-player activities, putting the player against preprogrammed challenges or AI-controlled opponents. Multiplayer games allow players interaction with other individuals in partnership, competition or rivalry, providing them with social communication.

Massively multiplayer online game (MMOG or MMO)

A massively multiplayer online game is an online game with large numbers of players, typically from hundreds to thousands, on the same server. These games can be found for most network-capable platforms, including the personal computer, video game console, or smartphones and other mobile devices.
MMOs enable players to cooperate and compete with each other on a large scale, and sometimes to interact meaningfully with people around the world. They include a variety of gameplay types, representing many video game genres.

eSports

Most commonly, eSports take the form of organized, multiplayer video game competitions, particularly between professional players. The most common video game genres associated with eSports are real-time strategy (RTS), first-person shooter (FPS), fighting, and multiplayer online battle arena (MOBA). Tournaments such as The International, the *League of Legends* World Championship, the Evolution Championship Series and the Intel Extreme Masters provide live broadcasts of the competition, and prize money to competitors. The global eSports audience in 2015 was 226 million people, the global eSports market generated $493 million in 2016 and is steadily growing up.

Source: Wikipedia

Gamification

Gamification is the **application of typical elements of game playing** (rules of play, point scoring, competition with others) to other areas of activity, specifically to engage users in problem solving.

Source: Oxford Online Dictionary

What is Gamification Software?

Gamification software is any tool or platform used for applying game mechanics to non-game contexts in order to boost engagement and successful end-results. Common use cases include customer loyalty, e-learning, employee engagement, and performance management.

The gamification technology offers organizations a solution to their **engagement problems**. In many of its initial applications, gamification has had impressive results, leading global organizations such as IBM, Deloitte, and NBC to use gamification in either their **marketing campaigns** or **workplace**. According to a recent study by Research and Markets, the global gamification market will grow to $11.1 billion by 2020.

Source: TechnologyAdvice

Source: Dreamstime

Gamification of education

We're all about transforming kids into creators and explorers. We provide fun and accessible ways to explore real and virtual worlds, experiment with technology and use games to build math and science skills.
The games, simulations and tools we develop in the Education Arcade use technology to create powerful learning environments in schools, in the home and in the community.

Source: MIT Educational Arcade

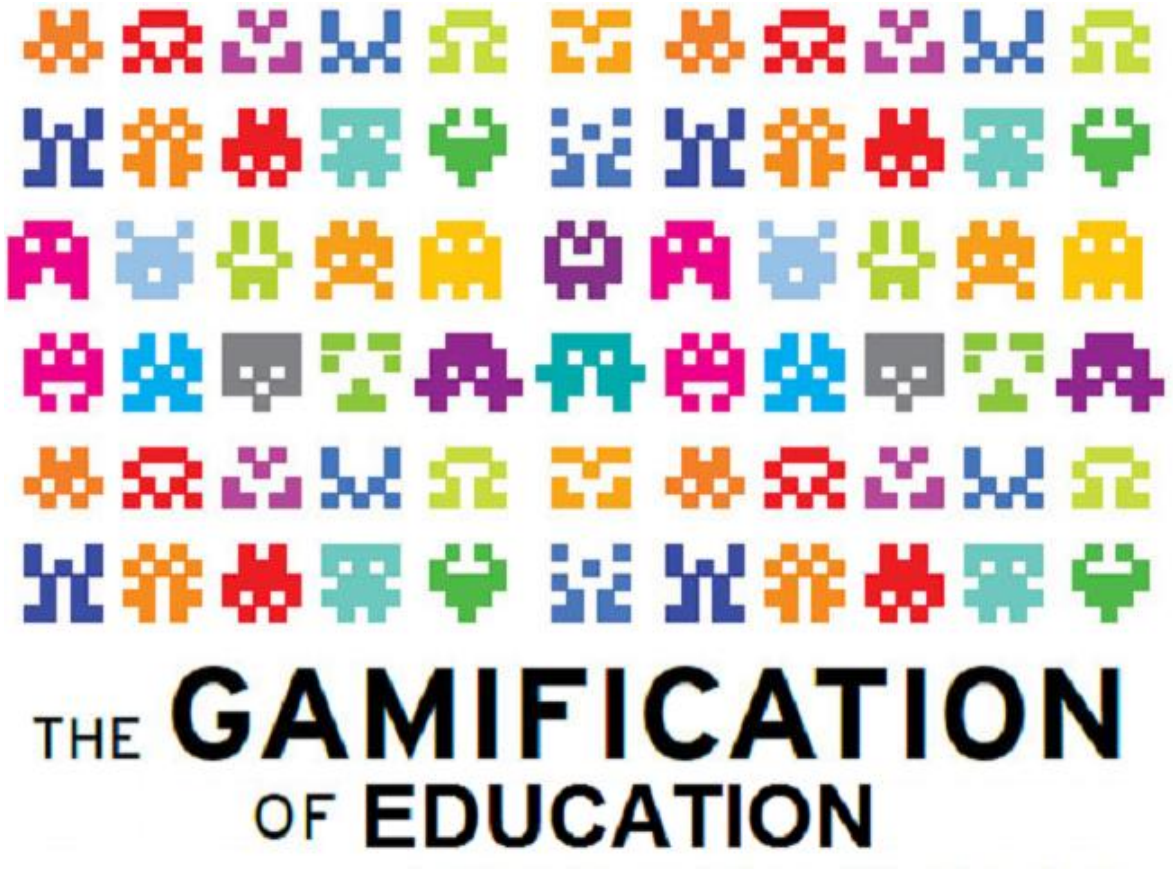
Distinguishable from game-based learning, gamification of learning does not involve students in designing and creating their own games, or in playing commercially produced video games. Within game-based learning initiatives, students might use *Gamestar Mechanic* or *GameMaker* to create their own video game, or play *Minecraft*, for example, where they explore and create 3D worlds. In these examples, along with games such as *Surge* for PlayStation and *Angry Birds*, the learning agenda is encompassed within the game itself.

Source: Wikipedia

Games like World of Warcraft give players the means to save worlds, and incentive to learn the habits of heroes.
What if we could harness this gamer power to solve real-world problems?

Jane McGonigal says we can, and explains how. **Look at:** *TED talks on* ***YouTube***

Gamification of education



Tools, Tips & Resources Teachers Must Know to Learn About Gamification of Education

Teaching kids via what they are best at can also help them learn best of everything. Kids love playing games and there is no doubt about it so why not educate them in a Gamified way.

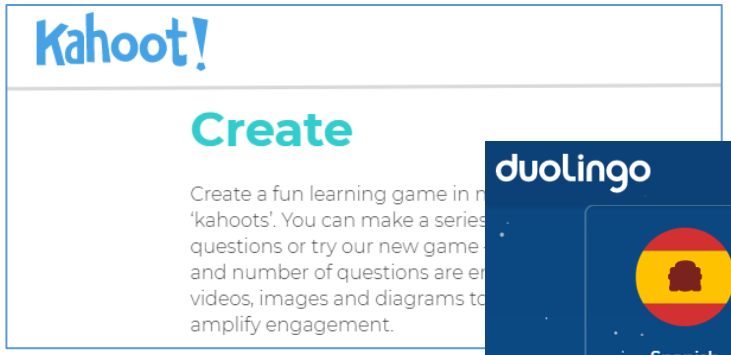
Games are loved and enjoyed by all kids so mode of education in the form of games is a great way to teach kids while keeping them **engaged** and interested in their course of study.
Here is the link to some tools you can use to start your gamification in education.

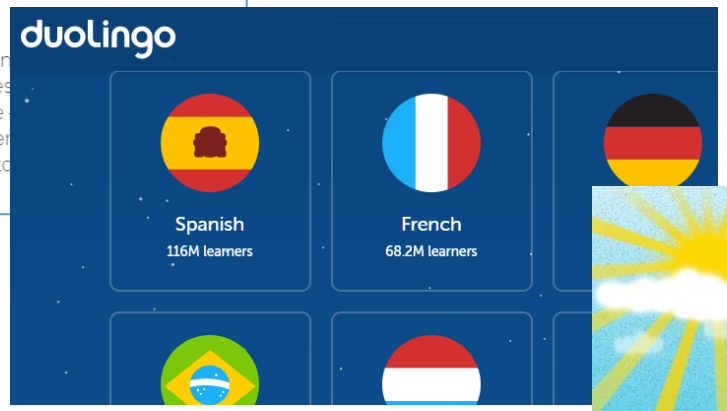
Read more on: http://edtechreview.in/trends-insights/insights/2293-gamification-of-education

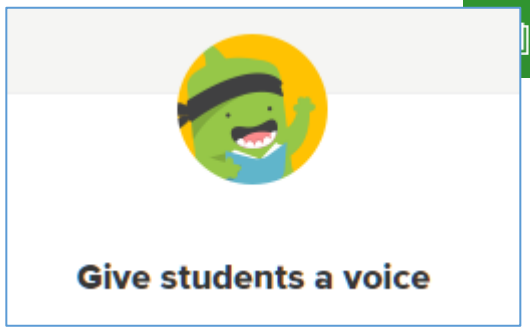
Gamification tools

Here you find some great applications you can use right now in your classes:

- **Kahoot** for quizzes
  https://www.kahoot.co
- **Duolingo** for languages
  https://www.duolingo.com
- **PlayBrighter** for Q&A
  http://playbrighter.com
- **Minecraft** for creativity
  https://education.minecraft.net
- **ClasDojo** for community
  https://www.classdojo.com







Quiz

What is the biggest benefit of applying gamification in education?

- Relax - children take rest from learning
- Mood – children feel free from fear of being graded a rigid way
- Engagement - children are more interested in learning

Above is the list of great applications you can use in classes. Which of them is designed to make quizzes?

- Minecraft
- Kahoot
- Duolingo
- ClasDojo
- PlayBrighter

Gaming for health

Playing Super Mario 64 increases hippocampal grey matter in older adults

As psychologists from the University of Montreal announced in the journal *PLOS ONE*, research participants who played 3D platforming games like the iconic *Super Mario 64* had more gray matter in their hippocampus after playing. That part of the brain is super important for some of the most important memory functions, like transforming short-term memories into long-term ones and maintaining the spatial memory that helps us navigate the world around us.

Source: Inverse.com

BUT!

Gaming addiction is to be listed as a mental health condition for the first time by the World Health Organization (WHO).

Its 11th International Classification of Diseases (ICD) will include the condition "gaming disorder".

The draft document describes it as a pattern of persistent or recurrent gaming behavior so severe that it takes "precedence over other life interests".

Symptoms include:

- impaired control over gaming (frequency, intensity, duration)
- increased priority given to gaming
- continuation or escalation of gaming despite negative consequences

The research - looking at children aged eight to 18 - found that boys spent longer playing video games than girls.

A recent study from the University of Oxford suggested that, although children spend a lot of time on their screens, they generally managed to intertwine their digital pastimes with daily life.

Source: BBC

Practical task

1. Do a jigsaw of your SuperMario gaming hero:

   Source: https://www.jigsawplanet.com/?rc=play&pid=14920450ca1d

2. Get familiar with and try to play the game:

   Source: http://www.crazygames.com/game/super-mario-run

Reflection

You already know what is the **compulsion loop**. Try to bethink yourself of the most popular RPG of your childhood (tag?, hide and seek? – look at: https://en.wikipedia.org/wiki/List_of_traditional_children's_games).

Your task is:

- Take one of the childrens` games and draft a lesson plan teaching children to play the game using the compulsion loop methodology

Reflection

Task

Observe the daily live of yourself, your target group, colleagues, families: which role gaming play?

e.g. decide with the help of rock, paper, scissor; while walking do not touch the lines between cobblestones

Describe when some of such games where use and with which purpose

Reflection

Task

You and your target group:

Make a collage of your most favourite games.

Play the most loved game of the other one and make a factsheet about it